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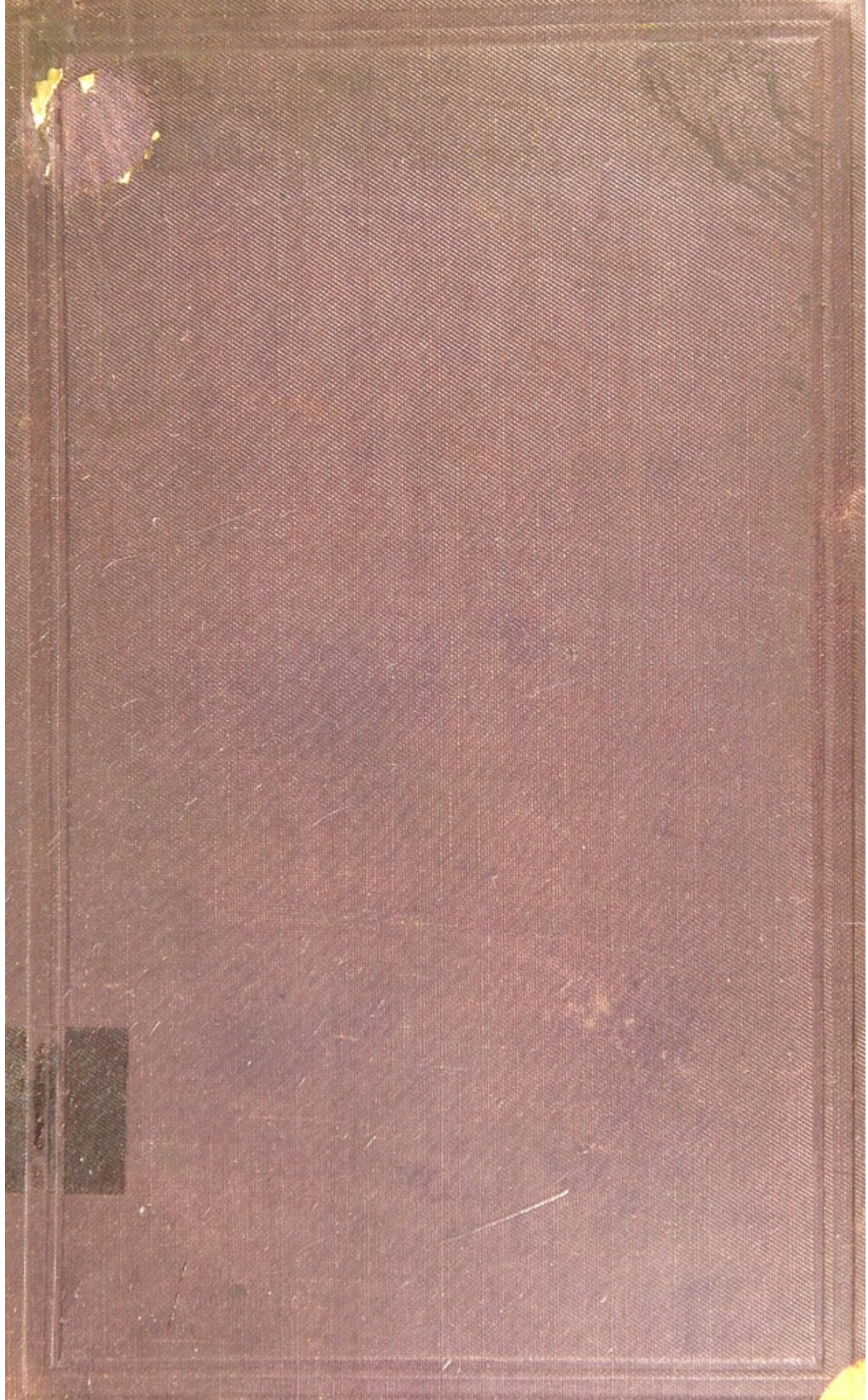
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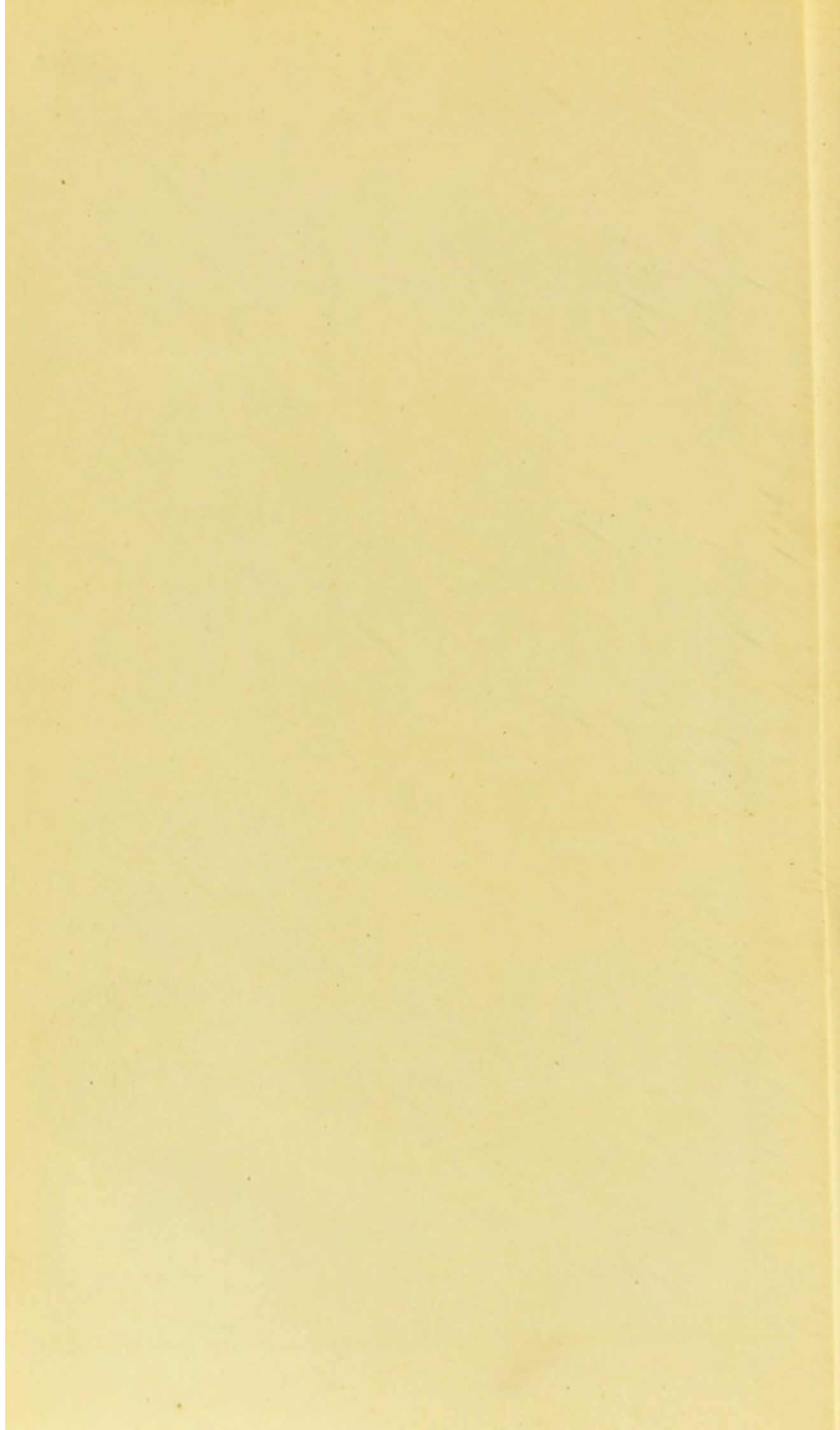
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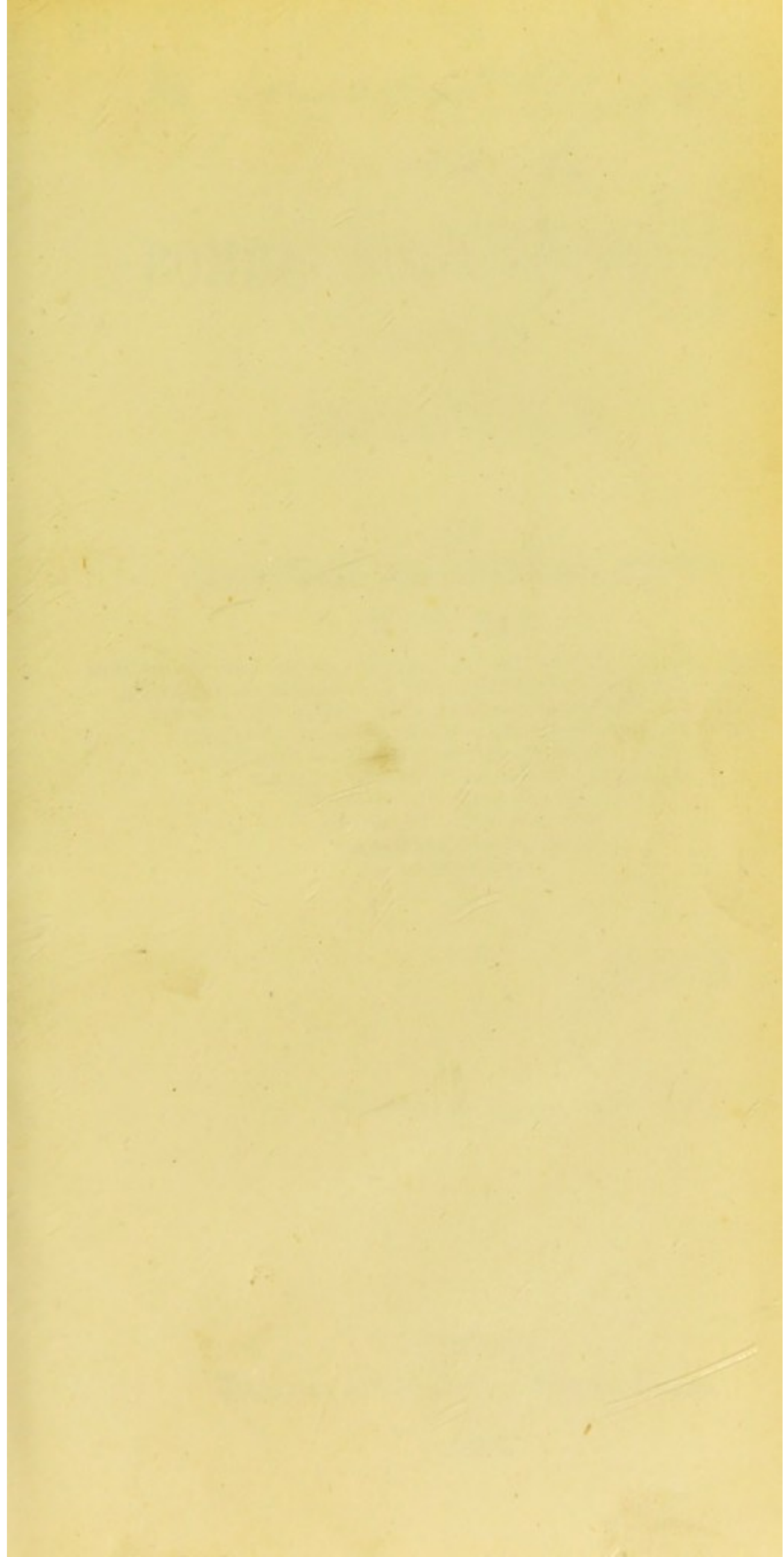



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THE

BOMBAY MATERIA MEDICA

AND THEIR

THERAPEUTICS.

BY

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To
HIS HIGHNESS
THE MAHARAJA SAYAJIRAO, G.C.S.I.,
GAEKWAR OF BARODA,
SENA KHASKHEL, SHAMSHERE BAHADUR,
FARZEND-È-KHAS-È-DOWLAT-È-ENGLISHEA.

AS A TOKEN OF ADMIRATION
FOR
MANY PRINCELY QUALITIES,
AND
AS A HUMBLE TRIBUTE OF GRATITUDE
FOR
THE ZEAL DISPLAYED IN PROMOTING THE CAUSE OF
NATIVE MEDICAL SCIENCE IN INDIA

This Work
IS
HUMBLY DEDICATED
BY
THE AUTHOR.



PREFACE.

This work is a compilation from several standard Persian, Urdu and Sanscrit Medical Works and is an attempt to popularise the use of native drugs. Its object is to give a full and accurate account of Native Materia Medica and their Therapeutics in simple and popular language, so as to render it useful not only to Medical Students and Practitioners, but also to the public at large. The author has taken great pains to verify carefully the results of his inquiries with a view to render this book thoroughly reliable for the purposes for which it is intended. It is a well known fact that in Hindu Materia Medica almost all well known plants have several synonyms descriptive in many cases of their prominent characters and thus proving a help in their identification. Again almost all well known prescriptions are known by names descriptive of their prominent and specific component drugs. As a general rule, in describing each drug the author has tried to give as the heading only the principal or current name of each so as to avoid confusion. The synonyms of the bazaar drugs have been expressed in English and Guzerati characters, and the vernacular names of all remedial agents in different languages have been printed in *Italics*. In describing the general characters of each article the author has endeavoured to describe it with sufficient accuracy to ensure the detection of any adulteration. In describing the preparations, actions and uses of medicines used in different diseases, the author has consulted the practice and observations as given in various Sanscrit, Urdu and Persian works and embodied the results of his personal experience as well as the results of modern researches. In the selection of prescriptions for illustrating the uses of medicines in different diseases, he has, as a rule, confined himself to such receipts as have been found useful in his own practice and commonly used by native Vayids and Hakims.

The work has been divided into eight parts, *viz*: 1. Description of the preparation of drugs and of the manner in which they are used in different diseases. 2. Classification and

description of inorganic bodies. 3. Zoological classification and description of animals. 4. Botanical classification and description of plants. 5. Classification founded on physiological effects of drugs. 6. An alphabetical classification of diseases with the number referring to the prescriptions given in the body of the work. 7. An alphabetical classification of drugs used as substitutes for other or English drugs ; and 8. An alphabetical classification of drugs used as specifics in certain diseases.

In spelling the terms used in the vernacular and other languages, the Hunterian system of transliteration has been as nearly as possible adopted.

The author trusts that his attempts to popularise Native Materia Medica will meet with appreciation not only from the medical profession, but from the general public and that this book will prove an acceptable contribution to the history of native drugs and will form a basis of further researches in indigenous medicines.

Bombay, August 1887.

RUSTOMJEE NASERWANJEE KHORY.

THE BOMBAY MATERIA MEDICA

AND

THEIR THERAPEUTICS.

IN this classification, the drugs are grouped into three divisions, viz:— the Mineral, the Animal, and the Vegetable. Minerals used as medicine, consist of preparations of metals, such as Gold, Silver, Copper, Lead and a few others ; also of stones, as *Zeheramarho*, Lime stones, &c.; of various metallic ores, such as *Haratála*, *Abaraka*, *Manashila*, *Sonámakhi-dagadi* &c. and of various earths, as *Multáni Máti*, *Gopi-chañdana*, &c. They also include saline substances, such as *Sindhava*, *Sámbara*, *Pápada khúra*, *Navaságara*, &c. Various parts of animals are also used as medicine. These include shells, milk, bile, bones, fat, honey, horns, &c. All parts of vegetables are in constant use for medicinal purposes. They include roots, under-ground stem (Stock), stem, bark, leaves, flowers, fruits, seeds, oil, gum, resinous exudation, and wood. Very often the whole plant is availed of for administration.

All these drugs are prescribed in medicine. Most of them are in constant use for internal administration. Several are used both externally and internally. A few of them are chiefly used externally.

INTERNAL MEDICINES.

Those given internally are prepared in different methods or modes and used in a variety of forms.

DIFFERENT MEDTHODS.

Various processes are employed in the preparation of mineral substances to a state fit for use as medicine. These are:—Purification, Oxydation and Calcination or Roasting.

Purification ཡེ་ མཉམ་ *Suddha Karavun* (Guz.)—Metals, metallic ores, and metallic compounds, are subjected to this process to get rid of all deleterious properties. The best mode of purification is by submitting them to a red or white heat, and then plunging them in oil, whey, or cow's urine, or in the juice of *Kulathi* or of plaintain petioles.

Oxydation མཉམ་ *Māravun* (Guz.) *Jāraṇa* (Sans.)—It means destruction of metallic substances. This process is necessary to reduce metals or metallic compounds. In this process metals are at first subjected to purification. The purified mass is either steeped into cow's urine or mixed with *Khāra* of various plants or triturated with *Gāndhaka*, *Haratāla*, &c. Some metals unite with oxygen at a common temperature. Lead, Iron, and Copper oxidise slowly when exposed to air, but rapidly when heated to redness. Gold and Silver require other metals to oxidise them.

Calcination or Roasting འཇམ་མཉམ་ *Bhashmikaṇa* (Sans.)—It means reduction to a powder.

Roasting ཡེ་མཉམ་ *Pakāvavun*, མཉམ་ *Sijavavun* (Guz.)—The process is by far the most common among the natives for preparing ashes. In the case of mineral ashes, the metal after being subjected to a process of purification, is next wrapped up in *Jāmbula* leaves, *Bhuirīṅgani*, &c., the whole is then covered up with cloth, and lastly with a layer of clay about an inch thick. Thus prepared, the whole is put into a fire made of *Chhāṇān* (cow-dung cakes) till the clay assumes a brick-red colour; the roasted mass is then allowed to cool. The clay is then removed, the ball broken, and the metal so roasted, administered in the form of a powder, or pill, with honey.

In the case of vegetables, roasting is effected by the drug or drugs being either reduced to a paste or powder, or in the case of a fruit the whole fruit itself is subjected to a process similar to that adopted in the case of a metal after purification.

VARIETY OF FORMS OR PREPARATIONS.

These are numerous and include—

Paste ཡེ་མཉམ་ *Ghuṇṭādo* (Guz.)—This is prepared either by adding water to dried vegetable substances, after they are coarsely ground, or, as is the practice among the natives, by taking pieces of mineral or vegetable substances, by rubbing them together over a flat stone or a slab, at the same time by keeping a continuous pour of drops of cold water over the drug or drugs. *Harāḍe*, *Kariātun*, *Revāñchi-ni-lākadi*, &c. are made into a paste and used.

Expressed juice રસ *Rasa* (Guz.)—In the case of fresh vegetables, the juice is expressed, strained through cloth, and given for drink.

Infusion ચાહા *Cháhá* (Guz.) *Khesánda* (Unáni).—This is prepared by steeping one part of one or several vegetable substances, into eight parts of boiling water, and keeping the whole for several hours or till it becomes cold.

Decoction કાહાદો *Káhádo* (Guz.) *Joshándo* (Unáni).—As a rule, this is prepared, by boiling one part of one or several vegetable substances, with sixteen parts of water, till the whole is reduced to one-fourth. Thus prepared, it is either administered alone, or with the addition of *Madha*, *Khúra*, or some other substances (mineral, animal or vegetable) reduced to powder.

Confection પાકા *Páka* (Guz.) *Májama* (Unáni).—This preparation is mostly used by *Vayidas*. It is made by adding honey or syrup to a single powder, or to a compound powder, stirring the mixture over a fire, till the whole is reduced to a consistence harder than that of an extract or electuary.

Extract રસ *Rasa* (Guz.) *Sata* (Sans.)—This is prepared by first preparing decoction of a drug, then straining it, and lastly boiling the strained liquid to the consistence of a thick mucilage. There is another mode of preparing *Sata*. In the case of *Ghahun*, the grains, and in the case of *Gulvela*, the stems are reduced to a liquid paste. The paste is next allowed to stand for several hours, after which the supernatant liquid is removed. This process is repeated several times. The deposit is dried and fit for use.

Electuary ચાટાણા *Chátāṇa*. (Guz.) *Lauk* (Unáni).—This preparation consists of a powder made of a drug or drugs and intimately mixed with sugar or honey. It is called *Chátāṇa* which means licking. The method of administering it, is similar to that adopted by animals.

Powder ફાંકી *Fáki* (Guz.) *Churāṇa* (Hind.)—This is prepared by grinding dry mineral, animal or vegetable substances. The reduced mass is then passed through a sieve.

Pills ગોળી *Golí* (Guz.)—These are prepared either from a decoction of vegetable substances, by reducing it to the consistence of a syrup, or an extract to which is subsequently added some powdered drug, to make a pill mass; or, by adding to vegetable extracts or to powdered mineral, animal, or vegetable product, other substances such as honey, treacle or gum, to make a pill mass.

Boluses લીડુ *Lídu* (Guz.)—They are generally prepared by moulding a mass of confection into rounded forms.

Lozenges *Thēpālī* (Guz.) *Kursa* (Unāni).—In this preparation, very small doses of poisonous or other acrid drugs, and also volatile oils, are administered in a concentrated form. The drugs are at first added to boiling syrup, and stirred till the whole of the watery portion has evaporated. The hot mass is then removed from the fire, and thrown into moulds; when cold, they are ready for use. A mass of confection when divided into small pieces and moulded in the form of a square or oblong, are also known as *Thēpālī*.

Medicated Oils *Davānuñ Tela* (Guz.)—There are two kinds of medicated oils. These are known as Vegetable medicated oils and Mineral medicated oils. Vegetable oils are prepared either from fresh or dried vegetables. In the case of fresh vegetables, the expressed juice is added to the *Tila-tela*. In the case of dry vegetables, a decoction of them is first prepared, then strained, and lastly to the strained fluid, *Tila-tela* is added. The compound thus formed (by either process) is subsequently boiled over a fire, till the whole of the water has evaporated. The remainder is the medicated oil ready for use. Where minerals are used, the preparation is as follows:—Mineral substances are first purified, to the purified mass milk is added and boiled. The boiled product is allowed to cool when it becomes converted into curd. Curd, after a process of frequent churning, is next converted into whey and butter. Butter is next boiled when it becomes converted into oil.

There is yet another mode of preparing mineral medicated oils.

Take of calico one yard, soak it alternately in the juice of *Ākadī* and *Thuvara* for several times, and let it dry. Over the plastered calico, sprinkle or apply powder of the mineral substance required for the preparation. The calico is next rolled up like a pancake in the form of sticks, and then burnt over the flame of a candle. The fluid trickling down is next collected and used.

Syrup *Sharabata* (Guz.) *Sharabata* (Unāni).—*Unāni* *hakimas* make a very free use of syrup, prepared from vegetable products. The drugs are first reduced to a coarse powder, to which sugar or honey is added. Water is then added in proportion of 1 to 40, the whole is put over a fire, till it becomes sticky when touched between the fingers. This is allowed to cool, strained, and kept for use.

Wines or spirituous liquors *Dāru* (Guz.)—*Āsava* and *Ārishta* (Sans.)—*Āsava*:—In this preparation, honey or jaggery to which are added various medicinal substances, reduced to a coarse powder, are steeped in water, and allowed to ferment. Another mode of vinous

preparation is known as *Árishta*. In it the decoction of drugs is used, instead of the coarse powder.

Canji કાંજી *Cāñji* (Guz.)—Native women are fond of this preparation and use it very freely. The mode of preparation is as follows:—

Rice, or *Bājari*, is baked over a fire for a few minutes, and then coarsely powdered. The powder is steeped in water in the proportion of 1 to 20, and boiled, till the whole is reduced to the consistence of a curry. When ready for use, add to it powdered *Pipala*, *Sunṭha* or *Miri*. Some prefer to add *Mithuñ* before taking it. If required to sweeten it, sugar, honey, or jaggary may be added instead.

Emulsion રાબાડી *Rābādī* (Guz.)—*Rābādī* is a compound preparation, consisting of a drug or drugs. It is prepared in two different ways. A drug or drugs are first reduced to a coarse powder, to which milk, sweetened with sugar, is added in the proportion of 1 to 20 and boiled. To this when cold, various aromatics and *Magaja* (Kernels) as *Badāma*, *Pistā*, *Chāroli*, are added and used. Another method: Take a drug or drugs, reduce them to a coarse powder, bake them in *Ghi*. To the baked mass, add milk and sugar, and boil.

Jham Pani જામ પાણી *Jhāma Pāṇi* (Guz.)—It is a novel preparation, extensively used by native women in appeasing thirst, checking fever, and relieving flatulence. The word *Jhāma* is derived from *chhama* (Guz.) signifying, the sound produced when a piece of very hot substance is put into cold water. *Jhāma pāṇi* is prepared by putting a piece of hot tile, brick, or a piece of hot iron, into a bowlful of cold water. The water thus prepared is given for drink. Another preparation is known as *Jhāma kāhāḍo* જામ કાહાડો. This is prepared, by putting a piece of very hot iron, tile, or brick, into a thin liquid (paste) made of various powdered drugs, in cold water. The paste becomes luke-warm, and is then ready for use.

Alkalies કાચી *Khāra* (Guz.)—These are prepared by reducing to thin slices, roots, leaves, stems &c. of dried vegetables. The mass is next burnt over a fire till the whole is converted into ashes. The ashes thus obtained, is next mixed with water (in the proportion of 1 to 40) and boiled for about 2 or 3 hours, then allowed to cool, when all the residue is deposited at the bottom. The supernatant liquid contains alkalies in a state of solution. This saturated liquid is next put into an iron pan, and subjected to hard boiling, when the whole of the water is made to evaporate, leaving a residue which is the medicinal Alkalies.

Ashes *Kháka* (Pers.) *Bhashma* (Sans.)—These are known as alkaline ashes. They are prepared from vegetable and mineral substances. Vegetable ashes:—In the case of Vegetable, the drugs containing more or less alkalies are at first made into a coarse powder, or pieces, and then burnt till they are completely reduced to ashes. Among the vegetables may be mentioned *Aghádá*, *Pita-pápadá*, &c. as the principal agents in the preparation of ashes. Mineral Ashes:—In preparing these, metals are first subjected to a process of purification. The purified mass is then oxidised. The oxidised product is then subjected to a process of roasting. Finally, the roasted mass is reduced to a fine powder, when it is fit for use. The principal metals used for *Bhashma* are Gold, Silver, Copper, Iron and Mercury. Ashes are also prepared from various animal products, *Sámbarasinga* ashes being prepared from the horn of hart (*Sámbara*), pearl ashes from pearls. *Cowries* also are used in the preparation of ashes.

Acids *Dráva* (Guz.)—These are distilled mineral acids prepared by heating a number of mineral substances or salts in a glass retort. The distilled fluid is then collected into a glass receiver. It is a common belief among the natives, that since any of these acids dissolve *cowries* or shells (the hardest of lime products,) they are equally capable of removing the most incurable diseases.

MEDICINES USED EXTERNALLY.

Medicated oil *Chopadavánuñ-tela*, *Tela-mardana* (Guz.) *Táda-hina* (Unáni).—This oil is rubbed all over the body as in fevers, or locally to the chest, as in consumption and other diseases of the air passages.

In preparing them, *Tila-tela*, *Rúi-tela*, or *Erandi-tela* is added to various medicinal substances. Further process is similar to that already described while speaking of medicated oils for internal use.

It is a common practice among *Hakimas*, to use scented oils for external use. The chief substances used, for the purpose of scenting them, are—*Elachi*, *Taja*, *Lavanga*, *Methi*, *Kesara*, *Chañdana*, *Tamála-patra*, *Jatámánsi*, *Jadavára*, *Motha*, *Válo*, *Lobána*, *Kasaturi*, *Kapura*, *Zend-i-bidástara*, *Upaleta*.

Paste *Ghuñtádo* (Guz.)—This is prepared by a process similar to that used for preparing paste for internal use. For external purposes, the paste when ready is applied cold or made hot

and applied. *Ámbá-halada*, *Revañchi-no-siro*, &c. are used for external purposes. In cases of head-ache, *Sunṭha*, rubbed over a hot tile, moistened with a few drops of water, or *Chaṇḍana* rubbed over a piece of stone, over which rose water is dropped during the process, are useful applications. *Sabajā-no-rasa* and *Kálá-dhaturá-no-rasa* to which *Gul-i-aramáni* is added, are used as a paste for swollen feet and hands.

Plasters *लप Lepa* (Guz.)—They are prepared by mixing various resinous substances together. The mode of application varies. Some put resinous substances into *Mowadá-no-dáru*, brandy, or any other hot spirit, till a kind of paste is formed. When cold, it is applied to the affected part, either with the fingers, or by means of a feather. After the application, cotton is put over the affected part and allowed to remain over the skin for 4, 5 or 7 days. This kind of plaster is called *Lepa*.

Another mode of application is to mix a drug or drugs in hot or cold water, and spread it on a piece of brown paper. Thus Mustard powder made into a paste with water, and spread over a piece of paper or muslin, is known as mustard plaster. *Dudha-máravuñ* *दुध मरुं* (Guz.)—This is an application of the milky juice of *Thuvara*, *Umará*, *Ákaro*, &c. over the painful joint or joints, or over the chest or abdomen. After the application, pellets of cotton are applied to cover it from exposure to air. This application is repeated every 3 or 4 days.

Caustic or Cautery *दहना Dahama* (Guz.)—The application of acrid juice of *Bhilámo* is a common practice among the natives for the relief of colic, rheumatic pains, &c. The practice of causing blisters by means of iron at a white heat is even commonly employed during the present generation. Children at a very tender age are seen with marks of iron cautery over their abdomen.

Lotions *लोटन* *Lōṭana* (Guz.)—These preparations consist of various mineral or animal substances, or of various vegetable juices, diluted with large quantities of water. They are applied to the head and eyes, and also to swollen, painful, and red skin. Cloth dipped in Eau de Cologne and water, sugar of lead and water, *Golába-páni*, &c. are used as lotions. Muslin wetted in brandy is a useful application over the abdomen in high fevers.

Gargles *कोगल Kogalá* (Guz.)—Gargles are a mixture of water hot or cold, with various vegetable or mineral substances. Among vegetable substances may be mentioned *Hirábola*, *Triphalá*, *Bábula-chhála*, *Dhamáso*, *Májuphala*, *Kátho*, &c. and among mineral substances, *Tankunkhára* *Morathuthu*, *Hirákasi*, *Phataki*, &c. Very often *Madha*,

Ghee, &c. are used instead of water to mix with the drugs. Sometimes *Madha* alone is mixed with water as a gargle.

Ointments મલમ *Malama* (Guz.)—These are prepared by adding boiling *Mina* or *Tila-tela*, &c. to various preparations of mercury, sulphur, or zinc, of copper salts, lead salts, borax, &c. also to several gums, balsams or resins. *Kapura* is a constant ingredient in nearly all ointments.

Liniments મસજવાનું ઔષધ *Masajavānuṇ Osadā* (Guz.)—These are oleaginous preparations. They contain, in addition to medicated oils, *Kapura*, *Rasawanti*, *Afima*, *Bachanāga*, &c. Natives are in the habit of using a liniment made of *Ajamoda* and *Mowadā-no-dāru* for rheumatic pains. *Badāma-nuṇ-tela*, *Ghāsa-nuṇ-tela*, *Kāyākuti-nuṇ-tela* &c. are favourite remedies with the natives and used as liniments. Their application is always accompanied by forcible rubbing.

Poultices or Cataplasts લેપાદિ *Lepadi* (Guz.)—These are soft and moist applications. They are prepared by boiling vegetable drugs in milk or water, till the mass is reduced to the consistence of butter. They are usually large, and applied as hot as can be borne, but occasionally cold. They should be frequently changed as a means of applying heat and moisture. They contain some drugs which may have a specific action. The drugs used as poultices are numerous. Linseed when bruised or powdered and boiled with water, forms an excellent external application for the relief of pain and inflammation. Linseed poultices are mostly used as external applications. They are also useful applications for the relief of internal inflammations. Linseed meal poultices, when applied to boils, often set up fresh crops of eruptions, round the original ones. Wheat bran, or bread, or powdered wheat, or *Bājari*, made into a poultice, is recommended where milder external application is required, or where the patient is a child. When to any of these, poppy heads, or numerous other anodynes are added, they are said to act as sedative poultices. *Kāndā*, *Bégana*, &c. made hot, and moist leaves of *Limado* and *Nāgoda* are commonly used as poultices by the natives to hasten suppuration of boils and buboes.

Suppository સોગાથી *Sogathi* (Guz.)—It consists of a solid conical mass made up of *Kokamabela* intimately mixed with a drug or several drugs. These are vegetables as *Triphalā*, *Ajamoda*, *Kātho*, *Hirābola*, &c. or Minerals as *Phataki*, *Morathuthu*, *Hirākasi*, &c. When ready, it is introduced through the anus into the rectum. It should be capable of being either dissolved or melted. It may be used as a mere aperient, or as a local astringent, as an anodyne to relieve pain or for

the cure of some local disease of the anus or of the rectum. Where the active agents become absorbed, their effects are manifested by the relief given to the part, or to the adjacent diseased organs as the bladder or the genitals. A suppository, of *Tambáku* stalk introduced into the rectum of children, relieves constipation. A piece of cotton soaked in castor oil acts as an aperient when introduced into the anus.

ON DIFFERENT MODES OR METHODS.

Various methods are employed in the administration of medicines externally. For convenience of description, they are classified as follows :—

Applications अणुसङ्ग *Lagádavuñ* (Guz.) *Hamul*, *Farzája* (Unáni).—These are simple or compound medicinal preparations. They are used as an application to the skin, or to the mucous membrane. To the skin, they are applied over a limited part, or to a large surface. To the mucous membrane, the application is over a limited space or area. Applications are useful for the HEAD, EYES, NOSE, EARS, and MOUTH, and also for the CHEST, and ABDOMEN. They are often resorted to for the upper and lower extremities.

HEAD: Various drugs are applied to the forehead, temples or to the top of the head, either hot or cold, or moist or dry. They are chiefly used in head-aches, in febrile heat, &c. Hot and moist : *Miri*, *Suntha*, *Lavañga*, *Taja*, &c. are reduced to a very fine powder, to which hot or boiling water is added till the whole is converted into a paste. The paste thus formed, is applied while hot, to the head or scalp. Hot and dry : Leaves of *Erañda*, *Áka*, *Samudra-sosha*, &c. are at first heated, either directly over a fire, or by keeping them in contact with a hot copper or iron plate, and then *Ghee* or oil (*Erañdi-tela*) is applied to their upper surface before they are ready for use; baked bread (the upper surface of the bread which is to be in contact with the head is, as a rule, not baked) of the shape and size of the head, prepared either of *Bájarí*, wheat-flour, *Nañgali*, &c. is used while hot, as an application to the head. In all these cases, a bandage round the head is finally applied, to keep the drugs in situ. Cold : Fresh leaves of *Mēñdi* are made into a thick paste with water, and applied over the head. Fresh leaves of *Kuvíra*, *Vaḍa*, *Erañda*, &c. are also used as an application to the head. A paste made of *Chañdana*, cold infusion of *Behidáná*, Eau de Cologne, &c. is an application in constant use. Medicated oils are applied either hot or cold to the head. That known as *Dhupela-tela*, is used for the whole head or only for the top of the head.

EYES: These applications are known as Pouring of drops: Acid juice of *Dálimba*, or the cold infusion of *Triphalá* is dropped into the eyes in conjunctivitis. Very often infusion of *Triphalá* is used as an eye douche or a wash. Applications inside the lids. *Kájala*, *Surmo*, &c., known as *Āñjana*, are applied inside the lids, by means of a pencil made of lead, zinc, or glass. Probes made of *Phataki*, *Sendhálona*, &c., are sometimes used as local applications to the lids. These are known as *Chañdrajota*. They are generally one or two inches long and smooth on their surface. Their colour varies from white or yellow to brown. In shape and form, they resemble a leech (*Jalo*.) Powder of *Cháksu* seeds mixed with *Sarsuñ-tela* is in general use by native women as an application inside the lids. Outside the lids: These are hot and cold applications. Hot application is made of *Ghee* heated over a fire, which is then dropped on a bit of cotton and applied over the lids. Natives call this application by the name of *Ghee-nu-pola*. Cold application, consisting of a piece of muslin dipped into a solution of *Haláda* and dried, is in constant use. Very often a piece of muslin is put into the mouth as a plug, and breathed upon, and when the cloth is removed from the mouth, it is applied to the lids to relieve pain.

NOSE: The method of application includes Pouring of drops. Very few drugs are used as drops for the nose. The expressed juice of *Kadavi-turái*, *Ariṭhā*, *Kāñḍā*, &c. is used as drops. A few medicated oils as *Nima tela*, *Tila-tela*, &c. are similarly used. The juice of *Oomaro*, *Ghee*, *Madha*, &c., are also dropped into the nose. Blowing of powders: Powdered drugs blown into the nose act as an errhine. (*Chhikani*).—They are blown into the nose through a tube, or a quill pen, or applied like snuff with the finger inside the nose, or forcibly breathed in. *Phataki*, (burnt over a fire and reduced to powder,) powdered *Mulatāni Māṭi*, &c. are used for being blown into the nose. A Paste made of clay and water, or a piece of muslin soaked in cold water, is frequently applied to the nose, to check epistaxis.

EARS: The expressed juice of *Gula-hazárá* or *Galagotá*, *Gulabás*, *Lasana*, *Kāñḍā*, &c. is poured into the ear, in ear-ache or in otorrhœa. Medicated oils, prepared from *Nima*, *Lasana*, or *Samudraphina*, &c., *Madha* or *Ghee*, are also recommended as drops for the ear. Blowing of powders: Powder of *Gulúla*, *Májuphala*, *Phataki*, &c. are astringent medicines blown into the ear in otorrhœa.

A peculiar kind of fly which infests cattle and horses is popularly but erroneously believed to creep into the interior of the ear, and is known as *Bagáí*. This fly does not really enter the ear, but the popular

belief is based on the fact, of conjurers pretending to take such flies out of the ear through a conical tube, by means of *Mantras*. The insect which does really creep into the ear, is familiarly known as *Kána-khajurá* (centipede). The word *Kána-khajurá* is derived from *Kána* (ear) and *khaju* which signifies intense aching.

MOUTH AND THROAT : *Kátho*, *Morathuthu*, *Phataki*, &c. are made into sticks and applied to ulcers in the mouth. Powdered *Himaja* is blown over ulcers on the tongue as a local application. Very often medicated powders or thick solutions are applied to the gums, fauces, and tonsils. Natives apply meconium of a first born animal to aphthæ in the mouth, and to sore mouth, with considerable success. How this application acts is a mystery, which requires to be investigated.

TEETH : Applications to the teeth are familiarly known to natives as *Dānta Mañjana*. The word *Mañjana* means a polisher. Any powder, used to remove tartar from over the surface of teeth, or even dust from any other articles, is called *Mañjana*. The chief *Dānta Mañjana* is a powder or paste. It may be simple *Mithuñ*, *Tamakhira* (snuff), *Kolasá-no-bhuko*, *Cháka*, *Sopári* ash, *Badáma-ná-kotalá-ni-rákha*, &c. Very often a combination or a compound preparation of only one or other of these is used, to which is added *Hirádakhana*, *Hirábola*, &c. Natives are in the habit of using as a tooth brush, slender twigs of *Chikah* (*Phyllanthus virosa*), *Jheela* (*Indigofera paucifolia*), *Bávala* (*Acacia arabica*), or *Nima* (*Azadarechta Indica*.)

CHEST : Applications used for the chest are hot and cold. Cold applications are Pastes, Medicated oils, Liniments, &c. &c. The Paste is made of *Miri*, *Suntha*, *Afima*, *Ajamoda*, *Sámbarasiṅga*, &c. Each is intimately mixed in water or brandy, and applied to the chest to relieve pain. Medicated oils, as *Lákashádi tela*, *Naráyan tela*, *Kapura tela*, *Badáma tela*, *Koparela tela*, *Mithuñ tela*, &c. are also useful applications to the chest in chest diseases. Besides cold applications, others known as hot applications are in frequent use. These include Pastes, *Varáliāns*, Poultices, &c. *Jáephala*, *Agara*, *Sáphasana*, &c. are at first reduced to a paste in cold water. The paste is next made hot over a fire, and applied. *Varáliāns* of *Nimbádá*, *Nagoda*, *Báma*, *Post*, &c. are in constant use for the chest among the natives in Bronchitis. Linseed, wheat-flour, *Rái*, &c. are used as poultices to the chest.

ABDOMEN : Applications to the abdomen, like those of the chest, are of two kinds. These are known as cold and hot applications.

Cold applications include pastes and medicated oils. Pastes are made of *Hīṅga*, *Elio*, *Tamakhira* mixed with *Erañdi-tela*, *Zeher-kochalá*, *Kiddá-mára*, *Palaspápado*, &c. Medicated oils in constant use are, *Erañdi-tela*, *Tila tela*, &c. Hot applications include Pastes, *Varáliáns*, Fomentations and Poultices. Among the pastes may be mentioned, the preparations of *Suñtha*, *Miri*, *Suvá*, *Ajamoda*, *Mithuñ*, *Navaságara*, &c. To prepare *Varáliáns*, *Erañdi pána*, *Samudra-sosha pána*, *Ákadá pána*, *Nágaravela pána*, &c. are made hot and applied. In cases of constipation, *Erañdi tela*, &c. is applied to the leaves before use. This oil is generally applied to the upper surface of the leaves.

Fomentations རྩ་ སེཀ (Guz.) *Kumáda* (Unáni).—These are direct applications, either of dry heat, or of hot medicated steam. Dry heat may be applied with a piece of flannel heated over a fire, or by a calico containing heated salt, sand, brick, tile, or hot ashes prepared from various vegetables. A bag made of thin flannel and filled with hot bran, *Ajamoda*, *Bhāṅga*, or chamomile flowers, is often used for this purpose. Fomentation is a common practice among the natives. Several other vegetables are also used for this purpose. These include *Báma*. This plant is made hot and applied by native women to the chest in capillary Bronchitis. The thick leaves of *Ákadá*, made hot, are used as application to the abdomen, to relieve tympanities, and over inflammatory swellings, for the relief of pain. The leaves of *Samudra-sosha* are first made hot over a fire, and any grease, as butter or oil, is next applied to their upper surface. Thus prepared, they are used as fomentation to dissolve inflammatory swellings. Hot medicated steam: Flannel, wrung out of boiling water, to which poppy heads are added, is a common mode of using moist fomentation. The skin should be carefully dried after their use, and a dry flannel should replace them. *Varáliáns* is a common term among the natives, for applying heat to painful parts. Leaves of *Ávar*, *Marajáda-vela*, *Ratolio*, &c., *Khasakhasa-ná-post* and flowers of *Resuri*, are boiled in water for a few hours, and when hot, are thrown upon a towel. When the water is nearly strained, the hot leaves or flowers are applied to the diseased part or parts.

Medicated Baths རྩལ་ལུ་ལུ་ སུ་ལྷ་ (Guz.)—*Ábzana* (Unáni).—Baths are of several kinds. There are hot, tepid or luke warm, and cold baths. They may be limited to a small portion of the body, as the hip or feet; or used for the whole body. Water is the chief agent. Medicated hot baths for the whole body: In a majority of cases, hot water only is used for this purpose. In several parts of the

Bombay Presidency, there are numerous places where natural hot springs, containing sulphur, salts, &c. are found. These are used as medicated hot baths. Artificial medicated baths: In their preparation, the drugs are boiled in water, or a decoction of them is added to the boiling water. The drugs in common use are, *Dhamásá*, *Nirgundi*, *Nima*, *Bávala chhála*, *Motha*, &c. Medicated hip bath is a local or limited bath. It is prepared by adding to hot water, poppy heads, *Rái*, &c. Foot bath: *Pashoyá* (Unáni).— Similar medicines as used in hip baths, are also used for foot baths. A common practice among the natives is to give at first a good rub of medicated oil, or of *Ghee* mixed with *Miri* powder, to the soles of the feet, followed, in half an hour, by a foot bath. Cold baths: Natives have an aversion to the use of cold baths in fevers, although a cold bath is of every day use with the Hindoos; they often use it twice or thrice a day, and that too, in an open place. Hyppocrates prescribed cold water in ardent fever. When so used, it acts as a pure refrigerent, moderates the heat, regulates the pulse, and even causes sweating.

Injections పిచాకీరిని దావ *Pichakári-ni-davá* (Guz.) *Sáfa* (Unáni).— Various kinds of apparatus are in use for this purpose. They are known as syringes, and are made of glass or metals such as lead or tin. Among the ancients, and among the Goanese of to-day, injections are made by means of an apparatus, made of a leather tube about 8 inches long, and an inch wide, tapering at one end, and attached to a membranous bag at the other. The bag is made of the bladder of a goat or bull. This is filled with the medicine or the fluid to be injected. Injections are used for diseases of the NOSE, EAR, URETHRA, RECTUM, and VAGINA.

Various medicated oils, as *Nima tela*, *Badáma tela*, *Dudhi tela*, &c., *Madha* and luke warm water, or *Kátho* or *Pkatakí* made into solutions &c. are used as injections to relieve pain and nasal discharges. Those drugs enumerated above and used for the nose, are equally useful for diseases of the ear. In addition, other substances as *Samudraphina tela*, *Gulabása tela*, *Lasana tela*, &c. are also used as injections for the ear. *Phatakí*, *Kátho*, *Májuphala*, *Morathuthu*, &c. are made into watery solutions and used as injections for the urethra. A medicated oil prepared from four barks, namely the bark of *Oomrá*, *Boedi*, *Bakuli*, and *Bávala*, is often useful as an injection into the rectum in dysentery. This process is known as Enema. Medicines already recommended for injections into the urethra are also useful as injections in diseases of the vagina.

Inhalations શ્વાસ સાથે અંદર લેવાની દવા *Shvāsa sathe levāni davā* (Guz).—The word inhalation literally means breathing. It consists in the practice of using drugs in a gaseous or atomised form, for the purpose of applying them to the respiratory tract. The agents or drugs are, by this means, brought into contact with the nose, mouth, pharynx, larynx, the bronchi, the epithelium of the air cells, and the pulmonary alveoli. In a few cases, the inhaled materials become absorbed by the capillaries and enter the general circulation. The drugs used for inhalation are numerous, the majority of them are reduced to a fine powder. They are soothing or sedative, and stimulant applications. Sedative inhalations are those which soothe the inflamed or irritable throat or bronchi. They are useful in catarrh of the air passages, in incipient laryngitis, and in croup. Inhalations are moist and dry. Moist medicated vapours are useful in assisting secretion and promoting expectoration. The agents so employed, are added to hot boiling milk or water in a state of ebullition. These include *Lavaṇḍara-nā-phula*, wheat bran and clay, *Chā*, *Ajamoda*, *Suñṭha*, *Āsunda*, *Taṅkaṇa-khāra*, *Phataki*, &c. Stimulant inhalations: Various stimulant and carminatives, as *Kabābachini*, *Phudino*, *Lavaṅga*, *Jāephala*, *Taja*, *Kāyākuti-nuṇ-tela*, *Suvā*, *Jirūṇ*, *Variāli*, &c. are used as moist inhalations. They are useful where there is much secretion from the air passages. Great benefit is obtained from the vapour of *Dhaturā* in Asthma. Dry inhalations are effected in various ways. These are by means of tapers or pastilles, *Chilama*, *Hookkā*, &c.

TAPERS બિડી *Biḍi* (Guz).—Tapers are made of a piece of paper containing *Suro-khāra*, *Ajamoda*, &c. reduced to powder. When ready, they are set fire to at one end, and at the other, the fumes are inhaled by the mouth or through the nose. Such inhalations are useful in cough, asthma, &c.

CHILAMA ચીલમ (Guz).—It is a direct inhalation of smoke from *Gāñjā*, *Tambāku*, &c. The apparatus consists of an earthen vessel with a hole at its bottom. It is hemispherical, or conical in form. In shape, it resembles an ordinary funnel, or *Dhaturā-nu-phula*. At the time of using it, the hole is closed with a piece of tile or stone, the vessel is filled with the drug to be inhaled, fire is placed over the drug, and the inhalation effected through the hole.

HOOKKA : ફૂકા (Guz).—In moist inhalation, the fumes of drugs, or the drugs themselves, are passed through the medium of water, before they are inhaled. The apparatus consists of a *Chilama*, in which the drug or drugs are put with a fire on the top of them. At the bot-

tom of it, is a hole, through which a wooden or metallic tube passes, and which connects the *Chilama* with a basin of water below. The water basin is made of earth or metal, or may be a natural cocoanut shell. It is a closed vessel, having one opening at the top, where the tube connecting it with the *Chilama* is attached, and another at the side, through which an elastic tube projects. It is through this tube, that the inhalation is effected. The use of inhalation is well known among the Hindoos and Mehomedans. They indulge in the use of *Tambáku*, *Afima*, *Gudáko*, more as a luxury than medicine.

Fumigations धुं, धुमं *Dhuñi*, *Dhumádo* (Guz.) *Bukhura* (Unáni). The word Fumigation literally means smothering. Fumigations are local applications and consist of various incenses and of pungent vegetable, animal, or mineral substances. They are capable of being volatilised by heat, and the vapour which escapes, may be directed towards a limited part, such as the head, face or anus, or widely diffused over the skin of the whole body. The substances chiefly used as incenses are, *Gugala*, *Lobána*, *Isasa*, *Boi*, *Agara*, &c. Among pungent vegetable substances may be mentioned, *Bhuiriñgani*, *Makau*, *Lavañdara-ná-phula*, *Ajamoda*, &c. The minerals include *Gañdhaka*, *Siñgarapha*, &c. Fumigations are used chiefly in fevers, and skin diseases. They are also employed for the cure of syphilis in the secondary stage, and especially with dry eruptions. They are also useful in cases of intractable and obstinate ulcerations. To a limited part: *Bhuiriñgani* fruits with seeds are burnt over a fire, and the fumes applied to caried teeth in toothache. Natives believe that this drug is a disinfectant and kills maggots which are supposed to infest the hollow of caried teeth. The fumes of *Isasa*, *Gugala*, &c. are similarly used as local applications to ulcers or other diseases of the nose. *Siñgarapha*, *Bháñga*, *Dhaturá* leaves, *Triphalá*, &c. are made into tapers and lighted, and their fumes allowed to spread over foul ulcers. They are also highly recommended by *Hakimas* as fumigations, over the anus, in piles, dysentery, &c. To the whole body: *Gañdhaka*, *Siñgarapha*, *Siñdura*, &c. are burnt in rooms occupied by the sick. Dried shells of various fruits, as *Badáma*, *Sopári*, &c., *Káñdá*, joints of bamboo, *Suntha*, *Ajamoda*, *Variáli*, &c. are also in frequent use for fumigations by the natives. In Hysteria, the fumes of dried *Mirachi* (chillies), are used for expelling supposed evil spirits. The fanciful cure by fumes of ass's dung, and camel's and goat's excreta, is well known, as a means to dispel evil spirits, which are believed to enter the body. The process is known as *Dhupaná*. It is as follows:—The patient is made to lie on his back in a sleeping

posture, in a cane chair, or on a couch, all his clothes having been previously removed. He is then covered over with a blanket. Incenses or other drugs (enumerated above) are sprinkled over burning coals kept in an iron or copper plate. The fire (with burning drugs) is put under the chair or couch, and the fumes directed to the naked body.

MINERAL MATERIA MEDICA.

For convenience of description, mineral substances are divided into groups, which include metallic substances, compound minerals or rocks, saline substances, stones, clay, &c.

Metallic substances : Under the group of metals may be mentioned Malleable metals, which include gold, silver, copper, iron, lead, and tin. These are described seriatim. Next in order are described Brittle metals, such as zinc and arsenic. The other metals are mercury and sulphur. Mercury is a highly favourite metal with natives, and a majority of its prescriptions contain *Pára kájali* in some form or another. Sulphur is a constant ingredient in nearly all the preparations which contain mercury.

Compound minerals : These include Alum, *Abraka*, *Sonámukhi-dagadi*, and earths. These are masses of minerals in a state of combination or aggregation with one another.

Saline substances : These are numerous, and include salts which exist in nature, and salts as obtained from saline earths. Salts as exist in nature, are known as Natural Salts. Salts obtained from saline earths are : *Navaságara*, *Tañkaṇa-khára*, *Suro-khára*, and *Pápada-khára*. *Sáji-khára* and *Java-khára* are salts not obtained from mineral substances, but are a produce of vegetable ashes. *Bida-lavana* is a produce of a combination of *Sámbara* and *Ámalá*. *Sañchala* is prepared by a combination of *Sámbara*, *Mithuñ*, and *Himaja*. *Ratanajota* is an artificial preparation of *Suro-khára* and *Phataki*. *Bandáro* is a preparation of *Sáji-khára*, *Phataki*, and *Máiyāñ*. Sometimes *Saṅg-jiru* is substituted for *Sáji-khára*.

The three natural salts (*Sīndhava*, *Mithuñ* and *Sámbara*) and the two artificial salts (*Bida-lavana* and *Saṅchala*) are collectively known as *Pāṇcha-lavana*.

Stones: These are preparations of lime or of calcareous family and include lime stone, *Saṅg-e-Isama*, &c. Other stones are *Zehara-maharo*, *Gābhana*, *Silājita*, *Saṅg-jirūñ*, and *Saṅg-e-yáhuda*.

Clay: Under this class of medicinal substances, may be enumerated *Multāni-māṭi*, *Geru-māṭi*, *Gul-e-aramāni*, *Gopi-chaṇḍana*, *Gil-e-kibrasi* and *Khaḍu*.

METALLIC SUBSTANCES.

Metals धातु *Dhātu* (Guz., Hind. and Bombay).—These are simple combustible substances. Some of them are met with in nature uncombined, or in a pure native or metallic state. A majority of them are associated with oxygen, sulphur, iodine, chlorine, &c. When metals are found in combination with other substances, they occur as mineralized, and partake of the nature of ores. When combined with one another in different proportions, they form alloys.

CHARACTERS: As a rule, all pure metallic substances are opaque, shining, and good conductors of heat and electricity. A few, such as arsenic, iron, &c. are found in a crystalline condition. Some metals are malleable, others are brittle. Malleable metals are capable of being flattened or elongated with the hammer, without tearing or breaking. They are also ductile and tenacious in supporting weights. Iron is the strongest, Lead the least so, in supporting weights. Brittle metals: Besides Arsenic and Zinc, others, such as Aluminum and Bismuth, may be classed as brittle metals. These can easily be reduced to powder.

Matras मात्रा (Guz.) *Mātrās* (Sans.)—This is a generic term among the Hindoos for a dose of medicine. It also means an irregular or a crooked stroke of a pen on a piece of paper. Mineral ashes, (*Bhashma*), or a medicated oil, is also called *Mātrā*. The drug is generally given internally, in a quantity equal to the stroke of a pen, or a grain of rice. The method of administering *Mātrā*, is to dip a probe in the drug, and then apply it by a stroke of the probe to *Nāgaravela pāna* (betel leaf), or *Tulasi pāna*. The *pāna* is then taken internally. Although *Mātrā* signifies an extremely small dose, the drugs used as *Mātrās* are often administered in large doses. Natives ascribe different therapeutic properties to a *Mātrā*, according as it is given in different vehicles or adjuvans. Such varying vehicles are known as *Anupāna*.

Anupana: The word *Anupāna* is derived from *Anu* which means to follow, and *pāna*, to take or drink. It means any medicine which follows or is taken as a drink after a *Mātrā*.

Yoga vahi: It is a common belief, that the vehicles used with *Mātrās*, often increase the effects assigned to the vehicles themselves. Thus, if a *Mātrā* is given in *Himaja*, which is a laxative, the laxative effects become more developed. This view of their action is known as *Yoga vāhi*. Certain precautions are enjoined by *Hakimas* and *Vaidas* while prescribing *Mātrās*. They prohibit the use of vinegar and sauce while using gold *Mātrā*.

AURUM—GOLD.

Gold सोन Sonuñ (Guz.) Soná (Mah.) Suvarṇa (Sans.) Soná (Hind.) Zāhāba (Arab.) Zara (Pers.) The leaf: Soneri varaka (Hind. and Bombay) Varke zara (Pers.)

Characters: It is a well known metal. It exists in nature in a metallic state: also in primitive rocks and in alluvial deposits in small particles called gold dust. It is commonly alloyed with other metals such as silver, copper, iron, &c. Pure gold has a metallic lustre and is of a reddish yellow colour. It is the most ductile of all metals, and is softer than silver. It acquires lustre under pressure.

Preparations: These are two; gold leaf and gold ashes.

GOLD LEAF सोनली पत्र Sonáno varaka (Guz.) Soná varaka (Hind.) It is prepared by beating gold into extremely thin leaves.

SONANI KHAKA सोनली खाक (Guz.) Soná bhashma (Hind.)—To prepare it, take of *Pára* and *Gāndhaka* equal parts, mix them together, then soak the mass into the juice of *Kañchana chhāla*, till the whole forms a thick paste, to which add an equal weight of gold leaf. Other processes are similar to those given in the preparation of mineral ashes.

Actions and Uses: Gold leaf and its preparations are said to be valuable alteratives. Their action is, to some extent, similar to that of mercury and silver. They are generally stimulants, and especially aphrodisiac tonics. They increase the flow of menses in women. When given for a long time, they are said to cure syphilis and scrofula. They are also given to promote strength, and increase vigour, to improve the memory, or clear the voice. They are also useful in chronic fevers, in the last stage of consumption, and in other chronic diseases, in diseases of the urinary organs and in impotence. Gold leaf is generally eaten with betel leaf.

Doses: Of *Varaka* $\frac{1}{8}$ th to $\frac{1}{3}$ rd of a grain, of *Bhashma* (oxide of gold) one-tenth of a grain.

Anupana: *Sonāni-mātrā* or *Sonāni-khāka*, when given in the juice of *Bhāṅgaro*, is supposed to stimulate virile powers; when given with *Sātodi*, its effect is to improve the sight. When taken with milk, it is said to cure consumption.

Remarks: These preparations of gold are given to children for a lengthened period, in the belief that they impart beauty and strength. *Varaka* is given to adults internally, in combination with stimulants. *Varaka* and *Lasana* are also highly reputed for internal administration, in combination with various aphrodisiac confections.

SUVARNA VASANTA MALTI.

- 1 R. *Sonā Varaka* 1, *Moti* 2, *Hīṅgaḷo* 3, *Kalakhāparo* 8, *Miri* 4. Mix, and triturate in the juice of *Limbu*. Dose: grs. ii to grs. v.

Anupāna: *Madha*, and *Pipali*.

Used in general debility, impotence, chronic fevers, secondary syphilis, gonorrhœa, leucorrhœa, chronic diseases, &c. In cases of habitual constipation, take the pill with the decoction made with *Triphalā*, *Upaleta*, and *Bāma*.

- 2 R. *Sonuṇ* 1, *Pāro* 1, *Moti* 2, *Gaṇḍhaka* 1, *Sājikhāra* $\frac{1}{4}$. Mix. Add *Madha* and water to make a paste. The whole is heated over a sand bath, till all water has evaporated. Dose: gr. i to grs. iii.

Anupāna: Given with honey and *Pipali*.

Used in consumption, cough, asthma, dysentery and gonorrhœa.

- 3 R. Take of *Sonā varaka* 1, *Pāro* 4, *Gaṇḍhaka* 2. The whole to be triturated in the juice of *Kachanāra*. Make a ball and roast it in the usual way. To the roasted mass add *Chhipa bhashma*, *Taṅkaṇa khāra* and *Bachanāga*. The whole to be triturated in the juice of *Chitraka* to form a pill mass.

Dose: gr. i to grs. iii.

Anupāna: In cases of catarrh, take it with *Galo rasa*

and honey. In cough, with Jaggary and *Adraha*. In diarrhœa and dysentery, with *Bhāṅga* and *Chhāsa*. Used as an alterative tonic in all chronic diseases.

- 4 ℞. Take of *Sonā bhashma*, *Rupā bhashma*, *Párá kajali*, equal parts, macerate the whole in the juice of *Nágaravela pána* and dry it over a sand bath.

Dose: gr. i to grs. ii.

Used in consumption, asthma, and general debility.

- 5 ℞. Take of *Sonā varaka* 1, *Párá kajali* 2, *Manasila bhashma* 1, *Kodi bhashma* 2, *Tañkaṇa-khára* 2. Make a pill mass with *Madha*. Dose: grs. ii to iv.

Anupána: Butter or honey with *Pipali*.

Used as an alterative in chronic diseases.

- 6 ℞. *Soneri varaka*, *Hīṅgaḷo*, *Ghaṇḍhaka*, *Tañkaṇa khára*, *Maṇḍura*, *Baṅga bhashma*, *Trámbá bhashma*, each one part; *Jiruṇ*, *Sañchala*, *Miri*, each five parts. Mix. Make powder. Dose: grs. iii to v.

Anupána: To be given with a decoction of *Dashamula*.

Used in chronic diseases as an alterative tonic.

ARGENTUM—SILVER.

Silver 𑂔𑂗𑂢 *Rupuṇ* (Guz.) *Chāṇḍi* (Hind.) *Tāra* (Sans.) The leaf: *Ruperi-varaka* (Guz.) *Rupechā-varaka* (Mah. and Hind.) *Varkha ulfizāh* (Arab.) *Varkhāsima* (Pers.) *Tārapatra* (Sans.)

Characters: It is found in the mineral kingdom, in a pure metallic state, often alloyed with other metals, as gold, arsenic, copper, &c. or combined with sulphur, iodine, chlorine, &c. Silver is a soft, white, brilliant, sonorous and ductile metal. It melts at a bright red heat and does not oxidise when exposed to the air, but is soon tarnished by vapours of sulphur.

Preparations: Its preparations are silver leaf and silver *Bhashma*. Silver leaf 𑂔𑂗𑂢 𑂔𑂗𑂢: is prepared by the same process as that employed for gold leaf. Silver *Bhashma* 𑂔𑂗𑂢 𑂔𑂗𑂢 or *Rupāni khāka* (Guz.) *Tāra bhashma* (Sans.) Black oxide of silver (Eng.) *Bhashma* is thus prepared. Take *Haratāla*; triturate it in the juice of Lemons, till a paste is formed. To this paste add *Dālimba-ni-chhāla*,

they are supposed to be made of purer copper than new ones. *Tám-bra bhashma* is thus prepared. Take of *Páro* $\frac{1}{2}$, *Gaṇdhaka* 2, powder them together. To this add the juice of *Ákadá*, when a paste is formed. The paste is next submitted to processes similar to those adopted for gold or silver *Bhashma*.

Actions and Uses: As a cardiac depressent, *Tám-bra bhashma* is given in combination with *Bachanága* and the juice of *Dhaturá* leaves, in apoplexy, gout, and rheumatism. As an alterative tonic, it is recommended in chronic skin diseases, asthma, chronic diarrhoea, piles, consumption, and gonorrhoea.

Dose: gr. $\frac{1}{2}$ to gr. i.

Remarks: Copper in a pure metallic state has no specific action on the system. Workers in copper have an anæmic appearance, but are not liable to any special diseases. They are supposed to enjoy immunity from cholera.

SARVESHVARA RASA.

- 8 ℞. Take of *Tám-bra bhashma* 4, *Gaṇdhaka* 4, *Páro* 1, *Hīṅgaḷo* 1, *Loha bhashma* 1. Mix. The whole to be triturated in the juice of lemons, till a uniform mass is formed. Macerate the mass in the compound juice of *Kochalá*, *Ákado*, *Dhaturá*, *Thuvara* and *Kanera*. The paste is next evaporated over a sand bath. To the dried mass, add *Bachanága* $\frac{1}{4}$ and *Pipali* 1. Dose: grs. ii to grs. iv.

As an alterative, it is said to be useful in gout and rheumatism.

- 9 ℞. Take of *Tám-bra bhashma*, *Baṅga bhashma*, *Pará kajali*, *Miri*, *Lavaṅga*, *Pipali*, *Jáephala*, all equal parts; the whole to be well triturated in the juice of *Adraka*. Dose: gr. i to grs. ii.

Used in high fevers, other malarious affections, &c.

TAMRA-KSHARA.

- 10 ℞. Take of *Tám-bra bhashma* 2, *Gaṇdhaka* 2, *Ámalí khára* 4. Mix, and make it into powder.

Dose: gr. i to grs. ii.

As an antispasmodic and alterative, it is highly useful for the relief of colicky pains.

- 11 B. *Támbá khára* 1, *Hiñgaḷo* 1, *Gañdhaka* 1, *Abraka* 1, *Haratála* 1, *Manasila* 1, *Mañdura* 2, *Yava-kshára* 2, *Sáji khára* 2, *Tañkana khára* 2, *Káluñ miṭhuñ* 2, *Chhipa bhashma* 2, *Chitraka* 2, *Hiñga* 2, *Katuki* 2, *Ámali* 2, *Nishota* 2, *Harade* 2, *Dáru haḷada* 2, *Jamála-gotá-ná-bija* 2, *Morathuthu* 2, *Aghádo* 2. Powder the ingredients. To the mass add *Ádu-no-rasa* mixed with *Gulañchá* and *Madha*. Dose: *grs* iii.

Used in enlargements of the liver and spleen, and in ascitis.

LAJAVARDA.

Lajavarda लजवर्द *Lájávarda* (Guz. and Hind.)—It is a compound mineral composed of silicate of copper with iron and lime.

Characters: It is a crystalline stone, of a blue colour, mottled here and there with thin scales, (white and yellow) resembling *Abraka*. It is very hard, and cannot easily be powdered.

Actions and Uses: It is used in eye-diseases as a collyrium.

Remarks: The native name is a corruption of the Portuguese *Lapis verde*, which means Azure stone. It is the *Lapis lazuli* of ancient authors.

JANGALA—VERDIGRIS.

Jangala जङ्गला *Jaṅgála* (Guz., Mah. and Hind.) *Jaṅgala pacha* (Sans.) *Zaṅgára* (Arab. and Pers.) Subacetate of copper (Eng.)

Characters: It exists as a heavy, hard, bluish green mass containing crystals.

Preparations: Paste and ointment.

Actions and Uses: Owing to its stimulant and escharotic actions, it is only used externally, as an application to indolent ulcers, to remove warts (syphilitic), and to chronic tuberculated diseases of the skin. A paste of it with *Madha*, is dropped into the ear in otorrhœa.

- 12 B. *Jaṅgála*, *Mina* and *Tila-tela*. Make an ointment, Used in sinnses, fistulæ, and ulcers.

CUPRI SULPHAS—BLUE-STONE.

Morathuthu मरथुथु (Guz.) *Nilá tuta* (Hind.) *Kalakañda* (Arab.) *Zake-sabza* (Pers.) *Tutiá* (Beng.) *Tutha*, *Shikhi-kañtha* (Sans.) Sulphate of copper (Eng.)

Characters : It is found in copper mines in the form of crystals or blue oblique prisms. It breaks into a bluish white powder. It is a salt, formed by a combination of copper scales with sulphuric acid.

Preparations : Solution, paste, powder and ointment.

Actions and Uses : In small doses, it is an alterative, astringent, and tonic. In large doses and when dessicated, it acts as a safe emetic. The emetic action is prompt and rapid, and leaves no nausea or depression behind. Locally, it is a styptic, and is used to check hæmorrhages. Externally, it is useful in skin diseases. It is also used as a wash for eye diseases. It is often applied to chancres. In malignant sore throat, its solution is an efficient local application, used in the strength of *grs.* ii to *oz.* i of water. It is an efficient remedy, when used as an injection for gleet and gonorrhœa. It is a useful application for indolent ulcers, or those which arise in the vitiated state of the system. It is applied to the lids, in granular conjunctivitis where the granulations are large. Internally, it is given as an antidote to phosphorus and narcotic poisoning, and as an astringent, to check chronic bowel complaints, as diarrhœa, dysentery, &c. It is given to arouse patients from insensibility, due to narcotic poisoning. As an emetic, *Morathuthu* is useful in pseudo-membranous croup, after the membrane has become spontaneously loose, or loosened by other agents, such as mercury, lactic acid, lime water, or by local depletion. In quartan fever, $\frac{1}{4}$ to $\frac{1}{3}$ of a grain of this substance is given internally as a tonic.

Doses : The dose of it as an emetic, is *grs.* v to *grs.* x; as a tonic and astringent, *gr.* $\frac{1}{4}$ to *gr.* $\frac{1}{2}$.

Remarks : The name *Morathuthu* is a corruption of *Mohora-i-Tuti*, which means parrot's stone. The Sanscrit word *Shikhi kañtha* is derived from *Shikhi* (a peacock) and *kañtha* (a neck). This is in allusion to the colour of peacock's neck resembling the colour of blue stone.

- 13 B. *Morathuthu*, *Hīṅgaḷo*, *Hirákasi*, *Gaṇdhaka*, equal parts. Mix and powder. Make a paste with water. Used as an application for chancres.

- 14 B. *Morathuthu* 1, *Atisa* 5, *Gulavela* 5. Mix and powder.
Dose: grs. ii.
Used in chronic diarrhœa.
- 15 B. *Morathuthu*, *Surokhâra*, *Manasila*, *Gaṇḍhaka*, *Sonâgeru*. Mix. Make a paste in *Dhupela-tela*.
Used in lepra, psoriasis, &c.
- 16 B. *Morathuthu*, *Bodârasaṅga*, *Kaṅku*, *Kalai-sapeto*. Mix.
Make an ointment in *Ghee*.
Used in itch, eruptions on the scalp, &c.

FERRUM—IRON.

Iron लोहं *Lodhuṇ* (Guz.) *Lokhaṇḍa* (Mah.) *Lohâ* (Hind. and Duk.)
Lauhama (Sans.) *Hadida* (Arab.) *Âhana* (Pers.)

Characters: Iron is a most widely useful metal. It is often found in the ashes of plants and animals, also in several other precious stones, and even in the blood of animals. It is rarely met with in nature in the native state. It is found combined with sulphur, and is then known as iron pyrites. In combination with oxygen, it is known as iron stone. It is a greyish livid metal, highly tenacious, hard and elastic. It melts at an intense white heat, and remains unchanged in the dry air. When exposed to moisture, it becomes covered with rust (brown oxide). Its taste is styptic. When rubbed it becomes odorous.

Preparations: These are *Loha âsava* and *Loha bhashma*.

Loha bhashma is made by the same process as that used for preparing gold *Bhashma* and silver *Bhashma*.

Actions and Uses: Iron is inert, or acts mechanically. It readily oxidises in the elementary canal. *Loha bhashma* acts as a powerful alterative; also astringent, tonic, and restorative. It is said to be a useful agent in the cure of anœmia, with or without irregularity of the uterine functions, of chlorosis, amenorrhœa, leucorrhœa, &c. In chronic diseases of the brain, in hectic fever, piles, ozœna or fœtid discharge from the nose, scrofula, rickets and gonorrhœa, it is highly useful. When taken for some time, it causes blackening of stools. It is not poisonous when oxidised. As an astringent, it diminishes secretions, and checks sanguineous discharges. It should not be given if there is plethora fever, acute

inflammation, congested state of the brain and lungs, and intestinal irritation.

Dose: *gr. i to grs. ii.*

Remarks: It should generally be given with vegetable bitters, and should be given with or after a meal. In consumption and other chronic diseases, it is given with *Miri* and *Pipali*. In hectic fever, honey and *Suñtha* are the chief vehicles with which *Bhashma* is given. In gonorrhœa, natives give it with *Gugala*. The use of *Tela*, Vinegar, &c. should be avoided while taking iron *Bhashma*.

LOHA ASAVA.

- 17 **B.** Take of *Loha bhashma*, *Trikatu*, *Triphalā*, *Ajamoda*, *Vāvadiṅga*, *Khotha*, *Chitrakā*, each 1 part, *Dhāuri-phula* 5 parts. Make powder. Then add Jaggary 16, *Madha* 16, and Water 60. Set aside the whole for fermentation.

Used in anæmia, dropsy, anasarca, piles, enlarged liver and spleen, cough, dysentery, and chronic diarrhœa.

FERRI PEROXIDUM—IRON RUST.

Mandura *मण्डुरा* *ḥud*, *Lodhāno kāta*, *Maṇḍura* (Guz.) *Khabasula-hadid* (Arab.) *Zaṅg-e-āhana* (Pers.) *Lohekā jāṅga* (Bom.) *Maṇḍura* (Sans.) *Lohākā gu* (Hind. and Beng.) Impure oxide of iron (Eng.)

Characters: It is a prepared iron rust, and consists of small particles of cast iron, which are scattered round when hot iron is beaten on an anvil. These by exposure to air, become rusty and brittle.

Preparations: *Maṇḍura bhashma*.

It is prepared in the same way as gold *Bhashma*.

Actions and Uses: *Maṇḍura bhashma* is the best of tonics, and is useful in increasing strength. This, like other iron compounds, is given as astringent and stimulant, in cases where the proportion of the red corpuscles in the blood is diminished, as in hæmorrhages from the rectum, vagina, bladder, or the kidneys. Where the quantity of the red corpuscles is diminished, from causes other than hæmorrhage, *Maṇḍura bhashma* does no good. The chief diseases which call for its use, are idiopathic anæmia, with or without uterine derangements, amenorrhœa, dysmenorrhœa, menorrhœgia, chlorosis,

&c. It is also used during convalescence from exhausting diseases, or from malarious fevers, in cachexia from any cause, such as profuse discharges, (hæmorrhagic, leucorrhæal, or other fluxes), defective nutrition, deficiency of proper light and pure air, and atonic dyspepsia. In morbid susceptibility of the nervous system, induced by sexual excesses, iron is highly efficient and salutary. As an alterative in scrofula and rickets, its long continued use is highly beneficial. To women with scanty menstruation, *Maṇḍura* is given in combination with aloes and other stimulants. It is useful to regulate the action of the heart, in dropsy due to cardiac obstruction. It is also recommended in neuralgia of the fifth nerve, generally due to debility or to poor state of the blood. In incontinence of urine, and seminal debility due to nervous diseases, *Maṇḍura*, when given with *Rasavaṇṭi* or ergot, renders the cure more prompt. In other diseases, such as whooping cough (caused by nervous exhaustion); intermittent fever with enlargement of the spleen, *Maṇḍura* gives relief to the exhausted system, and improves the blood. It is said to lessen the destruction of red blood discs, and hence it is highly prized as a remedy in albumenuria. By its use, the quantity of albumen is lessened. It is also a good remedy in diseases of the kidney, due to the action of cold, and dampness on the skin. In granular and amyloid kidneys, it is an equally important agent. It is a very useful agent for diabetic patients, and sustains general health, although it does not materially lessen the quantity of sugar. In chronic fluxes, as chronic diarrhœa and dysentery, it is very beneficial. It is a useful agent in ascaridis or other intestinal worms. In chronic bronchitis, *Maṇḍura* is a remedy of great repute. In chronic pulmonary consumption, it may be given with advantage. By its use, imaciation and hectic fever decrease, and appetite improves. The most important conditions under which the use of *Maṇḍura* should be avoided, are feverishness produced either by chronic diseases, or by local irritation, as in dyspepsia attended with constipation.

Doses: Natives administer it in doses of from *grs.* iii to *grs.* vi.

MANDURA ASAVA.

- 18 ℞. Take of *Maṇḍura*, *Triphalā*, *Trikatu*, *Ajamoda*, *Vāvadiṅga*, *Chitraka*, *Motha*, each 8 parts, Honey 2 parts, and *Dráksha rasa* 10 parts. Keep for 15 days.

Used in anæmia, anasarca, ascites, &c.

- 19 ℞. *Mañdura* 4 parts, *Āmalá*, *Pipali*, each 1 part, Sugar 2 parts. Mix and powder. Dose: grs. x.
Used in hæmoptysis, hæmaturia.
- 20 ℞. *Mañdura* 5, *Hīṅgaḷo* 1, *Trikatu* 5, *Lavaṅga* 2, *Jáepatri* 3. Mix and powder. Dose: grs. v.
Used as an alterative tonic in the pregnant state.
- 21 ℞. *Mañdura*, *Dāntimula*, *Bhilámo*, *Triphalá*, *Trikatu*, *Vávadiṅga*, *Chitraka*, *Motha*, each one part. Mix and powder. Dose: grs. v to grs. x.
Used in piles.
- 22 ℞. *Mañdura* 4 parts, *Abraka bhashma* 1 part, Honey, *Triphalá*, *Jethimadha*, *Dráksha*, *Pipali*, *Tabáshira*, *Talispátra*, *Vávadiṅga*, *Elachi*, *Upaleta*, *Nágakesara*, equal parts. Make a powder. Dose: grs. x.
Used in Asthma.
- 23 ℞. *Mañdura* 15 parts, *Rasavañti*, *Dáru-haḷada*, *Bela*, *Gokharu*, *Trikatu*, *Triphalá*, *Nishota*, each one part, *Hirábola* 8 parts. Mix and powder.
Dose: grs. xv.
Used in chronic gonorrhœa, and stranguary.
- 24 ℞. *Mañdura* 10 parts, *Rakta-chañdana*, *Venivela*, *Khasakhasa*, *Kálo-válo*, *Pipali*, *Himaja*, *Āmalá*, *Suñṭha*, *Nilota-phala*, *Pána*, *Chitraka*, *Vávadiṅga*, each one part. Mix. Dose: grs. v.
Used in chronic fever with enlarged spleen.
- 25 ℞. *Mañdura*, *Pára-kajali*, *Abraka bhashma*, each 10 parts, *Bachanága* 1 part. Mix and powder.
Dose: grs. ii.
Used in erysepelas.
- 26 ℞. *Mañdura* 2 parts, *Abraka bhashma* 3 parts, *Pára-kajali* 2 parts, *Vávadiṅga*, *Motha*, *Triphalá*, *Gulavela*, *Dāntimula*, *Nishota*, *Chitraka*, *Trikatu*, one part. Make a powder. Dose: grs. x.
Used in chronic dyspepsia.

- 27 ℞. *Mañdura* 4 parts, *Java-khára* 3 parts, *Trikatu* 1 part.
Dose: grs. iii.
Used in anasarca.

- 28 ℞. *Mañdura*, in weight equal to twice that of all the other ingredients—*Sátodi-ná-mula*, *Nishota*, *Trikuti*, *Vávadiñga*, *Devadáru*, *Chitraka*, *Patachaka*, *Triphalá*, *Halada*, *Dáruhalada*, *Dáñtimula*, *Chavaka*, *Indrajava*, *Katuki*, *Pipalimula*, *Motha*. Mix, and boil the mixed powder in eight times the weight of cow's urine, till all the water is evaporated.
Dose: grs. xv to grs. xxv.
Used in jaundice, ascites, anasarca, enlargement of the liver and spleen, and painful dyspepsia.

CARBONATE OF IRON AND LIME.

Pakhanabheda dagadi पाखानाभेद दागडी (Guz.) *Pákhānābheda* (Mah.) *Páshānābheda* (Sans.)

Characters: It occurs in small amorphous heavy irregular masses of a light or greyish brown colour, sprinkled with white. It is very brittle, and can easily be broken and reduced to powder. The smell is like that of clay. The taste is obnoxious, somewhat chalebeate.

Preparations: Powder.

Actions and Uses: The powder is used as an astringent tonic with several tonic preparations and is given internally in leucorrhœa. It is said to have a specific diuretic action in urinary diseases, scanty urine, and scalding. It is also recommended in gonorrhœa.

Dose: grs. x to grs. xxx.

PAKHANABHEDA CHURANA.

- 29 ℞. Take of *Pákhānābheda*, *Silájita*, *Pipali* and *Pátola*, equal parts. Mix and make a powder.
Dose: grs. x to grs. xv.
Used in leucorrhœa, gonorrhœa, &c.

PAKHANABHEDA KUVATHA.

- 30 ℞. Take of *Pákhānābheda*, *Nishota*, *Harade*, *Dhamáso*, *Pokaramula*, *Gokharu*, *Palásapápadō*, *Siñgorāñ*,

Kákaḍi-bija, each one part. Add water 40 parts.
 Make a decoction in the usual way. Dose: oz. i.
 Used in urinary diseases, scanty urine, and scalding.

- 31 R. *Pákhaṇabheda dagadi* 1, *Revañchi-ni-lákadi* 2, *Jiruñ*
 2, *Chini-kabába* 1, *Elachi-dána* 1, *Phataki* 1, *Soná-geru*
 1, Jaggary 5. Make a pill mass. Dose: grs. v to x.
 Used in leucorrhœa, gonorrhœa, &c.

SULPHATE OF IRON.

Hirakasi हिराकसी *Hirákasi* (Guz. and Mah.) *Kashisa* or *Hirákashisa* (Hind. and Beng.) *Záje-asfára* (Arab.) *Záke zarda* (Pers.) *Káshisha* (Sans.) Green vitriol or copperas (Eng.)

Characters: It is a salt usually obtained by the decomposition of Iron Pyrites by the action of atmospheric moisture. It consists of a combination of sulphuric acid and iron. It occurs in oblique rhombic prisms. The colour is bright green. The taste is very astringent or styptic. As sold in the bazaar, it consists of small octagonal crystals.

Preparations: *Bhashma*, oil, and solution.

HIRAKASI BHASHMA.—*Hirákasi* and *Gāndhaka* in equal parts. These are both reduced to a fine powder and mixed. The mass is next roasted. To this is added *Triphalá*, *Miri*, *Madha* and *Ghee*, and the whole is then triturated.

Actions and Uses: *Hirákasi* is used as a caustic application, either in the form of a solution or ointment in traumatic erysepelas and in phlgmasia alba (white leg.) A solution of it is also useful as an application to nasal polypi; and to the eyes, urethra, or the vagina, to lessen mucous discharges. Its stick or solution is applied to foul ulcers and various skin diseases as eczema, pruritis, intertrigo, &c. Internally it is a powerful astringent, and is given in chronic diarrhœa and excessive secretions due to debility, as sweating, leucorrhœa, gleet, &c. Its long continued use causes constipation. It also acts as a tonic, stimulant, and an emmanagogue. When given in large doses, or in a concentrated form, it acts as an irritant, and excites pain and uneasiness at the pit of the stomach. Its local astringent action, in diminishing the quantity of fluid secreted by the intestinal mucous membrane, is a recommendation over other iron preparations as a curative agent in passive hæmorrhages, chronic dysentery and chronic catarrh. *Kashisha bhashma* is an alterative and diure-

tic, and is given in ozoena, consumption, enlargement of the liver, &c. *Kashisadi-tela* is recommended as a useful application for the relief of burning and pain in piles.

Dose: *gr. i* to *grs. v.*

Remarks: Green vitriol, as met with in the bazaar, is liable to be contaminated with salts of copper, zinc, alumina and lime. There is another variety of *Hirákasi*, sold by druggists under the name of *Ráti Hirákasi* or *Ráti Gañdhaka*. It is of a deep red colour, and is nothing more than a dying agent.

KASHISADI—TAEĀA.

32 *℞.* Take of *Hirákasi*, *Kalávi*, *Kotha*, *Suñṭha*, *Pipali*, *Sīñdhava*, *Manasila*, *Kanera*, *Váradiñga*, *Chitraka*, *Aduso*, *Dáñtimula*, *Karavi gisodi* (*Turái*) *Haratála*, each one part. Make a paste in the milky juice of *Thuvara* (*Kañtáro*) and *Ákadá*, to which add *Mithuñ-tela* and cow's urine, and boil.

33 *℞.* *Hirákasi*, *Phataki*, *Surokhára*, *Navaságara*, *Rála*, *Manasila*. Mix. Make a paste.

Used as an application in leucoderina and other chronic skin diseases.

34 *℞.* *Hirákasi*, *Gorochana*, *Rasavañti*, *Haratála*. Mix, make a paste in *Ghee*, and apply.

Used in intertrigo, pruritis, &c.

35 *℞.* *Hirákasi*, *Lodhra*, *Gája pipali*, *Asgañda*, each 10 parts; *Tila-tela* 100 parts. Add water to the solid ingredients, till the whole becomes a paste. Then add the oil, and boil.

The application gives strength to the genitals and breasts.

36 *℞.* *Hirákasi*, *Morathuthu*, *Sonámukhi dagadi*, *Ghee*. Make an ointment.

Used in chronic skin diseases.

FERRI SULPHURETUM—IRON PYRITES.

Sonamukhi dagadi சொணமுகி டாடி *Sonámukhi* (Bom. and Hind.) *Sonámukhi-ná-gāñthá* (Guz.) *Suvarṇa mākshika*. (Sans.)

Characters: Iron pyrites is formed by a combination of iron with sulphur. It is usually in bronze yellow nodules with a golden lustre or in silvery crystals. It is massive, globular, and club or oval shaped. It is so hard as to strike fire with flint. It has a sweetish bitter taste.

Purification: It is boiled in lime juice with *Sañchala* till it becomes red hot. It is next reduced to powder, and then roasted in a crucible.

Preparations: Powder and *Bhashma*.

Sonámukhi bhashma is prepared by the same process as that employed for gold *Bhashma* and silver *Bhashma*.

Actions and Uses: The powder is an alterative and tonic, and is useful in anæmia, leucorrhœa, urinary diseases, ascites, anasarca, prurigo, eye diseases, &c. *Sonámukhi bhashma* is a useful alterative and tonic, and is used in combination with *Párá kajali*, *Abraka*, &c., in consumption, piles, biliousness, &c.

Remarks: The name pyrites, which in Greek signifies fire stone, is derived from its property of striking fire sparks from steel. As met with in nature, there are two varieties of iron pyrites: one is in dark yellow nodules with gold lustre, and is known as *Sonámukhi* or *Suvarṇa mākshika*; the other variety is found in silver-like radiated crystals, and is known as *Rupámukhi* or *Tára mākshika*. Both are used in compound preparations of iron. *Sonámukhi* or the yellow variety is often mistaken for gold pyrites. Iron pyrites breaks when hammered, whereas the gold pyrites is malleable. The white variety (*Rupámukhi*) is seldom used in medicine, and is considered inferior to *Sonámukhi*.

- 37 *B. Sonámukhi dagadi, Morathuthu, Hirákasi. Mix.*
Make a fine powder. To this add butter or *Ghee* to make an ointment.

Used in pityriases, syphilitic sores, and ulcers.

- 38 *B. Sonámukhi dagadi 5, Tila-bija 1, Trikatu 1, Mañdura 1.* Make a mass with *Madha*. Dose: grs. xv.

Used as an alterative tonic, in anæmia, anasarca, &c.

- 39 \mathcal{R} . *Sonámukhi dagadi* 3, *Hiṅgaḷo* 4, *Trikatu* 5, *Lavaṅga* 5, *Jáepatri* 6. Mix. Make a pill mass with *Madha*.
Dose: *grs.* iii to *grs.* v.

Used in anæmia and diseases incidental to the pregnant state.

- 40 \mathcal{R} . *Sonámukhi bhashma*, *Váradīṅga*, *Atisa*, each 1 part; *Gugala*, equal in weight to all the ingredients. Make a pill mass. Dose: *grs.* ii to *grs.* iv.

Anupána: Milk, and *Cāñji*.

Used in rheumatism, gonorrhœa, heart-disease, lumbago, hysteria, &c.

PLUMBUM—LEAD.

Lead शुद्ध *Sisuṇ*, *Sisá* (Bom.) *Sishe* (Mah.) *Nága*, *Sisaka* (Sans.) *Anáka*, *Surba* (Pers.) *Anuka* (Arab.) *Sisá* (Hind. and Beng.) *Káluṇ* *Sisuṇ* (Guz.)

Characters: Lead is obtained from Galena, by roasting it. It has a bluish grey colour, and when broken, a metallic lustre. It is not sonorous when pure. It is a soft metal; when made into pencils, it can be used to write upon papers. It is very malleable, and ductile, but not so tenacious as gold or silver. By contact with water and air, it becomes somewhat corroded, covered with a grayish layer, and small quantities of it are held in solution, as Hydrocarbonate of lead. It melts at 600° FAH. It is found occasionally as oxide (Minium), more frequently as carbonate, or white lead ore. It is found abundantly in combination with sulphur, and a small portion of silver. It is then known as Galena. In combination with sulphur, it is frequently found in the form of blackish cubical crystals, known as *Āñjana*. Lead when heated to a white heat, volatilizes, and burns with a bright white flame, the vapour when collected is known as oxide of lead or flowers of lead; when heated to fusion and exposed to a current of air, it forms a dross or pellicle, or a yellow powder known as protoxide of lead or Massicot; and at a still higher temperature over a brisk fire it forms crystalline scales of a brick red colour, known as Litharge.

Purification: There is a peculiar mode of purifying lead. It is first melted in a crucible. The melted liquid is next dropped,

through a hole into the vessel containing it, into the decoction of *Triphalá* or in the milky juice of *Ákadá*. When cool, it is said to be purified.

Preparations : *Sisú bhashma*.

This preparation is similar in process to that employed for gold *Bhashma*, &c.

Actions and Uses : *Sisú bhashma* is said to be a diuretic and a vermifuge. It is useful in urinary diseases and in expelling worms.

OXY CARBONATE OF LEAD—PLUMBI CARBONAS.

White lead ore *सपेटो Sapeto* (Guz.) *Isfedája* (Arab.) *Sufedába* (Pers.) *Suffedáha* (Hind.) *Sapetá* (Mah.)

Characters : It is found in nature, both as crystallised and in a massive state. It is a soft, heavy, white powder, and stains the fingers when touched. It is artificially prepared by suspending sheets of lead over the vapours of heated vinegar, when the air becomes charged with carbonic acid gas, and the vapour of vinegar corrodes the plates. The corroded rust, when collected, is known as *Sapeto*.

Preparations : Powder and ointment.

Actions and Uses : This powder is used externally as a cooling and dessicating application, to relieve irritation from the cutaneous surfaces. It is a useful remedy in erysepelas, erythemæ, intertrigo, &c. It should never be used, where the skin is broken, or abraded. In combination with butter, it is applied as an ointment, to eruptions on the scalp and to superficial burns.

Remarks : What is known as *Sapeti* is not a preparation of lead. It is a preparation of mercury known as the red precipitate. It is also known in the bazaar by the name of *Sipichañda*. *Sapeti* is of the cinnabar (*Hīngaló*) colour, and is very freely used in the form of an ointment, in itch and other skin diseases.

41 B. *Sapeto* 1, *Pára kajali* 1, *Morathuthu* 1, *Mina* 20.

Make a *Pati* or plaster.

Used to suppurate indolent glands and Buboës.

OXIDE OF LEAD—PLUMBI OXYDUM.

Litharge *बोदरा सांगा Bodára saṅga*, *Bodára kákaró*, *Bodára patharo* (Guz.) *Muradá saṅja* (Arab.) *Muradá saṅga* (Pers.) *Muradára sáṅga* (Bom. and Hind.) *Massicot* (Eng.)

Characters: *Bodára kákaró* is of a light yellow colour. It is met with in pieces and powder. Each piece consists of a dull sparkling stratified layer of a light yellowish colour mixed with red, and has a metallic lustre. It resembles very much in appearance to *Abraka*. The powder is here and there impregnated with brick colored clay. In smell and taste, it resembles *Gopichañdana*.

Preparations: Ointment, lotion, paste, and plaster.

Actions and Uses: *Bodára kákaró* is a powerful local astringent, cooling, and an insecticide. The paste is a useful application for unhealthy sores. Dissolved in vinegar, it is useful in prickly heat, for eczimatous eruptions, and in removing frackles and acue. The ointment is used for closing wounds. The plaster is recommended as an application to keep the dislodged parts *in situ*, and also to relieve pain from the inflamed parts.

42 B. *Bodára kákaró*, *Kátho*, *Khádi máti*, all in equal parts. Mix. Make a very fine powder. Throw the whole into a boiling solution of *Mina* and *Tila tela*. Stir it till it forms a uniform mass. To this, when ready, add *Barása kapura*.

This ointment or plaster is used as strappings for giving support and causing pressure in ulcers of the leg, and for keeping the edges of wounds together.

PLUMBI ACETAS.

Acetate of lead सुगराक्ष *Sugaraletā* (Bom.) Sugar of lead (Eng.)

It is artificially prepared by adding to Litharge vinegar and water, and dissolving the mixture by the aid of gentle heat. The solution is filtered, and then submitted to sand bath, till the whole of the water is evaporated.

Characters: It occurs in white masses interlaced with circular crystals. It is slightly efflorescent. It has an acetous odour, and sweetish, acid, and astringent taste.

Preparations: Powder and lotion.

Actions and Uses: As a powerful astringent and dessicant, the powder is used in hæmatemesis and profuse discharges from the lungs, intestines and the urino-genital organs. As an antacid, it is a good remedy to check pyrosis and to cure diarrhœa. In phthisis, it

is used as a palliative to lessen expectoration. It is recommended in cholera in the early stage, also for checking watery purgings, in chronic dysentery and in calliquative diarrhœa of typhoid fever. In large doses, it acts as an irritant and causes vomiting, burning in the throat, &c. Sometimes it produces colic. Locally its solution acts as a sedative, dessicant, and astringent. It is useful in preventing itching, burning, &c. as in scabies. As a sedative, it is applied to inflamed parts. As a local astringent, it is applied to secreting surfaces, to diminish profuse discharges. As an injection, it is useful in gonorrhœa and gleet, also as an application in ophthalmia. The paste of it is a useful application to abraded surfaces attended with burning sensation, and to superficial burns. Its lotion is useful as a cooling application for the relief of prickly heat. It allays the itching of pityriases, urticaria and prurities pudendi. In chronic otorrhœa, its solution is dropped into the ears to lessen pus and to soothe the pain in the ear.

SULPHURET OF LEAD.

Surmo સુરમે (Guz.) *Sānvira āñjana* (Sans.) *Surmā* (Bom.) *Añ-jana* (Pers.) *Galena* (Eng.)

Characters : There are three varieties of *Surmā* : black, white, and grey.

BLACK SURMO કાલો સુરમે *Kālo surmo* is a hard, heavy, scaly, and brittle ore. It is highly brilliant, and of a lead lustre. In the bazaar, it can be obtained both in small and big pieces, or in powder.

WHITE SURMO સફેદ સુરમે *Safeda surmo* is brilliant, scaly, shining, of a dirty white colour, and hard. It resembles *Phataki*, in taste and general appearance.

GREY SURMO રાતો સુરમે *Rāto surmo* is otherwise known as *Jasatano surmo*. It is granular, of a grey colour, hard, and here and there sprinkled with minute shining particles of zinc. The taste is somewhat acid.

Preparations : Powder.

POWDER.—A paste of it is made in rose-water, and when dry, it is again reduced to powder.

Actions and Uses : As an application, the powder is very much used by native females, to promote the growth of eye-lashes, to improve vision, and to beautify their complexion.

Remarks : Collyrium for the eyes is known as *Āñjana* and *Kājala*.

ANJANA : Various mineral and vegetable substances are, in native medical science, used as collyrium for the eyes. The chief mineral products in use are, *Surmo*, *Bodāra kākaro*, *Sīṇdura*, *Morathuthu*, *Phataki*, *Kalakhāparo*, and country ink. Those among vegetable products, may be mentioned *Rasavañti*, *Halāda*, *Triphalā*, *Afima*, *Barāsa kapura*, &c. Natives, as a rule, use *Sīṇdura* as an application for what they popularly call *Āñjani* (stye). The word *Āñjani* is derived from *Āñjana* which means an application to the border of the lids; and as the principal seat of stye is the border of the lids, they call this disease *Āñjani*.

KAJALA is a preparation of common soot, intimately mixed with butter or ghee, to which a small quantity of *Barāsa kapura* is added. The soot is a black stuff, collected from the flame of a wax candle, or an oil lamp. *Isasa* or *Kapura* is sometimes burned and the soot from its flame collected. *Kājala* is locally used to clear the sight and to keep the eyes free from the attack of foreign bodies. Native ladies use it for children, as an application to their eyelids, to improve complexion.

43 ℞. *Surmo*, *Gulāba kali*, *Isasa*, *Phataki*, *Tañkana khāra*, *Mājuphala*, *Akākia*, equal parts. Make pessaries.
Used in Menorrhagia.

44 ℞. *Surmo*, *Kapura*, *Triphalā*, mix in *Bhāngrā-no-rasa*, *Jāmbula-no-rasa*, and *Limbu-no-rasa*, and when dry, make sticks or probes.
Used as an application inside the lids in ophthalmia.

RED OXIDE OF LEAD—PLUMBI OXYDUM RUBRUM.

Sindura सिन्दुरा *Sīṇduraha*, *Nāga sambhava* (Sans.) *Sīṇdura* (Guz., Hind. and Mah.) *Usarañja*, *Isariñja* (Arab.) *Siriñja*, *Surañja* (Pers.) Minium (Eng.)

Characters : It is a bright, orange-red, crystalline powder. On heating, it becomes purple, and finally black. It is an oxide of lead, prepared from another but less inferior oxide, known as Massicot, which when subjected to the flames of burning coal, becomes converted into a red powder.

Preparations : Ointment and powder.

Actions and Uses : *Sīṇdura* ointment is reputed to possess the properties of promoting suppuration of boils, and also to bring

on healing in them. It is also used as an application in chronic eczema. The powder is used sometimes as a fumigation in syphilis.

Remarks : Hindu girls, married as well as virgin, use *Siṇḍura* as a paint for their forehead. *Siṇḍura* is the basis of celebrated ointments, known as the black ointment (*Kálá malama*) and red ointment (*Lála malama*.)

- 45 B. *Siṇḍura*, *Kálá miri*, Butter. Mix and make an ointment.

Used in chronic eczema.

- 46 B. *Siṇḍura* 4, *Rái-nu-tela* 20, *Jiruṇ* 5. Boil together and make an ointment.

Used in eczema and other chronic skin diseases.

KALO MALAMA.

- 47 B. Take of *Siṇḍura*, *Mithuṇ-tela*, equal parts. Boil the whole over a fire till it becomes black. To this, add *Kapura* and *Mina*, stir them uniformly, and make an ointment.

It is used in promoting suppuration in boils.

LALA MALAMA.

- 48 B. *Siṇḍura* 10, *Mithuṇ tela* 20, *Mina* 2, *Kapura* 1. At first *Siṇḍura* is reduced to a very fine powder. To this *Mithuṇ tela* is added. The whole is put over a fire for a minute or two, when the mass becomes red. To this is gradually added *Kapura* and *Mina*, and stirred when the whole forms a uniform mass.

Used in boils and pustular eruptions.

- 49 B. *Siṇḍura* 5, *Kapilo* 5, *Sáp-ni-kāñchari* 5. Mix. Make a paste in rose water, and apply.

Used in glandular swellings, itch, chronic skin diseases, &c.

STANNUM—TIN.

Kalai كالائ Kalai (Guz.) Rāṅgā (Hind.) Kālī (Mah.) Rasāsa (Arab.) Arziza (Pers.) Bāṅga (Sans.)

Kālī, is rarely met with as a pure metal. It is found as plates of oxide (tin stone) or in combination with sulphur, and copper (tin pyrites.) The tin stone is found embedded in granite quartz, where it is associated with Iron pyrites. It forms an alloy with copper, and is then known as bell metal (*Kāṅsun*.)

Characters: As met with in the bazaar, tin is a bluish white metal of silver-like appearance. It is softer than gold, but harder than lead, and bends with a crackling sound. It is malleable, but sparingly ductile, and has little elasticity. It is used to protect iron from rusting. Its coating on iron is perfect. Broad thin plates of iron covered with tin are known as *Patrāṇ*.

Preparations: *Bāṅga bhashma*, or prepared tin.

BANG BHASHMA: The tin foils are melted over a fire in a crucible containing a compound powder of *Aghādā bija*, *Amali*, *Ajamoda*, and *Silājita*. The contents are continually stirred, till the whole is converted into ashes. When cool, *Haratāla* is added, in a quantity equal to that of the ashes. The whole is then triturated in *Limbu-no-rasa*. The paste, when ready, is subjected to roasting, after which it is fit for use.

Actions and Uses: *Bāṅga bhashma* is said to be a very popular medicine among the natives. It is said to be a diuretic and is used chiefly in urinary disorders, and painful micturition. In diabetes, this preparation is given in combination with various alteratives and tonics. It is also used as a vermifuge in tape worms. In gonorrhœa and asthma, it is highly recommended. As a powerful aphrodisiac it is given with other tonics.

Dose: grs. ii to grs. vi of the *Bhashma*.

Anupana: It should be given in honey and *Pipali*.

Remarks: *Kāṅsun* is regarded as a tonic and alterative.

ZINCUM—ZINC.

Jasata जसता Jasata (Guz. and Mah.) Jasta, Dastā (Hind.) Jasta, Nāgama (Sans.)

It is never found in a pure native state. It is generally met with in the form of oxide (red zinc) or carbonate (*Kalakhāparo*).

There are two ores which contain zinc. These are known as Calamine (a combination of oxide of zinc and carbonic acid) and Blende (a combination of zinc with sulphuric acid.)

Characters: As met with in the bazaar, zinc is a bluish white metal, of considerable lustre, and of a granulated crystalline structure. It often consists of 4 sided prisms and is of a perceptible taste. It is ductile, malleable and can be drawn into wires, or rolled into sheets. It burns with a bluish green flame. Melted zinc, on cooling, becomes brittle, and may then be reduced to powder. The fused mass if dropped into water, forms granular zinc. Pure zinc becomes tarnished by exposure to air. When melted with copper, it forms an alloy known as Brass (*Pitala*.)

Preparations: *Jasata bhashma*.

The process of preparing it is similar to that employed for *Baṅga bhashma*.

Actions and Uses: These are also similar to those of *Baṅga bhashma*.

CARBONATE OF ZINC—CALAMINE.

Kalakhaparo कालखपरि *Kalakhāpari* (Hind.) *Khāpario* (Guz.) *Saṅg-i-basari* (Bom.) Zinc ore (Eng.)

Characters: In the bazaar, it is found as a fine greyish black and porous earthy mass. It is very brittle, and is composed of agglutinated granules. In shape, it resembles pieces of broken white clay-pipes.

Preparations: *Khāparā bhashma*, and *Khāparā āṇjana*.

KHAPARA BHASHMA खपरि बश्म : Take of *Khāparā*, *Lākha*, *Halāda*, *Haradān*, *Rāḷa*, *Taṅkaṇa khāra*, equal parts. Reduce the whole to a fine powder. To the powdered mass add *Ghee*, till the whole is reduced to the consistence of butter. To this add a small quantity of *Haratāla*. Boil the whole over a fire, till the mass is reduced to powdery ashes.

KHAPARA ANJANA: Take *Khāparā*, rub it well with water: take the dissolved portion, rejecting the residue that may be left at the bottom and cause this solution to evaporate. Powder the dry mass, and soak it well in the decoction of *Triphalā*. Dry this over a sand bath, and to the powder add 1/10th of powdered *Kapura*, and mix.

Actions and Uses: *Khāparā bhashma* is a tonic, alterative, and restorative. It is highly useful in various forms of debility, asthma, urinary disorders, and chronic brain diseases. It is one

of the chief ingredients in the preparation known as *Suvarṇa vasaṇṭa Mālati*. *Khápará āñjana* is used as a collyrium for the eyes.

Dose: Of the *Bhashma* grs. v to grs. viii.

Anupana: Decoction of *Triphalá*.

Remarks: In the bazaar, pieces of clay in shape and colour resembling country made tile, are fraudulently given for true *Khápará*. These contain no zinc at all.

- 50 R. Take of *Khápará bhashma* 8, *Soná-no-varaka* 1, *Moti* 2, *Hīṅgaḷo* 3, *Kálá miri* 4, rub them together. Then add *Limbu-no-rasa* and again triturate well.
Dose: gr. i to grs. iv.

Used in chronic fever, gonorrhœa, syphilis, leucorrhœa, &c.

- 51 R. *Khápario* 4, *Surmo* 2, *Safeda miri* 2, *Sákara* 5, *Cowri bhashma* 3, *Sírasa-na-bija* 2. Make a paste in *Golába-nu-páni*, and apply.

Used in conjunctivitis.

- 52 R. *Khápario* 2, *Harade* 2, *Eliyo* 5, *Miri* 5. Make a paste and apply.

Used in conjunctivitis.

ZINCI OXYDUM.

Jasata-na-phula जसताना फुला *Jasata-ná-phula* (Guz.)

It is prepared by oxidising and roasting *Kalakháparo*.

Characters: It is a soft, white, tasteless, and inodorous powder, changing to pale yellow by heat.

Preparations: Powder, paste, ointment, and pills.

Actions and Uses: It is an astringent and a dessicant. When dusted over a secreting surface, in eczema, impetigo, excoriations, bed sores, and cracked nipples, its effects are very beneficial. Internally it acts as a nervine tonic, sedative, and astringent. It has a specific control over epilepsy, cholera, and other spasmodic diseases, as whooping cough, hysteria, &c. It is a good remedy to check profuse sweating.

ARSENICUM—METALLIC ARSENIC.

Somala स्रमेण *Somala* (Guz. and Beng.) *Sambala* (Hind.)

Somala is one of the brittle metals. Like them, it is not capable of being flattened or elongated by the hammer, without tearing or breaking. As met with in nature, it occurs in the metallic state in combination with oxygen, sulphur or other metals. In a pure metallic state, it is known as native arsenic, cobaltum, or flying stone. There are two compounds with oxygen: arsenious acid and arsenic acid. Two sulphurets are also found, viz: orpiment and realgar. *Kálá sambala* is a mixture of metallic arsenic and realgar.

Characters: Metallic arsenic is very hard and brittle, and occurs in rhombohedron crystals. The colour varies from bluish white to steel grey. It has considerable brilliancy, and is the softest of all metals. When powdered, it looks like a brittle greyish mass of a white lustre. When exposed to the air, it soon tarnishes and becomes greyish black. When heated over the flame of a spirit lamp, it volatilizes without fusing. The vapour has a strong smell of garlic. In the open air, it becomes oxidised and yields a sublimate of arsenious acid. This is known as white arsenic (*Safeda somala*.)

ARSENIOUS ACID—WHITE ARSENIC.

Safeda sambala *Sammula fára* (Arab.) *Marge mosha* (Pers.) *Sambala khára* (Hind.) *Safeda sambala* (Duk.) *Saṅkhyá sambala* (Mah.) *Somala khára* (Guz.) *Saṅkha pásána*, *Saṅkha visha* (Sans.)

Characters: White arsenic occurs as an inodorous, heavy, white powder, which when sublimed, yields minute octahedron, transparent, and glass-like crystals.

Purification: For medicinal purposes, white arsenic is purified by being soaked in *Kelá-no-rasa* or *Limbu-no-rasa*.

Preparations: *Somala bhashma*, powder, and *Somala-nu-ghee*.

SOMALA BHASHMA: This is prepared by taking purified *Somala*, and submitting it to a process of roasting.

SOMALA-NU-GHEE: Take *Ákadá-nu-mula* and *Kanera-nu-mula*, equal parts. Mix, make a powder, and add milk to make a paste. To this paste add *Somala* and stir or churn, till the whole is converted into butter. This butter is subsequently boiled.

Actions and Uses: In small doses, as an anteperiodic, *Safeda sambala* is used in fevers. In extremely small doses, it is taken as an alterative tonic. When given in large doses, and continued for a long time, it often leads to emaciation, and gastric and intestinal catarrh. When taken habitually, it induces a sort of tolerance for it, and quantities can be consumed with impunity. As a rule, it should be taken after meals. It is an effective remedy in chronic intermittent fevers, where the malarial cachaxia is well marked. It acts as a resolvent. Enlarged lymphatic glands often yield under its treatment. By its use, obese persons lose their fat, and are restored to their normal condition. In chorea, occurring in delicate children, its value is very decided. In neuralgia of the 5th nerve, intercostal neuralgia, and that of miasmatic origin, white arsenic is given with very great advantage. In neuralgias, it should be combined with quinine, and given in large doses. In pulmonary phthisis, severe acute bronchitis, chronic bronchitis affecting the lower lobes of both lungs, and circular rash on the tongue (indicative of stomach and intestinal disturbance, and of the associated diarrhœa), arsenic is highly useful. It is very effective in sloughing of the mouth, sore throat, and cancrum oris. It is also useful in chronic coryza. In general debility of old age, in leucorrhœa and diabetes, it has been found useful in strengthening the weak heart and feeble circulation. In chronic diarrhœa in children, small doses of arsenic judiciously given, has led to good results. If applied externally to the surface of the body, it acts as an irritant. Thus, it is used to remove large growths, as cancer and lupus. It is also used locally to kill vermins in the head, or other hairy parts. Often, cigarette made of tissue paper impregnated with the solution of arsenic, are used with benefit in asthma. As a caustic, arsenic is applied to piles with benefit. The oil is a nervine tonic and aphrodisiac. It is very useful as *Mátrá* in asthma, cough, and seminal weakness. Natives administer it in *Pána* (leaves). They give a coating of the oil over the leaves by means of a stick or probe.

Dose: $1/60$ th gr. of the oil and $1/16$ th gr. of the powder.

53 *B. Somala bhashma* gr. 1, *Tañkana khára* 100 grs. Make a paste in the juice of *Nimba pána*.

Dose: grs. x to m. xx.

Used in quartan fever.

- 54 \mathcal{R} . *Somala bhashma*, *Pára kajali*, each 1, *Akkalkaro* 5, *Mastaki* 4. Make a pill mass with *Madha*.
Dose : grs. iii to grs. v.
Used in secondary or tertiary syphilis.
- 55 \mathcal{R} . *Somala bhashma* 1, *Bhuiṛiṅgani* 20, *Limbu-no-rasa* 20.
Make a pill mass. Dose : gr. i.
Used in syphilitic rheumatism, cough, and asthma.
- 56 \mathcal{R} . *Somala bhashma* 1, *Sáji khára* 1, *Java khára* 1, *Pipali*, *Miri*, each 5 parts. Dose : gr. $\frac{1}{2}$.
Used in asthma.
- 57 \mathcal{R} . *Somala bhashma*, *Hĩṅgaḷo*, *Dhaturána bijá*, each 1, *Pipali* 10. Add *Limbu-no-rasa*. Make a pill mass.
Dose : grs. ii to grs. iii.
Used in remittent fever with shivering, incoherent speech or wandering, profuse perspiration, or much heat of body (temperature 105° or more.)
- 58 \mathcal{R} . *Somala bhashma* 2, *Azakhara* 2, *Vája* 1, *Ushte khudusa* 2, *Agara* 1, *Lavaṅga* $\frac{1}{2}$, water 30. Prepare a decoction.
Dose : oz. i to oz. ii.
Used in colic, shaking palsy, epilepsy, and spasmodic affections.
- 59 \mathcal{R} . *Somala* 1, *Multáni máṭi* 15, *Jiruṇ* 20, *Dháná* 20, *Sákara* 15. Mix. Make a powder. Dose : gr. i to ii.
Used in chronic fever.

BISULPHURET OF ARSENIC.

Manasila मन्सील *Manasila* (Guz.) *Lála haratála*, *Lála sambula* (Hind.) *Yaranikhe-ahmara* (Arab.) *Yaranikhee-surkha* (Pers.) *Manashilá* (Sans.) Realgar or red orpiment (Eng.)

Purification : Take *Manasila*, triturate it in *Limbu-no-rasa*, *Agathyá-no-rasa*, or *Adraka-no-rasa*. When dry, soak it in the decoction of *Haláda* for a long time.

PREPARATION : It is artificially prepared by fusing arsenious acid 5 parts with sulphur 3 parts.

Characters: It is a very heavy, irregular, vitreous mass or powder, of a yellowish red colour. It has an acid taste and smell, and burns with a blue flame.

Preparations: Powder and paste.

Actions and Uses: Internally *Manasila* is used as an alterative, febrifuge, and tonic. It is given in fever, cough, and asthma. In skin diseases, it is given both internally and applied externally. Locally it is applied to fistulous sores with benefit.

60 ℞. *Manasila*, *Pipali*, *Amaravela*, *Miri*, each equal parts.
Mix and make a powder. Dose: gr. $\frac{1}{10}$ to gr. $\frac{1}{4}$.
Used to check vomiting.

61 ℞. *Manasila*, *Pára kajali*, *Bachanága*, *Tañkana khára*, each 1 part, *Trikatu* 5 parts. Mix. Make a pill mass in the juice of *Adraka* or *Nirguñdi*. Dose: grs. iv.
Used in remittent fever with brain symptoms, also in asthma with cough.

62 ℞. *Manasila*, *Pára kajali*, *Bachanága*, *Tañkana khára*, each 1 part, *Trikatu* 5 parts. Mix and make a powder.
Used as a snuff in hemicrania, cephalalgia, cœzena, and coma from remittent fever.

TERSULPHURET OF ARSENIC.

Varakhi haratala زرنيخ هراتالا *Haratála* (Guz.) *Zarnikhe-asfara* (Arab.) *Zarnikhe zarda* (Pers.) *Haratála* (Hind.) *Haritála* (Beng. and Sans.) Yellow sulphuret of arsenic or yellow orpiment (Eng.)

Purification: It is purified by boiling it with *Tila tela* to which *Triphalá* is added.

Characters: *Haratála*, as met with in the bazaar, is in yellow pieces, amorphous, somewhat heavy, and irregular in shape and size. It is always purified before given for internal use. When purified, it is known as *Varakhi haratála*, which is of a bright golden colour, and occurs in longitudinal striæ. It is shining, and arranged in scales, or thick plates resembling *Abaraka*, but is not so elastic. When touched, pieces of them adhere to the finger or to one another. The gold colored scales are preferred for internal use.

Preparations: Powder, paste, oil, and *Bhashma*.

HARATALA TELA : The process of preparing it is similar to that employed in the preparation of *Somala-nu-ghee*.

HARATALA BHASHMA : Take of purified *Haratála*, triturate it in the juice of *Sátodá*, and roast it till reduced to ashes.

Actions and Uses : Internally *Varakhi haratála* (powder) is used as an alterative and febrifuge. As an alterative tonic, it is given to cure fevers and skin diseases, to increase strength and beauty, and to prolong life. It is given in incipient phthisis and asthma. It is also used in cough, chronic fever, gonorrhœa, &c. In epilepsy, it is given with benefit. In dropsy, it is highly recommended. The yellow sulphide of arsenic is used as a depilatory, but is not superior to sulphuret of sodium or sulphuret of barium. *Varakhi haratála* is an active ingredient in prescriptions for skin diseases. The liquor of it, when applied locally, cures warts and corns. It is used to preserve paper from the ravages of insects.

Dose : Of purified *Haratála* grs. ii to grs. iii.

Dagadi Haratala दादी हारता Dagadi haratála (Guz. and Bom.) Tersulphuret with teroxide of arsenic.

Characters : It is met with as a grey or red substance. It is resinous-looking, shining, and crystalline. The yellow particles are powdery. It exists as irregular pieces of stone of a gray colour, mixed up with yellow and red particles.

Godanti haratala : It is also known as *Safeda haratála*. It has no relation with arsenic salts. It is the sulphate of lime or gypsum (*Gábhana*.)

- 63 ℞. *Haratála bhashma* 2, *Bachanága* 1, *Miri* 10, *Pára kajali* 5. Mix and divide into 2 grain pills to be taken in the juice of *Adraka*.

Used in remittent fever with head symptoms.

- 64 ℞. *Haratála bhashma*, *Manasila*, *Morathuthu*, *Saṅkha bhashma*, and *Gaṇdhaka*, equal parts. Add *Eliyo*, and make into four grain pills.

Anupána : Decoction of tea with *Miri*.

Used in quartan fever.

- 65 ℞. *Haratála bhashma* 1, *Manasila* 1, *Pára kajali* 2, *Miri* 3, *Támra bhashma* 1, *Sonámukhi (dagadi)* 1.

Make a powder.

Dose: gr. i.

Used in enlargement of the liver and spleen.

- 66 B. *Haratála bhashma* 1, *Kátha* 5, *Miri* 5. Add *Madha* to make a pill mass. Dose : gr. i.
Used in asthma.
- 67 B. *Haratála*, *Dáruhalada*, *Devadára*, each two tolas, *Saṅkha bhashma*, one tola. Make a paste in lime juice for application.
Used in proriasis.
- 68 B. *Haratála* 2, *Manasila* 2, *Miri* 4, *Mithuṇ tela* 20, and milky juice of *Mudára* 5. Make a liniment, and apply.
Used in leprous ulcers.
- 69 B. *Várakhi haratála bhashma* 2, *Jiruṇ* 5, *Bachanága* 1. Mix and add *Madha* to make a pill mass.
Dose : gr. $\frac{1}{8}$.
Used in epilepsy.
- 70 B. *Várakhi haratála bhashma* 1, *Samudraphula* 4, *Kukadavela* 5. Mix and make a paste with *Madha*.
Dose : gr. $\frac{1}{4}$.
Used in dropsy and anal fistulæ.
- 71 B. *Várakhi haratála bhashma*. Make a paste in *Limbu-no-rasa*. Dose : gr. i.
Anupána : Decoction of *Gulavela*.
Used in hysteria, cough, asthma, &c.
- 72 B. *Haratála*, *Manasila*, *Sonámukhi dagadi*, *Pára kajali*, *Taṅkana khára*, *Sendhálona*, each 1 part, *Saṅkha-bhashma* 2 parts. Rub well in *Limbu-no-rasa*. To the mass add *Bachanága* 1/30th part, and mix.
Dose : grs. ii to grs. iii.
Used in chronic skin diseases.
- 73 B. *Haratála*, *Saṅkha* (soaked in *Limbu-no-rasa*), equal parts. Make a paste and apply.
Used as a depilatory. Women use it very freely.

74 *Ṛ. Haratāla 1, Manasila 1, Sañkha 2, Sāji khāra 1.*

Rub together with water and apply.

Used as a depilatory.

HYDRARGYRUM—MERCURY.

Paro पारो *Páro* (Guz.) *Párá* (Hind., Mah. and Beng.) *Zibaka* (Arab.) *Simāba*, *Jivaha* (Pers.) *Páradaha*, *Rasama* (Sans.)

Characters : The word *Párá* literally means that which protects mankind from all sorts of diseases. *Páro* is principally extracted from cinnabar. It is scattered through different kinds of stones, clay, and ores. As met with in the native state, it is called quick silver, and is found in small quantities and small globules of a shining silvery appearance. It is bright externally, and of a bluish tinge internally.

Purification : For medicinal purposes it is always purified before use. There are two modes of purification. With some *Hakimas*, the purification consists of intimately rubbing together *Párá*, brick dust, and *Lasana*, to which water is next added. The paste is boiled over a fire, and when cold, washed with water, and dried. Another process consists of mixing *Hīṅgaḷo* intimately with *Limbu-no-rasa*, and when ready, submitting the paste to a process of sublimation. To the resulting blackish powder, water is added to make a paste. The impregnated water is then removed by filtration, and the residue dried.

Preparations : *Párá kajali* and *Párá bhashma*.

PARA KAJALI : Take of purified *Párá*, mix it intimately with *Gāndhaka*, or finely triturate both till all traces of globules of mercury have disappeared.

PARA BHASHMA : Take of powdered *Agháda-ná-bija*, add to it *Umará-nu-dudha*, and make a bolus. Next divide the bolus into two separate halves, scoop out the interior of each half so as to form a cavity, and fill the cavity thus formed with a compound powder of *Vávariṅga*, *Khersála*, and *Kubo*. In the most central portion of this powder, put purified *Párá*. Then put the two halves together, cement them with a paste of wheat-flour, and when ready, roast the whole.

Actions and Uses : *Párá kajali* is a chief alterative tonic. It is given in fevers of all descriptions. When taken for a long time, it becomes absorbed into the system. Its presence is often noticed in secretions, as saliva, milk, bile, blood, pus, and urine. It inter-

feres with general nutrition and assimilation, leads to poverty of blood, and hence, in women, it gives rise to abortions, still-births, and births of cachectic infants, in children, to a low state of the body known as marasmus, and in adults, to a kind of cachexia, well known among miners and workers in mercury. In such persons, the muscles become wasted, the skin grows pale, and there is a tendency to hæmorrhages and chronic discharges. They also suffer from mercurial or trembling palsy, and from various other nervous disorders. *Pára kajali*, when given in proper and medicinal doses, increases the secretions of the intestinal canal. In very small doses, its primary effects are to increase the proportion of the red corpuscles of the blood. Thus in syphilis, it counteracts the effects of the poison in that liquid. It also has a great tendency to lessen the coagulability of blood, and hence, it is highly contraindicated in hæmorrhagic diathesis, and in women suffering from repeated attacks of menorrhagia. Mercury, when given in small doses, or taken for a long time, by persons who have an idiosyncrasy for it, often leads to salivation, as evidenced by the occurrence of a metallic taste in the mouth, soreness of the teeth and gums, a peculiarly foetid breath or a red line where the teeth are attached to the gums, tumified fauces, and a sodden tongue. The salivary glands are swollen, enlarged, and tender. There is a profuse flow of an alkaline viscid fluid of a penetrating smell. In advanced cases, ulcers often form over the gums and fauces, the teeth become caried, loose and may fall out. There may be caries of the maxillary bones. As a rule, children seldom suffer from salivation.

Pára (purified) is often swallowed for the purpose of removing intestinal obstructions. *Pára kajali* is given with good results in inflammatory diseases, such as hepatitis, meniugitis, and pericarditis. In fevers, it is given in combination with *Bachanága*, *Dhaturá*, *Jamálagotá*, and other drugs with benefit. In very small doses, it is administered with success in acute dyspepsia, accompanied with jaundice, due to gluttonous habits in eating and drinking, in chronic diarrhœa, and dysentery. *Pára kajali* is useful in coughs generally, also in chronic bronchitis and phthisis. It is also useful in nervous diseases, such as paralysis of the tongue, in cephalalgia, &c. In combination with other drugs, *Pára kajali* ointment is a useful application in various skin diseases, such as eczema, lichens, prurigo proriasis, &c. With *Dhaturá-no-rasa*, it is applied to the scalp to remove lice from the hair. As a fumigation and an innuaction, it is highly recommended in primary and secondary syphilis.

- 75 *℞. Pará kajali 2, Bhilámo 4, Khorásáni ajawána 5, Ajamoda 8, Balabija 2, Madha 5.* Mix and make a pill mass. Dose: *gr. i.*

Anupána : Milk.

Used in syphilis to procure salivation.

- 76 *℞. Pará kajali, Triphalá, each drs. ii, Chitraka chhála drs. v, Gugala drs. v.* Mix and make a paste with *Erañdi tela*. To this add *Hīnga, Trikatu, Ajawána, Suvá, Jirun,* and *Sañchala*, all in weight equal to *oz. ii*, and finally rub them together. Dose: *dr. ½.*

Used in paralysis, and nervous diseases.

- 77 *℞. Pará kajali, Jáephala, Jávañtri, Lavañga, Limdo,* equal parts. Make a powder, put it in a bi-valve couch shell, cover it with another shell, cement the whole with a layer of clay, and roast it over a fire. Dose: *grs. iv to grs. v.*

Used in diarrhœa of children.

- 78 *℞. Pará kajali 1, Tañkaṇa khára 2, Jamálagotá-ná-bija 1.* Mix and make a pill mass. Dose: *grs. ii to grs. iii.*

Anupána : *Limdáná-pána-no-rasa* and *Madha*.

Used in constipation.

- 79 *℞. Pará kajali, Bachanága, Jamálagotá-ná-bija,* equal parts. Mix and then add *Eliyo*. Make a pill mass. Dose: *grs. ii to grs. iv.*

Used in constipation and fever.

- 80 *℞. Pará kajali, Afima, Mocharasa, Triphalá, Bhāñga, Trikatu,* equal parts. Mix, then add *Bhāñgrá-no-rasa*. Make a pill mass. Dose: *grs. iv to grs. v.*

Used in obstinate chronic diarrhœa.

- 81 ℞. *Pára kajali* 1, *Kátho* 2, *Akkalakaró* 2. Mix and make a powder. Dose : gr. i to grs. ii.
Used in primary syphilis.

CHANDRODAYA RASA.

- 82 ℞. Take of *Pára kajali*, *Abraka bhashma*, *Baṅga bhashma*, *Silájita*, *Elachi*, each 1. Mix, triturate the whole in the juice of *Kelá-nu-jháda*, and make a pill mass.
Dose : grs. ii to grs. iv.
Used in gonorrhœa, syphilis, jaundice, leprosy, &c.

The word *Chaṇdrodaya rasa* is derived from *Chaṇdra* which means the moon, and *Oodaya*, rising. It is believed that particular diseases such as gonorrhœa, syphilis, jaundice, &c. are due to excessive heat in the blood; that persons suffering from these maladies are cured in the same manner as those suffering from sunstroke. In both cases the cure is effected by exposure to the cooling rays of the rising moon. This preparation being a remedy for the cure of excessive heat, it is believed to bear an analogy to the cure by exposure to the rays of the rising moon.

PRAMEH BADDHA RASA.

- 83 ℞. Take of *Pára bhashma*, *Loha bhashma*, *Silájita*, *Sona-mukhi bhashma*, *Manasila*, *Suñtha*, *Miri*, *Pipali*, *Triphalá*, *Aṅkola chhála*, *Kotha* (pulp), and *Haláda*, each equal parts. Triturate the whole in *Bháṅgrá-no-rasa* and make a pill mass. Dose : grs. v to grs. x.

Uses : It is a powerful diuretic and is useful in gonorrhœa and scanty urine.

The word *Prameh baddha rasa* is derived from *Prameh* which means gonorrhœa (*Paramo*) and *Baddha*, to check. This preparation is useful in curing or checking the disease.

VĀHNI RASA.

- 84 B. Take of prepared *Párá* 4, *Gaṇḍhaka*, *Halada*, *Triphalá*, each 2 parts, *Nishota*, *Jamálagoṭá*, *Chitraka*, each 3 parts, *Suñṭha*, *Miri*, *Pipali*, *Dañtimula*, *Jirun*, each 8 parts. Reduce the whole to a fine powder, triturate it in the juice of *Arani* and *Bháṅgro* and add *Erañdi-nu-tela* to make a pill mass.

Dose : *grs.* v to *grs.* x

Anupána : To be given in warm water.

Uses : It is said to be a specific for dropsy.

The word *Váhni* means fire. It signifies an agent which drives away water from the abdomen, just as fire causes water to evaporate, when brought in contact with it.

TRIVIKRAMA RASA.

- 85 B. Take of prepared *Párá*, *Gaṇḍhaka*, *Támra bhashma*, each equal weight, triturate them in *Nirguṇḍi-no-rasa*, and submit the paste, when ready, to a sand bath, till the whole is dried. Dose : *grs.* v to *grs.* vii.

Anupána : Decoction of *Bijorá*.

Uses : It is said to be of special use as a lithoutriptic, and is given in cases of uric acid diathesis, gravel, &c. It is given as an alterative in chronic diseases.

GOLITA KUSHTA KUTHARA RASA.

- 86 B. Take of *Párá bhashma*, *Gaṇḍhaka*, *Loha bhashma*, *Támra bhashma*, *Gugala*, *Triphalá*, *Bakáen*, *Nimbo*, *Chitraka*, *Silājita*, each equal parts, *Karañja bija* and *Abraka bhashma*, four times in weight to the above. Triturate the whole, and make a uniform mass in *Ghee* or butter. Dose : *grs.* iv to *grs.* x.

Uses : It is a good alterative, and is used as a specific for leprosy, leucoderma, &c.

The word *Kushta kuthára rasa* is derived from *Kushta* which means white patches and *Kuthára*, a destroyer. It is a destroyer of leprous patches. The other Sanscrit word *Gali* signifies discharges from ulcers or sores.

BISULPHURET OR THE RED SULPHIDE OF MERCURY
CINNABAR—HYDRARGYRI BISULPHURETUM.

Dagadi Hingalo दादडी हिंगलो *Hīṅgaḷo* (Guz.) *Hīṅgulāh* (Sans.) *Sīṅgrapha* (Bom.) *Hīṅgula* (Mah.) *Sīṅgripa* (Hind.) *Shaṅgarpha* (Arab.) *Hīṅgola*, *Shaṅgarpha* (Pers.)

Characters: As sold in the bazaar, it occurs as a heavy crystalline mass arranged in longitudinal striæ. It is of a deep red colour, and stains the fingers when handled. In nature, it is sometimes found in a massive state, in grains, and crystallized, chiefly among rocks of coal formation. It occurs either as a bright scarlet or red powder, or as shining scales. When heated, it becomes brown or black, but resumes its red colour again on cooling. It burns with a blue flame. It is artificially prepared by adding together 40 parts of *Pārī* with 8 parts of *Gaṇdhaka*.

Preparations: *Hīṅgulā bhashma*.

HINGULA BHASHMA: Take of *Hīṅgaḷo* 4 parts, *Haratūla* 1 part, *Adraka-no-rasa* 8 parts, and *Lavaṅga* 4 parts. Mix, put it into a crucible, roast it over a fire, and lastly reduce the whole to ashes.

Actions and Uses: *Hīṅgula* is an ingredient in various expectorant and anteperiodic prescriptions. It is used as a fumigatory, to salivate persons in syphilis. An ointment of it, is applied to bring about the resolution of buboes. Its powder, dusted into the eyes, is a useful collyrium to cure ophthalmia. *Hīṅgulā bhashma* is recommended as a digestive tonic in anæmia, chronic diseases such as consumption, and chronic dysentery. As an alterative, it is highly recommended in chronic fevers, and in cases of enlarged liver and spleen.

Dose: *Hīṅgulā bhashma gr. i.*

Anupana: To be given with *Pāna*.

Remarks: Native women, whether married or unmarried, and girls, apply *Hīṅgaḷo* as a *Tilā* to their forehead, as a good substitute for *Sīṇḍura*. It is said to impart beauty to their complexion. Its application to the forehead is also a sign of either a virgin or a married life.

87 B. *Hīṅgaḷo*, *Bachanāga*, *Gaṇdhaka*, *Jamālagotā-nā-bija*, and *Eliyo*. Mix, and make a pill mass.

Dose: *grs. ii to grs. iii.*

Used in fever with constipation.

- 88 B. *Hīṅgaḷo* 10, *Manasila* 5. Mix and make a powder. Used as a fumigation in secondary syphilis.
- 89 B. *Hīṅgaḷo*, *Afima*, *Kapura*, *Lavaṅga*, *Mocharasa*, *Motha*, *Indrajava*, and *Jāephala*, equal parts. Add *Madha* to make a pill mass. Dose: grs. iv. Used in diarrhœa and atonic dyspepsia.
- 90 B. *Hīṅgaḷo*, *Gaṇdhaka*, *Saṅchala*, *Siṇdura*, *Táklá bija*, *Vāvadiṅga*, *Upaleta*, equal parts. Make a paste in the juice of *Dhaturo*, *Limado* and *Pána*, and apply. Used in ring worm.
- 91 B. *Hīṅgaḷo* 5 parts, *Jāephala* 5 parts, *Ispaṇḍa* 5 parts, *Khorásani-ajamoda* 5 parts, *Afima* 4 parts, *Jāepatri* 5 parts. Make a pill mass with *Madha*. Dose: grs. v. *Anupána*: *Rábri* of milk and *Sálama misri*. Used in nervous debility.

ANANDA BHAIRAVA RASA.

- 92 B. Take of *Hīṅgaḷo*, *Bachanága*, *Miri*, *Taṅkaṇa khára* and *Pipali*, each equal parts. Mix and make a fine powder. Dose: grs. v to grs. x. *Anupána*: To be given with honey, mixed with *Indrajava kuvátha*, or *Kudásála kuvátha*. Used as a tonic and a powerful astringent; also as a specific for chronic diarrhœa, and diarrhœa of typhoid fever.

The word *Anaṇḍa* means contentment with existing health. It also signifies relief from improper digestion. *Bhairava* means a demon or an evil doer, one who interferes with the proper digestion of food. *Rasa* means a remedy. Thus this preparation is supposed to be useful in dispelling the demon and in procuring relief from indigestion.

ICHCHHABHEDI RASA.

- 93 B. Take of *Hīṅgaḷo*, *Tañkaṇa khāra*, *Suñṭha*, *Pipali*, each one part, *Dāñtimula* and *Triphalā*, each four parts. Mix and make a powder. Add milk, and boil till the whole is reduced to the consistence of an extract. Dose: *grs. iii* to *grs. v*.

Used as a purgative, and given in flatulence and constipation.

The word *Ichchhá* means inclination or constant desire to pass motion, and *Bhedi* signifies to remove. This medicine is given to remove constipation, or to open the bowels.

RAJA MRAGANKA RASA.

- 94 B. Take of *Hīṅgula bhashma* 3 parts, *Soná bhashma*, *Abraka bhashma*, each one part, *Manasila*, *Haratāla*, *Gaṇḍhaka*, each 2 parts, *Cowri bhashma* and *Tañkaṇa Khāra*, each 1 part. Mix, reduce the whole to a fine powder, and roast it over a fire. Dose: *gr. i* to *grs. v*.

Anupāna: To be given with confection of *Miri*, *Pipali*, or with *Madha*.

Used as an alterative, tonic, and restorative; also as a specific, for consumption, asthma, and chronic diseases.

The word *Rájá mragaṇka rasa* is derived from *Rájá* which means a king, *Mraga* signifying a deer, and *Áink* meaning a nail or scratch. The whole means a scratch of a lion or of a king of deer. Hindu Mythology tells us that lion is so strong an animal, that even a scratch of its nail causes death. This preparation is supposed to be so powerful, that it is capable of removing any inveterate disease, such as consumption, by a mere dose or two.

HYDRARGYRI SULPHURETUM NIGRUM—

ARTHOPS MINERALIS.

Rasa sindura रस सिंदूर *Rasa siṇḍura* (Sans.) Black sulphide (Eng.)

RASA SINDURA: Take of *Pírā* 2 parts, *Gāṇdhaka* 2 parts, *Navasāgara* $\frac{1}{2}$ part. Mix, and make a fine powder. To this add *Limbu-no-rasa* to make a paste, and dry over a sand bath. Another method is to rub together 3 parts of *Pírā*, and 1 of *Gāṇdhaka*, and then dissolve it over a fire.

Characters: As met with in the bazaar, it is found either in thin, dark, red, shining, scaly pieces with a fibrous texture, or as a heavy, black powder. The colour is reddish black, resembling that of dried blood. It is interspersed with crystalline granules of a red or black colour, and with shining particles, thus closely resembling *Abraka*. It burns with a blue flame, leaving no residue.

Preparations: Powder, ointment, and paste.

Actions and Uses: As an alterative tonic, *Rasa siṇḍura* is used to produce salivation in syphilis. It is given internally in consumption, syphilis, gonorrhœa, &c. As an alterative tonic, it is recommended in enlarged liver and spleen, chronic fevers, chronic dysentery and chronic dyspepsia.

Dose: gr. i to grs. ii.

Anupana: To be given with honey and *Pipali*.

Remarks: A piece of *Rasa siṇḍura* when rubbed against another, the resulting powder resembles in colour sulphide of lead, (*Siṇḍura*.) As this contains mercury, it is called *Rasa siṇḍura*.

AJIRANA KANTAKA RASA.

- 95 B. Take of *Rasa siṇḍura*, *Bachanāga*, *Gāṇdhaka*, equal parts, *Miri*, *Suñṭha*, double the weight of *Rasa siṇḍura*. Mix and triturate them together. Make a paste in *Bhuiriṅgani-no-rasa*, and dry it over a sand bath. Dose: gr. i to grs. ii.

Uses: It is said to have a specific action on indigestion and diarrhœa, due to bad food and bad drink.

This word is derived from *A* (deprived of) and *Jirāṇa* (to digest), the whole word *Ajirāṇa* meaning indigestion. *Kāṇṭaka* means a thorn. This compound drug is supposed to be a thorn, by the dread of whose presence, indigestion is said to disappear.

SANGRAHENI VAJRA KAPATA RASA.

- 96 R. Take of *Rasa siṇḍura*, *Abraka bhashma*, *Gaṇḍhaka*, *Java khāra*, *Taṇkāṇa khāra*, *Arani chhāla*, *Vekhaṇḍa*, each one part. Reduce the whole to a fine powder. To this add the juice of *Arani*, *Bhāṇgrā*, and *Bijorā*. Make a paste, and roast the whole. To the roasted product add *Atisha* 5, *Mocharasa* 2, *Kātho* 1, and *Bhāṅga* 5. Dose: grs. v to grs. x.

Anupāna: A compound decoction of *Dhāuri phula*, *Motha*, *Lodhra*, *Bela phala*, *Gulavela*, each 5 parts, *Madha* 10 parts, and Water 100 parts. Prepared in the usual way. Dose: oz. i.

Uses: It is a powerful astringent, tonic, and alterative. It is used as a specific in chronic discharges, such as dysentery and diarrhœa.

The word *Saṅgrāheni* means that which is collected and finally discharged. *Vajra* means the hardest of all hard substances, signifying a most potent remedy. *Kapāta* means a door; it signifies a gateway through which dysenteric stools escape. *Vajra kapāta* is the hardest door, and hence this remedy is supposed to have an effectual check on purging.

- 97 R. *Rasa siṇḍura*, *Sonā bhashma*, *Tāmbā bhashma*, *Hartāla bhashma*, equal parts. Make a powder and mix. Dose: gr. $\frac{1}{2}$.

Anupāna: Confection of *Miri* 2, *Pipali* 2, Honey 2, and Butter 5.

Used in chronic bronchitis and phthisis.

- 98 R. *Rasa siṇḍura* 2, *Hīṅgaḷo* 2, and *Gakuṇ satta* 10. Mix and make a powder. Dose: grs. ii to grs. iv.

Used as fumigation in primary syphilis.

- 99 R. *Rasa siṇḍura* drs. ii, *Abraka bhashma* dr. i, *Loha bhashma* dr. i, *Sonā bhashma* dr. $\frac{1}{2}$. Mix and add *Eliyo* q. s. and make a pill mass. Dose: grs. ii to iv.

Used in insanity, cephalalgia, dyspepsia, and paralysis of the tongue.

HYDRARGYRI PERCHLORIDUM—CORROSIVE SUBLIMATE.

Rasa kapura रस कपुर *Rasa kapura* (Hind. and Pers.) *Tála chikaná sambala* (Hind.)

RASA KAPURA: To prepare it, take of *Pára kajali*, *Sendhálona*, and chalk, equal parts. Rub them together. Then add *Surokhára*, put the whole in a covered crucible and apply heat. The deposit left will be the perchloride of mercury. Another method is to take of *Pára kajali*, *Geru Máti*, brick dust, *Phataki*, and rock salt, equal parts, rub them together, put the whole in a closed crucible and apply heat.

Characters: *Rasa kapura*, as found in the bazaar, is a heavy mass of crystals of various shapes and sizes. It is highly brilliant. Its colour is white and somewhat pinkish.

Preparations: Solution, ointment, and powder.

Actions and Uses: It is a most powerful caustic application. A solution of it, applied to the unbroken skin, acts as a local irritant and poison. In very small doses, when given internally, it is the best remedy for syphilis and chronic diarrhoea, and is generally given with *Afima*, and taken after meals. Baths of this drug are equally efficacious in syphilis, various skin diseases, &c. An ointment of it is applied as a cure in acne, freckles, chloasma, prurigo vulvæ, and pityriasis. Its solution is dropped into the nostrils to relieve œzena, especially of a syphilitic origin. Mixed with *Somala*, *Rasa kapura* is a good application for piles.

Remarks: *Tála chikaná sambala* is erroneously believed to be a variety of *Haratála*. The word *Tála chikaná* is compounded of *Tála* which is a corruption for *Haratála* (orpiment) and *Chikaná* which means moist or humid, the whole signifying moist arsenic. *Tála chikaná* is by some corrupted into *Dára chikaná*.

Rasa kapura, as sold in the bazaar, contains a large proportion of calomel.

- 100 B. *Rasa kapura*, *Kesara*, *Lavaṅga*, *Jávaṇtri*, *Chaṇḍana-no-vehera*, *Sákara*, each one part. Mix and add *Madha* to make a pill mass. Dose: grs. ii to grs. v.

Used in syphilitic affections, gonorrhœa, &c.

- 101 B. *Rasa kapura* 1, *Kapillo* 4, *Kapura* 2, Mix, add *Kokama-nu-tela*, and make an ointment.
Used in itch, syphilitic ulcers, &c.

- 102 R. *Rasa kapura* 1, *Máíāñ* 2, *Bodárasaṅga* 3, *Tila tela* and *Mina*, each 5. Mix, and make an ointment.
Used as an application to syphilitic chancres.

- 103 R. *Rasa kapura* 1, *Elachi dāñá* 20, *Jamálagoto* 5, *Madha* 1. Mix, and make a pill mass.
Dose : gr. i to grs. ii.
Used in ascites, enlarged spleen, &c.

- 104 R. *Rasa kapura* 1, *Lavaṅga* 10, *Ghañdhaka* 5, *Upalasari* 10, *Gulavelá* 10, *Madha* q. s. Prepare a pill mass.
Dose : grs. ii to grs. iv.
Used in secondary syphilis and skin diseases.

The dose of *Rasa kapura* may be carefully increased to 2 or 3 grs., for in its crude state its dose always varies. Native *Vaidas* some time give as much as 8 or 10 grs. in one dose.

SULPHUR.

Gandhaka गंधक *Gaṇdhaka* (Guz.) *Gaṇdraka* (Beng.) *Gaṇdhaka* (Hind.) *Kibrika* (Arab.) *Gogirda* (Pers.) *Gaṇdhakah* (Sans.) *Brimstone* (Eng.)

In the mineral kingdom, sulphur is found in a native state, either embedded in rocks, or in a state of sublimation as volcanic sulphur, or of combination with several ores as in various forms of pyrites. It is found in combination with lead (galena), with zinc (blende), and with mercury (cinnabar.) It is a constituent of various animal and vegetable substances, such as albumen, &c. As met with in the bazaar, it is of four kinds : 1. The yellow variety *Pásāno gaṇdhaka* or *Láthāno gaṇdhaka*; 2. The red variety *Ráti Hirákasi*; 3. The pale yellow known as *Ámalasáro gaṇdhaka*; and 4. *Gaṇdhakaná-phula*.

LATHANO GANDHAKA is also known as roll sulphur. It is found in sticks about 2 inches in width, and about 3 to 5 inches long. The external surface is shining, smooth, and marked with two prominent ridges. The colour is yellow. The taste is bitter and astringent. The smell is nauseous. On section, its interior is porous in the

middle, and compact at the sides. It is very brittle, and can readily be powdered. It sticks somewhat, when held between the fingers. It is preferred for external application.

AMALASARO GANDHAKA is so called on account of its colour resembling the ripe fruits of emblic myrabolans (*Āmalá*.) It is the purest kind of *Gaṇḍhaka*, and occurs in semi-transparent or irregularly flat crystalline pieces resembling those of Alum. The colour is pale or bright yellow with a shade of green. This *Gaṇḍhaka* is generally used internally. *Rāti Hirákasi*, otherwise known as *Lála Gaṇḍhaka*, occurs in small, flat or irregular crystalline pieces of a shining orange-red, purple or brick-dust colour. The taste is acrid and bitter. It burns with a faint blue flame and emits the smell of sulphur. *Gaṇḍhakaná-phula*, also known as sublimed sulphur, is a purified form of *Gaṇḍhaka* and is prepared by washing *Gaṇḍhaka* in milk. It is a light yellow powder of a bitter astringent taste, and of a peculiar smell.

Preparations: These are *Gaṇḍhaka kalk* (paste), *Gaṇḍhaka rasáyana*, *Gaṇḍhaka lepa*, and *Gaṇḍhaka tela*.

GANDHAKA KALK OR PASTE: Take of *Gaṇḍhaka* 1 part, *Himaja* 1 part. Mix, add *Bhāṇgrá-no-rasa* 3 parts, *Madha* 2 parts, *Ghee* 1 part, and make a paste.

GANDHAKA RASAYANA: Take of *Gaṇḍhaka* 2 parts, *Párá* 1 part. To this add the juice of *Kumára*, and triturate the whole to form a paste. Then roast it, and when cool, add *Madha* and *Ghee*, each 2 parts.

GANDHAKA LEPA: Triturate *Gaṇḍhaka* in the juice of *Garmálá* leaves.

GANDHAKA TELA: The modes of preparing sulphur oil are already described while speaking of the preparation of Mineral Medicated Oils. In that description the word *Gaṇḍhaka* may be substituted for any mineral. See page 4.

Actions and Uses: *Gaṇḍhaka* is used both for internal administration, and as an external application. It and its preparations act as an alterative, laxative, diuretic, and insecticide. Externally, sulphur ointment is used as an application for the cure of scabies. Its efficacy is increased by first softening the skin by means of warm water, and then applying it. The ointment is generally combined with *Dhaturá-ná-bija*, which acts mechanically, and breaks up the burrows of the acari and brings the insects under the direct influence of *Gaṇḍhaka*. Very often a free or carbonated alkali of potash, soda, or lime is added instead of *Dhaturá-ná-bija*. The alkali forms with

Gaṇḍhaka, a sulphide, which acts upon the insects with vigour, and kills them. Sulphur baths are useful for the cure of acne, rosacæ, sycosis, and chloasma. In such cases, besides the baths, sulphur powder or mineral sulphurated waters are given internally with benefit. Sulphur baths of Vajrabai near Callian, in the Bombay Presidency, are highly useful in the treatment of chronic muscular rheumatism, gout, and cutaneous affections. Sulphur, when taken internally and in small doses, becomes absorbed, and may be detected in the sweat, milk, and urine. It is a stimulant to the secreting organs such as the skin and the bronchial mucous membranes. It has a specific action on the rectum and increases the hæmorrhoidal secretions. As an anti-spasmodic and an alterative, it is useful in cholera. The sulphurous and mineral waters, from their containing earthy and alkaline sulphates, act as a laxative and diuretic, while the sulphurous acid, disengaged from them, acts as a diaphoretic. Sulphur, like other balsams, relieves chronic cough with profuse expectoration. In large doses, it acts as a purgative, and also increases the secretion of bile. It is an ingredient in the compound laxative powder highly recommended in habitual constipation. In combination with jaggary or cream of milk, *Gaṇḍhaka* is given in diseases of the rectum as hæmorrhoids, prolapsus and stricture; in chronic skin diseases, such as prurigo, impetigo and scabies; pulmonary diseases, such as asthma; and in chronic catarrhs. In rheumatic and gouty affections, after the acute symptoms have subsided, it may be given with advantage. It is also recommended in paralysis due to softening of the brain. The fumes of sulphur, or of its preparation, sulphurous acid, have long been in use in cholera cases. *Gaṇḍhaka* is a good alterative, and is used for the same purposes for which *Sambala tela* is given. It is supposed to be a potent remedy for cough, asthma, consumption, and general debility. It is also useful when given in enlargement of the liver and spleen, chronic fevers, &c.

Dose : Of *Gaṇḍhaka* powder grs. x to grs. xx; as a laxative, grs. xxx to grs. xl. Of the oil, a mere touch with a pencil on *Pána* (leaf.)

105 B. *Gaṇḍhaka* 3, *Sháterá* 3, *Ámbá haḷada* 2, *Sákara* 2.
Reduce the ingredients to a powder.

Dose : dr. $\frac{1}{2}$ to dr. i.

Used in scabies and other cutaneous affections.

- 106 ℞. *Gaṇḍhaka* 5, *Kāṇḍá-no-rasa* 3, *Rái* 4, *Lasana* 2, *Ajamá-ná-phula* 4. Make a paste.
Used internally in cholera.
- 107 ℞. *Gaṇḍhaka*, *Lavaṅga*, each 2 parts, *Haradāṇ* 1, *Sonámukhi* 2, *Muradára siṅga* 4, *Elachi* 6. Mix and make a powder. Dose : grs. vi to grs. viii.
Used internally in bronchitis in children.
- 108 ℞. *Gaṇḍhaka* 5, *Kapura* 1, and *Sipichaṇḍa* 3. Mix, and make a paste with butter.
Used as an application in itch.
- 109 ℞. *Gaṇḍhaka* 2, *Rála* 1, *Morathuthu* 1, *Javakhára* 1, *Kapilo* 1, *Rái-tela* 5. Make an ointment.
Used as an application in itch pityriasis and psoriasis.
- 110 ℞. *Gaṇḍhaka* 4, *Manasila* 1, *Varakhi haratála* 1, *Lákh* 1, *Halada* 1, *Triphalá* 1, *Majitha* 2, *Goratela* 10. Mix, and make a paste.
Used in scabies, eczema, &c.
- 111 ℞. *Gaṇḍhaka*, *Javakhára*, *Taṅkaṇa khára*, *Isasa*, *Morathuthu*, *Kuvaria-na-bija*. Mix and make a paste in the juice of *Gajakarana pána* and apply.
Used in pityriasis, psoriasis and ringworm.
- 112 ℞. *Gaṇḍhaka* 2, *Pára* 2, *Nipálo* 1, *Pipali* 4, *Garamálo* 2. Mix, and make a paste in *Thuvara-nu-dudha* (*Kaṇtário*). Dose : gr. i to grs. ii.
Used in constipation, syphilis, and rheumatism.

SULPHATE OF ALUMINA AND POTASH (ALUM)—ALUMINUM.

Phataki फ़तकी *Phatakadī* (Guz.) *Phitkari* (Hind.) *Sphatika* (Sans.) *Sambe máni* (Bom.) *Zaje-abyáz* (Arab.) *Zákebilor* (Pers.)

Characters : Aluminum is a metallic base of the earth alumina. It is a light, ductile, and sonorous metal, of a bright silvery lustre. It does not get tarnished on exposure to air. As a native mineral, it is known as *Phataki zarda*.

PHATAKI ZARDA exists as a crystalline greyish mass, of a dirty or greenish brown, or a white colour, more or less transparent, and exhibits faces of a regular octahedron. It has an acid, sweetish, and astringent taste. *Phataki* is produced from aluminous slate which consists of alumina combined with sulphuret of iron, or with a salt of potash. Artificially it is prepared from pipe clay. The clay is mixed with charcoal or coke, and then calcined. The calcined mass is next treated with sulphuric acid and exposed to the air. Thus produced, it is in the form of crystals mixed with pipe clay and is known as *Rāti phataki* or *Sambe māni surkha*. When purified, it is called *Sapheda phataki*.

Preparations: A dry powder, a solution (alum dissolved in water), and baked dessicated alum.

Actions and Uses: Alum is used both externally and internally. It is a powerful topical astringent. It constricts small vessels and organic fibres, and thus acts in diminishing the exhalations, secretions and supply of blood to a part. Its application produces paleness in a part. When given internally, it becomes absorbed, and then acts as an astringent and tonic to the general system. It is well known to check passive hæmorrhages and other profuse discharges. It causes dryness of the mouth and throat, and thirst. It is a very efficient remedy in checking gastric and intestinal hæmorrhages, menorrhagia and hamaturia. In gastric and intestinal catarrh, it diminishes their mucous secretion. In vomiting, and diarrhoea of typhoid fever, its antacid and astringent properties are well known. In fluxes of the respiratory passages, attended with profuse ropy mucous expectoration, it is highly useful. In large doses it acts as an emetic in children, but it seldom produces nausea. As an antispasmodic, ten grains of it given internally, often arrests asthma. In narcotic poisoning in children, alum is a good and efficient antidote. Locally, in bleeding from the nose, gums, vagina, or the rectum, or from leech bites, its topical application, either as a powder or in strong solution, speedily arrests hæmorrhage. The solution should be applied warm. It is highly useful in prolapsus ani and prolapsus uteri. When locally applied, it checks sweats, particularly those in the armpits, groins, and soles of the feet. In recent ecchymoses, contusions, sprains, &c. poultices made of wheat bran, and the solution of alum, or of alum mixed with white of egg, are highly useful. In diseases of the throat, where the soft parts are tumid, as in aphonia, and in atony of the larynx, alum gargle is a very efficient remedy. In

deplitheria, croup, and pharyngitis, its local application promotes the separation of the crudation, if it does not prevent its formation. In aphthæ and thrush, spongy gums and other affections of the mouth, powdered alum, or the powder of burnt alum with *Madha* or *Hirábola*, is used with benefit. As a collyrium, its application to the eyes removes opacities of the cornea. In vaginal leucorrhœa, and in prurities vulvæ, its effects are well marked. It is often sprinkled over indolent ulcers with benefit.

Dose : Of the powder *grs.* 5 to *grs.* 30.

Anupana : It is given with some aromatics.

- 113 ℞. *Phataki* 1, *Ambá halada* 2, *Bedá-ni-saphedi* 3. Mix, make a paste, and apply.

Used in sprains, bruises, &c.

- 114 ℞. *Phataki*, one part, *Guli aramáni* $\frac{1}{2}$ part, *Kherasála* $\frac{1}{2}$ part. Mix, and make a powder.

Used as an application in swollen gums, and tooth-ache.

- 115 ℞. *Phataki*, *Rasavañti*, *Posta*, *Lodhra*, *Haradāñ*, *Himaja*, *Morathuthu*, each one part, Rose water 8 parts. Mix, and make a paste.

Used as an application to the eyes, and in ophthalmia.

- 116 ℞. *Phataki* 1, and Rose water 5. Mix, and make a wash. Used in ophthalmia.

- 117 ℞. *Phataki* *drs.* ii, *Dálimba-ná-phula* *drs.* ii, *Lodhara*, *Dháuri phula*, each *dr.* i. Mix, and reduce the whole to a fine powder. Dose : from *grs.* xv to *grs.* xxx.

Used in diarrhœa, dysentery, and passive hæmorrhages generally.

- 118 ℞. *Phataki* 1, *Javakhára* 2, *Navaságara* 2, *Siñdhava* 1, *Surokhára* 4. Mix, and make a paste with water.

Dose : *grs.* v to *grs.* xv.

Used in jaundice, enlarged liver and spleen.

MICA—MUSCOVY GLASS.

Abraka अभ्रकः *Abraka* (Guz.) *Avraka* (Hind. and Pers.) *Abhraka* (Sans.) Glimmer or Talc (Eng.)

Characters: It is a kind of mineral, of a foliated texture, capable of being divided into extremely thin flakes or leaves. The leaves have a sensible elasticity, and a metallic lustre. They are transparent, soft, and can easily be scratched. When divided across, the plates seem rather to tear than break. *Abraka* consists of silica, magnesia, lime, and iron. Sanscrit writers speak highly of this drug. There are four varieties: 1 yellow, 2 nearly black, 3 reddish brown, and 4 silvery white. Of these only two, the black and white, are generally met with in the bazaar.

THE BLACK VARIETY *Krishnábhra*ka, *Vajrábraka* (Sans.) *Shihá abra*ka (Pers.)

Purification: It is purified by boiling it in the decoction of *Triphalá* for a long time. Very often it is first heated over a fire, and then washed with milk. The scales are next separated, soaked in *Tanduliyáni-bhájí-no-rasa* for a long time, and finally dried. It is chiefly used for medicinal purposes.

Characters: It is hard, heavy, of a black colour, and saline earthy taste. When seen through by transmitted light, the colour of the sky changes to red.

SVETA ABHRAKHA स्रष्टे अभ्रकः *Sapheda abra*ka (Hind.) White mica.

Characters: Its characters are similar to those of the black variety, but it is not so hard nor so heavy. On looking through its layers, the colour of the sky does not change.

Preparations: *Dhán*ya *abra*ka, *Abraka bhashma* or ashes, and *Abraka kalka*.

DHANYA ABRKA: Take of rice and purified *Abraka* equal parts. Reduce them to a coarse powder. Put the whole into a bag of muslin, soak it in hot water, and keep it for several hours. When cool, triturate the contents of the muslin and wash the powder with water. On filtration, *Abraka* passes through the pores of the muslin in fine particles and is collected for use.

ABRAKA BHASHMA: Take of *Dhán*ya *abra*ka 1 part, *Tañka*na *khá*ra 2 parts. Mix together, put it into a crucible, and apply heat. Triturate the whole in milk, and roast it.

ABRAKA KALKA: Take of *Abraka bhashma*, *Amalá*, *Sun*tha, *Miri*, *Pipali*, *Vá*vadiñga, equal parts. Mix and reduce them to a uniform mass.

Dose : *grs.* v to *grs.* x.

Actions and Uses : *Abraka bhashma* is a good astringent, tonic, aphrodisiac, and an alterative. It is used in anæmia, chronic diarrhœa, dysentery, and fevers, in enlargement of the abdominal viscera, great general debility, and impotence. When combined with iron, it is useful in asthma, cough, and consumption. In cachexia due to long standing anal festulæ and chronic gonorrhœa, it may be given with honey and *Pipali* with benefit. *Abraka kalka* is an alterative and restorative, and is used to improve digestion, and in seminal debility.

- 119 ℞. *Abraka bhashma* 2, *Pára kajali* 2, *Gugala* 4, *Galo satta* 8, and *Gokharu* 5. Mix, then add the juice of *Niraguñdi*, and *Gulavela*. Macerate well, and dry.

Dose : *grs.* ii to *grs.* iv.

Anupána : Decoction of *Pipali*.

Used in rheumatism.

- 120 ℞. *Abraka bhashma* 3, *Gañdhaka* 2, *Nipálo* 2, *Tañkana-khára* 2. Mix and triturate in the juice of *Limbu*. Make a pill mass. **Dose :** *grs.* iii to *grs.* v.

Anupána : Rice *Cāñji*.

Used in intestinal worms, colic, &c.

- 121 ℞. *Abraka bhashma*, *Pára kajali*, *Mañdura*, equal parts. Mix and macerate the whole in the juice of *Satávári*. Dry the paste over a sand bath. **Dose :** *gr.* i to *grs.* iii.

Anupána : *Miri* and Sugarcandy.

Used in consumption, fevers, &c.

SALINE SUBSTANCES.

These include salts and saline earths.

There are two principal varieties of salts used in medicine. Those which exist in nature and are known as natural salts, and those which are artificially prepared. The natural salts are : 1. *Siñdhava namaka*, 2. *Samudra lavana*, and 3. *Sámbara miṭha*.

CHLORIDE OF SODIUM—ROCK SALT.

Sindhava namaka संधव नामक *Mitha* (Bom.) *Sīndha lona* (Guz.) *Sendhā-lona*, *Sendha-nana* or *Sendha-nimaka* (Arab.) *Nemake sānga* (Pers.) *Sīndhava* (Sans.) Bay salt (Eng.)

Rock salt is said to be the best of all salts. It is found in nature in extensive beds, mostly associated with clay, and sulphate of calcium. When quite pure, it is called salgem. It can be obtained by digging holes into rocks, which soon become filled up with salt water. The water when evaporated, leaves the salt ready for use.

Characters: It may be found in small, white, crystalline grains, or transparent cubes. The colour is brownish white externally, and white internally. It has a pure saline taste, and burns with a yellow flame.

Preparations: Powder.

Actions and Uses: In small and medicinal doses, it is highly carminative, stomachic, and digestive. It promotes the appetite and assists assimilation. It is given in dyspepsia and other abdominal disorders. In large doses, it leads to great thirst, vomiting, and purging. Its purgative properties are probably due to the chloride of magnesium which it contains. When heated, it is used to foment painful, swollen, and such other parts.

Remarks: The word *Sīndhava* is derived from Sindh, a country along the Indus, where this salt is produced. *Sīndhava* is the principal or the first ingredient in the preparation known as *Lavana pañchaka* (the fine salt.)

- 122 ℞. *Sīndhava* 2, *Suvā* 2, *Kalañji* 1, *Mulānā bija* 1, *Gājara-nā-bija* 1, *Assālio* 1, *Vans lochana* 1, *Nishot* 1, *Nipālo* 1, *Jaggary* 5. Mix, add water 40, and make a decoction in the usual way.

Used in habitual constipation.

- 123 ℞. *Sīndhava* 8, *Suñtha* 8, *Pipalimula* 8, *Chitraka-nu-mula* 9, *Halāda* 8. Mix, and make a paste in water. Then add *Tila tela* 60, and boil the whole till all water has evaporated. Dose: Of the medicated oil *m. x* to *m. xxx*.

Used internally in rheumatism, lumbago, &c.; also applied externally with benefit to painful joints.

- 124 \mathcal{R} . *Siñdhava* 2, *Hiñgalo* 2, *Tila tela* or *Erañdi tela*, 5.
Mix, make a paste, and apply.
Used in colic and indigestion, as an application to the navel.

VADAVANALA CHURANA.

- 125 \mathcal{R} . *Siñdhava* 1, *Pipali mula* 2, *Pipali* 3, *Chavaka* 4, *Chitraka* 5, *Suñtha* 6, *Himaja* 7. Mix, and make a powder.
Used in anorexia.

LAVANA TRATI YADI CHURANA.

- 126 \mathcal{R} . *Siñdhava* 2, *Señchala* 2, *Sájikhára* 2, *Javakhára* 2, *Variáli* 3, *Vekhañda* 1, *Ajamoda* 3, *Tulasibija* 2, *Jiruñ* 3, *Sháhjiruñ* 2, *Miri* 3, *Pipali* 4, *Pipali mula* 5, *Hiñga* (baked) 3, *Kachorá* 1, *Venivela* 2, *Kálijiri* 3, *Suñtha* 2, *Chitraka* 1, *Váradiñga* 2, *Ámali* 1, *Dálimba-chhála* 3, *Nishota* 2, *Dáñtimula* 2, *Indrayána* 1, *Bhárañganu-mula* 2, *Chiraphala* 2, *Himaja* 3. Mix, and make a powder. To this add *Adra-ka-no-rasa* and *Máliñgá-no-rasa* to form a pill mass. Dose: grs. v to grs. 10.

Anupána : To be given in *Madha* or *Whey*.

Used in diseases of the liver, spleen, and kidneys; also in rheumatism, neuralgia, and constipation.

CHLORIDE OF SODIUM—SPC?

Samudra lavana समुद्र लवण *Mitha* (Mah.) *Mithuñ* (Guz.) *Loña*, *Nona*, *Namaka* (Hind. and Beng.) *Mitha mula huta a ajina* (Arab.) *Namake khurdám* (Pers.) *Sámudra lavana* (Sans.) Common salt, Table salt (Eng.)

Characters : It is a natural salt obtained from sea water. There are two varieties: *Dagadi Mitha* and *Bharadi Mitha*.

DAGADI MITHA is hard, crystalline, and of a dirty, brownish white colour. Its crystals are thick and larger than those of other salts.

BHARADI MITHA is a sun-dried salt of a white colour. The crystals are shining and small.

Preparations: Powder, and solution.

Actions and Uses: The dietetic value of this salt is well known. It is highly tonic, stimulant, digestive, and resolvent. When given internally, it increases the secretion of the salivary and gastric glands. It sharpens the appetite and promotes digestion of vegetable food. It excites thirst, and thus assists the liquid food for absorption. When taken in very large doses, it acts as an emetic and a laxative. Like rock salt, it is also carminative and a bitter stomachic. It is used in intermittent fever with enlarged spleen. It is also useful in checking hæmorrhage from the lungs. As a stimulant, tonic, and an alterative, it is very useful in scrofula. As a stomachic, it is useful in dyspepsia attended with decomposition of food. It relieves flatulence, colic, and diarrhœa in children, or constipation in adults. It is a popular remedy for lumbric worms. In diabetes, a watery solution of this salt is supposed to reduce both the quantity of sugar and urine. As a dietetic agent, it prevents alcoholic intoxication. Where the stomach is gorged with food, alcohol, or with any narcotic agent, this salt, with warm water, acts as an emetic and gives relief. Its solution is useful as a topical application in catarrh of the nostrils, œzema, and chronic diseases of the pharynx and larynx. It is useful as a wash in vaginal leucorrhœa, and pruritis vulvæ. When heated, it is a nice application for the relief of painful, swollen and such other parts. Its application cures colic, tooth-ache, muscular rheumatism, &c. In dysmenorrhœa, it is an excellent application to the hypogastrium. Salt water foot-bath is a remedy to relieve congestive head-ache. Its solution for the bath should never be strong, as it irritates the skin and often excites popular eruptions. Native women use it as a pessary to promote the menstrual flow. Sea bathing is the best form in which it is recommended for the cure of skin eruptions and for strengthening the body. Gargles of salt water are supposed to promote the separation of diphtheritic membranes. For the removal of ascarides from the rectum, an enema of salt water forms an excellent remedy. The powder of it is frequently employed as a *Dānta māñjana*.

Dose: As a tonic and alterative, *grs.* x to *grs.* xxx. As an emetic one to two table spoonfuls in a tumblerful of hot water. For pessaries, *grs.* x to *grs.* xv.

Remarks: The word *Samudra* means sea, and hence the salt produced from sea water is known as *Samudra lavana*. It is one of the ingredients of *Pañcha lavana*.

CHLORIDE OF SODIUM—Spc?

Savara mith सवरा मिठ *Sambhara lona, Sámbari mitha* (Mah.) *Sámbara-nona* (Hind.) *Goda lavana* (Sans.)

Characters : It is a variety of natural salt. It is obtained from the saline lake of Sambar near Ajmere. It is prepared by the salt water being collected in cavities, and then evaporated. It occurs in clear, translucent, rhomboid or square crystals, or in brownish white, or angular globules. In appearance its pieces resemble those of *Phataki*. The colour is greyish, brownish, or dirty white. It has a pungent or saline taste.

Preparations : Powder.

Actions and Uses : This salt is a laxative, diuretic, also slightly carminative and stomachic, and useful in dyspepsia.

Dose : grs. x to grs. xxx.

Remarks : *Sámbara mitha* is also known in the Bombay bazaar by the name of *Vadágru mithuñ*. It is one of the ingredients of *Lavana pañchaka*.

ARTIFICIAL SALTS.

These are *Sañchala* salt and *Bida lavana*.

Sanchala संचला *Sañchala* (Guz.) *Kálá mitha, Pádelona* (Mah.) *Sañchara* (Hind.) *Mithe-nifte* (Arab.) *Nimake-siyáh* (Pers.) *Sonavara chhála* (Sans.)

Preparations : Take of *Sámbara* salt 6 parts, *Ámalá* 2 parts, mix together, and expose the mixture for some hours to a strong heat of the sun. When cold, the salt is ready for use. Another method is to fuse together *Sáji khára, Ámalá*, and *Himaja*, equal parts.

Characters : As an artificial salt, it occurs in dark, shining granules which are very deliquescent. It has a mild, saline, and somewhat nauseous taste, resembling that of a compound powder of *Himaja, Mithuñ* and *Sáji khára*.

Preparations : Powder.

Actions and Uses : As a carminative and stomachic, it is used in enlarged spleen, dyspepsia, indigestion, and bowel complaints.

Remarks : It is one of the ingredients of *Pañcha lavana*.

- 127 \mathcal{R} . *Sañchala* 2, *Amali* 2, *Jirun̄* 2, *Miri* 2. Mix and add *Bijorá-no-rasa*, and make a pill mass.
Dose : grs. iii to grs. vi.
Used in colic and indigestion.

Bida lavana ब्रिद लवण *Bida lavana*, *Bida lona* (Hind.)

Preparations : Take of *Siñdha-lona*, *Mithun̄*, each 2 parts, and *Himaja* 1 part. Mix the whole, and make a powder.

Characters : It is an artificial salt. It occurs in flat pieces or crystalline masses. The colour is generally dirty white, with a shade of pink. It is pungent, and somewhat astringent in taste. When exposed to the air, it deliquesces.

Preparations : Powder.

Actions and Uses : These are similar to those of *Sámbara* and *Sañchala* salts.

Remarks : It is one of the ingredients of *Pañchaka lavana*.

- 128 \mathcal{R} . *Bida lavana*, *Dálimba chhála*, *Siñdhava*, *Suntha*, *Jirun̄*, *Pipali*, *Sañchala*, *Amali*, *Bijorá*, each one part. Mix and make a powder. To this add *Ghee* and *Curd*, each four parts. Boil the whole together.
Dose : dr. i to drs. ii.
Uses : The oil is given internally in colic, spurious pregnancy, &c.

PANCHA LAVANA—THE FIVE SALTS.

Pañchaka lavana, *Pañcha lona* (Mah.) *Pañcha lavana* (Sans.)

It is a compound preparation made up of 1 *Siñdhava namaka*, 2 *Samudra lavana*, 3 *Sámbara mitha*, 4 *Sañchala*, and 5 *Bida lavana*.

Characters : It is deliquescent, and exists as a powdery substance of a dirty grey or brown colour. The taste is very pungent.

Preparations : Powder.

Actions and Uses : It is antibilious and stomachic, and is used in colic, indigestion, and enlargement of liver and spleen.

- 129 \mathcal{R} . *Pañcha lavana* 5, *Amalá* 4, *Mañdura* 5. Mix, and make a powder. Dose : grs. x.
Used in dyspepsia, congested liver, &c.

SALINE EARTHS.

These include : 1. *Javakhára*, 2. *Navaságara*, 3. *Pápada khára*, 4. *Sáji khára*, 5. *Suro khára*, and 6. *Tañkana khára*.

Javakhara जवखर *Javakhára* (Guz.) *Jova-khára* (Arab.) *Yavakshára* (Sans.) Carbonate of Potash (impure) (Eng.)

In a crude state, it is found in all the three kingdoms of nature. In the vegetable kingdom, it is found either as carbonate of potash or as potash in combination with other organic acids. Plants absorb it from the soil, and when incinerated, their ashes give *Javakhára*. It is chiefly the product of ashes of plants growing in land. Succulent plants contain a larger proportion of it than the woody parts. The stalks of *Hordeum* (*Java*), and of the fully developed axis of the fruit of *Zea* may, when incinerated, give *Javakhára* in large quantities. In the mineral kingdom, it is obtained from rocks, where it exists as sulphates, nitrates, carbonates, and silicates. It is also found in the felspar of granite. It is an ingredient of various mineral waters. It is also obtained by fusing rock salt. Of the animal kingdom, it is an essential constituent. It is found in the milk, flesh, and urine of persons who take citrate or tartrate of potassium.

Characters : It occurs in flat, thin, white pieces like layers of *Kapura*. It is of a pinkish white colour, and rather deliquescent when exposed to the air. Each piece, when held before light, appears semi-opaque. It has no smell, but an extremely biting taste.

Preparations : Powder and solution.

Actions and Uses : It is an antacid, diuretic, resolvent, stomachic, and laxative. The administration of *Potash* and its salts with food, is requisite. *Javakhára* when given in small doses, acts as an antacid. It destorys the acidity of the stomach, and thus aids in the digestion of albuminous food, and in the absorption of fatty substances. In large doses, it increases the secretion of the alimentary canal, and renders the urine alkaline. When long continued, it acts as a resolvent and is said to impoverish the blood. As an antacid, it is given in cardialgia, acid eructations, and dyspepsia due to alcohol. It is generally given in combination with vegetable tonics. In uric acid diathesis, leading to gout and rheumatism, and in irritability of the urinary organs and uterus, it is given with opium with good results. As a resolvent and an alterative, it is given in induration, and enlargement of the lymphatic and secreting glands, as the breasts, testicles, mesenteric and scrofulous glands, also

of the liver, spleen, and salivary glands. As a stomachic and laxative, it is given to persons who are gluttonous in eating and drinking. As a diuretic, it is useful in dropsy. Locally, the solution is useful in chronic skin diseases, such as lepra, pityriasis, acne, urticaria, and lichen. Its application relieves itching in skin eruptions. In acne punctata, it is very useful. Its solution is added to baths to relieve gout and rheumatism, and to promote the growth of eruptions, if suppressed, as in measles, small pox, scerlalma, &c.

Dose : *grs.* x to *grs.* xxx.

- 130 *B. Java khára* 2, *Adu-no-rasa* 2, and *Lavaṅga* 1. Mix.
Anupána : To be given with *Pána*.
 Used in bronchitis.
- 131 *B. Java khára* 4, *Sīndhava* 5, *Sunṭha* 5, *Harade* 10. Mix,
 and make a powder. Dose : *grs.* x.
Anupána : *Ckhása*, *Cāñji*, or hot tea.
 Used in piles, dysentery, colic, &c.
- 132 *B. Java khára*, *Pápada khára*.
 Used in stranguary.
- 133 *B. Java khára*, *Sáji khára*, *Tañkaṇa khára*, *Pára kajali*,
Miri, *Sunṭha*, each 1, *Chitraka-chhála* 2, *Bháṅga* 6,
Madha. Make a pill mass. Dose : *grs.* x to xx.
 Used in vomiting, nausea, irritability of the stomach,
 and indigestion.
- 134 *B. Java khára* 4, *Atisa* 6, *Kákdá siṅgi* 4, *Pipali* 5,
Upaleta 3. Make a powder and give with *Madha*.
 Used in cough in children.

CHLORIDE OF AMMONIUM.

Navasagara नवसगर *Navaságara* (Guz.) *Navasádara* (Hind.)
Navaságara (Beng.) *Arminá*, *Mithunnára* (Arab.) *Noshádara* (Pers.)
Navasára (Sans.) *Salammoniac* (Eng.)

It is manufactured by sublimation from the soot obtained by the combustion of camel's dung or by burning coals, common salt, and animal matters. It is a secondary product in the manufacture of coal gas.

Characters : It is of a brownish white colour, or colorless. It occurs as transparent masses or needle-shaped crystals, arranged in longitudinal bundles which can be easily separated lengthwise. It is very tough and difficult to powder, readily soluble in water and highly deliquescent. It is free from odour, and has a cooling, saline, disagreeable and pungent biting taste.

Preparations : Powder and solution.

Actions and Uses : *Navaságara* is an alterative, aperient, diuretic, and cholagogue. It promotes cutaneous efflorescence in eruptive fevers. As a stimulant to the absorbent vessels, it is a valuable agent, in chronic or obstinate intermittent fevers. To restore secretions, and to improve their quality, it is given in bronchial and vesical catarrh that has passed through the inflammatory stage. In bronchial catarrh, it is combined with stimulant expectorants or given alone. It is also recommended in chronic pharyngitis with glairy mucous secretions, whooping cough, gleet, leucorrhœa, dysentery and other similar chronic discharges. It is a very good substitute for mercury. In amenorrhœa and dysmenorrhœa, chloride of ammonium is given with benefit. As an alterative it acts by slowly modifying the nutrition of the tissues, and thus becomes a useful agent in chronic inflammation of the lungs, and chronic enlargements of the thyroid body, liver, and spleen, and in induration of the uterus, ovaries and the prostate. It is very useful when given in urinary diseases, chiefly where the urine is full of lithates. In jaundice and hepatic colic, dropsy and costiveness, it is decidedly beneficial. Its prompt and energetic action in neuralgia of the 5th nerve, intercostal neuralgia, and sciatica is well known. In neuralgic headache it is often prescribed with good results. As an inhalation in affections of the air passages its vapours are very useful. Its solution, combined with nitre, is a nice cooling and stimulant application to the head in headache, mania and apoplexy ; for inflamed erysipelas and reduction of hernial tumours. It is a useful application for itch.

Dose : *grs.* x to *grs.* xv of the powder.

Lotion : One ounce of *Navaságara* to 20 ounces of water.

- 135 *℞. Navaságara 5, Bachanága 1, Tañkapa khára 4, Mastaki 2. Mix, and make a powder. Dose : grs. v to grs. vii.*

Anupána : Given with *Pána*.

Used in capillary bronchitis.

- 136 *℞. Navaságara dr. i, Anañta mula dr. v, Water oz. xx.*
 Boil, make an infusion. Dose: oz. i.
 Used in headache, tiedaulereau, chronic rheumatism,
 and chronic liver diseases.
- 137 *℞. Navaságara 2, Sáji khára 3, Triphalá 4, Upalsari mula*
5, Jámbu-no-rasa 40. Mix and keep the whole for
 15 days; when ready, it is fit for use. Dose of
 the *dáru* one to two tea spoonfuls.
 Used in constipation.
- 138 *℞. Navaságara 1, Kali chuno 1.* Mix, make a paste
 and apply to the temples.
 Used in headache.

CARBONATES OF POTASSIUM AND SODIUM—PEARL ASH.

Papada-khara पपडा खर *Pápaḍa khára* or *Kháro pápaḍio* (Guz.)

Preparations: The ashes produced during the combustion of inland plants and wood are lixiviated with lime and the solution allowed to evaporate. The resulting mass is called black salt. This is next ignited until all the combustible impurities have been burnt. What is left is known as *Pápaḍa khára*.

Characters: *Pápaḍa khára* is of a dirty white colour, and a pearly lustre. It occurs in irregular coral-like masses or small dirty looking pieces, resembling manna in appearance. The crystals are translucent, needle shaped and arranged in stars. In smell it faintly resembles powdered tobacco. The taste is alkaline, somewhat sticky and sweetish.

Preparations: Powder and solution.

Actions and Uses: It is a diuretic, cholagogue, also deobstruent. In jaundice, its powder mixed with curd or *Chhása* (whey) is given with benefit. Its solution is a useful application to glandular and other swellings.

Remarks: It is called *Kháro pápaḍio* or *Pápaḍa khára* on account of its being a constant ingredient in the preparation of *Pápaḍa*. The word *Kháro* means highly alkaline. *Pápaḍa* is a name given to a kind of thin and circular cake prepared of *Maga* or *Arada* flour to which *Hínga*, *Pápaḍa khára* and other carminatives are added.

- 139 B. *Pāpada khāra* 2, *Taṇkaṇa khāra* 2, *Chuno* 1, *Lasana* 1, *Gaṇdhaka* 4. Add *Limbu-no-rasa* and make a paste.

Used in ring worm.

CARBONATE OF SODA.

Saji khara सजि खारा *Sāji khāra* (Guz.) *Tile-milahulgile* (Arab.) *She khāra*, *Tine gāzur* (Pers.) *Sāji mīṭha*, *Sāji khāra* (Hind.) *Sarji kākā* (Sans.) *Barilla* (Eng.)

There are three varieties of carbonate of soda, each known by its peculiar characters. These are ; 1 *Sāji khāra* or *Barilla*, 2 *Sāji khāra-nā-phula* or washing soda, and 3 *Bāṅgaḍa khāra* or very impure carbonate of soda.

All these varieties are found in the ashes of chenopodiaceous plants found in a species of salt warts growing near the sea.

The plants are :—1. *Antrocuemum Indicum*, 2. *Caroxylon foetidum*, 3. *Caroxylon Greffethin*, 4. *Salicornia brachiata*, 5. *Salsola kali*, 6. *Snœda fruticosa*, 7. *Sodæ Indicæ*, and 8. *Sodæ nudiflora*.

The mode of preparation is as follows :—

The incineration is carried on during the month of October, and the three following months. The plant is first cut down, and then allowed to dry. A large hole is made in the ground of a hemispherical shape, about 6 feet in circumference, and 3 feet deep, and several earthen pots with holes in their bottom are placed in the pit. The dried plants are put in pots, and gradually burned. During incineration a kind of liquid runs down the vessels. After a time the residue is stirred by means of a flat piece of wood. This is then kept for three or four days, when the ash is ready for sale.

Characters : *Sāji khāra* occurs either in porous granular masses of a dark brown or ash colour, or as heavy hard pieces of a greyish white colour. In smell it resembles common ash. The taste is sharp, biting, alkaline, and resembles that of *Pāpada khāra*. It is used in the preparation of soap. *Sāji khāra-nā phula*, known as washing soda, is found in the market in large rhombic crystals. The colour is dirty grey. It is translucent. The taste is like that of *Mīṭhuñ*.

BANGADA KHARA : *Kāchalama* (Bom.) It is a very impure carbonate of soda containing a good deal of silica. It exists in irre-

gular masses, highly efflorescent. The colour is dirty grey. When exposed to the air, it changes to dirty white and becomes powdery. The taste is saltish. It is used for preparing glass bangles.

Preparations : Powder and solution.

Actions and Uses: *Sáji khára* is used medicinally as an antacid, stomachic, and alterative; also as a diuretic. As an antacid, it is useful in dyspepsia with vomiting, diarrhoea, and flatulence. It is an efficient remedy in urinary diseases, as uric acid gravel, and suppression of urine. In Bright's diseases of the kidney, with abundant sediment in the urine, and in diabetes, the habitual use of this salt has a marked beneficial effect. In rheumatism, and gout, *Sáji khára* is given internally with benefit. It is used in the form of a bath in lichen, prurigo lepra, and pityriasis. In herpes of the scalp, it is an efficient topical remedy. A saturated solution of it, is applied in burns, and scalds. A weak solution of it is injected into the vagina to check leucorrhœa.

- 140 B. *Sáji khára* 5, *Java khára* 5, *Suñtha* 4, *Pipali* 3, *Sañchala* 4. Mix and make a powder.

Anupána: To be given in hot tea.

Used in colic, indigestion, &c.

- 141 B. *Sáji khára* 4, *Chuno* 4, *Bávañchi* 4, *Morathuthu* 1, *Ghee* 4. Make an ointment.

Used in itch.

- 142 B. *Sáji khára*, *Java khára*, *Pañcha lavana*, all equal parts. Mix, soak the whole in *Limbu-no-rasa*, *Dálimba-no-rasa*, and dry. Make a powder.

Used in ascites, loss of appetite, dyspepsia with severe pain after meals.

- 143 R. *Sáji khára*, *Navaságara*, each 4 parts, *Limbu-no-rasa* 2 parts. Mix. To this paste add *Kariátū kuvátha* 4 parts, and Sugar 10 parts.

Dose: oz. i.

Used in jaundice.

- 144 B. *Sáji khára* 4, *Java khára* 4. Make a paste and apply. Used for opening abscesses and for the removal of local inflammatory swellings.

NITRATE OF POTASH—SALT PETRE.

Suro khara सुरो खारा *Suro khāra* (Guz.) *Shorāha* (Hind.) *Shora mitha* (Mah.) *Sorā* (Beng.) *Abagara* (Arab.) *Shoraba* (Pers.) Nitre (Eng.)

In warm countries large quantities of it are found in calcareous soil. It is said to be formed first in the deeper strata and then brought near the surface, where it is found either disseminated throughout the soil or as an incrustation. It is also obtained from plants by incineration and purification. The soil at first becomes impregnated with urine, animal ordure and decomposed animal and vegetable substances, with the result that it yields ammonia, various soluble salts, and in many cases, nitre. These are finally taken up from the earth by plants.

Characters: It is a natural salt of a brownish white colour and somewhat opaque. It occurs in striated six-sided prisms which are semi-opaque and highly deliquescent. It deflagrates if thrown into fire. When a piece of it is broken, the interior is found to contain liquid matter. It can easily be powdered. It has no odour. The taste is cooling, but not so saline and biting as that of *Navasāgara*.

Preparations: Powder and solution.

Actions and Uses: In moderate doses it acts as a refrigerent, diuretic, and diaphoretic, and as such is given in fevers. It acts on the vascular system, and thus reduces the frequency of the pulse. As a diuretic, it is often given in dropsy with some relief. Its fumes are highly beneficial in spasmodic asthma, with or without bronchitis. In thoracic inflammation its good effects are due to its promoting absorption of the effused products, and to its preventing coagulation of fibrin. Its solution is a good topical application for bruises and abrasions, and for the cure of freckles. Very large doses of nitre have been administered in rheumatism with benefit.

Dose: *grs.* x to *grs.* xxx.

Anupana: *Jīva-nu-pāni*.

145 **℞.** *Suro khāra* 2, Juice of *Mulā-nā-pātrāñ* 1.

Dose: *grs.* xxx.

Used internally in scalding and retention of urine, also in scanty urine.

146 **℞.** *Suro khāra* 5, *Taja* 4, *Harade* 3, *Pākhana-bheda dagadi* 3, *Elachi* 5, *Bhuikoholuñ* 10, Sugar 20. Mix and make a confection. Dose: *dr.* i.

Used in chronic gonorrhœa and gleet.

- 147 *B. Suro khára* 1, *Miri* 1, *Sañchala* 1. Mix and make a powder. Dose: *grs. x.*

Anupána: To be taken in lime juice.

Used in colic.

- 148 *B. Suro khára* 5, *Hiráksi* 1, *Naraságara* 4, *Gañdhaka* 4. Mix and make a powder. Dose: *gr. i.*

Used in bronchitis in children above 5 years.

BIBORATE OF SODA—BORAX.—SODA BIBORAS.

Tankana khara *ṭāṅkaṇa khára* (Guz.) *Sohágá, Tiñkala* (Hind. and Beng.) *Milahusrá gháha, Boraga* (Arab.) *Tiñkara, Tañkára* (Pers.) *Tañkanaha* (Sans.)

Preparations: Borax from China is of the best quality; it is there called *Poñcha*. It is found in a mountain lake situated at a considerable distance from the capital of Thibet. This lake is surrounded by hills. It has no stream of water either falling into it, or flowing out of it. The water in the lake is saltish, and contains both borax and common salt. At the edges and on shallow parts of the lake are found strata of this substance, which are dug up in considerable masses and exported for trade. In this crude state it is known by the name of *Sohágoor Tiñkala*. When refined it is called borax.

Characters: It is composed of boracic acid and soda. In the native state it exists as an impure saline incrustation of a greyish white or dirty white colour. It exists either as crystalline tough masses, or in the form of large, hard, translucent, flattened, irregular prisms. A piece of it when exposed to the air becomes at first covered with a greasy white unctuous substance. After a time the whole becomes opaque. It is easily pulverizable. On heating, it is converted into a white spongy mass, known as calcined borax. It has no perceptible taste at first. After a time its taste becomes sweet and somewhat alkaline.

Another variety of borax is known as *Telio Tañkaṇa khára*. It is an impure salt, met with in small pieces, or regular smooth six-sided prisms. The colour is greyish white and somewhat translucent. When exposed to the air, the colour becomes opaque or dirty white. It has a faintly balsamic odour, and tastes like *Pápada khára*.

Preparations: Powder, paste, and solution.

Actions and Uses: It is a powerful antiseptic and a mild refrigerent, diuretic, antifermentative, and an astringent. As an antacid, it is used in atonic and painful dyspepsia and diarrhœa. As an emmenagogue, it is given to promote menstruation. On account of its specific influence on the uterus, to stimulate and promote its contractions, it is given to promote labour, to lessen the pains of accouchment, and to expel the child and the placenta. It is given with benefit in cases where the lochia is suppressed. In the uric acid gravel, its use as a meresolvent is attended with good results. As a detergent its powder is applied to cracked nipples, and apthous ulcers of the vulva. In hoarseness of the throat, to which singing girls are liable, it is locally applied with benefit. In leucorrhœa and menorrhagia its injection with rose water is highly useful. In pityriasis vesicular (liver spots), or in chloasma, an application of borax solution is of great value. Native women use sticks made of borax to procure abortion. It is one of the ingredients in the preparations of expectorant electuaries.

Dose: *grs. v* to *grs. xv*. It should be largely diluted with water or syrup.

- 149 *B. Tañkaṇa khāra, Pára kajali*, each one part, *Bachanāga, Ādi bhashma, Sañkha bhashma*, each three parts, *Miri*, eight parts. Mix and triturate the whole for some hours. Add *Limbu-no-rasa* and make a pill mass. Dose : *grs. v* to *grs. x*.

Used to increase the appetite and cure indigestion.

- 150 *B. Tañkaṇa khāra, Bachanāga, Upaleta, Phataki, Pipali, Vavadiṅga, Lavaṅga, Jāephala, Kutaki*. Mix and make a pill mass in *Madha*.

Dose : *grs. ii* to *grs. v*.

Anupāna : To be given with *Pāna*.

Used in cough.

- 151 *B. Tañkaṇa khāra, Java khāra, Trikatu, Triphalā, Halāda, Pañcha lavana, Sonāmakhi bhashma, Vavadiṅga, Atisa*, equal parts, *Gugala*, equal in weight to all. Mix and make a pill mass.

Dose : *grs. iii* to *grs. v*.

Anupāna : Milk, *Cāñji*.

Used in gonorrhœa, rheumatism, heart disease, epilepsy, hysteria, &c.

- 152 R. *Taṅkaṇa khāra* 4, *Rājana* 3, *Miri* 2, *Akalakaro* 2, *Ġhaturá-ná-bija* 3, *Bachanága* 2. Mix, add *Madha*, and make a pill mass. Dose : grs. v.
Anupána : To be given in the juice of betel leaves (*Pána*.)
 Used in asthma.
- 153 R. *Taṅkaṇa khāra* 2, *Triphalá*, *Sunṭha*, *Pipali*, *Dháná*, *Ġiruṇ*, *Saṅchala*, each one part, *Hīṅgaḷo*, *Maṇḍura*, *Gaṇḍhaka*, *Miri*, each 2 parts, *Madha* 5 parts. Mix and make a pill mass. Dose : grs. v.
 Used in chronic bronchitis with profuse expectoration.
- 154 R. *Taṅkaṇa khāra* 5, *Isasa* 4, *Gugala* 3, *Kapura* 2, *Ġhaṇḍrosa* 3, *Kátho* 3, *Gaṇḍhaka* 5, *Sákara* 3, *Kuváriá-ná-bija* 4, *Morathuthu* 2, *Limbu-no-rasa* 5. Mix and make a paste or a pill mass.
 Used in ring worm.

NITRATE OF POTASH AND ALUM—RATANAJOTA.

Ratanajota रतन जटा (Guz.) *Chaṇḍrajotá* (Hind.)

Preparations : It is artificially prepared by fusing *Suro khāra* and *Phataki* together ; sometimes *Morathuthu* is added to it.

Characters : It is found in the shape of sticks of different colours, varying from yellow, brown and white to pink. The stick resembles a leech in shape and size.

Preparations : Sticks.

Actions and Uses : It acts as a collyrium for the eyes in ophthalmia.

Remarks : This drug is only to be had in particular shops or from dealers in *Āñjana*, *Kájala*, or *Surma*.

BANDHARO.

Bandharo बांधारो *Baṇḍhāro* (Guz. and Bom.)

Preparations : Take of *Māiyāṇ*, *Phataki*, *Sáji khāra*, or *Sāṅge ĵiráhata* equal parts. Mix, make a paste, and mould it in the form of round discs.

Characters : It is an artificial preparation and occurs in rounded or irregular flat discs of various sizes and of a brownish dark colour. It is hard, somewhat porous, and granular in appearance. In smell, it resembles dried blood. The taste is astringent, metallic, and alum-like.

Preparations : Powder.

Actions and Uses : It is an astringent, tonic, and diuretic, and is used in leucorrhœa, diarrhœa, and general debility. As a diuretic it is useful in gonorrhœa. A paste of it is locally applied to the abdomen in children to relieve flatulence.

Remarks : The word *Bāndhāro* means binding. It is a compound preparation made up of several astringent drugs, and used to check (literally to bind) loose or free and watery discharges.

LIME STONES—CARBONATE OF LIME.

Chalk चूना *Chāka* (Guz.) Chalk (Eng.)

Carbonate of lime exists in all the three kingdoms in nature. The known crust of the earth is composed of carbonate of lime. The inferior stratified and fossilised rocks contain it. It is known by different names. Its crystallized form is otherwise known as calcareous spar. The granular carbonate of lime occurs in beds and sometimes as entire mountains. Marble occurs in white, hard, crystalline masses and is useful in preparing bicarbonate of potash and soda. Chalk constitutes marine as well as terrestrial organic remains. Carbonate of lime is an ordinary ingredient of mineral and common waters. It also exists in plants and can be obtained by reducing them to ashes. In the animal kingdom, it is found in the hard parts of corals, and in oyster shells. The crusts which envelope crabs and lobsters are made of carbonate of lime mixed with phosphate of lime. In the bones of animals, they are met with in equal quantities.

Characters: Chalk occurs in irregular, white, amorphous pieces, sometimes as a powder. It is of various sizes and free from grittiness. The smell is somewhat earthy. It has a pungent, acrid, and caustic taste.

Preparations : Prepared chalk.

PREPARED CHALK : Reduce chalk to a fine powder, add water to make a paste, allow it to settle for a few minutes, and then remove the water. This process is to be repeated several times. The sediment left is a pure carbonate of lime free from soluble salines, and flinty and sandy matters.

Actions and Uses: Locally chalk is used as a dessicant, absorbent, and an antacid. Women use it to dust over their coarse and greasy skin. It is also useful in slight abrasions and burns, intertrigo of children, and erysepelous inflammations. In purulent discharges from ulcers, in combination with burnt cocoanut shell, it is highly useful in bringing about a healthy action and to lessen the discharge. Internally administered, it neutralises the free acid of the gastric juice. It is given in dyspepsia due to acidity of the stomach, and to check sour eructations. It is an antidote to poisoning by mineral acids. In gout with excessive uric acid, and in rachites with a deficiency of lime in the system, it is very useful.

Dose: *grs. v* to *grs. xx* of the powder.

QUICK LIME—CALX.

Kali chuno कैल चुनो *Kali chuno* (Guz.) *Kali-kā-chunā* (Hind. and Beng.) *Kilo* (Arab.) *Ahaka Nuraha* (Pers.) *Sudhā, Sudhā-kshāra* (Sans.) Unburnt lime (Eng.)

There are several medicinal substances of which lime forms a chief ingredient. These are : 1. *Kali chuno* (Quick lime), 2. *Chuno*, (slaked lime), 3. *Sāṅge-isama*, 4. *Gābhana* (silicate and sulphate of lime), and 5. *Sāṅge-yāhuda* (fossil encrinite.)

QUICK LIME: It is an alkaline earth and occurs in both the mineral and vegetable kingdoms. In the mineral kingdom, it is found in the form of carbonate, sulphate, phosphate, silicate, and biborate of lime. Fluor spar is a combination of lime with fluorine &c. In the vegetable kingdom, it is found in combination with vegetable acids.

Preparations: It is obtained by calcination, or by burning lime stone with coal or coke in a wind furnace known as kiln.

Characters: It exists in light lumps. It is of a dirty white colour externally, and white within. It slakes rapidly if water is poured upon it, leaving a white and very bulky powder. It is of a pungent, acid, and caustic taste, and slightly soluble in water.

Preparations: Slaked lime (*Chuno*), the water, *Chund-nu-pāni* (lime water.)

SLAKED LIME: it is the residue left after removing lime water. It is a soft white powder of a strong alkaline taste and reaction.

LIME WATER: It is obtained by pouring water on recently burnt lime. When vapour ceases to be disengaged, set it aside to cool. The supernatant liquor is lime water.

Actions and Uses : Quick lime shell, or unslaked lime is useful as a caustic. It is mixed with sulphuret of arsenic and used as a cure for indolent ulcers. As a depilatory it is used by tanners to remove hairs from hides. Women use it in combination with sulphuret of sodium, sulphuret of barium, or sulphuret of arsenic in the proportion of 3 to 1, to remove the hair from over the pubes or other parts. It is also a useful remedy to destroy nævi. It is a useful caustic application on the bites of rabid dogs. In neuralgic headache it is applied to each temple with relief. It is a useful application to painful and gouty joints. Slaked lime enters into the composition of numerous compound powders, used in the cure of dyspepsia. Locally, slaked lime is often applied to tumours and warts. Lime water is given internally in dyspepsia. It is given with milk to children in acidity of the stomach.

155 *℞. Kali chuno 2, Pápada khára 2.* To be made into a paste and applied.

Used in warts.

156 *℞. Kali chuno 2, Revañchino siro 3.* Mix and make a paste. Used in painful and gouty joints.

157 *℞. Kali chuno 4, Haratála 2, Palás pápaḍo 2, Mudára (Dudha) 3.* Make a paste.

Used as a depilatory to remove hair.

SULPHATE OF LIME.

Gabhana गभना *Gábhana* (Guz.) *Godānti Haratála* (Mah.) *Kárichiri* (Sindhi) Alabaster or Gypsum (Eng.)

Characters: In primitive form it occurs generally in long, flat, dirty white, transparent scales, crystals or regular four-sided prisms. It has a silvery and glittering texture. It is sometimes tinged grey and sometimes striped, veined or spotted. In this state it is never used for medicinal purposes.

Preparations : Powder.

POWDER: It is prepared by overburning and then grinding *Gábhana* ashes and is then known as Plaster of Paris or carbonate of lime.

Actions and Uses : Plaster of Paris is used to retain broken bones in a fixed position. In fracture of the limbs and ribs, and in diseases of the spine, it is a very useful remedy. Dentists make a household use of it. *Gábhana* ash is well rubbed in curd and then locally applied to painful and swollen parts, or to the chest with relief. Internally it is an astringent and antacid, and is useful in menorrhagia and acidity of the stomach.

Remarks : Natives suppose it to be a white variety of arsenic, and hence they call it *Godānti Haratāla*. The word *Godānti Haratāla* is derived from *Godānti* which means cow's teeth, and *Haratāla*, a Bombay name for sulphuret of arsenic. This drug bears a resemblance to cow's teeth in colour and appearance.

158 *B. Gábhana* 5, *Phatāki* 5, and *Gule aramāni* 4. Mix, make a paste in water and apply.

Uses : In inflammation round the ear, it is applied outside the ear; in otorrhœa, it may be dropped into the ear.

CHALK—A VARIETY OF CLAY.

Khadu खडू *Khadi-māṭi* (Guz.) *Khadi* (Hind.) *Kadi* (Pers.) Pipe clay (Eng.)

Characters : It is a white variety of common clay, and occurs in hard, heavy and irregular pieces, resembling chalk. The colour is dirty white. It stains the fingers. Its smell and taste are saline. It is very plastic and adheres to the tongue when touched with it.

Preparations : Powder.

Actions and Uses : These are same as chalk. It is used in the preparation of tooth paste.

Remarks : The name *Khadi māṭi* is derived from *Khari* or *Khadu* which means hard or stone-like, and *Māṭi* signifying clay. This clay is commonly used by natives to white-wash their houses and walls. It is called pipe clay because tobacco pipes are made of it.

SILICATE OF ALUMINA AND OXIDE OF IRON—BOLE RUBRA.

Geru mati गेरु माटी *Geru* (Guz. and Hind.) *Gile-surkha* (Pers.) *Maghrahā* (Arab.) *Gairika* (Sans.) *Geru* (Mah.) Red lumber stone, Ruddle, Reddle, or Red chalk (Eng.)

Characters : It is a clay iron ore and contains an excess of oxide of iron over any other clay. There are two varieties : bole and red ochre. The red ochre contains more iron than the bole and is used in medicine. Red chalk is of a blood or deep red colour. It sometimes occurs in powder, and sometimes as hard pieces. It has an earthy texture and stains the fingers when handled. It very rapidly absorbs water if poured upon it. On section, it is granular and consists of clay sprinkled with white particles of chalk. The taste is earthy, slightly astringent, and somewhat mucilaginous.

Preparations: Paste and powder.

Actions and Uses : It is an astringent, cooling medicine, highly recommended as a local application for burns, ulcers, boils, pustular eruptions, and sores about the mouth.

Remarks : There is another variety of *Geru máti* known as *Soná-geru*. This is found to be sprinkled with minute traces or particles of a golden colour. It is generally used by goldsmiths. It is dearer in price than and superior in quality to the *Geru máti*. It is also called in Sanscrit *Rakta plshána*. Under the generic name of ochre, several mixtures of calcareous and argillaceous earth, and oxide of iron are used. They are distinguished from one another by difference of colour, which depends upon the proportion of oxide of iron present.

SILICATE OF ALUMINA MAGNESIA & OXIDE OF IRON :

ARMENEAN BOLE.

Gul-e-aramani گولہ آرامانی *Gile-aramáni* (Pers. and Hind.)
Phula-geru (Mah.) *Tene aramáni*, *Hágramáne* (Arab.)

It is an argillaceous or calcareous mineral, often made into small cakes and stamped with certain impressions.

It is usually prepared by mixing pipe clay or common chalk with oxide of iron or red ochre.

Characters: It occurs in powder, or irregular pieces of a reddish brown or variegated colours. It is soft and somewhat heavy. On section, it is granular and sprinkled with white particles. The cut portion resembles a piece of rhubarb. When exposed to the air, it absorbs moisture very rapidly. If thrown into water, it readily crumbles into atoms. When put into the mouth, it sticks strongly to the tongue.

Preparations : Powder and paste.

Actions and Uses : It is a powerful absorbent and antiseptic. Internally the powder with cream is given in advanced cases of dy-

sentery. A paste of it is used externally as an application to inflamed and swollen glands, also to ulcers and raw surfaces. Pregnant women eat it to allay a craving for improper food.

Remarks: Another variety of *Gul-e-aramáni* is sold in the bazaar under the name of *Gul-e-mákhātuna*. It differs from *Gul-e-aramáni* in the pieces being larger. On section, the cut surface is homogeneously red. Preparations, actions and uses are similar to those of *Gul-e-aramáni*.

159 \mathcal{R} . *Gul-e-aramáni*, *Kálíjiri*, equal parts, *Subajá-no-rasa* q. s. Mix, make a paste and apply.
Used in Glandular swellings.

160 \mathcal{R} . *Gul-e-aramáni* 2, *Phataki* 4, and Rose water 10.
Mix and make a paste. To be given internally.
Used in scalding in the urine, and in running.

SILICATE OF ALUMINA AND LIME AND OXIDE OF IRON.

Gil-e-kibrasi ગિલે કિબ્રસી *Gil-e-kibrasi* (Bom. and Hind.)

Characters: It is a variety of clay. It exists in amorphous irregular masses, of a yellow colour. Each piece is made up of powdery granules. The surface, when touched, adheres to the fingers in a yellow powder. It is highly pulverizable. In smell it resembles *Mulatáni máti*. Its taste is somewhat astringent.

Preparations: Paste.

Action and Uses: These are similar to those of *Mulatáni máti*.

Remarks: This clay is used by natives as a paint (*Tiláka*) for their forehead.

SILICATE OF LIME.

Sang-e-yahuda સંગે યહુદા *Sāṅg-e-yáhuda* (Pers.) *Sāṅga-yahuda* (Hind. and Bom.) *Hajrata háu* (Guz.) Fossil encrinite (Eng.)

Characters: It is a fossil stone and occurs as a petrified, oblong, obtusely pointed fruit, sometimes with a stalk. It is about $\frac{1}{2}$ to $1\frac{1}{2}$ inch long. The surface is ribbed longitudinally; each rib is tuberculated. Externally the colour is dirty grey, traversed with dark brown furrows, and greenish white within.

Preparations : Paste and *Bhashma*.

PASTE : It is prepared by pouring boiling water on the stone and allowing the mass to cool.

BHASHMA : The stone is brayed in *Limbu-no-rasa* and incinerated.

Actions and Uses : It is considered to be very cooling and demulcent. It is given in gonorrhœa with benefit. As a drink, it is useful to check vomiting.

Remarks : It is erroneously supposed to be a star-fish of the order crinoidea.

161 B. *Saṅg-e-yáhuda bhashma*, brayed in lime juice. Make a paste and apply.

Used in vesicular eruptions in children, itch, ring worm, &c.

SILICATE AND SULPHATE OF LIME.

Sang-e-Isama संगे ईसम *Saṅg-e-Isama* (Pers.) *Saṅg-e-Isama* (Hind.) *Saṅg-e-Isama* (Bom.)

Characters : It is a kind of marble which occurs in the form of a closed book. It is of various sizes, of a dark brown colour, polished smooth, and mottled with light red spots ; when cut into, the interior is of a deep grey colour, and looks as if sprinkled with particles of mica.

Preparations : Paste.

Actions and Uses : Brayed in water, it is used as a diuretic and lithontriptic. It is given in retention of urine and in diseases of the urinary organs. Externally it is applied as a cure for itch and other chronic skin diseases.

Remarks : It commands a high price in the Bombay bazaar, the price varying with the form of its crystals &c.

SILICATE OF LIME—A VARIETY OF LIME STONE.

Sang-e-sira-mahi संगे सीरमही *Saṅg-e-sira-máhi* (Bom. and Hind.)

Characters : The stone resembles in colour, form and appearance, human incisor teeth. Externally it is shining, glabrous, and of a brownish white colour. Its both surfaces are convex. It is broad at one end, and obtuse at the other.

Preparations : Paste.

Actions and Uses: These are similar to those of *Sāṅg-e-Isama*.

Remarks : The word *Sāṅg-e-sira-máhi* is derived from *Sāṅga*, a stone, *Sira*, a head, and *Máhi*, a fish. This is in allusion to the stone supposed to be found in the head of the fish.

SILICATE OF MAGNESIA—SOAP STONE.

Sanga-jirun साङ्ग जिरुन् *Saṅkha Jirun* (Guz.) *Sāṅge jeráhata* (Pers. and Hind.) *Shaṅkha jiri* (Mah.)

Characters: It is of a brownish white or grey colour, and occurs in flat irregular pieces, or thick masses, which are very smooth and unctuous to the touch. It has the appearance of soap. It is insoluble in water, tasteless, easily pulverizable, and yields a soft slippery powder. On section, the cut surface is silvery, shining, and granular.

Preparations : Powder and paste.

Actions and Uses : It is a powerful astringent, and styptic. With milk cream or *Lála khāṇḍa*, it is used internally in dysentery, also to check mucous stools, profuse menstruation, and leucorrhœa. Locally it is applied to syphilitic sores and ulcers, and is used to check bleeding from the nose and wounds. A paste of it is applied with *Chhása* to burns and scalds with benefit.

Remarks : The word *Sāṅga jirun* is a corruption of the Persian name *Sāṅge-jeráhata* which means a styptic stone.

162 B. *Sāṅga-jirun* 5, *Chini kabába* 4, *Elachi* 4, *Tabáshira* 5.
Mix, and make a powder. Dose : grs. x to
grs. xv.

Used in gonorrhœa, dysentery, menorrhagia, &c.

163 B. *Saṅkha jirun* 5, *Hīṅgaló* 2, *Bodára sāṅga* 2, *Kapilo* 3,
Limadá-ná-pátrān 4, *Mina* 10, and *Tila tela* 20. Mix,
and make an ointment.

Used in foul ulcers, chancres, &c.

164 B. *Saṅkha-jirun* 5, *Kátho* 1. Mix, add *Ghee*, and apply.
Used in syphilitic ulcers, and sores.

SILICATE OF MAGNESIA AND IRON—BEZOAR STONE.

Zera moharo ઝેર મોહરો *Zera moharo* (Guz.) *Pedaru bazúra* (Hind.) *Pouzera mádani* (Bom.) *Fádaje mádani*, *Badzahre mádani*, *Hajrussama* (Arab.) *Pádzahre-káni* (Pers.) *Kánizahra mohráha* (Hind.) *Klíní-pás-zehara* (Duk.)

Characters : It is a variety of soap stone, and occurs in very irregular and angular pieces of various shapes. The size is variable. It resembles marble or other blue colored stones. The colour varies between white and green or yellowish green. It is generally pale green with one or two shades of yellow. The surface is generally rough. It is found in layers. The structure is amorphous. The taste is astringent. The smell resembles that of pipe clay.

Preparations : Paste.

Actions and Uses : It is a nervine tonic, deobstruent, and astringent. It is used in cholera, obstinate vomiting, diarrhoea in children, and in profuse or troublesome menstruation. A paste of it is used as a gargle in salivation.

Remarks : The green colour of this stone is due to the presence of protoxide of iron. It is cut into various forms, oblong or oval, and thus made to resemble animal bezoar.

Two kinds of bezoar are sold in the bazaar. They are known as *Pádzahre káni* (mineral bezoar,) and *Pádzahre Haiváni* (animal bezoar.) *Padzahre Haiváni* is a gall stone from camel or other ruminating animals.

ASPHALTUM PUNJABINUM—BITUMEN JUDAICUM.

Silajita સિલાજિતા (Guz.) *Silájita* (Bom.) *Silájita* (Sans.) Asphaltum, Jew's pitch (Eng.)

Characters : *Silájita* literally means, lac or exudation from stone. It is a residue or tar in a fossil state. It consists of paraffin, iron, and solid bitumen. It is a kind of metallic earth, and exists as a dark sticky and unctuous substance. It melts easily with heat and burns sometimes without leaving any ashes. Its taste is bitter. In smell it resembles cow's stale urine. It is supposed to be an exudation from rocks, or a mineral pitch or tar, formed in the earth from the decomposition of vegetable substances.

Preparations : Paste, and *Bhashma*.

SILAJITA PASTE is thus prepared. Macerate *Silājita* in the juice of *Kadu nimado*, *Gulavela*, or *Ghee*.

SILAJITA BHASHMA: Take of *Silājita*, *Gāndhaka*, *Haratāla*, equal parts. Mix together and triturate in the juice of *Bijorūn* and roast.

Actions and Uses: It is said to be an alterative, tonic, aphrodisiac, and an emmanagogue. As a diuretic, it is given in retention of urine, scalding due to gravel, gonorrhœa, also cough, consumption, &c. As a tonic, it is often given in anæmia, general debility, diabetes, leucorrhœa, &c. It is also useful as an antispasmodic to relieve colic, and flatulence. It causes uterine contractions, and thus promotes expulsion of the dead foetus. Its suppositories are useful to remove ascarides from the rectum. Locally it is applied to relieve rheumatic pains in joints, and as an embrocation in paralysis, contusions, sprains, &c.

Dose: Of the *Bhashma* gr. i.

Anupana: *Pipali* and *Elachi*.

Remarks: *Silājita* exists in several different conditions. The semifluid sorts are distinguished as petroleum, naphtha, and rock oil. The solid bitumen is distinguished as *Asphaltum*.

165 R. *Silājita* 2, *Gugala* 3, *Pipali* 4. Make a powder.

Dose: grs. ii to grs. v.

Anupāna: *Dashamuladikuvātha*.

Used in paraplegia.

166 R. *Silājita* 2, *Loha bhashma* 2, *Moti bhashma* 2, *Trikatu* 3, *Triphalā* 4. Mix and make a powder.

Used in general debility, leucorrhœa, diabetes, &c.

167 R. *Silājita* 2, *Gokharu* 5, *Madha* 2. Mix and make a pill mass.

Dose: grs. x to grs. xv.

Used in urinary diseases and scanty urine.

SILICATE OF ALUMINA.

Gopichandana ગોપીચંદન *Gopichāṇḍana* (Bom.) *Pānisoka* (Hind.)

Characters: It is a kind of clay. As met with in the bazaar, it is found in pieces of various shapes, sometimes in the form of dice

or round balls, sometimes as two curry dishes one covered over the other. It is of a greyish brown colour. On section, the cut surface resembles *Mulatāni māṭi*, but like it, it is not stratified. The taste is earthy and peculiar. The smell resembles that of *Mulatāni māṭi*. Water poured upon it, is soon absorbed.

Preparations : Paste and powder.

Actions and Uses : On the supposition that drying promotes the healing of ulcers, a paste of it made in rose water, is useful as a cooling application to inflamed boils, and to the forehead in headache. It is used locally as an absorbent of unhealthy discharges from wounds and ulcers.

Remarks : The word *Gopichaṇḍana* is derived from Gopi, a lake near Dwarika, and *Chaṇḍana*, sandal wood. It is a kind of clay which is brayed in water, and like *Chaṇḍana*, used by the Hindus as a *Tilāka* on their forehead. The word *Pānisoka* is derived from *Pāni*, water, and *Soka*, an absorber. This clay is an absorber of water. What is sold in the bazaar under the name of *Panisoka* is a clay of a greyish white colour.

SILICATE OF ALUMINA—A VARIETY OF CLAY.

Mulatani mati गुलाबी मट्टी *Gile mulatāni* (Pers. and Hind.)
Meta (Sindhi.)

Characters : It occurs as pieces of porous clay of a light greenish brown colour, sprinkled with yellow. Each piece consists of a number of flat stratified layers. Its smell resembles that of *Geru māṭi*. The taste is very mucilaginous and astringent. It readily absorbs water when poured upon it, and becomes converted into a gritty powder.

Preparations : Powder and paste.

Actions and Uses : As an astringent and refrigerent, the paste is applied to the forehead and nose in bleeding from the nose. As a deobstruent, it is applied to inflammatory swellings and swollen glands. As a nice antacid, it is given with sugar to pregnant women, and to others in acidity of the stomach. As an astringent, it is a useful local remedy in leucorrhœa.

OSTEO COLLA—A STALACTITES OF CARBONATE OF LIME.

Mamai ममई *Mamai*, *Mumbara* (Guz. and Hind.) *Arkula-jib-bala* (Arab.) *Mumeah* (Pers.) *Lapis sabulasus*, Bone binding stone (Eng.)

Characters : It is supposed to be fossilised tar. It occurs in flat dark pieces, or sometimes as an ointment-like sticky substance. It smells like dammer.

Actions and Uses : It is a local stimulant, and is used as an external application to violent sprains and contusions. Broken bones are said to unite when it is taken internally and applied to the parts.

Remarks : *Mamai* is supposed to be an exudation from mummies ; the exudation is derived from the substances used to embalm the bodies. Some believe that *Mamai* is obtained by frying embalmed bodies. *Osteo colla* literally means essence of stone.

THE ANIMAL KINGDOM.

Various agents from the animal kingdom are in constant use as medicine. For convenience of description, they are divided into: 1. Vertebrate animals, 2. Molluscous animals, 3. Radiated animals, and 4, Articulated animals.

VERTEBRATE ANIMALS include mammals, birds, reptiles, and fishes. The products obtained from the human body for use as medicine, are human milk and human urine. Human milk is considered nutritious. Human urine, if drunk, is considered to be highly strengthening. Birds of prey are killed, their flesh and bones roasted, or made into an extract, and used as medicine owing to their nutritious properties. An essence of dove's flesh is given as a very useful tonic, in paralysis. The whole bird is often used as a poultice application, for the relief of painful bruises, and dislocations. In cases of snake bites, the anus of living cocks or hens is firmly held over the bitten part, where the poison is supposed to be absorbed and the cure effected. Whirling a hen round the bed of a sick person, or over the head or round his whole body, is a common practice among superstitious people, who believe in the cure of fevers by such a remedy. Various parts of animals are in frequent use as remedial agents. These include eggs, fat, flesh, bones, horns, skin, and even the skeleton; also various secretions and excrements, as milk, bile, urine, and dung. Fat from camel or *Shāhamurga* (the ostrich), is a valuable local remedy in cases of painful rheumatic or gouty joints. Goat's urine is given internally as a laxative and diuretic. Cow's urine is used both externally and internally. It is also used in the preparation of medicated oils, various decoctions, &c. In the purification and roasting of metals, its use is well known among Hindu *Vaidas* and Unāni *Hakimas*. Cow's urine is given in congestive fever with constipation. White dung of the domestic cock is considered beneficial in colic. The slough of the serpent, known as *Sāpani klānchari*, is supposed to possess healing properties. It is also used in preserving hair from hoariness. Serpent poison *Sāpano garala* is used in Hindu medicine in jaundice, dropsy, &c.

THE MOLLUSCA: The flesh is considered light, sound, and nutritious. Cuttle fish bones are used in medicine. Garden snails (*Alāna* or *Arāsīdān*) fried in *Ghee*, are generally recommended in lung diseases, diseases of the air passages, and in seminal debility. Oysters and oyster-shells are used as medicine.

THE ARTICULATA : These include earth worms. They are found everywhere. They are incinerated, and their ashes used to preserve hair from hoariness. With wine, the ashes is given as a drink in breaking vesical calculi. Leeches also belong to this division. Their description is separately given. Cobwebs, *Jāruñ* (Guz.), of the common house-spider, *Karoliā* (Guz.), is a useful application for stopping hæmorrhages. It is also used as a cure for epiphora. Among the insects, the bed-bug, *Mākāda*, *Matakoona* (Hind.), cimex lectularius is believed to cure chronic quartan fever. Cochineal, lac insects, honey bee, silk-worm, &c. are all separately described.

RUMINANTIA.

LACTUS—MILK.

Dudha दूध *Dudha* (Guz. and Hind.) *Dugdha*, *Kshira* (Sans.) *Shira* (Arab.)

Characters : It is an opaque, white, emulsive fluid. In taste it is bland and sweetish. The odour is faint and peculiar. When fresh it is slightly alkaline. Its principal constituents are caseine, butter, and sugar of milk.

Preparations : Cream butter, skimmed milk, butter milk, curd, cheese, whey, and *Ghee*.

Milk, if allowed to stand for some time, separates into butter globules, which rise to the surface, carrying with them some caseine, and retaining some of the serum, thus forming what is called cream butter. The oil globules, or butter alone, can be separated from caseine, by repeated processes of trituration and churning of cream. Pure butter is soluble, both in alcohol and ether. It is lighter than serum, and hence it floats in it, and remains separate. Milk from which cream is separated, is known as skimmed milk. Butter milk is a residue of caseine, serum, and a trace of butter left after the butter is removed by churning. Curd, *Dahi* (Bombay), *Dadhi* (Sans.), consists of white coagula, which, when the milk is allowed to stand for some time, are separated and become slightly acid. The addition of any acid, lime juice, or rennet, to milk, facilitates its fermentation, and the caseine of milk separates as a thick, acidulous, jelly-like mass. Cheese, *Panira* (Guz.), is salted curd, pressed

and dried. It is recommended in dysentery, fever, &c. Whey, *Chhāsa* (Bom.), *Takra* (Sans.), *Tāka* (Mah.), is the watery portion of milk, left after the caseine or curd is separated. Whey when evaporated, yields sugar of milk, one or two nitrogenous elements, lactic acid and salts. *Ghee* is clarified butter, prepared by boiling butter over a slow fire.

Actions and Uses: Milk is stimulant, nutritive, and vitalizing. It is also demulcent and emollient. It is useful in relieving irritation of the respiratory and digestive tracts or organs. It is a very useful and effective remedy in poisoning by *Rasa-kapura*, *Morathuthu*, and even by corrosive acids. As an emollient, it is frequently used as a vehicle to poultices. Women use it as an embrocation to clear the skin and complexion of children. They first apply it, and within half an hour it is followed by a warm bath. Milk is derived from various sources, and its therapeutic actions vary. Cow's milk is pleasant to take, very wholesome, nutritive, strengthening, and increases the secretion of semen. Buffalo's milk is sweeter than cow's milk, but heavier to digest. When taken in large quantities, it induces sleep. With some persons it causes purging. Goat's milk is sweet and astringent. It is very invigorating, promotes appetite, and is useful in phthisis, chronic diarrhœa, and vomiting in children. Ass's milk is easily digestible. It is rather saltish, and is useful in general debility, high coloured and scanty urine, &c. Camel's milk is light, sweet, somewhat laxative, and useful in dropsy, asthma, and general scrofulous conditions. Human milk is light, nutritive, and strengthening. In China, those suffering from chest diseases, suck women with relief. In eye diseases, human milk is recommended as a collyrium.

Butter is a tonic, astringent, and stomachic. It is used with *Saṅga-jirūṇ* in dysentery, with *Sākara* in piles, paralysis, and phthisis. Locally it is applied over the leaves of *Ākdā*, *Sāmudrasosha*, &c., and used as *Varaliāṇs* or soothing applications over the abdomen in colic. Plantain leaves, besmeared with butter, are used as a coating over burnt or blistered surfaces. Whey is highly useful in phthisis, dysentery, and diarrhœa; it is also recommended in jaundice where it is given with *Pāpada khāra*. Curd is agreeable, digestive, and cooling. In large doses, it causes biliousness and catarrh. With *Dālimba chhāla* or *Saṅga-jirūṇ* it is given in diarrhœa or dysentery in children. It is also useful in fever and urinary disorders. *Ghee* is considered as a cooling, emollient, and stomachic. It increases fat, and improves the voice. In the preparation of medicated oils, *Ghee* is much used. Internally it is given with *Madha*, *Sākara*, and with mineral ashes or

Mātrās in tympanitis, painful dyspepsia, and retained secretions. It is dropped into the nose in coryza, and applied to the face to improve complexion and impart beauty. *Ghee-no-pola* is useful as an application in eye diseases. In strong fevers, the body is anointed with an emulsion of *Miri* and *Ghee*. After the application, in about half an hour, the patient takes a tepid bath, after which he is allowed to sleep on a bed covered with *Kamala-nā-pāna*.

BOS TAURUS—BEZOAR.

Gaurochana ગાઉરોચન *Gaurochana* (Guz. and Mah.) *Gáirohana*, *Garochana* (Hind.) *Gaurochana* (Sans.) *Hajarulabagara* (Arab.) *Gáva zahraha* (Pers.) Gall stone or biliary concretion of a cow or bullock (Eng.)

Characters : It is a concretion found in the gall bladder of an ox or cow. It would resemble a piece of rhubarb, but for the peculiar arrangement of its structure which is laminated, the laminae being concentrically arranged. The layers vary from brown yellow to dark. *Gourochana* occurs in a more or less spherical form. It is dark, brown, smooth, shining externally, and corky looking internally. It is of different sizes varying from a soap nut to a large nutmeg. It is light, and can be easily broken between the fingers. Its taste is bitter. The smell resembles that of dried bile.

Preparations : Powder and paste.

Actions and Uses : It is a laxative, antispasmodic, cooling, and aromatic. It is used in convulsions, hysteria, spasmodic diseases, intestinal disorders with deficient secretion of bile, and abortion. It is given to infants (in small doses) as a laxative with benefit. It enters into the composition of some medicines used for skin diseases.

Dose : *grs.* v to *grs.* x.

Remarks : The Hindus use it as a *Tilāka* to their God Vishnu. The word *Gau-rochana* is derived from *Gau*, which means a cow, and *Rochana*, a digestive juice or bile. It means an inspissated digestive juice of a cow. The juice is similar in properties to the digestive agents known as pepsine, pancreatine, &c.

Pluzahara (*Zenāma* or *Hevāni*) is an animal bezoar which fetches any fanciful price. It occurs in oblong pieces, very dark, and highly polished or shining. It is used for the same purposes as *Gaurochana*.

CERVUS ELAPHUS.

Sambarasinga सांबरसींग *Sábara siṅgadun* (Guz.) *Mraga shrīṅga* (Sans.) *Bārā siṅga* (Hind.) Stag's horn (Eng.)

Characters: The horn consists of three anterior antlers, all curved upwards. It is heavy, hard, of a light, dark brown, or a pale yellow colour, generally marked with longitudinal ridges, which are irregularly tubercled. On section, the interior is porous. It is hard and compact at the margin, and of a light or dark brown colour. When freshly cut, its smell resembles that of burnt sugar.

Preparations: Paste and *Bhashma*.

SAMBARASINGA BHASHMA is prepared by burning the horn in an open fire, or by its pieces being soaked in the milky juice of *Ākado*, and then roasted.

Actions and Uses: *Sámbarasiṅga* is an astringent, local sedative, nutritive, tonic, and restorative. Its paste is given internally in dysentery, and locally applied with stimulating ingredients to sprains, contusions, cracks and fissures, and to the forehead in headache. It is a useful remedy for the relief of rheumatic pains, and itching in chronic skin diseases. As a tonic and restorative, the *Bhashma* is given internally with honey in cough, asthma, consumption, weak heart, swelled testes, enlarged glands, and seminal debility.

MOSCHUS MOSCHIFERUS.

Kasaturi कासतुरी *Kasaturi* (Guz. and Mah.) *Mashka kasaturi* (Hind.) *Mishka*, *Mushka* (Arab. and Pers.) *Mraganábhi*, *Mraga mada*, *Kasaturi* (Sans.) Musk bearing animal (Eng.)

Characters: Musk is an inspissated and dried secretion from the preputial follicles of the musk animal. It occurs in irregular, reddish black, slightly unctuous grains, having a very strong diffusible odour, and a bitter, aromatic taste. It is chiefly imported from Nepal as round or oval sacs covered on the outer side with stiff greyish hairs, which are arranged round the central orifice. It contains an odorous principle, albumen, salts, and fatty matter.

Preparations: Powder, confection, and pills.

Actions and Uses: When first taken, its effects are to stimulate the vascular system and the brain. After a time, it acts as a narcotic. Its effects are more manifest in excitable and nervous

persons than in others. It is also an antispasmodic, expectorant, aphrodisiac, diaphoretic, and diuretic. It is used in brain affections, which are generally atonic. By its use, sleep becomes refreshed, spasms are relieved, and perspiration sets in, the pulse improves, becomes regular, more full, and less frequent. When taken for a long time, its presence may be detected in the sweats, milk, and urine. It is very frequently given in low typhoid conditions, as collapse of delirium tremens, coma, typhoid pneumonia, and in eruptive typhoid, and typhus fevers. In the advanced stage of cholera infantum, its good effects are due to its preventing effusion upon the brain. In spasmodic diseases, such as hiccough, spasmodic croup, whooping cough, chorea, and hysterical convulsions, it is very beneficial. In mental and bodily fatigue, leading to sleeplessness, musk is a useful remedy. In seminal weakness and impotence, it is highly prized as an excitant of the sexual organs. It should never be given where there exists a determination of blood to the brain, or where there is any organic complication. In metastatic gout, where the disease affects the stomach or the head, musk gives immediate relief.

Dose : *gr.* 1/10 in adults; *gr.* 1/40 to *gr.* 1/60 in children.

Remarks : Pouches filled with musk are met with in the bazaar. In them sometimes dry earth, dried bullock's blood, caustic ammonia, and other substances are found admixed.

- 168 *℞. Kasaturi dr. ½, Suñtha drs. ii, Hiñga drs. iv, Kálámiri drs. ii.* Mix and reduce the whole to a fine powder.
Dose : *grs. x* to *grs. xx.*

Used in spasmodic and convulsive affections, such as asthma, hysteria.

- 169 *℞. Kasaturi 1, Hiñgalo 2, Bachanága 2, Tañkana khára 4, Jáephala 3, Jáepatri 3, Kálámiri 5, Pipali 5.* Mix, add *Madha 28*, and make a pill mass.
Dose : *grs. ii* to *grs. iv.*

Used in low fevers, coma, muttering delirium.

- 170 *℞. Kasaturi 1, Válo 5, Lavañga 5, Ambara 1, Soná varakha 2, Madha 28.* Mix, and make a pill mass.
Dose : *gr. i* to *grs. ii.*

Used in colliquative sweats.

CERVUS DAMA.

Harana singa हारणसिंग *Mriga srīṅga* (Sans.) Hart's horn (Eng.)

Characters : *Harana singa* used in medicine, in the form of a powder, is of a white colour. It is without odour or taste. It contains phosphate of lime.

Preparations : Powder.

POWDER is prepared by burning hart's horn, and then reducing the ashes to a fine powder.

Actions and Uses : The powder is nutritive and demulcent, and is given internally in painful affections of the joints, also in pleurodynia, cardialgia sciatica, lumbago, &c.

Dose : grs. xv to grs. xxv.

Anupana : Butter, milk, cream.

CARNIVORA.

VEVERRA CEVETTA.

Ladana लदना *Lādana* (Bom.) *Gaṇḍha marajāra* (Sans.) *Khātise* (Beng.)

Characters : It is the pouch of the civet cat, and contains an odorous secretion. The odour resembles that of *Anūradāna* or *Gurāko*. The pouch is situated between the anus and the genitals. It is a dark colored, unctuous, and lumpy mass. It resembles *Rasavanti* in appearance. It consists of a homogeneous extract, mixed with small hair, fibres, and pieces of wood.

Actions and Uses : It is used as a stimulant, and antispasmodic, like musk; but it is an inferior substitute.

Remarks : It is seldom met with in the bazaar. The spurious one is sold under the name of *Ambara-no-kacharo*. The Sanscrit word *Gaṇḍha marajāra* is derived from *Gaṇḍha*, which means odour, and *Marajāra*, a cat. This is in allusion to the drug having an odour resembling that of amber; and being a produce obtained from the cat.

PACHYDERMATA.

PROBOSCIDIANA—THE ELEPHANT.

Hathidanta हाथिदांत *Háthi-ná-dānta* (Guz.) *Hasti dānta* (Sans.)
The Elephant tooth. (Eng.)

Characters : *Háthi-no-dānta* is too well known to need any description.

Preparations : The ashes.

THE ASHES : is prepared in the same way as *Sábarasiṅga bhashma*.

Actions and Uses : The powder is supposed to act as an astringent in leucorrhœa. It is also given in jaundice, and to remove sterility in females. It is the article known as ivory of commerce.

171 B. *Háthi-ná-nakha* 2, *Morathuthu* 1, *Kesara* 3. Mix, make a paste in milk, and apply.

Used in conjunctivitis.

RODENTIA.

CASTOR FIBER (CASTOREUM.)

Zande-bidastara زانده بيداستاره *Kalabula-bahra* (Arab.) *Kuñde-bidástara*, *Ashabachayana*, *Kháyahe-saga-ábi* (Pers.) *Juñdo* (Hind.)
The beaver (Eng.)

Characters : As met with in the bazaar, it is a resinous product, which consists of a dried secretion from the preputial follicles of the beaver, or from the two sacs situated near the anus. It is generally separated from the oil sacs. When fresh, it is of a flesh colour. After drying, it becomes brown or black. Its odour is pungent, and resembles that of cat's urine. The taste is acid and bitter. It consists of a volatile oil, resin, castorin, and saline matters.

Preparations : Paste and confection.

Actions and Uses : It acts as a stimulant to the exhausted nervous system. As an antispasmodic, it is useful in hysterical

paroxysms. It has a specific influence over the uterus. It is given in uterine colic, scanty menstruation, also in epilepsy, catalepsy, tympanitis, muscular tremors, and other typhoid symptoms. It is less efficient in its actions than *Kasaturi*, *Jatámanasi*, *Kapura*, or ether.

Dose: *dr.* $\frac{1}{2}$ to *dr.* 1 in powder or in pill.

- 172 *℞. Zañde bidástara dr. i, Keradamáná dr. i, Kiramáne ová drs. iii, Gájarabija drs. iii, Tagara dr. i, Madha ozs. ii.* Reduce the ingredients to a fine powder and make a confection. **Dose:** *dr.* $\frac{1}{2}$ to *dr.* 1.

Used in flatulence, colic, spasmodic affections, &c.

- 173 *℞. Zañde bidástara 2, Khorásáni ajawána 4, Hirábola 2, Anisuñ 4, Pipali 4, Suñṭha 3, Afima 1.* Reduce these to a powder. **Dose:** *grs.* xx to *grs.* xl.

Used as an antispasmodic in colic, ileus, and spasmodic diseases.

- 174 *℞. Zañde bidástara 2, Ajamoda 8, Anisuñ 8, Ghárikun 4, Taja 3, Aphsántina 4, Kálámiri 4, Afima 1.* Reduce these to a powder. **Dose:** *dr.* $\frac{1}{2}$ to *dr.* 1.

Used in colic, ileus, and spasmodic diseases.

- 175 *℞. Zañde bidástara grs. x, Pipali grs. vi, Suñṭha grs. vi.* Mix and add mucilage to make a pill mass.

Dose: *grs.* ii to *grs.* iii.

Used as an antispasmodic, in hysteria, colic, &c.

- 176 *℞. Zañde bidástara dr. i, Dárunaja-i-akrabi drs. ii, Jatámanasi drs. ii, Madha grs. xxv.* Mix, reduce to a fine powder, and make a confection.

Used in hysteric, flatulent, colic, and spasmodic affections.

CETACEA.

PHYSETER MACROCEPHALUS—SPERMACETI WHALE.

Ambara آمبار *Ambara* (Guz.) *Sahabula* (Pers.) Ambergris (Eng.)

Characters : It is obtained from the sperm whale and is supposed to be the hardened or solid fæces cast ashore. It is opaque, seldom white, often darkish brown, grey, or of a pink colour. It contains, fat, benzoic acid, and extractive matter. The odour is stimulating aromatic, and similar to that of *Kasaturi*.

Preparations : Pills, confection, and paste.

Actions and Uses : It is an ingredient in various confections and is given in general weakness, epilepsy and spasms. It is also used as a perfume. It is given in high fever with insensibility or delirium, and collapse of cholera, &c.

Spermaceti : *Magara-ni-charabi*.

It is a concrete fatty secretion, found in the head and in a cavity in the upper jaw of the sperm whale. As drawn from the animal, it is generally mixed with sperm-oil, from which it is separated by filtration and compression. It is melted in water to remove any trace of the oil.

Characters : It is a white, inodorous, and crystalline concretion.

Preparations : Ointment and concrete oil.

Actions and Uses : As a demulcent, it is given internally in dysentery and troublesome catarrh. It is a chief ingredient in the preparation of various ointments.

Remarks : The word spermaceti is derived from sperm which means an oily looking sticky fluid resembling semen. Ambergris is obtained from the cœcum of this animal.

AVES.

PHASIANUS—GALLUS.

Indu इंडु *Beduñ* (Guz.) *Kautá* (Hind.) *Añdá* (Beng.) The egg (Eng.) *Badá-ni-saphedi* (Bom.) *Indá-ni-sapeti* (Guz.) *Indeki zarde* (Hind.) The white (Eng.) *Bedá-ni-dála* (Guz.) The yolk, Vitellus (Eng.) *Bedá-ni-kotalān* (Guz.) The shell (Eng.)

Characters : The white is the liquid albumen of egg. It contains albumen, mucus, salt, and water. This albumen is distinguished from albumen of the serum of blood, by being coagulated by ether. The yolk is an emulsion of oil globules, fat, sulphur, and phosphorus, contained in a sac or bag. The egg shell is composed of carbonate of lime, phosphate of lime, and traces of sulphur and iron.

PARTS USED : The white, yolk, and shell.

Preparations : The white, yolk, oil, and ashes.

The oil is known as the yolk or yellow oil. It is prepared by boiling the egg hard, removing the yolk, and acting on this by hot *Movará* spirit or brandy. The oil globules separate and dissolve in the hot spirit. The ashes is prepared by incinerating *Bedáná kotaláñ*.

Actions and Uses : White of egg is useful in cases of poisoning by *Rasa kapura*, *Morathuthu*, *Somala*, &c. As a demulcent or a sheathing agent, it is mixed with brandy and rubbed over the bed sores. It is one of the ingredients in the preparation of *Lepa* or liniment used for embrocation. The yolk of egg is nutritive and strengthening, and when given with brandy, it is very readily digested. One or two fresh raw eggs taken every morning, act as a restorative in weak persons. The yellow oil is a very useful application over chronically stiff joints. The ashes is an astringent. A paste of it is used to check hæmorrhages.

REPTILIA.

LACERTA AGILIS (LIZARD.)

Rege mahi रेगेमाही *Rege máhi* (Pers.) *Sarado* (Guz.) *Ghilodí* (Bom.)

Characters : It is a species of *Kákidá* (a sand fish with thorny spines.) It occurs in a dried state, sometimes with head and four legs, but occasionally without them, so as to appear more as a fish than a true lizard. It is of a light brown colour, about 6 inches in length, with darkish brown reticulations on its back.

PARTS USED : The skeleton.

Preparations : Powder and paste.

Actions and Uses : As a nervine tonic, stimulant, and aphrodisiac, it is used in general debility, and seminal weakness.

Remarks : The word *Rege máhi* in Persian signifies a sand fish.

PISCES.

ACIPENSER STELLATUS.

Isinglass आइसिंग्लास *Aisinglása* (Bom.) Sturgeon's air bag (Eng.)

Real isinglass is the air bag of the sturgeon communicating with the stomach or œsophagus. It is also prepared from the intestines of fishes such as the Cod. The bag is cut open, its inner coating removed, and dried by exposure to air. The dried mass is next pressed in the form of a ribbon or a book.

Characters: It is white, inodorous, and very light. It is completely soluble in hot water. In composition, it consists of pure gelatine.

Preparations: Jelly and *Clānji*.

Actions and Uses: It is highly nutritious. As a constituent of many animal tissues, and chiefly of bone, this gelatine is used as an ingredient of soup for invalids.

MOLLUSCA.

CEPHALOPODA—SEPIA OFFICINALES.

Samudraphina समुद्रफिना *Samudra phina* (Guz.) *Samudra phena* (Sans.) Cuttle-fish bone (Eng.)

Characters: It occurs (when not broken) as an oblong, elliptical, or oval, flat substance, of a whitish colour. It is very hard and brittle. It is bony and tubercled on the upper surface. The under surface is smooth or rough. Between the surfaces the body is made of layers, which are arranged one over another, so as to form a heap. Each layer is very thin, about a hair in thickness, and separated from the next by longitudinal ridges, which form pillars of support for each layer. It can be easily scratched with the nails and is highly pulverisable.

PARTS USED: The bone.

Preparations : Powder and medicated oil.

THE POWDER is prepared by first soaking it in *Limbuno-rasa*, and then calcining it over a fire; the process to be repeated several times.

MEDICATED OIL : The fine scrapings of the bone are boiled in *Mithuñ tela*.

Actions and Uses : As an astringent and local sedative, the powder is dusted into the ear to relieve the pain of earache or in otorrhœa. Its paste is a useful application in itch, and other skin diseases; also in prickly heat. It is often used in tooth powders and for polishing metals. The oil is dropped into the ear in otorrhœa.

Remarks : The word *Samudra phina* is derived from *Samudra*, which means sea, and *phina*, foam. Natives suppose it to be the dried foam of sea water, and hence the name.

- 177 B. *Samudra phena*, *Sendhálona*. Mix, make a paste in *Golába-nu-páni*, and apply to the eyes.
Used in conjunctivitis.

ACEPHALA.

MYTILUS MARGARITIFERUS.

Moti मती *Muktá* (Sans.) *Moti* (Hind., Mah. and Guz.) The pearl (Eng.)

The pearl mussel has nearly a semicircular shell. It is greenish without, and ornamented with the most beautiful nacre within. The nacre is employed in the arts, and from the extravasation of this substance fine pearls are produced.

Preparations : Powder.

Actions and Uses : The powder is said to be highly stimulant, tonic, and aphrodisiac. It is one of the ingredients in numerous prescriptions used for impotence, heart disease, consumption, &c.

- 178 B. *Moti* 2, *Pára kajali* 2. Titurate well in honey and water, then dry the whole mass over a sand bath till all the water has evaporated. Dose : gr. i to grs. iii.

Anupána : To be given with *Sákara*.

Used in consumption and other chest diseases.

- 179 B. *Moti* 3, *Kerabo* 2, *Paraválá bhashma* 2, *Kuchalá* 6, *Darunaj-i-akrabi* 15, *Kapura* 10, *Elachī* 15, *Tamálá-patra* 12, *Lavaṅga* 10, *Zaṇḍe bīdástara* 10, *Suñṭha* 12, *Pipali* 10, *Kasaturī* 12, Sugar 50. Mix, and make a pill mass. Dose : grs. x to grs. xv.

Used in seminal weakness.

OSTEREA EDULIS—BIVALVE SHELL.

Kalu कलु *Kālu* (Guz.) The common oyster (Eng.)

Characters: The shell is an equivalve subaurited with a hollow ovate little excavation. It is dark brown externally, and greyish within. The external surface is marked with numerous lateral and indulated striae. The inner surface is smooth and shining. The whole shell is very hard. On opening the shell, may be found an animal

Preparations : A paste of the shell, the animal.

Actions and Uses : The paste is an absorbent, and used for the same purposes as other shells. The animal is eaten raw or cooked. It is supposed to possess aphrodisiac properties.

HELIX ASPERA—THE SHELL.

Nakhala नाखल *Nakhālā* (Bom. and Guz.)

Characters : It is a fresh water Mollusk. The shell is of dark brown colour, and made of numerous plates placed one upon another, just as in bivalve shells. It is hard, bony, and opaque. It is concave on its under surface, where the mollusk resides; the other surface is convex. On this surface the layers are most distinctly marked.

Preparations : Paste.

Actions and Uses : It is used as a perfume, and in the preparation of various medicated oils. It is an ingredient of *Dhupela tela*. As a hair cosmetic, it is highly recommended.

MONOVALVE SHELLS—COWRIES.

Cowries कौडी *Codī* (Guz.) *Cowri* (Hind.) *Varātikā* (Sans.)

Three varieties of cowries are used in medicine. These are white, red, and yellow.

Characters: In size they vary from an *Amali bija* to *Badāma*. The colour is variegated. The shape is oblong, ovate, or oval. The upper surface is smooth, shining, and convex. The base is compressed and has a cleft in the centre, which runs longitudinally. The margin of the cleft is serrated on one side, and depressed on the other.

Preparations: *Cowri bhashma*.

COWRI BHASHMA: *Cowri* is first purified by being soaked in *Limbu-no-rasa* or rice *Cāñji*, and then calcined in covered crucibles; the process to be repeated 10 or 12 times.

Actions and Uses: *Cowri bhashma* is said to be pungently bitter, also alterative, and expectorant. It is recommended in dyspepsia, enlarged spleen, asthma and cough. The ash is given internally in scalding and gonorrhœa.

Dose: *grs.* v to *grs.* x.

SHULA GAJA KESARI.

- 180 **R.** Take of *Cowri bhashma* 1, *Pára kajali* 1, *Tañkaṇa-khāra* 1, *Siñdhava* 1, *Suñṭha* 1, *Hīṅga* 1, *Jirūn* 1. Mix, add the juice of *Nágaravele pána*, and make a pill mass. Dose: *grs.* iii to *grs.* v.

The word *Shula gaja kesari* is derived from *Shula*, which means twisting pain or colic, *Gaja*, an Elephant, and *Kesari*, a lion (*Shihuñ*). Thus the term signifies pain of colic as strong as an elephant; to remove which the aid of a lion is necessary. This medicine is therefore given to remove the pain.

BIVALVE SHELL—CHHIP.

Chhipa चिप *Chhipa* (Guz.) *Sukali* (Sans.)

Characters: It is a hard, semi-transparent, brilliant, substance. As it exists in nature, it consists of two valves joined together: as in oyster shells. The colour varies from white, red, or yellow, to black. The shape is rhomboid and fan-like. Each valve has its upper surface convex, and under surface concave, or gibbous.

Preparations: *Chhipa bhashma*.

The mode of preparation, actions, and uses are all similar to those of *Cowris*.

- 181 *℞. Chhipa bhashma* 5, *Haratāla* 4, *Manasila* 4, *Sáji khára* 6. Mix, make a paste and apply (a few seconds.)

Used as a depilatory to remove hair.

MONOVALVE SHELL—CONCH.

Sankha शङ्ख *Saṅkha* (Guz.) *Shaṅkha* (Sans.)

Characters : It is of an oblique, oblong, or conical form. The oblong form is bulged in the middle, and tapering at each end. The conical form is peculiar. The upper portion is like corkscrew, twisted and tapering at the end. The base is broad. The interior is hollow. The surface is hard, of a dull white colour. The upper surface is highly tubercled, the under surface shining.

Preparations : *Saṅkha bhashma*.

Actions and Uses : The mode of preparation, actions, and uses are all similar to those of *Cowris*.

Remarks : Two forms of *Saṅkha* are mentioned in Hindu medicine: *Dakhashinā vrata* and *Vāmā vrata*. The former is rare and highly valued. *Dakhashinā vrata* means the *Saṅkha* twisted from the right to the left. In Hindu mythology *Dakhashinā vrata saṅkha* is valued as a lucky omen.

- 182 *℞. Saṅkha bhashma* 5, *Karañja bija* 4, *Hiṅga* 3, *Trikatu* 4, *Siṇdhava* 4. Mix and make a powder. Used in colicky pain in the abdomen.

SANKHAVATI.

- 183 *℞. Saṅkha bhashma* 40, *Ámalino-khára* 20, *Pañcha lavana* 4, *Hiṅga*, *Tañkanakhára*, *Miri sapheda*, *Jirūn*, *Shihá jirūn*, *Suñtha*, *Pipali*, each 4, *Pará kajali* 2, *Bachanága* 2. Mix, triturate the whole in the juice of lemons, and make a pill mass.

Dose : *grs. v.*

Anupána : To be taken in hot tea.

Used in dyspepsia, diarrhoea, chronic dysentery, &c.

- 184 *℞. Saṅkha bhashma* 5, *Bachanága* 2, *Miri* 9. Make two grain pills.

Used in loss of appetite and indigestion.

ANNELIDA.

ABRANCHIALA—HIRUDO MEDICINALES.

Jalo जालो *Jalo*, *Jaro* (Guz.) *Jouka* (Hind.) *Jaluka* (Sans.)
Alaka zalo (Arab.) *Zaloka* (Pers.) Leeches (Eng.)

Jalo and their uses are too well known to need a detailed description. It is well known that small and middle sized leeches are the best. Good leeches are found in a clear or deep pool of water which contains water lilies and other aquatic sweet smelling plants. They are collected on a piece of calico and kept in some clay for use. When leeches are required to be preserved for some days, the roots of water lilies are given them as food.

Characters : The body is elongated. It is 2 or 3 inches long, and tapering at each end. It is convex and wrinkled transversely. It is black, of an olive colour, and marked with 6 longitudinal stripes.

Actions and Uses : Depletion by leeches is identical to the taking of blood by venesection or by lancing. Their action on the general system is slow and the impression they make is indirect and gradual. They are very useful in making a limited and local impression. This they effect by abstracting a very small quantity of blood. By their application, the force of blood in the blood vessels or the capillaries becomes modified or excited. In cases of local congestion or of moderate inflammation, the application of a few leeches in the immediate neighbourhood gives relief.

AFTER EFFECTS : When leeches are applied, they become gorged by sucking. After a time they fall off, and give rise to wounds which become chemosed and leave visible scars or marks. These are known as leech bites. The number of leeches to be applied depends upon the vascularity of the part, upon the size of the leeches to be used, and upon the quantity of blood to be removed.

PRECAUTIONS : To facilitate the action of leeches, the affected part should be thoroughly washed or cleaned with hot water. In some cases poultices should be applied to stimulate the skin. Some apply clay to the part, others prick it with a fine needle and the skin is then besmeared with blood.

APPLICATIONS : For general purposes, leeches are held in the hand, and applied to the part. Some prefer to cover them with a

glass dish or a piece of calico moistened with cold water. For application to the vagina or the throat, leech tubes, open at both ends, are preferred. When leeches are scarce, it becomes necessary that a few or a small number should be applied to abstract large quantities of blood. In such cases, the leeches while still sucking and when nearly gorged with blood, may be punctured just near their tails with a needle, and the blood squeezed out of their body; they will then begin to suck again. By a repetition of this process, any amount of blood can be drawn. As a rule, leeches when gorged with blood, drop off of their own accord. Sprinkling a small quantity of salt water upon their heads facilitates their removal. If after their removal, it is necessary to abstract more blood, poultices of bran or bread, or *Varáliāns* of *Nāgora* leaves, or of *Limadānā pīna* may be applied. Where bleeding from the bites continues unabated, an application of various astringent substances, such as burnt cotton, powdered alum, tamin or turmeric serve as homostatics and check hæmorrhage. Some prefer the application of burnt rags, cobweb, or scraped lint, or the solution of perchloride of iron. Even a very fine point of caustic nitrate of silver may be inserted in the wound with good results. Lint bandages may be tried in obstinate cases. Touching the bite with the point of a red hot needle, or applying a ligature may also be tried. Great caution is necessary in applying leeches to the throat. If they are accidentally swollen, vinegar or salt water is the best antidote. They should seldom be applied to the scratum eyelids.

INSECTA.

HEMIPTERA.

COCCUS CACTI.

Kiramaja किरमजा *Kiramaja* (Guz.) *Kiramaja*, *Kiramija dānaha* (Pers.) Cochineal (Eng.)

Characters: The drug consists of dried impregnated female insects, which feed on various species of cactus. The insects are killed by immersion in boiling water and collected. In this state, each insect is about $\frac{1}{8}$ of an inch long, hemispherical or ovate, and oblong or plano-convex. It is flat on the lower side, and swinkled. The colour is black or greyish white. It is rough ringed on the

back, and pulverisable, and yields a colored powder. The taste is bitterish and warm. It tinges the saliva violet red. When burnt, it yields an animal odour.

Preparations : Powder and solution.

Actions and Uses : It is said to possess sedative and antispasmodic properties. It is useful in whooping cough, neuralgia, &c., and as an adjunct to expectorant mixtures. As a coloring matter, it gives a pleasing tint to other preparations. It is the chief dyeing stuff for scarlet and crimson colours.

Remarks : There are two sorts of cochineal : silver and black. The silver is the most valued; it has a greyish red colour.

COCCUS LACCA.

Lakha लक्का *Kāchi-lākha* (Guz.) *Lākha* (Hind.) *Gālā* (Beng.) *Lakhashā* (Sans.) *Lac* (Eng.)

Characters: It occurs as a resin in irregular fragments or pieces. The colour is uniform all throughout. It is of a reddish or dark brown colour, and has a disagreeable smell. It easily breaks with a crackling sound. On section, traces or remnants of the dead insects are distinctly seen. In cold weather the branches often swarm with these insects, and seem covered with a red dust. The insects produce small nipple-like incrustations on the twigs, their bodies being apparently glued together by a liquor which forms a cellular texture. The animal resembles a small bag. After a time, the young ones escape, leaving empty cells on the branches. The twigs with this radiated cellular substance constitute stick lac. Various forms and sizes are given to stick lac. Thus when the resinous concretion is taken off, the twigs broken, triturated and washed in water in mortar, the greater part of the colouring matter is dissolved, and the remaining granular matter is known as seed lac. This breaks off into small particles. Grain seed lac, when melted over a fire, and squeezed through a piece of calico into troughs, spreads out into thin glossy flakes known as shell lac. If dropped in rounded masses, it is known as button lac; if in larger pieces, it is called sheet lac.

Preparations : Medicated oil and resin.

Actions and Uses : It is said to be a specific application for caries and diseased teeth. It is also used as an inunction in chronic fevers and consumption. It is a mild local stimulant and detergent.

Its qualities are those of resins generally mixed with astringents. It is locally used as a stimulant application to indolent, scrofulous, or scorbutic ulcers.

Remarks : It is a resinous exudation produced by the puncture of lac insects (*coccus lacca*) which infest *Boedi*, *Zijuphus*, *Ramnus jujuba*, *Croton lacciferum*, and other plants. Besides these, the principal laticiferous trees yield lac. These are *Butea frondosa*, *Vada*, *Pipala*, &c. The insects congregate and surround themselves by the resinous exudation which hardens. The female insects contain a red coloring matter. After the escape of the insects the resin (lac) is left.

LAKASHADI TELA.

- 185 R. Take of *Lákha*, *Tila tela* and *Dudha* 20 parts, *Lodhra*, *Káephala*, *Mañjistha*, *Rakta chañdana*, *Jethimadha*, and *Kamálaphula*, *Asana*, *Halada*, *Devadaru*, *Kutaki*, *Ranukabija*, *Moravela*, *Kutha*, *Motha*, *Rásaná*, each 1 part. Mix together and boil the whole over a fire; when cool, to be filtered for use.
- 186 R. *Lákha* 2, *Sáji khára* 5, *Tañkaṇa khára* 4, *Sañchala* 3, *Lodhra* 2, *Indráyaná mūla* 1, *Water* 40. Make a decoction, to be given internally.
Used in menorrhagia.
- 187 R. *Lákha* 2, *Saṅga jiruṇ* 5, *Vāṇsa kapura* 3, *Lodhra* 4, *Sákara* 10. Make a powder. Dose grs. v.
Used in menorrhagia.

MUTELLA OCCIDENTALIS.

Birabavati बिरावति *Birabávati*, *Indra gopa* (Hind.) *Indra vadhi* (Sans.) *Chomáśáná rátá makhamali kidá* (Guz.)

Characters : These are insects of a bright scarlet colour, and velvety, found in the commencement of the rains. They are very common in garden plants. The dried specimens, as found in the bazaar, are of a saffron colour. In shape, they are nearly oblong, less than $\frac{1}{2}$ inch long.

Preparations : Powder or ashes.

Actions and Uses : It is a nervine tonic and antispasmodic, and is used in paralysis. In colic it is given with *Jaephala*. An ointment of it with *Mina* is a useful application to swollen feet and hands.

HEMIPTERA.

Shakara tagara शक्र तगर *Shakara tagara* (Hind.) *Shaker-e-tigála* (Pers.)

Characters : It occurs as irregular gall-like pieces of a dirty white colour. Each piece is oblong, oval, or sometimes of an irregular shape. The outer surface is tubercled and resembles *Shetura*. It has one or two openings at the side, or at the top. It is hollow within, and generally contains a dead beetle or pupa. The pupa is of an oval shape and a black colour. When broken, the under surface is rugous and sprinkled with dirty white powder. A piece of small rough stem is invariably found adherent to the wall of the nutlike pieces. It is intended as a pillar of support to build the gall house. The structure is resinous. It tastes like starch, and after chewing, it leaves an acrid sensation in the mouth.

Actions and Uses : It is an antispasmodic and is useful in hysteria, gout, renal diseases, dropsy, gonorrhœa and jaundice.

Remarks : It is generally used by Mahomedan *Hakimas*.

188 *B. Shakere-tigála dr. i, Badāma bija dr. i, Pistá dr. i, Bábula guñda dr. i, Bákulá dr. i, Suñtha dr. i.* Reduce the drugs to a fine powder and mix together to form a pill mass. Dose: from *grs. v* to *grs. x*; to be taken two or three times a day.

Used in old chronic coughs.

HYMENOPTERA.

APIS MELLEIFICA—HONEY.

Madha मध *Madha* (Guz.) *Sentoe* (Hind.) *Ásla, Áshama, Nahala* (Arab.) *Shadada aṅgobina* (Pers.) *Madhu* (Sans.)

Madha is a vegetable product and occurs in the nectaries of various flowers. The bee collects it, brings it to the hive, and stores it up as a secretion.

Characters : It is a saccharine substance. Various kinds of *Madha* are described in native works. Of these that procured from a common bee is the best for use. It is a viscid, semi-translucent liquid, of a reddish brown, darkish, or light yellowish brown colour, of a heavy date-like smell, and of a sweet taste.

Preparations : Honey.

Actions and Uses : It is a detergent, and pectoral; also emollient, demulcent and laxative. It also possesses nutritive properties. As a demulcent, *Madha* and warm barley water are given internally in bronchial affections, troublesome coughs, and sore throat. Locally applied, it stimulates the mucous surfaces, when in an atonic condition. A paste of it with flour is a popular application to promote maturation of abscesses and buboes. As an emollient, it is used as a gargle to cure aphthæ in the mouth, and as a vehicle to other agents; it is used as an application to the throat in thrush and pseudomembranous deposits. As such it is also applied to sore nipples and to swollen mammæ for drying up milk. New honey is considered as a laxative and demulcent. Old honey is an astringent and demulcent. It is used with *Chunî* as an external application to the temples in headache, to the abdomen or round the navel in colic, and to other painful parts, such as bruises and sprains. *Madha* is a constant vehicle for powders and other nauseating medicines.

Remarks : It is a concentrated solution of a sugary substance, mixed with gum, wax and coloring matters. There are generally four kinds of *Madha* : 1. Superior honey or honey of first quality is *Aden-nu madha*, 2. *Máhábleshari madha*, 3. Matheran and Bassin *Madha*, and 4. *Gámathi Madha*. The last is spurious, being only a preparation of sagur, gum, wax, &c.

CERA.

Moma मम *Mina* (Guz.) *Moma* (Hind. and Pers.) *Shama* (Arab.) *Sekhtha*, *Madhujáma* (Sans.) Wax (Eng.)

It is found in many members of the vegetable kingdom. Funduka and others are for this purpose used as candles. It is secreted by the bee and used by them in the construction of the comb. To extract it, the comb is pressed, dipped in hot water, and the wax cast into moulds.

Characters : It may be firm and yellow, or hard and nearly white, or translucent. The odour is honey-like.

Preparations : *Mina* and medicated oil (*Minanu tela*.)

Minanu tela : It is prepared by adding *Nimaka* and *Reti* (sand) to *Mina*, and boiling the whole over a fire when the oil is separated from other impurities. This when cool, occurs generally as a liquid, but sometimes as a solid mass of a brownish dark colour.

Actions and Uses : Wax is an emollient and demulcent, chiefly used externally in the preparation of ointments, plasters, &c. The oil is used as a mild sheathing or protecting application into the rectum in diarrhoea and dysentery, especially where ulcers are suspected to exist. It is also used as an application to painful rheumatic joints.

189 B. *Mina*, Soap, *Bedá-ni-dála*. Mix, and make a paste in honey and apply.

Used in dysentery where ulcers are suspected to be present.

LEPIDOPTERA.

BOMBYX MORI.

Abreshama अब्रेशमा *Abrashama* (Arab.) *Reshama-ná-potlín* (Guz.) Cocoons of silk moth (Eng.)

Characters : The cocoons or oval sacs are externally of a bright yellowish colour. They are about an inch in length, and $\frac{1}{2}$ inch in thickness. They are of an oval shape, and closed all over except at the top, where a small round hole is found. They are covered with yellowish fibrous silk. Internally they are light brown and smooth, and contain the dark brown dried remains of a caterpillar.

Preparations : The ashes.

Actions and Uses : As a tonic and astringent, the ashes are used to check profuse menstruation, leucorrhœa, and chronic diarrhoea. It is generally given in combination with other like astringents.

Remarks : They are called mori (cocoons,) because of the worms feeding on leaves of morus (*Shetura*.)

POLYPI (Many feet.)

CORALIUM RUBRUM—ISIS NOBILIS.

Paravalu प२१५३ *Paraválá* (Guz.) *Parvárá muṅga* (Hind.) *Praválá* (Sans.) Red coral (Eng.)

Characters : They are small, gelatinous, numberless, compound animals forming a fixed and solid stem. They were for a long time considered to be a marine plant fixed by the base to submarine rocks. *Paraválá* in appearance is like a small shrub. It is always in a pendant or reversed position. It occurs in thin, cylindrical, slender, and generally branched pieces of a deep brick red colour. Each piece is minutely and longitudinally furrowed. It is seldom hollow. It does not stick to the finger when touched. In smell it resembles *Lobána*. It easily breaks with a crackling sound. In a raw state, the stems and branches are covered with a cortical substance, which is the habitation of soft small polypi. It consists of an organic matter, carbonate of lime, and magnesium with oxide of iron.

Purification : It is soaked in lime juice till it is saturated, and then put in fire till it becomes white. In this state it is removed, allowed to cool, and then resoaked in lime juice and again heated, the process of incineration and of soaking being repeated ten times, after which the mass is reduced to powder and is then fit for use. Another method is by soaking a linen bag containing *Paraválá* in the decoction of *Kulathi*.

Preparations : *Paraválá bhashma*.

PARAVALA BHASHMA : Take of *Paraválá*, *Manasila*, *Gaṇḍhaka*, *Haratúla*, *Hīṅgaḷo* *Tañkaṇa khára*, equal parts. Triturate them together into a uniform mass and then roast the whole.

Actions and Uses : It is said to be an astringent, tonic, laxative diuretic, and antacid. It is useful in cough, asthma, urinary diseases and gonorrhœa. It is a chief medicine used by native *Hakimas* in cough prescriptions. As an antacid, it is used to check vomiting, and to cure dyspepsia and biliousness.

Remarks : In the Bombay market, another kind of *Paraválá* is sold under the name of *Bekhe paraválá* or *Paraválá-ni-jada*. This coral is otherwise known as sea-moss. It consists of a collection of small,

hollow, rounded and slender articulated stems, subdivided into finer ramifications of homogeneous threads of a similar product. It is greenish or reddish when fresh, but from exposure to the air, it becomes nearly white. Its actions and uses are similar to those of *Paraválá*.

- 190 *℞. Paraválá bhashma* 5, *Gulavela* 4, *Miri* 4, and *Pipali* 3.
Mix and make a powder.

Used in vomiting, asthma, and general debility.

- 191 *℞. Paraválá* 5, *Moti* 4, *Saṅkha* 6. Mix and make a paste in the milky juice of *Ákado*. Then roast it and make a *Bhashma*. Dose : *gr.* $\frac{1}{2}$ to *gr.* i.

Used in indigestion, urinary disorders, gravel, hiccough, gonorrhœa or gleet, chronic diarrhœa, &c.

SPONGIA OFFICINALIS—THE SPONGE.

Badalun بادالون *Vádaluṇ* (Guz.) *Muá*, *Bádala* (Hind.) *Ispaṅga* (Arab.) *Aberamuradepa* (Pers.)

Characters : It occurs as a light lump of a porous nature, and of a yellowish brown colour. It is soft, elastic, and irregularly shaped. It is collected by divers from submerged rocks to which it adheres. When quite fresh, it is covered with a gelatinous substance, which must be removed to prevent putrifaction. Dry sponge consists of gelatine, albumen, and iodine.

Preparations : Ashes.

ASHES : This is obtained by burning sponge in a closed vessel.

Actions and Uses : It is deobstruent and astringent. Mixed with oil, it is applied to swollen glands (Goitre), owing to its containing iodine. It is also given internally in dysentery, diarrhœa, and bowel complaints. Sponge itself is used for domestic purposes.

Remarks : The word literally means a cloud.

MISCELLANEOUS.

TIRIAKE FARUKA.

Tiriake faruka तिरिआके फरुके *Tiriáke faruka* (Bom.) *Teriák-i-fáruka* (Arab.)

Characters : It occurs as an oily unctuous semifluid of a darkish blue or brownish dark colour. The taste is sweet. The odour is sweet and resembles that of *Jethimadha-no-siro*.

Actions and Uses : These are tonic, stimulant, antispasmodic, &c. It is used internally in myxœdema, beriberi, anasarca, rheumatism, vomiting, purging, tetanus, seminal debility, &c. It is highly recommended in the collapse stage of cholera, and as an antidote to poisoning by venomous animals.

Remarks : Opium is said to be one of the ingredients in its composition.

THE VEGETABLE KINGDOM.

In the following pages the vegetable products employed in medicine have been treated of. In order to facilitate their description, a classification of them into two main divisions has been adopted. These are: Phanerogamous or Flowering Plants, and Cryptogamic or Flowerless Plants.

DIVISION I.

THE FLOWERING PLANTS.

RANUNCULACEÆ—Bachanaga order.

This family consists of herbs, and of rarely climbing shrubs, with tuberous roots. A few plants are only found in India as natives of the hilly districts. The tuberous roots contain an acrid watery juice, which is volatile and produces irritation and vesication when applied to the skin. The leaves of many species are said to be local irritants. The acidity is dissipated by drying or infusing them in boiling water. Some of the plants contain, in addition to this, a narcotic principle, which when in excess, renders them virulent poisons. These when swallowed cause violent vomiting, purging, cramps and death. Some species, as *Atisha*, *Vakamā*, &c. are simply bitter tonics. One species *Nigella* is a popular stimulating medicine. Its seeds contain an aromatic essential oil. Several species are alteratives, and are used in the treatment of syphilis, scrofula, and rheumatism. Some are highly prized in the treatment of neuralgia.

ACONITUM HETEROPHYLLUM.

THE TUBEROUS ROOTS.

Atisha अतिश आतिशा (Bom., Beng. and Hind.) *Ativishá*, *Ataicha*, *Nirabishi* (Sans.) *Vajje turaki* (Pers.) *Atavasa* or *Atavakha-ni-kali* (Guz.)

Characters : The drug consists of white or greyish, oblong or conical tubers. The grey ones are the mother roots, shrivelled, ovoid, and longer and larger than the white ones. The white ones are young, and sold at a higher price. They are small, plump, of a pale ash colour, ovoid, and $\frac{1}{2}$ to 1 inch long. Their external surface is wrinkled and marked with scars of rootlets. The broad portion of the root or the top presents a point, around which scale-like rings, 2 to 3 in number, are seen; these are the remains of the fallen leaves. At the other end of the tuber, there is a narrow point. It breaks with a starchy fracture. On section, the interior is white. The taste is bitter.

Preparations : Powder.

Actions and Uses : It is a bitter tonic, astringent, stomachic, anthelmintic, and expectorant. It checks diarrhoea. It is given as an antiperiodic in fevers, during their intermission, with benefit. In dyspepsia and cough, it is also useful. As an anthelmintic, the powder of it with *Vávadiṅga* is given to children to expel worms.

Dose : As a tonic, *grs.* v to *grs.* xx; anthelmintic, *grs.* iii to *grs.* v; antiperiodic, *grs.* xx to *grs.* xxx.

Remarks : It consists of starch, fatty substance, mucilage, and fat. Insects most readily destroy the tubers.

- 192 *B. Atisha dr. i, Ságaragotá drs. ii.* Reduce to a fine powder and mix. Dose : *grs.* x to *grs.* xx.
Used in bilious fever.

- 193 *B. Atisha 2, Suñṭha 2, Kutaki 2, Motha 2, Gulavela 2.*
Mix and make a decoction in the usual way.
Dose : *dr. i* to *drs. ii.*
Used in ague fever with diarrhoea, in general debility, and in convalescence from fever.

- 194 R. *Atisha*, *Motha*, *Kákadá siṅgi* and *Pipali* equal parts. Mix and make a powder. Dose : dr. i for adults; dr. $\frac{1}{2}$ for children.

Used in fever, diarrhoea, and irritability of the stomach.

- 195 R. *Atisha*, *Kariátu*, *Motha*, *Jadavára*, each dr. i, *Gulavela* drs. ii. Mix and make a powder. Dose : grs. xxx to grs. lx.

Used during intermission of a febrile attack.

BALA GOLI.

- 196 R. *Atisha* 1, *Saṅga-jiruṇ* 1, *Bodára kákaró* 1, *Murada siṅga* 2, *Golába kali* 1, *Soná geru* $1\frac{1}{2}$, *Bháṅga* 4, *Vákumbhá* $1\frac{1}{2}$, *Jáepatri* 2, *Jáephala* 4, *Dálimba-nichhála* 4, *Bela* $3\frac{1}{2}$, *Siṅgroti-nu-mula* 2, *Indrajara* $1\frac{1}{2}$, *Zarera* $\frac{3}{4}$, *Tamálapatra* $\frac{1}{2}$, *Pipalimula* 1, *Lendi pipala* $\frac{1}{2}$, *Vávadiṅga* $1\frac{1}{2}$, *Harade* (*suravari*) $1\frac{1}{2}$, *Kiramáni ajamo* $1\frac{1}{2}$, *Kákari magaja* 7, *Kadu* $\frac{1}{2}$, *Isasa* $1\frac{1}{2}$, *Sopáriná-phula* $1\frac{1}{2}$, *Dhaturá-ná-bija* 1, *Afima* 1, *Tamakhira* 2, *Asaruna* 2, *Bálá raja* 1, *Lavaṅga* 1. Mix and make a pill mass in *Madha*. Dose : grs. ii to grs. iv to an infant.

Given to children in wakefulness, irritability of the brain, &c.

Remarks : The name *Bálá goli* is a colloquial term for a compound medicine given to children. It is derived from *Bálá*, an infant or child, and *goli*, a pill. These pills are useful for children.

ACONITUM FEROX.

THE TUBEROUS ROOT.

Bachanaga बचनलग्ना *Bachanába* (Bom.) *Bachanáka* (Mah.) *Bisha*, *Bekha*, *Visha*, *Sriṅgibisha*, *Vatasanábha* (Sans.) *Sriṅgi bisha* (Beng.) *Bisha* (Arab.) *Bishanága* (Pers.) *Siṅgiábisa*, *Teleyábisa*, *Bachanága* (Hind.) *Shingadio vachanága* (Guz.) *Aconite* (Eng.)

Characters: The root occurs as a heavy, horny, fusiform or conical, and generally wrinkled tuber. The colour is dark brown externally, and shining black within. It is from one to three inches long, and about an inch at the crown or base which is the broadest part. It is hard, breaks with a resinous fracture, and can be reduced to a coarse powder. The smell is very disagreeable, resembling that of cat's urine. The taste is acrid and stimulating, and a minute portion of it when chewed, causes a tingling sensation and numbness on the tongue, the sensation remaining for a long time.

Purification: It is purified by being steeped in cow's urine for 3 days.

Preparations: Powder and paste.

Actions and Uses: When taken in small and often repeated doses, it causes a sensation of heat and tingling at the extremities. It produces an extraordinary increase in the secretion of urine. It is a cardiac depressent, narcotic, and a powerful sedative. It renders respirations and circulation slower. By its use the pulse becomes less frequent, and the respiration short. It is used as a benumber in a variety of painful diseases due to increased sensibility of nerves. It has a special action on the trigeminal nerve. It is locally applied as a paste (*Lepa*) for the relief of neuralgic and other painful affections, such as rheumatic joints, headaches, &c. In pains unaccompanied by inflammation, as guinea worms and boils, and in facial neuralgia due to uninflammatory causes, aconite is highly beneficial. If given internally at the commencement of fever, it averts the attack. It is useful in coryza or sneezing in children. It is also recommended in eruptive fevers, such as measles, scarlatina, &c. and in catarrh of children. In acute gonorrhœa, severe colds with much chilliness, aching of limbs, hot dry skin, and quick pulse, aconite in small doses, given every hour, is a very efficient medicine. In epistaxis in children, small doses act like a charm. In fever without any lung complication, it is very beneficial. It has a marvellous power of controlling inflammation and subduing fever. In violent throbbing of the heart, in extremely painful conditions of the intercostal and other respiratory muscles, and in hysteria with a fluttering and weak heart, as in nervous girls, aconite is most useful. Extensive and severe catarrh of the throat and violent tonsillitis are often cured by it. In erysipelas it has a marked advantage over other drugs.

Dose: Of the powder *gr. i* to *grs. ii*.

Remarks: It is called *Vatasanábha*, because it resembles in appearance the navel of children. Under the term *Bisha*, a num-

ber of poisonous aconites are noticed. These are *Aconitum ferox* and *Aconitum napellus*. The term *Nirabishi* is derived from *Nira* which means against, and *Bisha*, a poison. This is on account of some of the aconites being free from poison. These include the tuberous roots of *Jadavára*, *Ativisha*, *Vákhamá*, and the root of *Cissampelas Pareira*.

- 197 B. *Bachanága*, *Tañkaṇakhára*, *Pipali*, *Saṅkha bhashma*, equal parts. Mix and make a powder.

Dose : grs. ii.

Anupána : To be given with *Áduno rasa*.

Used in catarrh, sore throat, cough, asthma, &c.

- 198 B. *Bachanága* 1, *Gaṇdhaka* 1, *Kálámiri* 1, *Pipali* 2, *Hĩṅgaḷo* 1, *Tañkaṇa khára* 1, *Dhaturá-no-rasa*, q. s. Mix and make a pill mass.

Dose : grs. ii to grs. iv.

Used in fever with brain symptoms; if constipation exists add *Nipálá-ná-bija*.

- 199 B. *Bachanága* 1, *Tañkaṇa khára* 1, *Himaja* 1, *Suṇṭha* 1, *Pipali* 1, *Miri* 1, *Sendhálona* 1, *Mithuṇ* 1, *Gaṇdhaka-ná-phula* 1, *Madha*, q. s. Make a pill mass.

Dose : grs. ii to grs. x.

Used in high fever (remittent) with vomiting.

- 200 B. *Bachanága*, *Tañkaṇa khára*, *Jiruṇ*, *Pañcha lavana*, *Triphalá*, *Trikatu*, *Abraka*, *Hĩṅgaḷo*, *Gaṇdhaka*, equal parts. Mix and make a pill mass.

Dose : grs. iv to grs. x.

Used in obstinate fevers with temperature between 101 and 102.

- 201 B. *Bachanága* 1, *Jaepatri* 1, *Miri* 1, *Hĩṅgaḷo* 1, *Lavaṅga* 1, *Ambara* $\frac{1}{2}$, *Kasaturi* $\frac{1}{4}$. Mix and make a pill mass.

Dose : grs. ii.

Used in cough and asthma.

- 202 R. *Bachanāga* 1, *Pipalimula* 2, *Lavaṅga* 2, *Chitraka chhāla* 1, *Miri* 2, *Bhāṅgrā-no-rasa*. Mix, and make a pill mass. Dose : grs. ii.

Used in dyspepsia and indigestion.

- 203 R. *Bachanāga* 2, *Akalakaro* 2, *Siṇdhava* 5. Mix, make a paste and apply.

Used in swollen hands and feet.

- 204 R. *Bachanāga* 1, *Afima* 1. Mix, make a paste in brandy and locally apply.

Used in guinea worm.

ACONITUM NAPELLUS.

THE TUBEROUS ROOT.

Nagapuri Bachanaga नागपुरी अमृतनाग *Dudhio vachanāga*, *Sapheda bachanāga* (Guz.) *Dudhiā bikha*, *Kāta bikha*, *Mitha zahara* (Hind. and Beng.) Monks' hood, Aconite (Eng.)

Characters : The root is of a brown colour, irregular, and roughly wrinkled. It is from 3 to 4 inches long, and one inch in thickness. The lower portion is tapering, and marked with a few scars of rootlets. On the top the remains of leaf-lets are found. On section, the colour is yellowish white. The cut surface appears to be resinous and made up of wedges. The taste is somewhat acrid, and after chewing, it leaves a tingling sensation on the tongue for a long time.

Preparations : Powder.

Actions and Uses : It is a narcotic, sedative, and alterative. It is a specific medicine for rheumatism. It is a useful topical application for the relief of neuralgic pains. In neuralgia of the face or chest, it acts with benefit. It relieves nervous toothache, if introduced into a carious cavity. In neuralgia of the 5th nerve, it is a very efficient remedy when given internally.

Dose : Of the powder gr. i to grs. ii.

Remarks : Its taste is sweet, and hence the Hindi term *Mitha zahara*, meaning sweet poison, is applied to this drug.

DELPHINIUM DENUDATUM.

THE TUBERS.

Jadavara *جداوار* *Jadavára* (Arab.) *Máha pharaphina* (Pers.) *Nira bisha* (Hind.)

Characters: The tubers are small, black or brown, irregularly ovoid, highly wrinkled, and about an inch long, having a few projections at the top, which are the remains of leaf-lets. On section, the cut surface is soft, of a dark brown colour, homogeneous, and resinous. It is unctuous to the touch. The taste is bitter. The odour is like that of *Afma*.

Preparations: Powder and decoction.

Actions and Uses: It is a bitter tonic and alterative, and is used during convalescence from fevers, in syphilis and rheumatism.

Dose: Of the powder, *grs. ii* to *grs. v*; of the decoction, *dr. i* to *drs. ii*.

205 *℞. Jadavára drs. v, Gáo zabána drs. ii.* Make a decoction in the usual way. *Dose: drs. ii* to *drs. iii.*
Used in nervous diseases, paralysis, low fevers, and chronic liver diseases.

206 *℞. Jadavára dr. i, Ambara grs. x, Kesara dr. ½.* Rub them together, mix with rose water, and prepare a pill mass. *Dose: grs. ii* to *grs. v.*
Used as a tonic in diseases of the heart and brain, in spermatorrhœa, and in weakness of the genitals.

NIGELLA SATIVA.

THE SEEDS.

Kelonji *कलोज* *Kálójira* (Hind.) *Shihádáncha, Shihá-birañja* (Pers.) *Kaloñji, Káljiri* (Mah.) *Krishná jiraka, Karavi, Sushavi* (Sans.) *Káljiri* (Guz.) *Shou-niza, Kámune asavada* (Arab.) *Kálójira* (Beng.)

Characters: The seeds are triangular and umbilicated at one end. Their surface is black, wrinkled, and marked by irregular de-

pressions. Internally they contain a white oily kernel. The odour is faintly aromatic, owing to their containing an essential oil. The taste is oily at first; after a time it resembles that of garlic.

Preparations : Powder, decoction, paste, and medicated oil.

Actions and Uses : These are analogous to those of *Dháná*, *Jirūn* and *Suvá*. The seeds are aromatic, digestive, stomachic, carminative, emmanagogue, lactagogue and anthelmintic. They are an important adjunct to purgative medicines and aromatic bitters. A decoction of the seeds is given to females just after delivery to stimulate the uterus to vigorous action, and subsequently to increase the flow of menses and the secretion of milk. It is a very useful remedy in worms. As a carminative and stomachic, it is given in dyspepsia, loss of appetite, diarrhœa, and intermittent fever. With sweet oil, it is a useful application in skin diseases. Brayed in water, its application removes swellings from hands and feet.

Dose : *drs.* ii.

Remarks : The seeds are scattered between woollen shawls to prevent them from being destroyed by insects.

207 *B.* *Kalonaji*, *Kásamaradá bija*, *Chakramaradá bija*, *Karañja bija*, each two parts. Mix, make a powder, add cow's urine 2 parts, make a paste, and apply.

Used in skin diseases, such as ring worm, prurigo, &c.

208 *B.* *Kalonaji*, *Sapheda jirūn*, *Anisuñ*, *Ajawána*, *Suvá*, *Methi*, *Unába*, *Dháná*, *Suñṭha*, *Pipali*, *Chitraka mula*, *Upaleta*, each one part, Jaggary 20 parts. Mix and make a confection. **Dose :** *dr.* i.

Used in puerperal diseases with fever, loss of appetite and disordered secretions, general debility, anœmia, chlorosis, &c.

HELLEBORUS NIGER.

THE RHIZOME.

Kutaki कूतकी *Káli-kutaki* (Bom., Hind. and Beng.) *Katu rohani* (Sans.) *Kháratika*, *Karatika*, *Khárabeka-asamedá* (Arab.) *Khárabeka-hĩndi* (Arab. and Pers.) *Bálakadu* (Mah.) *Karu* (Guz.) Black Hellebore (Eng.)

Characters : It is a rhizome. As met with in the bazaar, it is of two different colours, each having a different name: 1. *Kadu*, and 2. *Káli Kuṭaki*. *Kadu* occurs in short broken pieces from 1 to 3 inches long. In size each piece resembles a goose quill. Externally it is smooth and of a brownish white colour. It is slightly shrivelled, and marked here and there with scars of fallen rootlets. It is very fragile, light, and soft, and can be compressed between the fingers. On section, the cut surface is black, and appears as if made up of layers or scales. It has a white broken ring between the centre and the external surface. *Káli Kuṭaki*: The peices resemble in size those of *Kadu*. Their colour is brownish dark. They are somewhat thicker than those of *Kadu*. Externally each piece is covered over with numerous (from 3 to 4) longitudinal nerved scales. These are the marks of leaf-lets. On section the cut surface is analogous in colour, appearance &c., to *Kadu*. Both have a smell somewhat like that of *Majitha* or tobacco. The taste is very bitter.

Preparations : Decoction, infusion, powder, &c.

Actions and Uses : It is a powerful bitter tonic, stomachic, also an antiperiodic, and in large doses a mild laxative. With other purgative medicines, it is given as an aperient. It is useful in bilious fevers, dyspepsia, cachaxia, and tertian fever.

Dose : As a tonic *grs.* x to *grs.* xx; as an aperient *dr.* $\frac{1}{2}$.

Remarks : The root is supposed to be the product of *Picrorhiza Kurroa* (scrofulariaceæ.)

209 ℞. *Kuṭaki* 5, *Nāga keśara* 1, *Lāla khāṇḍa* 5, *Variáli* 5.

Mix and make a powder.

Dose: *grs.* xx.

Used in dysentery.

210 ℞. *Kuṭaki*, *Kariātu*, *Himaja*, *Chitraka chhála*, *Sháhterá*,

Válo, each *dr.* i. Mix and make a decoction in the usual way.

Dose: *dr.* $\frac{1}{2}$ to *dr.* i.

Used in chronic intermittent fever, and dyspepsia.

211 ℞. *Kuṭaki*, *Kariātu*, *Suñtha*, *Pipali*, *Devadáru*, *Motha*,

Jethimadha, *Kharasalió*, each equal parts. Mix, and make a decoction.

Dose: *dr.* $\frac{1}{2}$ to *dr.* i.

Used during convalescence after fever.

- 212 R. *Kuṭāki* 5, *Nipālo* 3, *Triphalā* 4, *Tañkaṇa khāra* 3, *Java khāra* 3, *Sañchala* 4, *Miri* 8, *Hīṅgaḷo* 2, *Chinio guṇḍa* 5, *Bavañchi* 5, *Jaggary* 10. Mix and make a pill mass. Dose: grs. v to grs. viii.

Used in scanty secretions, constipation, and dyspepsia.

- 213 R. *Kuṭaki*, *Nimadā chhāla*, *Drākhsha*, *Jethimadha*, each equal parts. Mix and make a decoction.

Dose: dr. 1 to drs. 1½.

Used in bilious fevers.

COPTIS TEETA.

THE ROOT.

Mishamitita मीशमिता *Haladio Bachanāga*, *Maha mirāna* (Bom. and Hind.) The golden thread root (Eng.)

Characters: It is a creeping, golden or yellowish rhizome, as thick as a cane, and marked with projections where the rootlets have been broken off. The rhizome is jointed at the upper end. It is knotty, perfectly dry, and brittle. On section, it breaks with a short fracture. The taste is intensely bitter. The root if chewed, tinges the saliva yellow. It is spongy in the centre. It is yellow with a brown tinge.

Preparations: Powder and infusion.

Actions and Uses: It is one of the best and most intensely bitter tonics, and febrifuge, and said to be useful in jaundice. As a tonic it increases appetite, restores digestive powers, and removes flatulence and visceral obstructions. In catarrhal and rheumatic conjunctivitis, this root, made into a paste with *Rasavañti*, is used as a collyrium for the eyes.

Dose: grs. v to grs. x.

Remarks: Some suppose it to be *Pilijari* (*Thalictrum foliosum*.)

CLEMATIS TRILOBA.

THE LEAVES.

Ranajai રાનજી *Ránajái* (Mah.) *Moravela* (Hind.)

Characters : It is a climber. The young branches are tomentose and silky. The leaves are on longish petioles. They are simple or ternately divided, elliptic or ovate, and lanciolate. The flowers are large and white.

Preparations : Infusion.

Actions and Uses : The leaves are alterative and somewhat acrid. An infusion of them is said to be useful in leprosy, fever, and blood diseases.

Remarks : The dry drug cannot be had at the druggists, hence it should be obtained fresh from herbalists. The leaves of *Gouríáná* are used by villagers in combination with *Ránajái* leaves.

THALICTRUM FOLIOLOSUM.

THE RHIZOME.

Pilijari પીલીજરી *Mamirána* (Bom.) *Pilijari* (Hind.) *Mamiro* (Sindh and Guz.) Gold thread (Eng.)

Characters : It is a creeping, yellow coloured rhizome. Each piece is as thick as a goose quill. The surface is slightly contorted, knotty, and covered with scales of fallen leaves and fibres of rootlets. On section, the cut surface is of a deep yellow colour. It is hollow in the centre, and resinous. The light yellow ring arranged in wedges is found between the hollow and the external portion. The external portion is of a deep orange colour. The taste is bitter. The odour resembles that of *Gourochana*.

Preparations : Powder, and watery extract.

Actions and Uses : The root is a purgative, also a bitter tonic, and febrifuge. It is said to be useful in jaundice, flatulence, and visceral obstructions. As a tonic, it is given during convalescence from acute diseases. It lessens the intensity of fever, and acts gently on the bowels; thus it is a good substitute for rhubarb. As a collyrium, it clears the sight. The snuff prepared from it clears the brain. It relieves toothache.

Dose: Of the powder *grs.* v; the watery extract *grs.* ii.

Remarks: This rhizome is often mistaken for that of *Coptis teeta*.

DELPHINIUM SANICULÆFOLIUM.

THE FLOWERING PART OR THE HERB.

Trayamana अयुधम *Asapraka*, *Zarira* (Arab.) *Asafraka*, *Asaperaga* (Pers.) *Tráyanatika* (Sans.) *Tráyamána* (Guz. and Mah.) *Asabarga*, *Yafiza* (Punj.) *Gula jalila* (Hind.)

Characters: The drug is of a light brown, or yellow colour. When placed in water it tinges it with a bright yellow colour. It consists of pieces of an angular and furrowed stem (generally torn lengthwise); leaves; flowers which are ribbed; and pointed follicles. The taste is bitter. It has a somewhat aromatic smell.

Preparations: Compound powder, poultice, and decoction.

Actions and Uses: It is said to be a bitter tonic, diuretic, and aperient, and is useful in fevers and dyspepsia. It is also an anodyne, and is recommended in diseases of the spleen, jaundice, and dropsy. Locally it is made into a poultice, and used to relieve inflammatory swellings. Its ashes are useful in itch.

Remarks: The scientific name is derived from Delphnee, a fancied resemblance to nectary. Sometimes the rhizomes of *Valeriana Hardwickii* are sold by the native druggists instead of this drug. It is used for dyeing silk.

- 214 B. *Tráyamána*, *Pitapápadá*, *Káloválo*, *Kudáchhála*, *Kariátu*, *Dhamáso*, equal parts. Make a decoction in the usual way and add honey.
Used in bilious fever.

PÆONIA OFFICINALIS—FEMALE PEONY.

THE TUBERS.

Ude-salama उदसालम *Ude-sálama* (Bom.) *Ude-salapa* (Hind.)
Piony rose (Eng.)

Characters: The tuber is from 1 to 2 inches in length, and from $\frac{1}{2}$ to 1 inch in thickness. It is hard and heavy. The shape is conical.

The outer surface is brown, shrivelled, tough, and rugous. At the top of it there is a hard conical point, the remains of a stem. When cut it presents a surface resembling *Kátho* or *Chobachini*. The cut surface consists of 2 or 3 rings which are of a bluish shade of colour. The whole is starchy. The smell is peculiar and resembles that of *Ipecacuanha*. The taste is sweet and nauseous.

Preparations: Decoction.

Actions and Uses: The root is reputed to be a blood purifier and an antispasmodic. It is highly esteemed as a remedy in uterine obstructions, colic, and bilious obstructions leading to dropsy. In hysteria, epilepsy, and convulsions, it is a good remedy. Given in large doses, it causes headache, giddiness, vomiting, &c.

Remarks: The root contains starch, sugar, and tannin, and oxalic and phosphoric acids.

ACONITUM PALMATUM.

THE TUBER.

Vakhama वाकमः *Vákhamá* (Bom.) *Bishamá* (Hind.) *Vishama* (Sans.) *Vakhamo* (Guz.)

Characters: The tuber is starchy, of a light brown colour, very hard, and heavy. Externally the surface is longitudinally furrowed. Internally the cut surface is compact, shining, homogeneous and resinous. The taste is intensely bitter. The smell is somewhat aromatic, resembling that of *Ativisha*.

Preparations: Powder.

Actions and Uses: It is a most powerful bitter. Like *Atisha* it is also a febrifuge, tonic, anthelmintic, and astringent. It is highly recommended for checking diarrhœa and vomiting, to relieve the pain of colic, and expel or destroy intestinal worms. It is also useful in the treatment of cholera. Locally its paste is a useful application to relieve painful rheumatic joints.

Dose: *grs.* viii to *grs.* x.

Remarks: *Vákhamá* is a corruption of *Vishama* (Sans.) which means irregular. This is on account of the uncertain properties of this drug when given in large doses.

215 B. *Vákhamá* 2, *Kálá miri* 5, *Jáepatri* 4. Mix and make a powder. Dose: *grs.* vi to *grs.* x.

Used in colic, diarrhœa, and vomiting.

MAGNOLIACEÆ—The Badiana order.

These are large trees or shrubs, with beautiful leathery foliages and fragrant flowers. The fruit consists of numerous carpels. It may be dry or succulent, dehiscent or indehiscent, and distinct or somewhat coherent. The seeds are solitary or several; the albumen is fleshy and homogeneous. Plants in this order are remarkable for their bitter tonic and aromatic properties. They contain an essential oil, a bitter principle, and sometimes tannic acid.

ILLICIUM ANISATUM.

THE FRUIT.

Badiana بادیان *Bádián-i-khatái* (Pers.) *Bádiána* (Bom.) *Anasaphala* (Hind.) *Ráziyánje-khatái* (Arab.) Star anise or Chinese anise (Eng.) The oil: *Anisá-na-tela* (Guz.) The oil of aniseed (Eng.)

Characters: The capsule or fruit is of an iron brown colour. It is formed by from 8 to 13 carpels arranged like stars. Each segment is oval with a broad base. It is compressed on both walls and has a boat-like prominence at the top. It is hard to the touch. It has a cavity which contains a seed, the cavity opening by a slit at its upper margin. The seeds are smooth, shining, ovato-oval, ribbed on one side, and of a chestnut colour. The kernel is oily. The taste is feebly aromatic, acrid at first, then astringent, and lastly bitter. The flavour and odour resemble that of *Kabábachini*. The oil is colorless or pale yellow, and of a warm sweetish taste.

Preparations: Infusion and essential oil.

Actions and Uses: The oil and the fruit are aromatic, carminative, stomachic, expectorant, diuretic, anodyne, and stimulant. The oil is applied to the abdomen of children, to relieve the pain of colic, to the joint in rheumatism, and to the front and back of the ear in pain in the ear. When given internally, an infusion of the fruits with tea is of great service in flatulent and spasmodic affections of the intestinal canal.

Dose: Of the infusion, *dr.* $\frac{1}{2}$ to *dr.* i; of the oil, 2 to 3 drops.

Remarks : *Variáli* is often erroneously sold in the bazaar by Mahomadan or Bohree druggists under the name of *Bádiána*. An inferior variety of star anisi is met with in the bazaar. They are abortive, have hardly any odour, 13 carpels instead of eight, and their colour is darker. In them the ends of the carpels are more turned up than in the commercial variety.

MICHELIA CHAMPACA.

THE BARK.

Champa chhala ചിമ്പാച്ചാല The tree : *Pivalá chámplá*, *Chámplá-nu-jháda* (Bom.) *Champaka*, *Pita-champaka*, *Suvarna champáka* (Sans.) *Champá* (Hind.) The bark : *Chámplá chhála* (Hind.)

Characters : The bark is light brown externally. It can easily be removed from the wood by mere scratching. The inner portion is reddish brown, mottled with longitudinal green stripes and irregular pale yellow dots or scars. The taste is somewhat bitter. It has a faint aroma. It contains starch.

Preparations : Infusion.

Actions and Uses : The bark is said to be an alterative, bitter tonic, and aromatic. As an alterative, it is an excellent substitute for guaicum, and is used in chronic rheumatism. As an aromatic bitter and febrifuge, it is used in intermittent fevers.

Remarks : Fresh bark is sold by herbalists. Its yellow, sweet scented, tulip-like flowers are used by Hindu women as an ornament wear at the back of the head.

ANONACEÆ—The sitaphala order.

These are trees or shrubs with alternate, simple, and ex-stipulate leaves. The fruit is composed of dry or succulent carpels, which are distinct or united, so as to form a fleshy mass. The seeds are one or more. The albumen is ruminated.

ANONA SQUAMOSA.

THE LEAVES AND SEEDS.

Sitaphala शीतलफली *Sitáphala* (Hind. and Bom.) *Sharipha klíja* (Pers.) Custard apple (Eng.) The leaves : *Sitáphala pána* (Hind.)

Characters : The seeds are dark brown, polished, with bi-lateral ridges; one end is umbilicated with a ring and a central pit. On section the interior contains ruminated albumen of a brownish colour. The taste is acrid and oily. The odour is nauseous. The leaves are lanciolate, smooth, green, glaucous, or of a dark green colour.

Preparations : Poultices and paste.

Actions and Uses : The leaves are made into a poultice and locally applied to sores infested with maggots. A paste of seeds and immature fruits is used externally for guinea worms, and for removing lice from the head. Some use the seeds as an application to the os uteri to procure abortion.

Remarks : The seeds, leaves, and raw fruit contain an acrid principle which is destructive to insect life.

The leaves can be obtained fresh from herbalists.

MENISPERMACEÆ—The gulavela order.

It consists of trailing shrubs with usually simple, entire leaves, uni-sexual flowers, and small fruits. The plants contain a narcotic and bitter principle; some contain mucilage or starch and a yellow coloring matter. One species *Kákamári* contains an excess of narcotic principle in its seeds. It is very poisonous, and is used in poisoning fish and games. Some are valuable tonics and anteperiodics.

COCCULUS CORDIFOLIUS.

THE PLANT AND FECULA.

Gulavela गुलवेला *Gulavela*, *Giroli* (Bom.) *Guracha*, *Gulañcha*, *Geloe* (Hind.) *Gaduchi*, *Amarata-vela*, *Amaratá* (Sans.) *Gadu*, *Gado* (Guz.) **Fecula**: *Galo satta* (Bom.) *Giloe-ká-sata*, *Pálo* (Hind.) *Gulañcha satva*, *Gulavelá satva* (Mah.)

Characters : The epidermis of the stem when fresh, is of an ash colour and presents numerous warty prominences. The dry bark is of a dull brown colour, and easily separable from the wood. Its inner portion is green and succulent. The wood is of a light white colour, and presents radiating, menispermal, porous rings. The taste is very bitter and mucilaginous. The leaves are green, cordate, succulent, smooth, and highly mucilaginous. Fecula occurs in pieces of various shapes and sizes. It is of a pure white colour, and resembles *Gahuñ-nu-dudha*. The taste is bitter and mucilaginous. It adheres to the tongue like *Vañsa lohana*.

Preparations : The fresh juice of the plant and *Galo*.

Galo is a kind of starch prepared by powdering the stem and washing out the starch with water.

Actions and Uses : The plant is said to be a valuable alterative tonic, antiperiodic, and diuretic. It is given in general debility, fever, jaundice, dyspepsia, urinary diseases, rheumatism, skin diseases, &c. The starchy extract is a useful stomachic, tonic and aphrodisiac. It is given in seminal debility.

Remarks : Herbalists sell the stems of *Cocculus Malabaricus* for *Gulavela*, but the stem of *Cocculus Malabaricus* is hard, thick, and less fleshy. It is not so efficacious as *Gulavela*.

The word *cocculus* is derived from *coccus*, which means cochineal. This is in allusion to the fruits of *Cocculus Cordifolius* and several other species of a similar scarlet or *Kiramaja* colour.

Under the name of *Kamalā-ni-mālā* a wreath is sold by druggists. It consists of pieces of fresh stem of *Gado*; each about an inch long and tied in the middle in loose knots with a piece of thread; a piece being placed an inch apart from another. The wreath is put round the neck of jaundiced patients. It is a common belief among the credulous natives that the wreath has the property of lessening the force of jaundice, and that its good effects are manifested by the wreath increasing in length, in proportion as the force of jaundice diminishes. This is a mere delusion. The increase in the length of the wreath is due to the drying of the stems by lapse of time, and to the narrowing of the knots of the thread over the stems.

216 B. *Gulavela* 2, *Dálachini* 3, *Madha* 2. Make a decoction in the usual way.

Used in asthma, bilious fevers, &c.

- 217 R. *Gulavela* 2, *Limado* 3, *Indrajava* 4, *Suñṭha* 5, *Motha* 2, *Patola* 3, *Ratāñjali* 2, *Kutaki* 5. Mix and make a decoction in the usual way, add *Pipalimula* 5. Dose : oz. i.
Used in fever, with great thirst and burning heat of the body, and in water brash.
- 218 R. *Gulavela-no-pálo* 4, *Amalá* 1, *Himaja* 1, *Suñṭha* 1, *Pipali* 1. Mix and make a decoction in the usual way, then add *Madha*, q. s. Dose : dr. i to drs. ii.
Used in remittent fever.
- 219 R. *Gulavela* 2, *Apamaragá* 1, *Vávadiṅga* 3, *Pachakamula* 2, *Sáta mula* 2, *Vacha* 3, *Himaja* 4, *Suñkhá huli* 2. Mix and make a powder. Dose : grs. x to xv.
Used as a blood purifier, also an alterative tonic in syphilis, scrofula, &c.
- 220 R. *Gulavela* 2, *Dháná* 5, *Limadáni chhála* 4, *Padamakáshta* 2, *Ratāñjali* 1. Mix and make a decoction in the usual way. Dose : oz. $\frac{1}{2}$ to oz. i.
Used in fevers, burning of palms and soles, water brash, vomiting, and anorexia.
- 221 R. *Gulavela* drs. iii, *Kariátu* drs. ii, *Motha* dr. i. Mix and prepare an infusion in the usual way. Dose : dr. i to drs. ii.
Used in old standing fevers, dyspepsia, chronic rheumatism, and convalescence from many exhausting diseases.

COCULUS INDICUS AND ANAMIRTA COCCULUS.

THE SEEDS.

Kakamari ककमरी *Kákamári* (Hind.) *Kákaphala* (Bom.)
Zehere máhi (Pers.)

Characters : The seeds are larger in size than a pea. They are kidney shaped and of a dark brown colour. The surface is rough,

highly tubercled, and marked with a circular scar at the hilum. On section each seed contains a brown, resinous, and oily kernel, which is highly acrid, and has a rancid oily smell. Its active principle is contained in the kernel.

Preparations : Decoction, ointment, and paste.

Actions and Uses : Its action resembles that of *Kuchālā*. Like it, it is used in paralysis of the legs, sphinctor vesicæ, and sphinctor ani. It is an efficient remedy in epilepsy, (whether idiopathic or symptomatic,) chorea, and other spasmodic diseases. Locally as a parasiticide, it is beneficially used in skin diseases, such as pediculi or lice, porrigo, and ring worm of the scalp. Care should be taken that the skin should be entire where the application is to be made.

Dose : Decoction *dr.* $\frac{1}{2}$.

Remarks : The Persian name *Zehere māhi* is derived from *Zehera*, which means poison, and *Māhi*, a fish. The seeds when given to fishes are intoxicating and poisonous.

JATEORHIZA PALMATA.

THE ROOT.

Kalambo कलम्बु *Kalumbe-ki-jera* (Hind.) *Kalamba kachari*, *Kolambāni kātri* (Bom.) *Kalumbo*, *Rejade*, *Kalumba* (Guz.) *Bikhe kalumbah* (Pers.) *Calumba root* (Eng).

Characters : As sold in the bazaar, the dry root exists in flat, circular or oval, transverse slices about 1 to 2 inches in diameter, and from 3 to 6 lines in thickness. Each slice is very light; brown externally, and yellow internally. It is corky looking and shrunken. The most central portion is formed of tubular corky fibres (cut transversely). It is convex and surrounded by a depressed border. External to it is another layer which is also corky and made up of flat or tape like fibres cut transversely. This portion is surrounded by another outermost layer which is nearly flat, of a yellow colour, and hard. The root consists of a bark which is firmly adherent to it. The most external surface of the bark is of a dark brown colour and irregularly wrinkled. Each slice breaks very readily and with a short mealy fracture. The taste is very bitter, aromatic, and mucilaginous. The odour resembles that of *Nimado*. A decoction of it becomes black with iodine.

Preparations : Infusion and powder.

Actions and Uses : It is a stomachic and tonic. It improves the quality of gastro intestinal secretions, increases the appetite, and improves digestion. It does not produce constipation. As a vegetable bitter it is highly recommended in diarrhœa, dysentery, and other affections of the bowels. In vomiting of pregnancy, and in vomiting and purging due to teething, *Kalumba* is a very useful remedy, as it does not cause nausea, sickness or headache. Like other powerful tonics, it is very efficient in atony of the stomach and bowels. As a bitter tonic it is given during convalescence from fever. It contains starch, and hence it is used as a demulcent. Its effects are similar to those of Iceland moss or Quassia. *Kalumba* is an aromatic, besides being a tonic. Its effects resemble those of rhubarb, but the latter is a laxative and also an astringent.

Doses : Of the powder, *grs.* xx to *grs.* xxx; infusion, *dr.* i.

222 R. *Kolambá-ni-Kátri* 5, *Ativisha* 5, *Belá* 4, *Dálimba chhála* 4. Mix, and make a powder.

Used in bilious diarrhœa.

COCCULUS VILLOSUS.

THE ROOT AND LEAVES.

Tana at *Tána-che-vela* (Mah.) *Pátála galori* (Guz.) *Vásádani*, *Patala-garudi* (Sans.) *Vásanavela* (Bom.) *Jala-jamani* (Hind.)

Characters : It is a climbing plant. The root is very crooked, twining round itself, and giving off few fibrous rootlets. The colour is light brown. The surface is smooth. The odour is peculiar. It has a disagreeable taste. The leaves are thick, succulent, oblong, ovate, or sagitate.

Preparations : The mucilage of leaves, and decoction of root.

Actions and Uses : It is an alterative, and demulcent. The juice of the leaves is cooling, when applied externally. The mucilage is given with sugar internally in gonorrhœa. The decoction is useful in rheumatism, gonorrhœa, &c.

Doses : Ad-libitum.

Remarks : The juice of the leaves when kept for a few seconds has the property of coagulating itself into a jelly-like substance, hence the Hindi synonym *Jalajamani* is derived from *Jala*, water, and

Jamani, to coagulate. The root is a good substitute for sarsaparilla. Fresh roots should be obtained. The Bombay name *Vasanavela* is a corruption of the Sanscrit *Vásádani*.

CISSAMPELOS PAREIRA.

THE ROOT.

Venivela বেণিবেল *Nemuka* (Beng.) *Nirabishi*, *Ambasthá*, *Páthá* (Sans.) *Karañdhiyo* (Guz.) *Páda mula* (Bom.)

Characters : It is a creeper. The root bark is of a dark brown colour, crooked, knotty, and seldom branched. The bark is soft, light, and slightly furrowed. On section the root presents a radiating menispermial ring of a whitish grey colour; the ring is similar to that found in *Kalambo*. The taste is bitter. The smell is aromatic.

Preparations : Infusion and decoction.

Actions and Uses : The plant is said to be an alterative, bitter tonic, astringent, and diuretic. It is recommended in fever with diarrhœa, dyspepsia, and internal inflammations. As a diuretic, it is especially given in urinary diseases.

Remarks: Its characters are identical with those of *pareira brava*. The word *Venivela* means a braided creeper. This is in allusion to the resemblance of large roundish bracts of the female flowers to the plaited hair of children and women. It is called *Nirabishi*, which means not poisonous. It is not poisonous like the aconites.

223 ℞. *Venivela*, *Atavisa*, *Indrajava*, and *Suñtha*, each one part. Make a decoction. Dose: oz. i to ozs. 1½.

Used in diarrhœa, indigestion, &c.

224 ℞. *Venivela* 4, *Miri* 5, *Hiñga* 3, and *Suñtha* 6. Mix, and add *Madha* to make a pill mass.

Dose: grs. iii to grs. v.

Used in indigestion, colic, &c.

225 ℞. *Venivela*, *Bela*, *Chitraka chhála*, *Trikatu*, *Jámbu chhála*, *Dálimba chhála*, *Dháuri phula*, *Katuki*, *Atavisha*, *Motha*, *Dáruhalada*, *Kariátu*, *Indrajava*, each dr. i, *Kudáchhála*, equal in weight to all the ingredients. Mix and make a powder. Dose: grs. xl to grs. lx.

Used in diarrhœa and fever; also in dysentery.

BERBERIDEÆ—The Daruhalada order.

It comprises perennial herbs and shrubs with succulent fruits. The plants contain malic or oxalic acid. The bark is very bitter and astringent. A bitter principle exists in all species.

BERBERIS ARISTATA.

THE STEM, FRUIT, AND EXTRACT.

Daruhalada داروہالادہ The stem : *Dáruhaláda* (Guz.) *Dáravi*, *Dáruharidra* (Sans.) *Dárahāḷada* (Hind. and Bom.) The extract : *Rusota*, *Rasavañti* (Hind. and Bom.) Indian Lycium (Eng.) *Rasāna jānū* (Sans.) *Hazezi hind* (Arab.) The fruit : *Zarishka* (Pers., Hind. and Bom.) Indian Barberry (Eng.)

Characters : The stem occurs in circular pieces, each from 1 to 2 or 4 inches long, and about 1 to 2 inches in diameter. It is very bitter and of an astringent taste. The root bark is smooth, and of a dull grey colour. When cut into, the cut portion is yellow. It is made up of a central ring with numerous radiating, wedge-like projections, which are made of fibrous walls. Between these projections is found a spongy substance, perforated by small holes. The fruit resembles raisins. It occurs as a black sticky mass of a very acid taste. The extract or *Rusota* is a dark brown lumpy mass of a bitter and astringent taste.

Preparations : Extract, fruit itself, and decoction or infusion of the stem.

THE EXTRACT : This is prepared from powdered stem or wood by exhaustion with water, filtration, and admixture with cow's milk and final evaporation.

Actions and Uses : The properties are similar to those of turmeric. The Indian Barberry and stem are regarded as an alterative tonic, astringent, anteperiodic, and diaphoretic, and used in menorrhagia, bilious complaints, diarrhoea, jaundice, &c. The bark is a tonic, astringent, diuretic and diaphoretic. It is sometimes used by dyers in the preparation of a yellow dye. A decoction of it is used during convalescence from fevers. The fruit possesses astringent, cholagogue, and tonic properties. It is also a cooling and acid.

Locally *Rusota* is rubbed round the eyes in conjunctivitis and the black eye. Mixed with honey, it is applied to aphthæ in the mouth and to abrasions of the skin. It is a useful application to relieve the pain of cancer, and absorb glandular swellings. In neuralgia of the head and face, intercostal neuralgia, and visceral neuralgia, it acts by lessening the pressure upon the sensitive nerves. In palpitations of the heart and spasmodic diseases its application is highly extolled.

Doses : *Rusota* grs. ii to grs. iv; powdered stem grs. x to grs. xx.

Remarks : The word *Rasavañti* is derived from *Rasa*, juice, and *Vañti*, pulp. It is a pure juice, obtained from the stem and wood. The fruit contains plenty of tartaric and malic acids. The bark is often used to adulterate *Dálimba chhála*.

- 226 B. *Daruhalada* 5, *Rasavañti* 2, *Motha* 3, *Bhilámo* 2, *Bela phala* 5, *Aduso* 5, *Kariátu* 5. Mix and make a decoction in the usual way; when ready add *Madha* 4.
Dose : dr. $\frac{1}{2}$ to dr. i.

Used in leucorrhœa, menorrhagia, &c.

- 227 B. *Daruhalada* 5, *Amalá* 4, *Madha* 3. Mix and make a pill mass. Dose : grs. iv to grs. vi.
Used in painful micturition, acid urine, &c.

- 228 B. *Daruhalada* drs. v, *Madha* drs. ii. Make a decoction in the usual way. Dose : dr. i.
Used in jaundice, and as a wash for indolent ulcers.

- 229 B. *Rasavañti* 1, *Atavisha* 1, *Kudáchhála* 1, *Indrajava* 1, *Suñtha* 1, *Dhauri phula* 3. Mix and make a powder. Dose : dr. i.
Used in bilious diarrhœa, indigestion, &c.

- 230 B. *Rasavañti* 1, *Káñti máta* (*Tándubija*) 5. Mix and make a paste. Dose : grs. ii to grs. v.
Anupána : *Madha*.
Used in menorrhagia, internal hæmorrhages, &c.

- 231 B. *Rusota* 2, *Afima* 2, *Phataki* 3, *Señdhálona* 4, *Himaja* 2. Mix, make a paste, and apply.
Used in inflammatory swellings, and as a collyrium for the eyes in conjunctivitis.

NELUMBIACEÆ AND NYMPHÆACEÆ.

The Kamala and Poini order.

These are generally aquatic plants, creeping in a horizontal direction, and attached to the earth by numerous fibres. The Thalamus is large and forms a disk-like expansion. The leaves are found floating on the surface of the water, and are mucilaginous. The flowers are very large, beautiful, of a rose blue or white colour, and aromatic. The rhizomes are starchy, astringent, and bitter. The seeds are dark brown and starchy.

The plants have bitter and astringent properties, also sedative and narcotic. Many of these are used as food.

NELUMBIUM SPECIOSUM.

THE FLOWERS, FILAMENTS AND ANTHERS, LEAVES, AND SEEDS.

Kamala phula कलकल The flowers: *Kamala phula*, *Kamāla*, *Kanavala* (Bom. and Hind.) *Kamala*, *Padama* (Sans.) *Neloiphara* (Arab.) *Nilophara*, *Nilota pala* (Pers.) Lotus (Eng.) The seeds: *Kamala kākari* (Bom.) *Vukhur-e-ni-laphara* (Pers.) *Pabadi* (Guz.) Pithagorean beans (Eng.) Filaments and anthers: *Kamala kesura* (Sans. and Hind.)

Characters : It is an aquatic herb with floating leaves which are peltate and roundish. Their upper surface is green; the under surface bluish. The flowers when fresh, are large, white and showy. The dry flowers have a brown colour. The sepals are 4 or 5; the petals numerous and in several wharls. The filaments are petaloid. The seeds, *Kamala Kākari*, are solitary, without albumen. In shape they are oval and resemble nuts. Externally, they are smooth, and brownish or greyish black. Their surface is covered with numerous minute whitish dots. The taste is horny. On section the cotyledon is white and starchy, and covered with a thin almond coloured membrane. Within the cotyledons there is a green embryo.

Preparations : Syrup of flowers, compound decoction of flowers and filaments; powder; confection of seeds; and paste of leaves.

Actions and Uses : The seeds are demulcent, diuretic, nutritive and cooling; often used as an article of diet and to diminish

venerial desires. The filaments and flowers are cooling, astringent, bitter, and expectorant. Locally fresh leaves are used as a paste with sandal wood or *Amalá* in burning heat of the skin. Syrup is useful in coughs, to check hæmorrhage from bleeding piles, in sanguineous fluxes from the bowels, menorrhagia, and burning sensation over the whole body. The leaf stalks are used as a cooling application to the forehead in cephalalgia. They are also used as an application in erysipelas and other external inflammations. A cooling bed sheet made of *Kamala* is used for fever patients, burning with high heat of the skin.

EURYALE FEROX.

THE SEEDS.

Makhana मखाना *Makhāṇā* (Bom.) *Makáná* (Hind. and Beng.)

Characters : It is a species of Nelumbiaceæ. The seeds are farinaceous, and when fried are known as *Dhāni*.

Preparations : *Dhāni*.

Actions and Uses : *Dhāni* is a nutritive, and is used as an article of food. It is also a powerful tonic. In Bombay *Makáná* is imported from Mathura and Benares.

POINI.

THE FLOWERS AND SEEDS.

Poini पोईनी *Poini* (Bom.) Water lily (Eng.) The seeds : *Kumábjā* (Bom.)

Characters : These are the flowers and seeds of *Nymphæa Alba*. The flowers are smaller than those of *Kamala* and of variegated colours. The seeds are very small, and tubercled.

Preparations : Powder, and syrup of flowers.

Actions and Uses : Both are demulcent and used in dysentery in combination with sugar.

Remarks : The powder of the seeds *Kamala kákari* is known by the name of *Bhesá bola*. It comes from Shenghai and is largely used by native women as a demulcent in leucorrhœa. The flowers commonly sold by the druggists under the name of *Nilophara* (Pers.) are not the flowers of lotus (*Nelumbium apaciosum*) but are those of water lily (*Nymphæa Alba*). *Bhesá bola* should not be mistaken for *Bhesá bola* which is a variety of *Hirábola*.

- 232 B. *Nilotaphara* fresh oz. $1\frac{1}{2}$ or dried oz. $\frac{1}{2}$, *Sákara* oz. i, Water ozs. 5. Make a syrup. Dose: drs. ii to drs. iii.

Used in remittent and other high fevers, heat apoplexy, and inflammatory diseases of the brain.

- 233 B. *Kamala kesara* 5, *Sañchala* 4, *Kaloñji* 3, *Jethimadha-no-siro* 2, and *Madha* 4. Mix and make a pill mass. Dose: grs. v to grs. x.

Used in menorrhagia, bleeding piles. &c.

- 234 B. *Kamala kesara* 4, *Nilotaphara* 4, *Jethimadha-ni-lákari* 3. Mix and make a decoction in the usual way. Dose: oz. $\frac{1}{2}$ to oz. i.

Used in vomiting and internal hæmorrhages.

- 235 B. *Kamala kesara* 5, *Nilotaphala* 5, *Rakta chañdana* 3, and *Himaja* 2. Mix, make a paste and apply. Used in hemicrania, and cephalalgia.

PAPAYERACEÆ—The afima order.

This order consists of herbs and shrubs, usually with a milky white, yellow, or blood coloured juice. The juice is acrid and narcotic. The flowers are white, pink, yellow, rose or red coloured, showy, regular, and symmetrical. The fruits are with numerous seeds. The seeds are albuminous and contain a bland nutritive fixed oil. In the genus *Papaver* (poppy) the juice is known by the name of *Afima*, which is inspissated by spontaneous evaporation and contains several alkaloids. It also contains the seeds which are bland and wholesome. The juice of *Dúruri* is yellow. Many plants are characterised by narcotic properties. Some are acrid, a few are purgative.

PAPAYER SOMNIFERUM (POPPY.)

THE SEEDS, CAPSULES, AND JUICE.

Afima अफिमा The concrete juice: *Aphyuna* (Arab.) *Aphina* (Hind.) *Aliphena* (Sans.) *Aphima*, *Apu* (Bom.) *Opium* (Eng.) The capsules: *Posta*

(Hind. and Bom.) *Khasakhasanā-didān*, *Afimanā-jīndavā*, *Khasakhasanā-posta* (Guz.) Poppy capsules (Eng.) The seeds : *Khashakasha* (Hind.) *Khasakhasa* (Bom.) Poppy or maw seeds (Eng.)

Characters : Poppy is a well known herb. It has two varieties: 1. *papaver nigrum*, and 2. *papaver album*. Both contain a concrete juice, which when fresh, is homogeneous and milky. In consistence it is like gum. It soon changes to a brown colour and becomes oily and dark. The taste is bitterish. The smell is unpleasant. The seeds are reniform, very small, white, grey, or greyish black. In taste they are sweet and oily. The capsules are ovate, oblong, or globular. They are marked in 3 or 4 places, with 3 or 4 longitudinal incisions, the incisions being limited to the middle third of the capsules. They have a very small thick stalk at the bottom, and at the top they are marked with a large radiating stigma. The colour is yellowish brown.

Preparations : *Afima*, poultice and decoction of poppy heads, and seeds.

Actions and Uses : The seeds are used as an article of diet. Medicinally they are demulcent, and nutritive; also mild astringent when given with *Sákara* and *Elaichi* (burnt.) They are useful in diarrhœa and dysentery. The capsules are active medicinal agents when gathered before they are ripe, but their narcotic effects are less powerful than those of *Afima*. They are astringent and narcotic when given internally. They promote talkativeness and increase the sexual power. They are given in the form of a syrup for the relief of cough and to check diarrhœa in infants. Locally the capsules are used as an anodyne for fomentations and also as emollients. Their poultice is applied to bruised, inflamed, excoriated, and swollen parts; to tender and irritable ulcers; and to the eyes in ophthalmia. Its solution is used as a soothing injection in cancer of the uterus. The inspissated juice is anodyne, narcotic, antispasmodic, aphrodisiac, and astringent. It is given internally in diarrhœa, sleeplessness, for the relief of colic, and in intestinal and inflammatory pains. As a local anæsthetic it relieves pain and allays spasms; as an astringent it checks hæmorrhages, lessens secretions, and restrains tissue changes. It is a great supporter of the flagging powers of the system. It is a constant and fitting accompaniment of various drugs whose action it intensifies, moderates, or checks. It is useful in fevers chiefly during exacerbation. It is also useful in supporting the strength, and in calming the exhausted nervous system. It should not be given at the commencement or during the height of fever with a dry tongue. In typhus fever, small-pox, and typhoid fever, during low muttering delirium with subsultus

and jactitations, it is highly beneficial, to revive the flagging nervous system. In fever with violent delirium, wakefulness, suffused eyes, and constant risings from the bed, *Afima* given in combination with *Bachandaga*, renders the patient tranquil and induces sleep. To children it should be given with the utmost caution, chiefly during eruptive fevers, to promote the development of the eruption. It has a salutary restraining influence in checking acute and chronic inflammations, in which it acts as an antiphlogistic, and removes the existing constitutional irritation. After obstetric operations, and even after surgical operations, its administration prevents secondary fever. Neuralgias are relieved by it. In sleeplessness due to pain, mental excitement, or exhaustion, it is very beneficial. In excessive excitement, as in acute meningitis, puerperal mania, and insanity, it should not be long continued as it would ultimately derange the digestion and the secretions. In sun stroke it may be used as a cure. In uræmic convulsions it acts beneficially if hypodermically injected. In traumatic tetanus its use has been followed by a great diminution in the force of the spasms. The pain and cough incidental to diseases of the respiratory organs are often relieved by *Afima*. Its use should be limited where the bronchi are filled with tenacious secretions. In the early stage of bronchitis where the tubes are dry and the cough painful, *Afima* mitigates the suffering. In phthisis it should not be used for a long time. In asthma, irritable heart, and angina, it may be given in small and repeated doses with good results. In disorders of the digestive organs, and chiefly vomiting and diarrhoea with colicky pains, the use of *Afima* is highly extolled. In acute dysentery it relieves tormina and tenesmus. In the chronic form it is efficiently given with astringents. In lientery it is productive of immense good. In the premonitory stage of cholera, opium acts like a charm. In peritonitis, and diseases of the urinogenital organs, such as calculous disorders, scalding, chordee, &c. *Afima* is a useful remedy. As a rule it should never be given in Bright's disease of the kidney. In diabetes it is superior to any other medicine. In dysmenorrhœa and in grinding pains during labour, *Afima* is an efficient palliative. As a local anodyne and soporific, its application is very successful in rheumatism (muscular), earache, toothache, paronychia, &c.

Dose : Of the powder *gr. i* for an adult, $\frac{1}{10}$ of a grain for a child 1 year old; of the syrup, *dr. i* for adults, and 10 drops for infants.

Remarks : The Arabs converted the Greek word *Opion* into *Aphiyun*. The word *Afima* means soporific. The Sanscrit word *Ahiphena*

is derived from *Ahi*, a snake, and *Phena*, the foam, from the belief that *Afima* was not a vegetable product but a produce obtained from the foam of snakes. Some Persian writers suppose that the *Tiriyáke Faruka* which Rustam obtained from Kaikáoos to give to Sohráb as a drink was *Afima*.

- 236 ℞. *Afima* 1, *Rasavañti* 1. Mix, make a paste in rose water and apply to the forehead.

Used in headache.

- 237 ℞. *Afima* 7, *Haratála* 1, *Manasila* 2, *Hĩṅgaḷo* 2, *Tañkana khára* 5, *Bachanága* 2, *Phataki* 4, *Gañdhaka* 4. Make a powder. Then add *Bhāṅgará-no-rasa*, *Dhaturá-no-rasa*, and *Nimadá-no-rasa* till a paste is formed.

Dose : grs. v to grs. viii.

Anupána ; *Adraka-no-rasa*.

Used in diarrhœa with high fever.

- 238 ℞. *Afima*, *Jáephala* equal, parts. Roast over a fire; when ready, add *Madha* and make a pill mass.

Dose : grs. ii.

Used in diarrhœa, and chronic dysentery.

- 239 ℞. *Afima* 1, *Jaephala* 2, *Lavaṅga* 2, *Kapura* 1, *Taja* 1, *Hĩṅgaḷo* 1, *Abraka bhashma* 2, *Bachanága* 2, *Maṇḍura* 2. Mix and make a powder. Dose : grs. iii.

Used in acute diarrhœa with anasarca, first stage of cholera, and spasmodic diseases.

- 240 ℞. *Afima* grs. xii, *Tukhame-káhu* grs. xxx, *Kálámiri* grs. xxx, *Pipali* grs. xxx, *Suñṭha* grs. xx. Reduce the ingredients to a fine powder and add mucilage to form a pill mass. Dose : From one to two pills of grs. iv each.

Used to relieve pain and produce sleep in chronic painful diseases.

- 241 ℞. *Khasakhasa* (partially parched) 5, *Sákara* 5, *Himaja* 4 (fried in *Ghee* or castor oil.) Mix and reduce to a powder. Dose : grs. x to grs. xv.

Used in mild cases of dysentery.

- 242 B. *Khasakhasa* 5, *Elachi* 4, *Sákara* 6. Mix and make a powder. Dose : grs. v to grs. xv.
Used in dysentery.

ARGEMONE MEXICANA.

THE JUICE, LEAVES, AND SEEDS.

Daruri दारु *Satyánasi* (Hind.) *Shiála kañtá* (Beng.) *Kánte dhotrá*, *Firūngi dhotrá*, *Pivalá dhotrá* (Bom. and Mah.) Yellow gamboge thistle (Eng.)

Characters : The whole plant abounds in milky yellow juice which resembles gamboge. The leaves are prickly thick, of a greenish glaucous colour, and marked with whitish veins. The capsules are oblong, oval, about 1 to 1½ inch long, and contain many seeds. The seeds are of a dark brown colour and tubercled. They resemble *Kumá bija*. On section they are resinous and oily. The oil is of a yellow colour and nauseous odour. It is generally adulterated with *Sarasun tela*.

Preparations : The juice, paste of the leaves, and oil expressed from the seeds.

Actions and Uses : The whole herb is sudorific. The juice, seeds, and oil are reputed to be narcotic, acrid, and emetic. The milky juice is used as an application to warts and indolent ulcers. As an hydragogue cathartic it is used in dropsy. Some consider the seeds as possessing the properties of opium; others, those of ipecacuanha. The oil is used in cholera, dysentery, and other intestinal diseases. It is also used as an application to leucodermal spots and other skin diseases.

Dose : Of the oil m. xx to m. xxx.

Remarks : The herb derives its name *Daruri* from the word *Dáru*, which means gunpowder. This is in allusion to the seeds, which resemble the grains of gun-powder. The name *Pivalá dhotrá* is derived from *Pivalá*, which means yellow, and *Dhotrá*, a corruption of the word *Dhaturá*. The flowers are bright yellow, the leaves have resemblance to those of *Dhaturá*, and hence the above name. It is also called *Kánte dhotrá* because the herb is prickly or full of *Káñtás*. It is also called *Fariñgi dhotrá* on account of the plant having been first introduced into India by *Firañgis*. The plant can be had at herbalists, the seeds from druggists.

PAPAVER RHŒAS.

THE CAPSULES AND PETALS.

Gulalala गुलाला *Lála posta* (Hind.) *Jaṅgali mudriká* (Bom.) *Lálá*, *Khasakhasa-nu-jháda* (Guz.) *Khashakhash-i-manasura* (Arab.) *Kokanáre surkha* (Pers.) *Rakta-postu-vrikshaka* (Sans.) *Támbadá-khasakhasachá-jháda* (Mah.) Corn poppy or red poppy (Eng.)

Characters : The flowers are of a reddish colour, and resemble those of opium. The capsules are smooth and globular, but smaller than those of opium. The odour is narcotic.

Preparations : Syrup and infusion.

Actions and Uses : It is slightly sedative; other properties are similar to those of poppy capsules, but somewhat milder.

Remarks : The term *Mudriká* is derived from the Sanscrit word *Mudrá* (a seal or mark.) This is in allusion to the stigma of the capsules of *Gulalálá* used by ancient Hindus after bathing, as a mark or *Tiláka* impressed upon the middle of their forehead. The stigma or mark resembles in shape a *Chakra* (wheel.) *Chakra* is the symbol of a sacred instrument used by the God Vishnu, and hence the followers of Vishnu and others use a seal made of metal or wood with a *Chakra* engraved upon it. This seal is impressed, besides the middle of the forehead, upon both the temples, breasts, shoulders, and the pit of the stomach. It is often variously inscribed with the words *Shri Náráyana*, *Shri Vishnu* &c., and dipped in *Gopichaṇḍana* before use. It is a common practice among the Hindus, especially among *Verágis* or *Sádhus*, to brand their arms with this metallic seal.

FUMARIACEÆ—The Shahtera order.

It consists of smooth herbs with a watery juice. The leaves are alternate, and much divided. The flowers are irregular, unsymmetrical, pink red, or white. The fruits are small, podlike, dehiscent, or indehiscent, one or two seeded and succulent. The seeds are shining, and crested. They contain fleshy albumen. All plants possess bitter, acrid, astringent, emmanagogue, and aperient properties.

FUMARIA PARVIFLORA.

THE PLANT.

Shahtera शाहतेरा *Sháhterá* (Pers.) *Pitapápadá* (Hind. and Bom.)
Sháhterája, *Baklat-ul-malika* (Arab.) *Kshetera parapati* (Sans.)

Characters: The drug is of a greyish yellow colour, and resembles in appearance *Tráyamána*. It consists of broken leaves, stems, capsules, flowers, and seeds. The leaves are greenish, thick, and narrow. The stems are greyish yellow, one to two inches long, furrowed, and rather quadrangular. The capsules are very small, greyish green, tubercled, slightly compressed, and present a transverse ridge which extends from the umbilical scar to the apex. The flowers are irregular, unsymmetrical, and either violet coloured or white. The seeds are very small, and consist of fleshy albumen. The taste of the whole drug is bitter, acrid, and astringent. The odour is acrid and disagreeable.

Preparations: Decoction.

Actions and Uses: It is a bitter tonic, diuretic, alterative, aperient, and a purifier of blood. It is useful in syphilis, scrofula, constipation and dyspepsia due to torpor of the liver or hepatic obstructions. It is allied in its properties to *Taraxacum*. With black pepper it is given in ague fever and jaundice. In skin diseases depending on scrofulous disorders, as *crusta lactea*, its decoction is a useful application.

Remarks: The name *fumaria* is derived from *fumus*, smoke. The plant irritates the eyes like smoke. What is sold under the name of *Ghāti pitapápadó* is an acanthaceous plant often substituted for *Pita pápadó*. The true *Pita pápadó* is sold in the bazaar under the Persian name *Sháhterá*.

- 243 B. *Sháhterá* 5, *Kásani* 4, *Gulába kali* 5, *Sonpha* 5, *Garamálo* 5, *Ámali* 5, *Álu* 6, *Haradá* 5. Prepare a decoction in the usual way. Dose: *dr.* i to *drs.* ii.

Used in organic diseases of the brain, liver, and spleen; and in jaundice accompanied with constipation.

- 244 B. *Sháhterá* 4, *Haradá* 5, *Sapistána* 20, *Unába* 20, *Kásani* 3, *Aphatimuna* 5, *Banaphashá* 3, Water 100. Make an infusion.

Used in chronic skin diseases, cachexia, chronic fevers, and enlargement of the liver and spleen.

- 245 *B. Sháhterá* 1, *Anisuñ* 2, *Bádiána* 2, Water 40. Make a decoction.

Used in cachexia, skin diseases, and chronic diseases of the liver and spleen.

- 246 *B. Sháhterá* 5, *Kálá miri* 4, *Madha* 3. Make a paste.
Dose : *dr. i drs. ii.*

Used in ague.

- 247 *B. Sháhterá* 5, *Banaphashá* 4, *Mamirána* 2, *Aphatimuna* 2, *Gaozabána* 2, *Variáli* 2. Prepare a decoction in the usual way. Dose : *dr. i to drs. iii.*

Used in chronic diseases of the brain and skin.

CRUCIFERÆ OR BRASSICACEÆ—The Rai order.

These are herbs or rarely shrubs. The leaves are alternate and exstipulate. The flowers are yellow, white or pink, rarely purple, and generally a mixture of these colours. The inflorescence is in racemes or corymbose. The fruit is a siliqua, and many seeded. The seed is without albumen. The seeds are generally stalked and pendulous. The name cruciferæ is derived from the cruciate disposition resembling a cross of four petals. All plants are pungent, bitter, and acrid. The seeds contain a fixed and volatile oil. The plants contain starch, sugar, iodine and sulphur. Many are nutritive, also antiscorbutic, and used as ordinary vegetables.

LEPIDIDIUM SATIVUM.

THE SEEDS.

Asalio अशलीया *Asálio*, *Ahaliva* (Guz.) *Harpha*, *Halima*, *Chañsura* (Hind.) *Ahaliva*, *Asáliá* (Bom.) *Chāndrasura* (Sans.) *Hab-ul-Rashída* (Arab.) The common cress seeds (Eng.)

Characters : The seeds resemble in size those of *Khubakálina*, but are larger. They are of a reddish color, oblong, somewhat angular, and curved slightly on one side. The surface is rugous. Near

the point of attachment there is a white scar from which a small channel extends to $\frac{1}{3}$ the length of the seeds. On section they contain a yellowish looking resin and oil. They have no odour but a pungent and mucilaginous taste.

Preparations : Mucilage, powder, poultice, and paste.

Actions and Uses : The seeds are said to be tonic, alterative, aphrodisiac, stimulant, and aperient. A cold infusion with mucilage is useful to check hiccough. As an alterative they are useful in chronic enlargements of the liver and spleen. The bruised seeds mixed with lime juice, and spread on a piece of linen, are used as an application for the relief of internal inflammations, and rheumatic pains. As an aphrodisiac, confection of it is given in seminal debility and leucorrhœa. *Rábari* made of *Asáliá*, *Ghee* and *Sákara* is commonly used as a restorative by native women. It is one of the ingredients of purgative mixtures.

Dose : Aperient *dr.* $\frac{1}{2}$, alterative *grs.* x, aphrodisiac, *grs.* xv.

248 B. *Asálio* 5, *Sájikhára* 5, *Halada* 4, *Medá lakadi* 5. Mix, make a paste and apply.

Used in bruises, sprains, and subluxation.

ANASTATICA HIEROCHUNTINA.

THE DRIED HERB.

Kaphe meryana कपह मेरयान *Káphe meriana*, *Káphe ayesha* (Arab.)
Pañjé-i-mariama (Pers.) *Garbha phula* (Bom.) Rose of Jericho (Eng.)

Characters : As sold in the bazaar, it is a dry herb of brownish white colour, and occurs in the form of a fig. The branches given off from the root are short, woody, and trichotomous. Each sub-branch is dichotomously disposed. The branches when fresh spread out straight upon the ground, but when the plant dries up they curl inwards so as to form a round ball (corymbose.) The root occupies the same place as the stalk of a fig. Each branch is studded with numerous small capsules, which are white and hairy. In shape the whole herb resembles a water goblet. The top of it is formed of two marginal concave wings, between which a curved prickly-like process projects. This process is exerted beyond the lobes. It possesses a curious hygrometrical property; viz. when placed in water it spreads flat by absorbing it.

Preparations: Cold infusion.

Actions and Uses: An infusion of it given for drink opens the mouth of the womb in cases of difficult labour.

Remarks: The name *Garbha phula* is derived from *Garbha*, a womb, and *Phula*, a flower. The opening of the herb when put in water, and its closing in again when dry, is symbolical of the opening of the womb in child-birth and the closing of it after delivery. The Arabic word *Aysha* is the name of the wife of the Prophet and the mother of the Faithful.

SISYMBRIUM IRIO.

THE SEEDS.

Khakashira *Khubakalāna*, *Khubakalā* (Hind.) *Khākashi*, (Pers. and Bom.) *Khuba* (Arab.)

Characters: The seeds resemble those of *Asáliá*, but are smaller in size, and of a yellowish red colour. They are oblong and marked with a groove; when placed in water they become coated with a transparent mucilage. The taste is mucilaginous and oily. They are not so pungent as those of *Asáliá*.

Preparations: Mucilage.

Actions and Uses: The seeds are supposed to be a stimulant, antiscorbutic, and restorative. They are one of the ingredients in several confections. They are supposed to make women fat. Externally they are used as a poultice over boils and inflammatory swellings.

Remarks: The word *Khubakalā* is derived from *Khuba*, which means more than enough, or more than is wanted, and *Kalā* signifies *Kallo*, *Marora* (Guz.) beauty. This is in allusion to the use of this drug by women to increase their beauty and promote fat.

RAPHANUS SATIVUS.

THE PLANT.

Muli *Muro* (Guz.) *Fujla* (Arab.) *Turbe* (Pers.) *Mulá*, *Muli* (Hind. and Beng.) *Mulaka* (Sans.) Radish (Eng.) The seeds: *Muláibija* (Hind. and Bom.)

Characters: The root is tapering, seldom branched, and of a white colour and pungent taste. The leaves are long, and generally lyrate.

The petiole is broadly channelled. The taste is somewhat pungent. The seeds resemble those of *Sarasuñ* but are larger. They are of a reddish brown colour. The testa is very minutely reticulated. On chewing the seeds are oily and mucilaginous.

Preparations: The juice of leaves, infusion of seeds, and roots.

Actions and Uses: The seeds are said to be diuretic, laxative, and lithontriptic. The juice of leaves is a diuretic and antiscorbutic. The root is used as an edible vegetable. All parts of the plant are used in urinary and syphilitic diseases, and in cases of gravel.

Remarks: The scientific name *Raphanus* is derived from *Ra*, which means quickly, and *Phanus*, to appear. The seeds vegetate or appear quickly, and hence the name. The seeds can be had with the druggists. The fresh plant is always obtained from herbalists.

249 *B. Muláná pána, Kasonadi, Surokhára.* Mix, make a poultice, and apply over the pubes.
Used in retention of urine.

BRASSICA CAMPESTRIS—Sp. ?

SINAPIS NIGRA—Sp. ?

THE SEEDS AND OIL.

Sarasava सरसवा *Sarasava* (Guz.) *Sarasuñ* (Hind.) *Sarashupkala* (Sans.) *Kharadala* (Arab.) *Ispāñdana* (Pers.) *Sarsava* seeds (Eng.) The oil: *Surasuñká-tela* (Hind.) *Sherasu tela* (Bom.)

Rai राई *Rájika, Siddhartha* (Sans.) *Rái* (Guz.) *Ráyána* (Hind. and Duk.) *Mohare* (Mah.) Mustard seeds (Eng.)

Characters: *Sarasuñ* seeds are large, oblong, and globular. Their colour is generally reddish brown or dark, and sometimes yellow. The surface is covered with numerous minute tubercles. On section a yellow resin with oil is seen. The taste is smarting, pungent, and acrid. The oil expressed from the seeds is of a yellow colour, and highly pungent in taste and smell. The seeds of this variety are seldom medicinally used for internal administration. *Rai* seeds are smaller than those of *Sarsava*; other characters are similar. They are used for internal administration and for plasters and poultices.

Preparations: Powder, sinapism, oil, and cake (*Khoda*.)

Actions and Uses: *Rai* seeds are pungent and used both as condiment and medicine. The mustard powder and cake (*Khoda*) are

made into a poultice and applied to boils. A sinapism or plaster is used locally as a counter irritant and rubefacient in sciatica, paraplegia, inflammatory swellings, &c. It is applied to the chest in chronic bronchitis, to the abdomen in colic and gastric irritability, and to the joints in rheumatism. As an active stimulant sinapism is applied to the præcordia and to the calves to arouse the nervous system in cases of insensibility and swooning. During hysterical fits in adults, convulsions in children, and collapse of cholera, mustard sinapism is highly beneficial. It checks hiccough occurring in fevers. It is useful in the early stage of delirium tremens. Mustard footbath is useful to relieve headache and pain of dysmenorrhœa. It is also highly useful in retrocedent gout and fevers. Internally mustard is given in small doses either alone or along with other stimulants to improve digestion. A spoonful of mustard powder is given as an emetic in cases of narcotic poisoning. The oil, *Sarasava tela*, is an emollient, and rubbed over the whole body in leucoderma. Its innuotion keeps the skin soft and clean, and promotes the growth of hair. It is a useful application to remove lice and scurf. When given internally it acts as a mild aperient. Natives use the oil as an article of diet.

- 250 R. *Rái* 1, *Hĩnga* (fried) 1, *Suñtha* 1, *Sapheda jiruñ*, *Sĩndhava* 1. Mix and make a powder.

Dose : *grs.* xx.

Used in flatulence and loss of appetite.

- 251 R. *Rái* 6, *Ajamoda* 6, *Lavañga* 2, *Rasakapura* 1, *Nipálo* 1. Mix and make a pill mass with *Madha*.

Dose : *grs.* ii to *grs.* v.

Anupána : Infusion of tea.

Used in colic with constipation.

MEDICATED (RAI OR SARASUN) TELA :

- 252 R. Take of *Sarasava tela* 20. To this add a paste of *Amalá*, *Behadá*, *Halada*, *Motha*, *Bela*, *Dálimba chhála*, *Nágakesara*, *Káluñ jiruñ*, *Válo*, and *Majitha*, each 1 part, with water 20 parts. Boil the whole over a fire till the whole of the water has evaporated.

Used as a local application in rheumatism, paralysis, &c.; also given internally in colic, chronic dyspepsia, &c.

IBERIS—Sp. ?

THE SEEDS.

Todari तदरि *Todari* (Hind.) *Toudripha* (Pers.) *Bazr-ul-khuma*, *Khuma*, *Kasisa*, *Darina* (Arab.) Wall flower (Eng.)

Characters: The drug consists of seeds mixed with some portion of rhomboid shaped pods. There are three varieties: 1. *Todari supheda* (white); 2. *Todari surkha* (red); 3. *Todari shihá* (black.) The seeds of all these varieties resemble one another in their general peculiarities. The seeds of *Todari surkha* used as medicine are yellowish red, ovate, flat or roundish, convex on both surfaces, and have a membranous white ring springing from the hilum. The ring spreads on both sides and separates the surfaces. A small groove extends from the hilum and disappears about the middle of both surfaces. The taste is mucilaginous, slightly pungent, and resembles that of *Asálio*. The taste of the testa is mucilaginous; that of the cotyledons burning. When soaked in water the seeds become thickly coated with mucilage.

Preparations : Confection.

Actions and Uses : The seeds are supposed to be aromatic, stimulant, restorative, and aphrodisiac. As a restorative they fatten the body and improve the blood. They are often given in dropsy and bronchitis.

CAPPARIDEÆ—The Hurahura order.

These are herbs, shrubs, or rarely trees. The leaves are simple or lobed, alternate, generally exstipulate, rarely with spiny stipulate appendages. The flowers are yellow, white, or purple. The fruit is dehiscent and pod shaped, or indehiscent and baccate, with one or many seeds. The seeds are usually reniform, and with albumen. The cotyledons are leafy. In properties the plants chiefly resemble those of cruciferae. They are generally pungent, stomachic, stimulant, and antiscorbutic; some are aperient, diuretic, and anthelmintic.

CLEOME VISCOSA.

THE SEEDS AND LEAVES.

Hulahula हुलाहला *Kánaphuti* (Mah.) *Chowri ajawána* (Duk.) *Hurahura* (Hind.) *Tilavana* (Guz.) *Bazr-ul-Bañja*, *Chemara* (Arab.) *Adityabhaktá*, *Karnasphotá* (Sans.) Dog mustard (Eng.)

Characters : It is an annual viscous weed from one to two feet high. The stem is furrowed and studded with glandular capitate hairs. The leaves are digitate, on long petioles, channelled, and of a reddish colour. The leaflets are from 3 to 5. Each leaflet is finely serrated at the margin. The flowers are yellow and axillary. The capsules are long, striated and hairy, containing many reticulated, black, and reniform seeds. Each seed has a white scar near the hilum. On chewing, the seeds are mucilaginous and resemble *Mulábiya*.

Preparations : The juice of leaves, powder and infusion of seeds, and poultice of the plant when bruised.

Action and Uses : The seeds are used like mustard seeds. They are considered as an anthelmintic, astringent, and carminative. They are used in infantile convulsions. The bark is irritant and acrid. Locally an infusion of the seeds is used for killing maggots, and infecting unhealthy sores. The juice of the leaves is useful in otorrhœa and deafness.

Remarks : Under the name of *Bazr-ul-bañja* or *Chowri ajawána* are sold the seeds of *Khurásáni ajawána* to which they bear a close resemblance. The name *Kánaphuti* is derived from *Kána*, ear, and *Phuti*, to tear or break. The herb is called *Kánaphuti*, because its juice is a popular remedy for purulent discharges from the ear (*Kána*.) The fresh plant can be had at herbalists.

GYNANDROPSIS PENTAPHYLLA.

THE PLANT AND SEEDS.

Mohoti Tilavana મોહોટી ટીલાવના *Mohoti Tilavána*, *Mohoti Kánaphuti* (Bom.) *Bighará* (Sind.)

Characters : It is a weed with a peculiar foetid smell. It has whitish purple flowers. The seeds are black, small, numerous, and kidney shaped, resembling those of *Cleome viscosa*. The leaves are 5 foliolate. The leaflets are obovate. The whole plant is viscid and covered with glandular hairs.

Preparations, Actions, and Uses : These are similar to those of *Cleome viscosa*.

253 B. *Bazr-ul-bañja* 1, *Dháná* 6, *Khasakhasa* 6, *Kerabo* 2, *Kulphá* 5. Mix and prepare lozenges.
Used to check internal hæmorrhages.

CAPPARIS SPINOSA.

THE BARK.

Kibara كبرار *Kibara* (Bom. and Arab.) *Kuraka* (Pers.) *Karira* (Sans.) Caper plant (Eng.)

Characters: The bark occurs in the form of quills. The surface is smooth and slightly fissured. It is greyish brown externally, and brown and resinous within. The taste is slightly bitter.

Preparations: Powder and infusion.

Actions and Uses: The root bark is an astringent and alterative. It is used in rheumatism, gout, dropsy, palsy, &c. As an astringent application, the powder of it is used in malignant ulcers.

CRATÆVA RELIGIOSA.

THE LEAVES, BARK OF THE STEM, AND ROOT.

Vayavarana वायवरा *Váyavarana* (Guz.) *Bárana* (Beng. and Hind.) *Várana*, *Ashamarighana* (Sans.) *Hádavarana* (Mah.)

Characters: The root bark is soft. When fresh it is of a dirty white colour. The outer surface is wrinkled, and here and there marked with fissures. The colour is dirty brown. Internally it is white, soft, and fragile. The odour is heating, nauseous and disagreeable. The taste is bitter and pungent. The wood of the bark is yellowish white, and porous. The leaves are three foliolated. The leaflets are lanciolate, five pointed, and smooth. Their upper surface is dark green. The under surface is of a light color. When bruised, the leaves have a disagreeable smell. The taste is bitter and pungent.

Preparations: Decoction of the root bark, and infusion of the leaves.

Actions and Uses: The bark of the stem and root is lithontriptic and laxative. It is said to promote the appetite. It is useful in calculous affections, urinary disorders, &c. The leaves are bitter aromatic, and stomachic; also febrifuge and tonic. They are said to be digestive, and increase the secretion of bile. An infusion of them mixed with honey and *Java khára* is used in ascites and enlargement of the abdominal vecera. The leaves are rubbed on the feet to relieve burning sensations in the soles and for the removal of swellings.

Remarks: *Hádavarana* (Mah.) *Cratæva Nurvala* is a variety of *Váyavarana*. Its actions and uses are similar to those of *Váyavarana*.

The word *Ashamarighana* (Sans.) is derived from *Ashamari*, which means gravel or stone, and *Ghana*, to kill or to remove. This is in allusion to the use of the drug in urinary diseases, such as renal calculi. The dried bark is sometimes met with in the shops; fresh bark and leaves can be obtained from herbalists. The leaves are sometimes called *Bela pátra* which means the leaves of *Bela*. This is on account of the leaves in both being three foliolate and also used in religious ceremonies (*Pujá*). Its specific name *Religiosa* is in allusion to the drug being used for religious purposes.

254 R. *Váruna chhála* 5, *Punaranáva* 2. Make a decoction in the usual way. Dose: oz. $\frac{1}{2}$ to oz. i.

Used for the relief of swollen testicles, enlarged glands under the jaw, deep seated suppurative inflammation, &c.

255 R. *Váruna chhála* (powder) 2, *Java khára* 1, *Gokharu* 1, *Suñtha* 1. Make a decoction in the usual way. Dose: dr. i.

Anupána: *Suro khára* and *Madha*.

Used in calculous affections, ascites, &c.

256 R. *Váyavarana chhála* 4, *Vakumbha* 1, *Dháuriphula*, *Mocharasa*, *Suvá*, *Methi*, *Murdára sañga*, each 1 part. Mix and make pessaries.

Used for the os uteri, in cases of profuse lochia after delivery.

257 R. *Váruna chhála*, *Gokharu*, equal parts. Make a decoction in the usual way, add *Sisamama* oil and make a paste.

Used for injection into the bladder, for painful micturition, and calculous and gravel affections.

258 R. *Váruna*, *Bela phala*, *Aghádo*, *Chitraka*, *Erañda mula*, *Segata chhála*, *Bhuiñgani*, *Moravela*, *Kákará siñgi*, *Kariátu*, *Kávali*, *Karañja*, *Satávári*, equal parts. Mix and make a decoction in the usual way.

Dose: oz. i.

Used in ozæna, headache, syphilis and chronic diseases.

VIOLACEÆ—The Banaphasha or violet order.

It comprises of herbs and small plants with blue, pink, or white, handsome, irregular flowers. Some species have a delicate fragrance; several contain an emetic principle known as emetine or violine. A few are mucilaginous; others are reputed to be anodyne.

VIOLA ODORATA.

THE HERB AND FLOWERS.

Banaphasha बानाफशा The herb: *Káshamiri Banaphashá*, *Banaphashaja* (Arab.) *Banaphasháka* (Pers., Hind. and Duk.) *Bága banosa* (Hind.) Sweet scented violet (Eng.) The flowers: *Gul-i-Banaphashá* (Hind. and Bom.)

Characters: The dry herb is of a brownish colour. It consists of stems, leaves, and sometimes flowers with long filiform stalks. The stems are slender and slightly furrowed. The leaves are cordate at the base, reniform, and dentate at the upper part. The flowers are blue or pink, and irregular. The carpels are three nerved and brown. The corolla has a long narrow tapering spur which extends beyond the calyx. The drug has a nauseous smell resembling that of ipecacuanha. The taste is nauseous and mucilaginous.

Preparations: Powder and decoction.

Actions and Uses: The drug is allied to ipecacuanha. It is said to be an emetic. The petals with purple flowers are laxative, diaphoretic, refrigerent, and astringent. They are used in bilious affections, prolapse of the rectum, and uterus, and in restraining suppuration. As a laxative *Banaphashá* is given along with other aperients to children. As a demulcent and expectorant, it is also useful in cough, kidney diseases, and liver affections. In pulmonary affections, it acts as a diaphoretic and a nauseating emetic. It is also used in fever and dysentery in children.

Remarks: The word *Bághi Banaphashá* means a garden violet. Under the name of *Káshamiri Banaphashá* the whole drug is sold. Flowers are obtained under the name of *Gul-i-Banaphashá*.

- 259 *℞. Banaphashá 4, Ámalí 2, Trikatu 2.* Mix and make a powder. Dose : *grs. v to grs. x.*
Used in bilious affections accompanied with constipation.
- 260 *℞. Banaphashá drs. vi, Sapistána No. 10, Añjira No. 20, Tukham-e-khatami drs. xx, Jethi madha drs. iii.*
Prepare a decoction in the usual way.
Used in bronchitis, pneumonia, severe catarrh with sore throat, &c.
- 261 *℞. Banaphashá drs. iv, Kasani drs. ix, Sonpha drs. vi, Kadu 5, Kariátu 6, Devadára 2, Motha 2.* Prepare a decoction in the usual way. Dose : *ozs. ii to ozs. iv, every three hours.*
Used in the early stage of fever, severe catarrh, and bronchitis.

BIXACEÆ OR FLACOURTIACEÆ.

The Kesari or Cholamogara order.

These are shrubs or small trees. The leaves are alternate, exstipulate, leathery, and often dotted. The fruit is dehiscent or indehiscent with a thin pulp in the centre. The pulp is differently coloured. The seeds are numerous, and often covered with a withered pulp. The albumen is fleshy and oily. Many species are feebly bitter, astringents, and stomachics. The fruits of some are edible and wholesome.

GYNOCARDIA ODORATA.

THE OIL.

Cholamogara चोलमोगरा *Cholamugará* (Hind.) *Cholamogará* (Bom.) The oil : *Cholamugará-nu-tela* (Guz.)

Characters : The oil is expressed from the kernel of the seeds. It is of a sherry or brownish colour. The odour is nauseous and peculiar.

Preparations: Oil.

Actions and Uses: The oil has for a long time been used both internally and externally in anæsthetic and macular leprosy, eczema, and other skin diseases. As an alterative it is given in secondary syphilis, phthisis, scrofula, &c. In phthisis it may also be rubbed over the chest with advantage. The oil is locally rubbed over stiff joints in rheumatism, and over sprains and bruises with benefit. It is generally mixed with codliver oil. The constitutional effects may often be obtained by inunction of the oil over the whole body.

Dose: Of the oil 3 to 4 *minims*.

Remarks: It should be given after meals.

HYDNOCARPUS WIGHTIANA.

THE SEEDS AND OIL.

Kadu kavata కడ కవత The tree: *Kadu kavata*, *Kavati* (Bom.) The seeds: *Kadu kavata bija* (Bom.)

Characters: The fruit is globose. The rind is rough, occasionally tubercled and of a brown colour. Within the fruit are the seeds which are numerous, obtusely angular, and of a dark brown colour. The testa encloses copious oily albumen. The oil expressed from the seeds is of a pale sherry colour. Its odour resembles that of *Cholamogara*.

Preparations: Infusion and oil.

Actions and Uses: The oil is used externally in obstinate skin diseases, such as chronic lichen, prurigo, &c. It is given internally in leprosy. The seeds are detergent. An infusion of them is used as a vaginal wash or injection to remove fœtor after delivery.

Remarks: The oil is a good substitute for *Cholamugara* oil.

BIXA ORELLANA.

THE PULP AND SEEDS.

Kesari కెసరి *Kasari* (Bom.) The Arnotta plant (Eng.)

Characters: The pulp surrounding the seeds is of a deep red colour. It is a colouring matter known as arnotta or annatto. The arnotta exists in cakes of a black colour, becoming red brown on exposure to the air. It has a peculiar odour and a disagreeable bitter

taste. The seeds are triangular, compressed on two sides, and channelled lengthwise. On one side the top is obtusely mucronate. When cut into, each seed contains a kernel which is white and oily.

Preparations : Powder of seeds, and pulp.

Actions and Uses : The pulp is astringent and slightly laxative. The seeds are astringent, febrifuge, and cordial, and are used in dysentery and diarrhœa.

Remarks : The pulp is employed for tinging cheese and butter. It is mixed with chocolate as a coloring ingredient.

COCHLOSPERMUM GOSSYPIUM.

THE GUM.

Katira gunda كدرا عجة *Katir-i-hîndi* (Pers. and Hind.) *Kathira* (Arab.) *Kathûlio guñda* (Mah.)

Characters : The tree is of a large size. It bears large, golden yellow flowers. It is often destitute of leaves. The capsules are of the size of a *Limbu*. They contain within them cotton. The gum is obtained from the trunk of the tree. It is of a greyish white colour and translucent. It occurs in large, irregular or twisted pieces or tears, with a tendency to split up readily into flat scales. When wetted, it swells into transparent jelly. The taste is mucilaginous and resembles that of *Java-ni-râba*.

Preparations : Lozenges and mucilage.

Actions and Uses : The gum is a demulcent and emollient. It is used in cough, asthma, irritation of the throat and of the urinary passages. It is a good substitute for Tragacanth.

Remarks : In Bombay the gum of *Sterculia urens* known as *Karâi guñda* is sold for *Katira guñda*. The term *cochlospermum gossipium* means yellow flowered cotton tree.

262 B. *Kadio guñda* 5, *Mocharasa* 4, *Tabâshira* 5, *Utakatârâ* 4, *Bhuikoholâ* 5, *Khasakhasa* 6, *Kâephala* 5, *Gokharu* 10, *Variâli* 5, *Khuba kalâna* 4, *Bala bija* 5, *Ekharo* 10, *Motha* 6, *Karacha* 4, *Musali* (*Sapheda* and *Kâli*), 6, *Salepa* 5, *Mastaki* 4, *Sâkara* 10. Mix and make a confection.

Used as an aphrodisiac in seminal debility, leucorrhœa, &c.

- 263 B. *Kadio guṇḍa*, 5, *Suvá* 5, *Suñṭha* 4, *Ásana* 6, *Ajamoda* 5, *Koparuṇ* (pulp) 3, *Khasakhasa* 4, *Musalikaṇḍa* 4, *Asálio* 3. Mix, add *Madha*, and make a pill mass.

Dose : grs. viii to grs. xii.

Used in rheumatism, lumbago, &c.

SESUVIACEÆ—The Satodo order.

The plants are generally succulent herbs or shrubs, with opposite or alternate, exstipulate leaves. The flowers are small ; the fruits capsular.

The plants of this order are of very little importance. Some are edible, others yield an abundance of *Khára* when burned. The roots of some of them are cathartic.

TRIANTHEMA OBCORDATA.

THE ROOTS AND LEAVES.

Satodo सादो *Sátodo* (Guz.) *Khápará* (Hind. and Bom.)

Characters: It is a common prostrate weed. The root is of a dirty brown or brownish white colour. It is about 3 to 4 inches long and as thick as a crow's quill. The smell is aromatic ; the taste astringent, pungent, and itching. The leaves are succulent, thick, smooth, obovate, or obcordate. The margin is red. The flowers are of a light pink colour.

Preparations : Paste of leaves, powder, and infusion of root.

Actions and Uses : The root is a cathartic and is said to be useful in constipation. It is also a diuretic and stomachic. It is given in jaundice, stranguary, dropsy, and internal inflammations. A poultice of the leaves is considered to be a cooling and astringent.

Doses : Infusion of the root *dr. i* to *drs. ii*.

Remarks : The plant is very common during the rains. Fresh ones should be obtained. It is often mistaken for *Sveta Punernava* or *Vakha khápará*. Both are similar in appearance of their leaves, and both grow in the same localities.

- 264 B. *Sátodo*, *Nimadáni-chhála*, *Kadu padavala-ná-pána*, *Suñṭha*, *Katuki*, *Himaja*, *Gulavela*, *Daruhalada*, each 1 part. Mix and make a decoction in the usual way.

Dose : *dr. 1* to *dr. 1½*.

Used in dropsy, jaundice, &c.

PORTULACACEÆ—The Kulpha order.

These are herbs or shrubs of a succulent nature, with exstipulate, entire leaves, and unsymmetrical flowers. The fruits are capsular, usually dehiscent transversely, by valves, or by a lid. The seeds are solitary or numerous. The albumen is farinaceous. The fleshy root of some is edible and used as a pot herb; some possess cooling and antiscorbutic properties.

PORTULACA OLERACÆA—PORTULACA QUADRIFIDA.

THE SEEDS AND HERB.

Kulpha कुल्फा *Luni* (Guz.) *Ghola* (Mah.) *Lunyá* (Hind.) *Lanyá* (Beng.) *Loni* (Sans.) *Baklat-ul-Mubarika*, *Kurpha* (Arab.) *Zoorka-kurpá* (Pers.) The seeds: *Kulphá bija* (Hind. and Bom.) Common Indian Purslane (Eng.)

Characters: It is an annual diffuse succulent plant. The leaves are cuniform, succulent, oblong, and flat. The flowers are small and yellow. The capsules are globose or ovate. The seeds resemble those of *Hurahura*, but are smaller in size and of a fainter colour. They are black, reniform, and minutely tubercled. The plant has a disagreeable smell, and an acid, mucilaginous taste.

Preparations: Infusion of seeds, and juice of leaves.

Actions and Uses: The herb is emollient, demulcent, and diuretic. Fresh leaves bruised are acid and used as an external application in erysipelas. An infusion of them is given internally as a diuretic in diseases of the kidneys and bladder. The seeds are recommended in diseases of the kidneys and lungs. The herb is used as an external application in burns and scalds.

Remarks: The name portulaca is derived from porto, to carry, and lac, milk. It is in allusion to the "milky juice in which the herb abounds. The leaves are eaten as a pot herb. The two portulacas are known as *Bará* and *Chhotá Lunyá*. Fresh ones should be obtained from herbalists.

265 B. *Kulphá* 1, *Ispoghula* 2, *Sákara* 4. Mix, add *Barása kapura* $\frac{1}{4}$ part, water 20 parts, and make a gargle. Used to check profuse salivation.

- 266 R. *Kulphá* 5, *Gokharu* 6, *Kákadi bija* 4, *Java khára* 4.
 Mix and make a paste. Dose : ozs. ii to iii.
 Used in scanty urine, gonorrhœa, &c.

CARYOPHYLLACEÆ—The Zaharasa order.

These are low herbs, erect or prostrate. The leaves are opposite, entire, or whorled. The flowers are small, and white or pink. The fruits are one to five celled, and contain many small minute seeds. The properties are lactagogue and alterative.

MOLLUGO PENTAPHYLLA.

THE LEAVES.

Zaharasa जहारसा *Zaharasa* (Bom.)

Characters : It is a small spreading plant. The seeds are tuberculated. The leaves are obovate, obtuse, and tapering at the base.

Preparations : Infusion.

Actions and Uses : The leaves are bitter stomachic, and aperient. They are given to promote digestion; also used to promote menses and suppressed lochia. The leaves warmed and besmeared with oil, are applied as a poultice over the ear in earache.

TAMARICACEÆ—The Padvasa order.

These are shrubs or herbs with alternate, entire, scale-like leaves, and racemose, spiked, small flowers. The fruits are dehiscent and one celled. The seeds are numerous, comose, and without albumen.

The bark is an astringent, bitter, and tonic. Some species contain a saccharine substance known as manna. Manna is supposed to be an exudation produced by a species of coccus insects. It is an astringent. The ashes of some species contain large quantities of *Gāndhaka* and *Khára*.

TAMARIX ORIENTALIS.

THE GALLS AND SUGARY EXUDATION (MANNA.)

Maiyun मैयुं *Máiuñ* (Guz.) The Galls : *Shavaka* (Sans.) *Padvása*, *Jháhu* (Hind.) *Gazabara* (Pers.) *Bari Máí* (Bom.) *Samrat-ul-Turfa* (Arab.) *Chhoti Máí* (Bom.) *Samrat-ul-Asla* (Arab.) *Azba* (Pers.)

Characters : *Bari máí* : The galls are smaller in size than those of *Máju phala* or the true gall. They are larger than those of *Chhoti máí*, of a dirty brown colour, roundish or ovate, irregularly shaped or angled, and knotty. They are of various sizes. Sometimes 2 or 3 are united together. Some of them present a slender (stalk-like) woody portion at their base. The surface is tubercled and also wrinkled. On section the cut surface is brownish red. It has a cavity which contains the fly or a resinous looking sugary exudation, which is nothing more than an excrementitious matter. Like *Lákha* it presents numerous holes or channels. It has a slight balsamic smell. The taste is highly astringent at first, but after a time it becomes glutinous. *Chhoti máí* : The galls are of a darkish brown colour and knotty. They resemble in size to a pea. They are smaller than those of *Bari máí*. The shape is globular, not angled. The surface is resinous looking. Other characters are similar in both. Manna occurs as a thin yellow *Madha*-like fluid. It is an exudation consequent on puncture of insects (*coccus manniparus*) upon *Tamarix* tree.

Preparations : Decoction of galls, powder, and manna.

Actions and Uses : The galls are bitter, highly astringent, and tonic. They are recommended in chronic discharges and watery fluxes. Native women find relief by taking the powder internally in leucorrhœa. They also use it for the same complaint in the form of pessaries. The sugary exudation is a mild aperient, expectorant, and detergent, and forms an ingredient of aperient and cough mixtures.

Remarks : There are two varieties : *Tamarix Indica*, *Bari máí*, and *Tamarix articulata*, *Chhoti máí*. The galls have long been in use as a substitute for *Máju phala*.

267 B. *Padvása* 5, *Dálimba phula* 6, *Dálimba chhála* 6, *Saphedo* 4, *Phataki* 3, *Akákiá* 4. Mix, make a powder, add *Ghee* and apply.

Used in prolapsus ani.

- 268 B. *Padvása* 5, *Dháuriphula* 5, *Mocharasa* 3, *Meñdi* 2, *Gokharu* 6, *Kapilo* 2, *Gul-e-Pistāñ* 5, *Akkalakaro* 3, *Samudrasosha* 3, *Tálamakháná* 4, *Khubakalána* 4, *Utanagana* 3, *Medá lakadi* 3, *Lodhra* 2, *Musali* 4, (*Káli* and *Sapheda*) *Jáephala* 2, *Jáepatri* 2, *Khorásáni ajavána* 4, and *Sákara*, q. s. Mix and make a confection.

Used in impotence, internal hæmorrhages, &c.

- 269 B. *Padvása* 5, *Adraka* 4, *Mocharasa* 4, *Jiruñ* 6, *Indrajava* 6, *Kudá chhála* 5, *Ajamoda* 6, *Dálimba chhála* 5. Mix and make a powder.

Dose: grs. xx to grs. xxx.

Used in chronic dysentery, chronic diarrhœa, &c.

GUTTIFERÆ—The Kokama or Mangostine order.

These are trees or shrubs, sometimes parasitical, with a resinous juice. The leaves are entire, simple, coriaceous, opposite, and exstipulate. The flowers are fragrant, and followed generally by globular, dehiscent, or indehiscent fruits. The seeds are solitary or numerous, and without albumen. They yield an oil which is used in medicine. The plants are remarkable for yielding gum resin. The gum resin is yellow and of an acrid and purgative nature. The fruits of some of the species are edible, of a delicious flavour, and astringent.

GARCINIA INDICA OR PURPUREA.

THE CONCRETE OIL AND FRUIT.

Kokama ककम The fruit: *Amsula*, *Kokuma* (Bom.) *Rátámbá* (Mah.) *Brindáo* (Goa.) The oil: *Kokumachá tela* (Mah.) *Kokumbela*, *Kokamanu ghee* (Guz.) *Kokuma* butter (Eng.)

Characters: The concrete oil is extracted from the seeds by boiling. It is moulded into oval shaped balls, and known as *Ko-*

kuma butter. It resembles in appearance country soap (*Kappara-vañji sábu*.) It is hard, of a dirty white colour, dry, easily pulverisable, and unctuous to the touch. The fruit is globular in size and resembles *Limbu*. It is of a yellow colour, and contains an acid pulp and several seeds, which are black, reniform, wrinkled, and compressed laterally. They resemble *Amali* seeds in size. It has a 4 parted wing-like calyx with a short stalk at its base. *Kokama* when dry is of a black colour, and an oval shape. The epidermis is wrinkled. It is the rind of the fruit which is cleared of seeds, dried in the sun, and slightly salted. At the base of *Kokama*, the calyx and the remainder of the stalk are often seen. The smell and taste are acrid.

Preparations : Syrup of the juice of the fruit, and oil.

Actions and Uses : *Kokama* is a cholagogue. It is given in bilious complaints. As an astringent, it arrests hæmorrhage from the bowels. The juice is a refrigerent and is useful as a cooling drink in dysenteric fever. The concrete oil is useful as a local application to cracks and fissures of the lips, hands and feet, and over the nipples, and to excoriations. It may be employed as a substitute for butter of cocoa in the preparation of suppositories.

Remarks : It is largely used in Goa, where the fruit is known by the name of *Brindáo*. The Goanese prepare a syrup from it and use it as a cooling drink in fevers.

GARCINIA MANGOSTANA.

THE RIND OF THE FRUIT AND JUICE.

Mangustina मङ्गुस्टीना *Māngusatina* (Bom.) Mangostine (Eng.)

Characters : As obtainable in the bazaar, the dry fruit is globular and of a dark brown colour. The surface is tubercled. It has a radiating, flat or compressed, 6 parted stigma at the top. The bottom is occupied by a 4 parted, hard, and thick adherent calyx. When cut into, the interior is hollow and occasionally contains a small quantity of dark coloured dried pulp. The rind is corky-looking and sprinkled with a yellow coloring matter. The odour is somewhat aromatic. The taste is acidulous and astringent.

Preparations : Powder of the rind, and juice.

Actions and Uses : The rind is an astringent and is substituted for Indian *Bela*. It is a most common and highly useful remedy in dysentery and diarrhœa. It is used in leucorrhœa,

gonorrhœa, and chronic diarrhœa of children. Locally the juice is used as an astringent gargle in tonsillities, and as a lotion in prolapsus ani and vaginæ.

- 270 R. *Māngustina* (the rind of the fruit) 5, *Khasakhaza* 4, Sugar 6, *Dálimba chhála* 5, *Gulábakali* 4. Mix and make a powder. Dose: grs. x to grs. xx.

Used in dysentery, and chronic diarrhœa in children.

- 271 R. *Māngustina* 6, *Dháná* 2, *Himaja* 2, *Sonpha* 2. Mix and make a powder. Dose: grs. x with sugar.

Used in chronic dysentery.

GARCINIA MORELLA.

THE GUM RESIN.

Revanchini lakadi [रेवंचीनी लकड़ी] The tree: *Revañchi* (Hind.) Gamboge (Eng.) The gum resin: *Revañchini lúkadi*, *Revañchi-no-siro* (Guz.) *Ussárah-i-revañda* (Arab.) *Gotá ganaba* (Pers. and Hind.)

Characters: Gamboge occurs in the form of a gum resin or a yellow milky juice which exudes in drops, when the leaves or branchlets are broken. The gum resin is brittle and of a deep orange colour. It is collected on the leaves of the tree or in cocoanut shells and then transferred into large flat earthen vessels where it is allowed to harden. When hard it is moulded into cakes, amorphous masses, or irregular fragments. This is of an inferior quality, hard, and earthy in fracture. Its external surface is brownish yellow, and frequently marked with blue spots. These spots are due to the presence of foreign bodies which are intermixed with the resin. This variety is known by the name of *Revañchini Khatá*. It is also known in the bazaar as *Gámathi* Rhubarb. This name is given to it on account of its being moulded into the shape and size of true rhubarb. It is also similar to true rhubarb in taste and odour. The cylindrical or pipe variety is produced by pouring the juice while in a liquid state into the hollow of bamboos. When dried it is removed from the bamboos in round pieces which break with a smooth, glistening, conchoidal fracture. The colour is tawny, and when rubbed with water it changes to a deep yellow. The taste is acrid. It has no odour. Pipe gamboge is superior. Its pieces are striated. The striae are

due to the impression of the interior of the bamboo stems into which the juice has been poured. Very often portions of the stem are adherent. Sometimes the cylinders are distinct and covered with dirty yellow dust. Very often they are agglutinated and form masses of various forms and sizes. The taste of gamboge is slightly acid at first, and gradually it causes a sensation of acidity in the throat.

Preparations : Powder and pills.

Actions and Uses : Gamboge is an efficient hydragogue, cathartic, and diuretic. It is seldom given alone ; generally in combination with other purgative medicines. It is given to relieve torpor of the liver due to malaria. Its usual associate is *Párá kajali*. It is also an hydragogue diuretic, of the kidneys, and a vermifuge. It should never be given in irritable condition of the stomach and bowels, or in cases where there is a tendency to abortion or uterine hæmorrhage. It is used in dropsy with hepatic obstructions, tape worm, and cerebral affections, as apoplexy. In constipation a small dose of it acts as a cathartic. A paste of it is also used as an external application to sprains, bruises, and swollen hands and feet.

Dose : *grs.* ii to *grs.* v.

Remarks : Gamboge when in pipes is known to dealers by the name of *Revañchini lákari*. When in the form of an extract it is called *Revañchino siro*. The word *Usárah-i-revañda* means an extract of Rhubarb. It is applied to gamboge owing to both being similar in properties and colour.

272 *B. Revañchini lákadī drs.* iv, *Golába-ni-kali drs.* iii, *Kásani-bija drs.* viii, *Bekh-i-kásani drs.* x, *Sákara drs.* vi, Water *drs.* xii. Bruise the first four ingredients, macerate them in water for six hours, and strain; lastly add *Sákara* to the strained fluid and prepare a syrup. Dose: *dr.* $\frac{1}{2}$ to *dr.* 1 with water.

Used in constipation, dyspepsia, passive congestion of the liver, jaundice, and in suppressed and painful menstruation.

273 *Revañchino siro, Eliyo, Afima, Gugala, Hirábola, Suriñ-jana, Ambá halada*, each equal parts. Mix, add rum ten times in weight to each, make a *Lepa* and apply. Used for the relief of painful rheumatic joints and swellings; also of bruises and sprains.

- 274 B. *Revañchini lákaḍi* dr. i, *Harade* dr. $1\frac{1}{2}$, *Suñṭha* dr. $\frac{1}{2}$, *Sakamuniá* dr. $\frac{1}{2}$. Mix and reduce the whole to a fine powder. Dose: grs. xv to grs. xxx.
Used as an efficient purgative in diseases of the liver and cerebral congestion.
- 275 B. *Revañchini lákari* 4, *Afima* 1, *Badámanu-tela* 2. Mix, and make a pill mass.
Used in cough.
- 276 B. *Revañchino siro* 4, *Pákhana bheda* 3, *Jiruñ* 5, *Kabábachini* 4, *Elachi dáná* 4, *Phataki* 2, *Soná geru* 2. Mix and add Jaggary to make a pill mass.
Dose: grs. v to grs. viii.
Used in gonorrhœa, urinary disorders, &c.

OCHROCARPUS LONGIFOLIUS.

THE FLOWER BUDS.

Surangi Nagakesara ಸುರಂಗಿ ನಾಗಕೆಸರ *Ráti Nágakesara* (Guz.) *Nágakesara* (Sans.) *Nára mushka* (Pers.) *Nagesura* (Hind.) *Támbrá Nágakesara* (Bom.) *Cobra's saffron* (Eng.)

Characters : The drug consists of pedicelled flower buds of the size of *Kabábachini*. Some of the buds are hermaphrodite, others are males only. They are of cinnamon colour. On opening the male bud, a group of anthers adherent to one another and forming a small ball is seen. The colour of the anthers is deeper than that of the calyx. In the hermaphrodite on removing the anthers the ovary with a large stigma is seen. The smell is aromatic ; the taste acrid.

Preparations : Powder of flower buds, and ointment.

Actions and Uses : The flower buds are used as fragrant adjuncts to decoctions and medicated oils. They are regarded as stimulant aromatic, carminative, bitter astringent, and stomachic, and used like *Taja*, *Elachi*, *Tamála pátra* in cases of great thirst, irritability of the stomach, and excessive perspiration. A paste of the flowers with butter is taken internally in bleeding piles and is an effectual application in burning of the feet. It is used as an antidote to snake poison. It is also given in dysentery with benefit. A paste of it is used to fill up caried teeth to relieve the pain of toothache.

Doses : *gr.* i to *grs.* ii.

Remarks : The word *Nágakesara* is derived from *Nága*, Cobra, and *Kesara*, Saffron. Cobras are said to be fond of the blossoms on account of their fragrance. *Nágakesara* is employed for dyeing silks. The true *Nágakesara* is *Messua Ferrea* but it is not obtainable. What is sold under the name of *Nágakesara* is *O. Longifolius*. Under the name of *Kálá Nágakesara*, the unripe flower buds of Cinnamon cassia are sold. These buds are of a brownish black colour, and larger than *Ráti Nágakesara*. They have a stout stalk, and a slightly parted and cup-shaped calyx.

- 277 *℞. Ráti Nága kesara* 2, *Eláchi* 5, *Jiruñ* 5, *Soná geru* 3, *Gopi chañdana* 2, *Mocharasa* 3, *Indrajava* 5, *Khakurno-guñda* 4, *Hirádakhana* 3, *Musali sapheda* 4, *Musali káli* 4, *Saṅga jiruñ*, *Tabáshira*, *Váñsa kapura*, *Lodhra*, each one part, Sugar 5 parts. Mix and make a powder. Dose : *grs.* viii to *grs.* xii.

Anupána : To be taken in Milk.

Used in menorrhagia and internal hæmorrhages.

- 278 *℞. Nága kesara* 1, *Indrajava* 5, *Rusota* 3. Mix and make a pill mass. Dose : *grs.* iv to *grs.* vi.
Used in piles and dysentery.

CALOPHYLLUM INOPHYLLUM.

THE OIL AND RESIN.

Undi *ঔ* *Uñdi* (Bom. and Mah.) *Sulatána champá* (Hind.) The oil : *Uñdela* or *Uñdichá tela* (Bom.) *Sarapana-ká-tela* (Hind.)

Characters : The oil is of a greenish colour, and bitter taste. The resin is of a yellowish grey colour, and resembling myrrh.

Preparations : A resinous substance exuded from the bark of the tree, and an oil obtained by expression from the kernel of seeds.

Actions and Uses : The oil is said to be useful as an external application for rheumatic pains in the joints, and for bruises. The resin is applied to indolent ulcers.

Remarks : It is used for burning by people on the Western Coast. In Ceylon it is known as *Dombá* oil.

DIPTEROCARPEÆ—The Garajana order.

These are large trees with resinous juice, and feather veined and alternate leaves. The calyx of the flowers is ultimately enlarged into wing-like expansions which surround the dehiscent or indehiscent one seeded fruits. The seed is solitary and ex-albuminous.

The plants are remarkable for the presence of an oleo-resinous juice, to which they owe their peculiar properties.

DIPTEROCARPUS TURBINATUS.

THE OLEO RESIN (BALSAM.)

Garajana tela गरजन তেল *Garajanaká-tela* (Hind. and Bom.) *Tiliá Garajana* (Beng.) Wood oil (Eng.)

Characters : The trunk yields by incision the oleo resin or the balsam. When fresh, the resin is an opaque, greenish fluid. It soon separates into two layers; the upper one is of a viscid fluid of a dark brown colour, and the lower one is of a thick, dirty white sediment. It has a bitter aromatic taste. The odour resembles that of copaiba.

Actions and Uses: In properties the balsam resembles copaiba. It is said to be a demulcent and alterative, and is used in leprosy for which complaint it is given internally and also applied locally to the skin to promote the healing of leprous ulcers. As a demulcent it is given in gonorrhœa, gleet, and various other affections of the urinary organs.

Dose : 10 to 30 drops.

Remarks : The oil is a good substitute for copaiba. It is largely used by the natives as a varnish. It is supposed to preserve timber from the ravages of insects.

DRYOBALANOPS CAMPHORA.

THE CONCRETE OIL AND THE LIQUID OIL.

Kapura कपूर The concrete oil : *Barása Kapura* (Chinese camphor) *Bhimaseni Kapura* (Hind. and Bom.) *Kapura* (Hind.) *Karapura* (Sans.) Borneo camphor (Eng.) The liquid oil : *Kapura tela* (Hind.) *Kapur-nu-tela* (Guz.) Camphor oil (Eng.)

Characters : A liquid known as camphor oil and a cristalline solid substance known as Borneo camphor are obtained by splitting the trunk or incising the tree. Borneo camphor is harder and contains a higher degree of *Kapura*. It is heavier than common camphor and less volatile. Crude comphor is in small, dirty white grains, more or less moist, often adherent together in masses. Refined comphor is in porous cakes. It is $\frac{1}{4}$ th of an inch thick and contains much water.

Preparations : Liquid oil, and camphor.

Actions and Uses : *Barāsa kapura* is a nervine and cardiac stimulant, and diuretic. It is a useful application to the eyelids in ophthalmia. *Kapura* is a carminative, stimulant, and aphrodisiac, and is useful in fever, diarrhœa, impotence, cough, and eye diseases. In typhiod conditions it is a very useful stimulant. In fever it is a powerful sudorific when given with opium. It is an efficient remedy in exhaustion, stupor, nervous derangements, as subsultus, trembling, and low muttering. In the collapsed state of the system it stimulates the nervous power. It is largely given in spasmodic diseases, as whooping cough, chorea, and epilepsy. In nervous headache and palpitations of the heart it is a nice nervine stimulant. It is highly useful in cholera during the collapse stage. By its use the urine is secreted. Locally it is applied to the occiput in distressing occipital headache. It is a nice antidote to strychnia poisoning. In large doses it is an anti-aphrodisiac. In genital excitements due to irritant drugs and in gonorrhœa it is very beneficial. It is given in large doses in puerperal mania with benefit. An enema of camphor is given to expel worms (*ascarides*.) Ulcers take a healthy tone under its use. In toothache camphor dissolved in alcohol and applied to the cavity of a carious tooth gives relief. Used as a snuff it checks coryza. Its ointment is a best cure for itch. *Kapura-nu-tela* is used as an external application for rheumatic pains.

Doses : As an anti-aphrodisiac, *grs.* xx to *grs.* xxx; as a stimulant, *gr.* i to *grs.* v; in mania, *grs.* x to *grs.* xv.

Remarks : *Barāsa kapura* resembles ordinary camphor. It is highly esteemed and valued by the Chinese. Refined camphor is prepared by resubliming crude camphor, the object being to get as much interstitial water as possible into the cake. What is known as *Kapura-nu-tela* is a preparation of *Barāsa kapura* dissolved in *Mithuñ tela*. Sanscrit writers speak of two kinds of camphor: *Pakava* and *Apakava*. The former term means ordinary commercial comphor which is prepared by the aid of heat. This camphor is found in the trunk of *Dryobalanops camphora*. The timber cut into planks

and made into boxes known as *Kapura-ni-taraṅka* is produced from *Cinnamomum comphora* of the Natural Order Lauraceæ.

279 B. *Kapura* 5, *Kasaturi* 2, *Elachi* 5, *Afima* 4, *Jāvaṅtri* 5.

Mix and make a powder. Dose: grs. ii.

Anupāna: To be given in *Pāna* (juice.)

Used in asthma.

280 B. *Kapura*, *Afima*, *Hīṅgaḷo*, *Suṇṭha*, *Indrajava*, *Jāephala* equal parts. Mix and make a powder.

Dose: grs. iv.

Used in diarrhœa, colic, and cholera.

281 B. *Kapura* 5, *Afima* 4, *Mājuphala* 4. Mix, make a paste and apply.

Used in painful piles.

SHOREA ROBUSTA.

THE RESIN.

Rala रला The tree: *Lāla*, *Sāla* (Bom.) *Sakoḥa*, *Sāla* (Hind.) *Asva karaṇa* (Sans.) The resin: *Rāla* (Bom.) *Dhunā*, *Rāla*, *Roṭina* (Hind.) *Rāla* (Sans.) White dammer (Eng.)

Characters: It is a resin obtained from the timber tree. It is found as a deposit between the bark and the wood. It occurs in irregularly cylindrical pieces. Its surface is marked with longitudinal striæ. Sometimes it is colourless; often its colour varies from pale brown to yellow and red. It is very brittle, and consists of small granules, which can easily be reduced to a fine powder. It is devoid of taste, and the smell resembles nearly that of turpentine. The powder of it is easily fusible. When thrown into the flame of a candle it soon takes fire and gives out thick volumes of fragrant smoke or a big blaze. Natives burn it on marriage and other festive occasions in place of fireworks. They blow the powder into the air and ignite it when it produces huge piles of flame.

Preparations: Powder, resin, and plasters.

Actions and Uses: It is regarded as a detergent and an astringent. It is used for fumigating sick rooms. As an astringent it is given internally in dysentery mixed with *Sākara*, *Madha*, or jaggary. As a detergent, it is used for making plasters, and ointments. A paste

of it mixed with brandy and white of an egg is a very useful and soothing application for the relief of lumbago and other rheumatic pains.

It is a good substitute for pure resin, and hence the natives use the powder of *Rála* as an astringent application to the relaxed uvula. A paste of it put over the top of the head is said to be a cure for elongated uvula.

Dose : *grs.* xx to *grs.* xxx.

Remarks : The term *Asva karāṇa* is derived from *Asva*, horse, and *Karāṇa*, ear. This is in allusion to the leaves of this tree resembling in shape horses' ears.

282 *℞. Rála 4, Mocharasa 2, Ambāni gotali 5, Bela 5, Jāe-phala 5.* Mix and make a powder.

Dose : *grs.* v.

Used in diarrhoea.

283 *℞. Rála 5, Kátho 2, Morathuthu 2, Phataki 3, Geru 2, Saṅga jiruṇ 4, Tila tela 10, and Mina 5.* Mix and make an ointment.

Used in fistulæ and over swollen glands.

284 *℞. Rála 5, Hingalo 2, Masataki 3, Hirádakhana 3, Ghee 10.* Mix and make an ointment.

Used for fœtid ulcers.

285 *℞. Rála, Pálhāṇa bheda, Elachi, each one part, Sugar 10, Nimadāni chhāla, Kariātu, each 5 parts.* Mix and make a powder. *Dose :* *grs.* xv.

Used for the removal of piles.

MALVACEÆ—The Bhinda order.

This order is composed of herbs, shrubs, and trees, often with stellate hairs. The leaves are alternate, stipulate, entire, or palmate. The flowers are regular and usually axillary, surrounded by two involucre of yellow, red, purple, pink, white or variegated showy colours. The fruits are indehiscent or dehiscent, with many seeded carpels. The seeds are often reniform and hairy. They are generally without albumen. In some cases albumen exists in small quantities.

Properties : All species are mucilaginous and demulcent. The flavour is somewhat faint. Some have a smell of musk. The genus *gossypium* is peculiar on account of its hairy seeds constituting cotton. From many species tough fibres are obtained.

ABELMOCHUS ESCULENTUS.

THE IMMATURE CAPSULES AND RIPE SEEDS.

Bhinda अंशु *Bhiṇḍā* (Guz.) *Rāmaturāi* (Hind.) *Bhiṇḍā* (Bom.) *Bāmiyā* (Arab. and Pers.) *Dherasa* (Beng.)

Characters : The fresh capsules are from 2 to 6 inches long, broad at the base, and tapering at the apex. They are furrowed and somewhat hairy, particularly at the ridges. The capsules abound in copious bland and viscid mucilage. Each capsule consists of from 6 to 9 valves or cells. Each cell contains a single row of smooth, white, round seeds. The seeds when ripe and dry become black.

Preparations : Decoction, mucilage, and poultice of bruised seeds.

Actions and Uses : The immature capsules are considered to be aphrodisiac, nourishing, mucilaginous, demulcent, emollient, and diuretic. They are given in irritation of the throat caused by coughing. The decoction of its seeds is used in catarrh of the bladder, dysuria, and gonorrhœa.

Remarks : The immature capsules are cultivated and used as pot herbs. The seeds are procurable at druggists' shops. The name *Rāmaturāi* is given to *Bhiṇḍā* in allusion to the fruit resembling in shape *Turāi* which is the name of the fruit of *Luffa acutangula*. The fruit of both is much used both as a vegetable and a diuretic in urinary diseases. The prefix *Rāma* is in honour of the deity whose name it bears.

SIDA CORDIFOLIA AND OTHER SPECIES.

THE ROOT AND LEAVES.

Chikana pata चिकन पता *Tupakaria*, *Chikanā pāta* (Mah.) *Balā*, *Batyālaka* (Sans.) *Khareti*, *Bariāra* (Hind.)

Characters : The root is woody, hard, sweetish, mucilaginous, and fibrous. It resembles in taste common liquorice root. The

bark of the root is of a light, yellowish brown colour. The leaves are cordate, rhomboid or lanciolate, tomentose, and more or less dentate. They are highly mucilaginous.

Preparations : Bruised leaves, and infusion of root.

Actions and Uses : The root is a costly substitute for vegetable bitters. It is regarded as a cooling astringent, diuretic, and tonic. It is prescribed in nervous and urinary diseases, and in disorders of the blood and bile. In fever with a very high temperature the root bark, beaten up with milk, sugar, and aromatics, to which *Suñtha* and stimulants are sometimes added, is given to promote appetite and increase perspiration. It is also considered as an alterative and is useful especially in rheumatic affections. As a demulcent it is given in gonorrhœa, frequent micturition, and leucorrhœa. It is also useful in chronic dysentery. The fresh leaves are mucilaginous, and are used to check bloody fluxes. When fresh they are bruised and applied to boils to promote suppuration.

Remarks : Four kinds of *Balás* are mentioned in Sanscrit : 1 *Balá* ; 2 *Nágabalá* ; 3 *Mahábalá* ; and 4 *Ati balá*. These are not to be had in the bazaar. *Chikaná páta* is very common in the rains and can be had from herbalists. The word *Chikaná páta* is derived from *Chikaná*, mucilaginous, and *Páta*, a corruption of *Pátra*, leaf.

286 B. *Chikaná páta*, *Urida*, *Erañdi-nu-mula*, *Kavacha*, *Tálama kháná*, *Rásaná*, *Asvagañdha*, each equal parts.

Make a decoction in the usual way.

Anupána : *Hīnga* and *Señdhálona*.

Used in hemiplegia, stiff neck, facial paralysis, and headache.

ADANSONIA DIGITATA.

THE PULP OF THE FRUIT.

Chora Amala चोरा आमला *Gorakha chincha*, *Chora ámalá*, *Gorakha ámalí* (Guz.) *Goraka chincha* (Bom.) *Gorikha ámalí* (Hind.) *Churi chin̄tza* (Mah.) The tree : *Habhabu* (Arab.) *Rookha* (Hind.) The fruit : *Sumpura* (Guz.) Monkey bread or sour gourd (Eng.)

Characters : The fruit is bottle or cucumber shaped. The shell is hard, woody, light, and covered with yellowish brown

hairs. On section it consists of a soft corky substance, and a pulp which is of a brownish red colour, very light, and corky. The whole is traversed here and there with a reddish, tough, and fibrous structure. The pulp when dry is a powdery starch-like substance which firmly adheres to the fingers when touched. It has an acid flavour and a sour taste.

Actions and Uses : All parts possess emollient and demulcent properties. The pulp is a wholesome article of food. It is mucilaginous, subacid, and astringent. With tamarind it is used as an acid drink in fevers, and in the treatment of dysentery and diarrhœa.

Remarks : The name *Gorukha chîntza* is derived from *Gorukha*, a monk, and *Chîntcha*, *Ámali*. *Gorukha* is the name of a Hindu monk who taught his disciples under this tree, and hence the name. The fruits when dried are used for holding water.

ALTHŒA OFFICINALIS.

THE FLOWER, ROOT, AND CARPELS.

Gula-kheru गुलकैरु The flowers : *Gul-i-kheru* (Bom. and Hind.) The carpels : *Tukham-i-khitami* (Pers., Bom. and Hind.) The root : *Reshá-i-khitami* (Pers.) Marsh Mallow root (Eng.)

Characters : The flowers when dry are from 1 to 2 inches long. Each has three different colours. It is yellowish at the base, green in the middle, and pink or violet at the top. The calyx is five partite, thick, and covered with whitish hairs. The petals are five, and bearded at the base and on their inner surface. In the centre there is a conical, five angled projection which is the staminal column and pistle. The root is of a white colour (both externally and internally), cylindrical, and somewhat tapering. It breaks with a short and granular fracture. It has a faint, peculiar odour, and a sweet, mucilaginous taste. The carpels are of a dark brown colour, reniform, and hairy. Each carpel has a groove on its back. It has two surfaces which are jointed together at the hilum by a notch. A portion of it near the hilum is convex and reticulated. Beyond this the surface is studded with hairs. Near the margin the surface is marked with fanlike ridges. It encloses one seed. The taste is mucilaginous.

Preparations : Decoction of carpels and flowers.

Actions and Uses : *Reshá-i-khitami* is reputed for its healing properties. The different parts of the plant are mucilaginous, cooling,

and demulcent. The flowers are expectorant, and form an ingredient of various cough mixtures. The carpels are useful in urinary complaints and coughs. The flowers mixed with sweet oil are applied to burns and parts bitten by venomous animals. The root is given as a demulcent in irritable state of the respiratory and digestive passages, and in irritability of the bladder and intestines. Its decoction is used as an emollient enemata in irritability of the vagina or rectum.

287 R. *Gul-i-kheru* 4, *Gul-i-khitami* 4, *Kákadi bija* 4, *Gokharu* 4, *Chinikabāba* 5, *Pákhana bheda* 2, *Sákara* 6, *Kálá miri* 1. Mix and make a powder.

Dose : grs. x to grs. xx.

Used in urinary complaints, scanty urine, gonorrhœa, &c.

288 R. *Gul-i-kheru* 4, *Gul-i-khitami* 5, *Jethi madha* 6, *Gul-i-banaphashá* 4, *Añjira* 5, *Káli drákhsha* 5, *Trikatu* 2.

Mix and make a decoction. Dose : dr. $\frac{1}{2}$ to drs. 2.

Used in cough, asthma, &c.

HIBISCUS ROSA-SINENSIS.

THE FLOWER-BUDS, LEAVES AND ROOT.

Jasavanda मञ्जि Jásavānda (Mah.) *Jísusa* (Guz.) *Zapá* (Sans.)
Shoe flower (Eng.)

Characters : It is a common garden shrub. The leaves are ovate, cordate, closely serrate, acuminate, and of a green or darkish green colour. The flowers are large, of a red colour, and mucilaginous or fleshy. The roots are long, tapering, of a whitish colour, and mucilaginous in taste.

Preparations : Infusion and mucilage.

Actions and Uses : The flowers are considered to be demulcent, emollient, and aphrodisiac. As a demulcent they form a refrigerant drink in fevers. They are useful in seminal weakness and cystitis. The expressed juice of petals is a good substitute for litmus. The leaves are useful in gonorrhœa. The root is valuable in coughs.

Remarks. There are several varieties of shoe flower, some with single, white, or yellow flowers: others with double flowers. The root of the white variety is more preferred and mostly used in medicine. Fresh plant can be had at herbalists. *Jásovaṇḍa* is also a name given to *Jonesia asoka* with which this should not be mistaken. It is called shoe flower, because of its astringent petals used by the Chinese to blacken their eyebrows and to blacken leather. It is a good substitute for *Althæa*.

GOSSYPIUM HERBACEUM.

THE LEAVES, FRUIT SEEDS AND HAIRY COVERING OF SEEDS.

Kapasa-nu-jhada కపాస ను జదా *Ru-nu-jhāḍa*, *Vona* (Guz.) *Karapási* (Sans.) *Kápasī* (Mah.) The fruit: *Kálá kapásanīṇ jīḍa-vāṇ* (Guz.) The hairy covering: *Kapāsa*, *Ru* (Guz.) *Rui* (Hind.) *Kápusa* (Mah.) The seeds: *Kapásiā* (Guz.) *Binolā* (Hind.)

Characters: It is an herbaceous plant, from 2 to 6 feet high. The leaves are long petioled, palmate, from 3 to 5 lobed, and of a green or darkish green colour. The flowers are yellow. The capsules or fruits are from 3 to 4 celled. They are acute, oblong or ovate, and contain numerous seeds. The seeds are oblong or ovate, pointed at one end, and covered with silvery white hairs. The hairs are not easily separable. The testa is hard, and of a blackish colour. On section the seeds are oily.

Preparations: The capsule, leaves, seeds, and cotton.

Actions and Uses: The unripe capsule with *Afima* and *Jā-phala* inserted in its interior and incinerated, is used in dysentery with good results. The leaves are used as *Varāliāṇs* or poultices to promote suppuration in boils or indolent swellings. The use of the hairy covering of seeds known as cotton is well known. It is used in preparing gun cotton from which collodion is made. Cotton is a useful application to burns and inflamed surfaces. It acts by excluding the air and keeping an uniform heat. The seeds contain a fixed oil, which is recommended as a local application or a poultice over painful swellings. The oil is largely used for burning and eating purposes. The cake left after the expression of the oil is used for feeding cattle. The unripe capsules used for medicinal purposes are those of *Gossypium religiosum*, *Deva kápusa* (Mah.)

MALVA SYLVESTRIS.

THE FRUIT.

Khubazi *كhubázi* (Arab. and Bom.) *Kitami-i-kuchaka*, *Nán-i-kulagha* (Pers.)

Characters : The fruit is of a light brown colour, and composed of from 10 to 12 carpels. Each carpel is reniform, very beautifully reticulated, and so closely arranged on the axis, that when together they give the whole fruit the form of an artificially made thread button. In the centre of the fruit or at its top, there is a conical projection which is the remnant of styles. At the base is a leathery calyx, which is sometimes with or sometimes without a small pedicel. The pedicel when present is adherent to the fruit. The taste is mucilaginous, and resembles that of *Gul-i-khitami*.

Preparations : Compound decoction and infusion.

Actions and Uses : The fruit is highly valued on account of its mucilaginous, demulcent, and cooling properties. It is prescribed in pulmonary affections, cough, inflammation of the bladder, and hæmorrhoids.

Remarks : It is generally used as a substitute for Marsh Mallow.

289 *B. Khubázi, Gul-i-khitami, Kákadi-ná-bija, Tarabuja bija, Sonpha*, each equal parts. Mix and make a decoction. Dose: *dr. ½ to dr. 1.*

Used in urinary complaints and gonorrhœa.

ABUTILON INDICUM.

THE BARK, LEAVES AND SEEDS.

Kanghai *كانغهاي* *Khapáta, Dábali* (Guz.) *Kānghi* (Hind.) *Potári* (Beng.) *Madami, Pitári, Chakrabheṇḍa* (Bom.) *Masht-ul-ghoula, Deshara* (Arab.) The seeds: *Balabija, Baladánaha* (Hind. and Bom.)

Characters : The bark is thin, long, tough, and fibrous; also striped. When cut into, it is white. The taste is bitter and astringent. The leaves are roundish, cordate, acuminate, serrated, generally velvety on both sides, of a pale green colour, and mucilaginous. The

seeds are reniform, of a brown colour, and hairy. In size they resemble *Elachi díná*. On section they are yellowish white within. The taste is mucilaginous and pea-like.

Preparations : Decoction of the seeds and bark, and powder and mucilage of bruised leaves.

Actions and Uses : The leaves are demulcent and diuretic. The seeds are nutritive, tonic, and demulcent. The bark is diuretic and mucilaginous. All parts are used in gonorrhœa with stranguary.

Remarks : The dried seeds can be had at the druggists. The fresh bark and leaves should be obtained from herbalists. There are two or three varieties of *Kaṅghai* which are all used for medicinal purposes. The word *Kaṅgai* means a comb.

HIBISCUS ABELMOSCHUS.

THE SEEDS.

Mishka danah मिशकदान Mishka díná, *Mushka-bheṇḍi* (Bom. and Hind.) *Latá kasaturika* (Sans.) *Mishka-díná* (Guz.) *Hub-ul-Mishka-ke-bīṇja* (Arab.) Musk Mallow (Eng.)

Characters : The seeds are aromatic. In size they resemble *Bhiṇḍá* seeds. They are brown in colour, and irregularly kidney shaped. Their surface is marked with concentric rings. They are pointed at one end. The odour is musky, but not perceptible unless the seeds are well bruised.

Preparations : Decoction and infusion of seeds.

Actions and Uses : The seeds are esteemed as a cordial, antispasmodic, and aromatic; also cooling, carminative, and stomachic. As an emollient, demulcent, and diuretic, they are recommended in gonorrhœa, catarrh of the bladder and of the air passages, and hoarseness of voice. The seeds are much used in perfuming medicated oils.

Remarks : The term *Abelmoschus* is a corruption of the Arabic name *Hab-ul-mishka* or *Kabba miska*, which means a grain of musk. The Sanscrit word *Latá kasaturika* is in allusion to the plant rising above the ground at first, and then bending upon itself like a creeper.

The seeds of *Rámaturáí* are often passed off for *Mishka Díná*. Both are similar in shape and size.

BOMBAX MALABARICUM.

THE GUM RESIN AND ROOT.

Mocharasa मोचरस The gum: *Mocharasa*, *Supariká phula* (Hind. and Bom.) The tree: *Rakta simula*, *Simula* (Hind. and Beng.) *Sáora* (Mah.) *Shála mali*, *Mocha* (Sans.) *Shemalo* (Guz.) The silk cotton tree (Eng.) The roots: *Semula musali* (Bom.)

Characters: It is a large tree remarkable for its height. It is covered with hard conical prickles. It is deciduous when in flowers. The flowers are large, red, bright, with a green cup-shaped calyx, followed by egg-shaped green capsules. Each capsule contains numerous seeds of a black colour covered by long silky hairs or a quantity of fine cotton. *Mocharasa* is the juicy gum which exudes from the bark which has been injured by decay or by insects. Incisions into the healthy bark give no gum. In appearance *Mocharasa* resembles galls more than gum. It occurs in pieces. In some pieces holes as if made by insects are distinctly seen, the galls thus resembling *Kákadá-siṅga*. It is smooth, opaque, of a brownish dark colour, and of an irregular shape. Sometimes it occurs in tears which are nodular, and sometimes twisted like a piece of wire. It is highly brittle. On section the cut portion is resinous looking and red. The taste is astringent and resembles somewhat that of *Chikani sopári*. The root is dark brown externally and reddish within. It is fibrous, tough, and studded with a soft spongy substance. The taste is astringent.

Preparations: Gum, and infusion of roots.

Actions and Uses: The young roots are said to be alterative, astringent, restorative, and demulcent. The dried roots are astringent and used like the gum in dysentery. The gum is demulcent and astringent. With *Sákara* it is useful in diarrhœa, dysentery and menorrhagia. It is given in diarrhœa to children. Native ladies take it to stop menses after delivery. Its effects are known by the stoppage of menses during lactation. It is a chief ingredient in various restorative, expectorant, and aphrodisiac confections.

Dose: grs. xxx to grs. xl.

Remarks: Bombax is a Greek name for silky cotton which is found in the fruit. The tree in Sanscrit is called *Shála máli*; the Hindi and Guzarati names are derived from it. The word *Mocharasa* is derived from the Sanscrit word *Mocha*, which is the name of the

tree. The silky hairs cannot be used as cotton on account of the smoothness and want of adhesion between their sides. They are used for stuffing cushions.

290 R. *Mocharasa* 1, *Indrajava* 2. Mix and make a powder.

Dose : grs. v.

Anupána : Decoction of *Bela*.

Used in dysentery.

291 R. *Mocharasa* 2, *Dháuriphula* 5, *Nilophara* 4. Mix, add powdered rice, and make *Cāñji*.

Used in dysentery of children.

292 R. *Mocharasa* 2, *Bela* 5, *Indrajava* 5, *Dádama chhála* 2, *Padavása* 2. Make a decoction in the usual way.

Used in dysentery of adults.

293 R. *Mocharasa* 2, *Khasakhasa* 3, *Utakatára* 4, *Kavacha bija* 3, *Sapheda musali* 5, *Satávati* 4, *Mastaki* 3. Mix and make a powder.

Dose : grs. x to grs. xv.

Used in seminal debility.

294 R. *Mocharasa*, *Bela*, *Ámbá-ni-gotali*, each dr. i, *Afima* grs. v. Mix and make a powder.

Dose : grs. xx to grs. xl.

Used in dysentery and dysenteric diarrhoea.

THESPESIA POPULNEA.

THE LEAVES, BARK, AND FRUIT.

Parasa pipalo पारस पिपाल *Párasa pipala* (Duk.) *Poracha* (Beng.) *Párasáchá Jháda* (Mah.) *Párasa pipalo* (Guz.) *Párisa* (Sans.) *Bheñda* (Mah.) *Bhiñdi* (Bom.)

Characters : The leaves are thick, cordate, broad, acuminate, on long petioles, darkish green above, and pale beneath. The flowers are large, yellow, and bell shaped. The fruit or the capsule *Bheñduká* is of the size of a common lemon. It is oblong, depressed, and coriaceous. When dry it is of a darkish brown colour. The

fresh fruit when cut abounds in a yellow juice which is highly glutinous and resembles gamboge.

Preparations: *Varáliāns* and juice of leaves, and decoction of bark.

Actions and Uses: The juice of the fruit is said to be mild acrid and mucilaginous. The leaves are succulent and useful as *Varáliāns* or local applications to painful and swollen joints. The juice is useful as an application in scabies, proriasis, and for the healing of sores and fistulæ. A decoction of the bark is used as a wash for skin diseases. Fresh leaves can be obtained from herbalists.

Remarks: The tree is very common on road-sides in Bombay. Its timber is tough, and is used for carriage building.

STERCULIACEÆ—The Murada singa order.

This order comprises a group of trees or shrubs, with alternate, simple, or compound leaves, and white, red, or yellow flowers. The flowers are perfect or abortive, and uni-sexual. The fruits are composed of a number of follicles or capsules containing (rarely baccate) seeds, with fleshy and oily albumen.

The properties of this order are very similar to those of Malvaceæ. The plants are generally mucilaginous, demulcent, and emollient; some are considered diuretic, emetic, and purgative.

HELICTERES ISORA.

THE FRUIT.

Murada singa મુરદ સિંગા *Maedá siṅgi*, *Murada saṅga* (Mah.) *Murada siṅga*, *Kavuna* (Bom.) *Marori*, *Marophali* (Hind.) *Avaratani*, *Mrugashiṅga* (Sans.)

Characters: The fruit is of a brown colour, and covered with a yellowish brown tomentum. Its thickest portion is at the base of the fruit. Like *Gorakha chintza* it has a long stalk which is club shaped. Extending from the stalk are five slender and angular shaped carpels. Each carpel is twined round the other, giving the whole fruit the shape of a corkscrew. Each carpel opens longitudinally in front and contains many black rhomboid (*Methi* like) seeds. The taste is mucilaginous and slightly bitter.

Preparations : Powder and infusion.

Actions and Uses : Hindus use the powder mixed with castor oil as a useful application to unhealthy or offensive sores inside the ears. It is said to be an astringent, and as such is given to children to relieve flatulence, and griping in the bowels, in dysentery and diarrhœa.

Remarks : The name *Murada siṅga* is a corruption of the Sanscrit word *Mruga shrīṅga*. It is derived from *Márádá*, which means a twine, and *Siṅga*, *Siṅganuṇ*, a horn. The capsule is twisted and is of the shape of a horn. The Sanscrit word *Mruga shīṅgi* is derived from *Mruga*, which means a deer, and *Shrīṅga*, a horn. It is in allusion, according to the old doctrine of signatures, to the carpel of the fruit resembling the turned horn of a deer.

As a drug it is supposed to have a reputation in dysentery. It relieves the *Maradá*, (twining or griping pain,) which is characteristic in dysentery.

STERCULIA FÆTIDA.

THE WOOD.

Narakha Uda नरक उदः *Narkyá uda* (Mah.) Hell's incense (Eng.)

Characters : The wood is of a light brown colour. It is soft and fibrous. The odour resembles that of human ordure, and hence the name.

Actions and Uses : Its chief use is as a fumigatory. In itch and other skin diseases it is given internally, and its paste applied externally.

Remarks : The wood resembles in smell the flowers of *Sterculia foetida*, although botanists doubt whether it belongs to Sterculiaceæ.

TILIACEÆ—The Bahu phali order.

This order comprises trees, shrubs, or rarely herbs, with simple, lobed, and alternate leaves. The flowers are generally yellow, followed by angular or lobed, and dry or pulpy fruits. The seeds are solitary or numerous. The albumen is fleshy.

The properties of the order are allied to those of Malvaceæ. They are mucilaginous, emollient, and demulcent.

CORCHORUS HUMILIS.

THE WEED.

Bahu phali બહુફાલી *Bahu phali* (Bom.) *Hiranakhori* (Hind.)

Characters : It is a small prostrate weed. The root is woody. From the root several small slender branches spread out. The leaves are small, wrinkled, thick, mucilaginous, and of a greenish dark colour. In the axils of leaves are small yellow flowers which are in bunches of two or three. The capsules are about $\frac{1}{2}$ to 1 inch in length and hairy externally. Each capsule consists of three carpels containing many small, angular, dark red colored seeds which are very bitter.

Preparations : Infusion and decoction.

Actions and Uses : The plant is mucilaginous and somewhat astringent. It is said to be a restorative, demulcent, emollient, diuretic, and astringent. It is given as an aphrodisiac with other aphrodisiac confections. It is used in gonorrhœa, seminal debility, and urinary diseases.

Remarks : In the Bombay bazaar, under the name of *Bahu phali* the weed of *Corchorus fascicularis* is generally sold, but the broad difference between the two is that in *Corchorus humilis* the whole plant, including leaves, capsules, &c. are diminutive; not so in *Corchorus fascicularis*. The name *Hirana khori* means deers' hoof.

CORCHORUS OLITORIUS AND C. ACUTANGULARIS.

THE SEEDS.

Raja jira રાજા જીરા The seeds: *Rājā jirā*, (Bom.) The plant: *Kurru chañtza* (Bom.)

Characters : The seeds are similar in shape to those of *Bahu phali*, but are darker, harder, and extremely bitter.

Preparations : Infusion.

Actions and Uses : The seeds are bitter, mucilaginous, and demulcent. They are administered in fever and obstructions of the abdominal viscera.

GREWIA ASIATICA.

THE FRUIT.

Phalasa ફાલાસા *Phālasā* (Bom.)

Characters : The fruits are drupes, globose, with one or two one-celled nuts, of a purplish black colour, and pulpy. In size they resemble *Karavānda*. The taste is acidulous, sweet, and astringent.

Preparations: Syrup.

Actions and Uses: The syrup is cooling and refrigerant. It is used in fevers. Fresh ones should be obtained.

LINACEÆ—The Alasi order.

In this order there are herbs or rarely shrubs. The leaves are alternate, opposite, or rarely verticillate, entire, and exstipulate. The flowers are regular, very showy, and followed by many celled capsular fruits. The seeds are without albumen.

Properties: Generally the plants of this order are mucilaginous. The seeds contain oil, and hence they are demulcent and emollient. The plants in this order are remarkable for the tenacity of their liber-fibres. A few are bitter and purgative.

LINUM USITATISSIMUM.

THE SEEDS AND OIL.

Alasi अलसी The seeds: *Alasi*, *Tisi* (Hind.) *Alashi*, *Alishi* (Bom.) *Bazarul-kattāna* (Arab.) *Tukhame-zághira* (Pers.) *Atasi* (Sans.) *Javāsa* (Mah.) *Mosinā* (Beng.) Flax plant seeds, Linseed (Eng.) The fixed oil: *Alasi-nu-tela* (Guz.) *Roghane-kattāna* (Arab.) *Roghane-zághira* (Pers.) *Alasikā tela* (Hind.) *Tisi tela* (Beng.) Linseed oil (Eng.)

Characters: The seeds are flat, ovoid, with an acute edge, and an oblique blunt point at one end. They are of a brownish red colour and shining. The surface is marked with fine pits or depressions. Just below the apex is a ridge in the hollow of which is the hilum. When cut into, the seeds consist of an external covering; within it is a layer of albumen, and the innermost is a layer of cotyledons. When wetted they become covered with a thin mucous envelope. The taste is mucilaginous and oily. The fixed oil is of a dirty white colour, and of a nauseous taste and odour.

Preparations: Poultice, tea, smoke, and oil.

Actions and Uses: *Alasi* tea is given as a demulcent, aphrodisiac and emollient. It is given with honey in coughs and colds. As a dilluent and diuretic it is given in inflammation of the mucous membrane, of the respiratory passages, and of the digestive

and urinary organs. It is injected into the vagina, rectum, and bladder, in atony or catarrh of these organs. The seeds are astringent, and useful to check hæmorrhages. They are used both as fumigation, and smoke for cold in the head and hysteria. As a deobstruent, a poultice of the seeds is recommended for the relief of painful rheumatic and gouty swellings. The oil is a valuable application to burned or scalded parts.

Remarks: Lini Farina or the linseed meal is a powder of linseed cake which contains no oil. The linseed cake is a preparation deprived of the oil by pressure. The oil is remarkable for drying readily when applied to any body and exposed to the air, and thus forming a hard transparent varnish.

Linen fabrics made of liber-fibres lessen perspiration, and hence are used as an article of dress. Lint or *Ghá-nu-kaparuñ* (Guz.) is scraped linen. Tow used in surgery is the short fibres of flax.

ZYGOPHYLLACEÆ—The Dhamaso order.

This order comprises herbs, shrubs, or rarely trees. The leaves are stipulate, opposite, usually imparipinnate, or rarely simple. The flowers are perfect, symmetrical, and followed by capsular fruits.

Properties: Some of the plants are resinous, and possess stimulant and alterative properties; others are diaphoretics.

TRIBULUS TERRESTRIS.

THE FRUIT.

Gokharu गोक़रु *Gokharu* (Guz.) *Gokharu* (Hind.) *Láhana Gokharu* (Bom.) *Gokaru* (Duk.) *Gokhashuri*, *Gokhurhá* (Sans.) *Khasaka* (Arab.) *Khare khasaka* (Pers.)

Characters: The fruits are roundish, somewhat compressed, five cornered, and armed with prickles or thorns. Each fruit is of a lightish yellow colour, and of the size of a marble. At the base of the fruit there is a furrowed club-shaped stalk. The fruit consists of five carpels. Each carpel has four strong prickles, two on each side. Those at the base are narrower and smaller than those in the middle. On the back they are freely projecting. The fruit contains several

oily seeds enclosed in hard stony cells. The taste is astringent and agreeable. The odour is aromatic. The root when fresh is slender, fibrous, about 4 or 5 inches long, cylindrical, and of a lightish brown colour. The odour is aromatic. The taste is sweetish and astringent.

Preparations: Powder, confection, infusion, and decoction.

Actions and Uses: The fruit is chiefly used in medicine. It is a cooling diuretic, aphrodisiac, and tonic. An infusion of *Gokharu* is used to relieve painful micturition, to increase the flow of urine, and as a vehicle for diuretic medicines. It is said to be beneficial in urinary disorders, and calculous affections.

Remarks: The root of this plant is one of the ingredients of the *Laghu pañcha mula* of *Dasamula di-kvātha*. The root, and not the fruit, of the plant should be used. The common practice at present is to use the fruits, but it should be avoided. The Sanscrit word *Gokhasurs* is derived from *Go*, which means a cow, and *Khsurā*, a divided hoof. This is in allusion to the carpels of the fruit which when dry are usually separate from one another, but when the two carpels are found adhering together they have the appearance of the divided hoof of a cow. Two principal varieties of *Gokharu* are sold in the bazaar under the name of *Mithā* and *Kāḍavā Gokharu*. The *Mithā Gokharu* is also known as *Chhotā* or *Beththā Gokharu*. The *Kāḍavā Gokharu* is otherwise known as *Mohṭa* or *Ubhā Gokharu*.

Mithā Gokharu is the true *Gokharu* of old writers. *Ubhā Gokharu* or *Kāḍavā Gokharu* is a name given to the fruits of *Pedaliū Murex*. Like true *Gokharu* its fruits are provided with thorns or prickles, but its carpels have no resemblance to cow's hoof. These are bitter and mucilaginous, while the true *Gokharus* are astringent and alterative.

295 B. *Gokharu* 10, *Trikatu* 5, *Taja* 4, *Elachi* 4, *Nāga kesara* 1, *Teja patra* 2, *Jāephala* 3, *Kāhu* 3, *Kākaḍi-nā-bija* 4, *Tabāshira* 5. Mix and make a decoction in the usual way. Dose: *drs. ii to drs. vi*.

Used in painful micturition, impotence, bloody urine, calculous affections, scalding, &c.

296 B. *Gokharu* 10, *Tālimakhānā* 5, *Jethimadha* 6, *Asana* 6, *Khorāsāni ajamoda* 5, *Kālī musali* 6, *Jāvañtri* 4, *Sālema misari* 6. Mix and make a powder.

Dose: *grs. x to grs. xv*.

Used in seminal debility.

- 297 R. *Gokharu* 5, *Mocharasa* 3, *Asana* 4, *Kavacha-ná-bija* 3, *Sapheda musali* 4, *Satávati* 5. Mix and make a powder. Dose: *grs.* x.
Used in general debility.
- 298 R. *Gokharu* 5, *Javakhára* 5. Make a decoction in the usual way. Dose: *dr.* i.
Used in painful micturition.
- 299 R. *Gokharu* 10, *Pákhanabheda* 6, *Taja* 5, *Elachi* 6, *Sákara* 10. Mix and make a powder.
Dose: *grs.* x to *grs.* xv.
Used in jaundice.
- 300 R. *Gokharu* *drs.* iv, *Harade* *drs.* iii, *Ámalá* *drs.* iii. Mix and reduce the whole to a fine powder.
Dose: *dr.* $\frac{1}{2}$ to *dr.* i three times a day.
Used in gonorrhœa, gleet, and genito urinary diseases.
- 301 R. *Gokharu* 5, *Harade* 4, *Pákhanabheda* 3, *Garamálo* 2, *Tila* seeds 5, *Dhamáso* 3, *Pita pápado* 3, *Elachi* 4, *Golába-ná-phula* 5, *Silājita* 2, *Erañdi-nu-mula* 3. Mix and make a decoction in the usual way.
Dose: *dr.* i.
Used in scalding in the urine, gonorrhœa, &c.
- 302 R. *Gokharu* 12, *Akkalakaro* 9, *Kapura* 9, *Gugala* 9, *Afima* 1, *Madha* q. s. Mix and make a pill mass.
Dose: *grs.* v.
Used in gleet and painful diseases of the bladder and urethra.

FAGONIA MYSORENSIS.

THE PLANT.

Dhamasa धमसा *Dhamaso* (Guz.) *Dhámásá* (Bom.) *Dhamásá* (Mah.)
Du-sparshá (Sans.)

Characters: As met with in the bazaar, the drug is of a greyish brown colour. It consists of stems, leaves, and thorns, all

in broken pieces. The stem is slender, and of a greyish colour. The surface is marked with longitudinal furrows. The bark is tough. On section the wood is soft, light, and brittle. The stem is hollow in the centre and contains a white pith. The leaves are linear, oblong, and narrowed especially at the base. They are thick and succulent when fresh. The margin is curved backwards. The colour is greyish dark. The surface is wrinkled. The thorns are conical, longitudinally furrowed a little below the apex, jointed, and of a reddish colour. The taste is bitterish and astringent. The odour is somewhat aromatic.

Preparations: Infusion and decoction.

Actions and Uses: It is a bitter tonic, diuretic, and astringent. Its poultice is useful to prevent suppuration in cases of abscess from thorns. An infusion of it is used as a gargle in sore mouth. Steam from a decoction of the dried plant is inhaled in fevers. In irritability of the skin and intense scratching, its decoction is used as a medicated bath with benefit.

Remarks: The Sanscrit synonym *Du-sparshá* is derived from *Du* or *Duka*, which signifies painful or frightful, and *Sparsha*, to touch. The plant is thorny and hence painful to the touch.

OXALIDACEÆ—The Amboti order.

These are herbs, rarely shrubs, or trees, generally with an acid juice. The leaves are rarely opposite, alternate, usually compound, or occasionally simple, and with or without stipules. The flowers are yellow or pink colored, regular, and symmetrical. The fruits are capsular, from three to five celled, generally angular, occasionally, drupaceous, and indehiscent. The seeds are few, with fleshy albumen.

Properties: The plants generally possess refrigerant properties, and are remarkable for their acid juice.

OXALIS CORNICULATA.

THE PLANT AND FRESH JUICE.

Amaboti अमबोती *Ambali*, *Amulti* (Bom.) *Chalamari*, *Anaboti*, *Anaboti-ki-bhóji* (Duk. and Hind.) *Ámalá loniká chañgeri* (Sans.) *Amarula sáka*, *Omaloti* (Beng.)

Characters : The plant has a pleasant acid taste, and is astringent. It is a common garden weed. The stem is slender, prostrate, and hairy. The leaves are on long petioles. They are divided into three segments. Each is obcordate and finely fringed with white hairs, or ciliated at the margin. The upper surface is glabrous; the lower one hairy. The flowers are yellow. The capsule is very hairy, conical, and furrowed, bearing many seeds which are transversely ribbed. The taste is very acrid.

Preparations : Fresh juice.

Actions and Uses : The leaves are used as an appetizing and astringent, in mild cases of dysentery and prolapsus ani and vaginæ; also as a cooling antiscorbutic, refrigerant, and stomachic in fevers and biliousness. The fresh juice is given as an antidote in poisoning by *Dhatūrā*.

Remarks : Fresh should be obtained. The Sanscrit word *Āmalā lonikā* is derived from *Ām*, acid, and *Lonikā*, like *Loni* or parslane.

BYOPHYTUM SENSATIVUM.

THE PLANT.

Zarera زرار Zarerā (Guz.)

Characters : The plant is from 6 to 10 inches long. It bears *Bhuiāmālā*-like leaves. Near the top of the plant, the leaves look like umbels. From the axils of the leaves long umbels of small flowers are given off. The dried drug is of a greenish brown colour. The smell resembles that of *Bhāṅga* or of decaying grass. The taste is acidulous, mucilaginous, and astringent; after a time it becomes bitter.

Preparations : Infusion.

Actions and Uses : The plant is acid, refrigerant, and cholagogue. It is highly used in fever, liver diseases, &c. It is a constant ingredient in various alterative decoctions.

AURANTIACEÆ & RUTACEÆ.

The Limbu or Narangi order.

These are trees, shrubs, or rarely herbs. The leaves are alternate, exstipulate, opposite, simple, pinnatifid, and dotted; generally with the blade articulated with the petiole. The flowers are regular

or irregular, and fragrant. The fruits are capsular. The carpels are united or distinct. The taste of the fruit is saccharine or acid, and somewhat bitter. The whole plant is fragrant. The fragrance is due to the receptacles containing an essential oil. Volatile oils are found especially in the leaves, petals, and rinds of the fruits.

ÆGLE MARMELOS.

THE FRUIT PULP, LEAVES, AND ROOT BARK.

Bela बेल The tree: *Bili* (Guz.) *Belá* (Hind., Beng. and Bom.) *Belaphala* (Duk.) *Bilava* (Sans.) The fruit: *Belá*, *Siriphala* (Hind. and Bom.) *Sapharajale-hindi* (Arab. and Pers.) *Bilu* (Guz.) *Shriphala*, *Bilava phalama* (Sans.) The dried pulp of the fruit: *Vilava peshika* (Sans.) *Bela* fruit, Bengal quince (Eng.) The leaves: *Belapátra* (Hind. and Bom.)

Characters: The fruit is of various shapes and sizes. It may be oval, oblong, elliptical, or roundish. The small fruits are of the size of a hen's egg; the largest ones are as big as a large cocoanut. The rind is very hard and becomes stony when dry. It has a lightish yellow or brown colour. The surface is tubercled and dotted. It has a woody stalk. On section the interior is of a brownish red colour, and contains several stony carpels covered over with the pulp. Between the cavities of each carpel a gummy resinous substance is found. The carpel contains one or more hairy white seeds. The odour of the pulp is aromatic and agreeable. The taste is astringent and resembles that of *Jámbu*. The leaves are ternate; the leaflets oblong, broad, lanceolate, and crenulate. They are green or dark green in colour, smooth, shining, and thick, and of an aromatic smell and taste. The root bark is thin, of a light pink colour, and somewhat astringent.

Preparations: Pulp and preserve of the fruit, and decoction of the root bark.

Actions and Uses: The ripe fruit is laxative. It is given with *Sákara* to prevent further development of piles and to cure habitual constipation. A decoction of unripe or half ripe fruits is astringent, digestive, and stomachic, and is given in diarrhoea and dysentery. The ripe fruit is aromatic and laxative. When taken in excess it often causes flatulence. The root bark is alterative tonic, and astringent, and is given in hypochondriasis, melancholia, and palpitations of the heart. The fresh juice of the leaves is laxative and

febrifuge. It is given in asthma, bilious fevers, jaundice, and with the addition of *Miri* in anasarca coupled with costiveness. A poultice of the leaves is applied to the head in the delirium of fever, and to the chest in acute bronchitis. The pulp of the half ripe fruit is astringent when baked and mixed with sugar. It is highly prized in atonic diarrhœa, dysentery (advanced stages), and chronic diarrhœa following typhoid fever.

Dose: Of the pulp *dr. i* to *drs. ii*.

Remarks: The root is one of the ingredients of *Dasa mula* or the ten roots. *Shriphala*, the Sanscrit name for *Bela* is derived from *Shri*, the goddess of abundance, and *Phala*, a fruit. It is an emblem of increase and fertility. The tree is sacred to the goddess of riches, and is cultivated everywhere in Hindu gardens. *Shriphala* is also the name given to cocoanut, a fruit possessing an abundance of good properties.

303 *℞. Bela 1, Kudá chhála 2, Variáli 1, Himaja 2, Harade 1, Sákara 3.* Mix, reduce the whole to a powder, then add *Ispoghula 3.* Dose: One to three drachms.

Used in subacute and chronic dysentery.

304 *℞. Bela drs. iv, Gajápipali dr. i, Válo dr. i, Lodhra dr. i.* Mix and reduce the whole to a fine powder.
Dose: *grs. xx* to *grs. xxx.*

Used in chronic diarrhœa and dysentery.

305 *℞. Bela* (dried pulp) *drs. 2½, Suñtha dr. ½, Sonpha drs. 2½, Mocharasa dr. i, Madha drs. ii, Sákara drs. iii.* Mix and reduce the whole to a fine powder.
Dose: *dr. ½* to *dr. 1.*

Used in chronic dysentery and dysenteric diarrhœa of hot climates.

306 *℞. Bela dr. i, Kátho dr. i, Dálimba chhála dr. i.* Mix and make a powder. Dose: *dr. ½* to *dr. 1.*

Used in dysentery and chronic diarrhœa.

- 307 *℞. Bela chhála 5, Gulavela 4.* Mix and make a decoction in the usual way; when ready add *Madha*.
Used to check vomiting.

BILAVA PANCHAKA.

- 308 *℞. Bela 10, Mocharasa 10, Ambá-ni-gotali 7, Jáephala 2, Afima 1.* Mix and reduce the whole to a powder.

Dose : *grs. xx to grs. xl.*

Used in chronic dysentery.

The word *Bilavá pañchaka* means five drugs including *Bela*.

BILAVADI KVATHA.

- 309 *℞. Bela (pulp), Dháuri-ná-phula, Dálimba chhála, Lodhra, Kákadá siñgi,* each equal parts. Mix and make a decoction. Dose : *dr. 1 to drs. 1½.*

Used in dysentery, diarrhoea, hemorrhoids, &c.

PEGANUM HARMALA.

THE SEEDS.

Ispanda इपंडा *Haramala, Haramaro, Ispānda* (Bom.) *Haramala* (Arab.) *Sipānda* (Pers.)

Characters : The drug consists of seeds mixed with a few pedicels and portions of capsules. The seeds are of a dull, greyish brown colour, and irregularly angular. Several are curved on one side. Each is covered with a rough tomentum which can easily be separated from the surface of the testa by scratching. When crushed they emit a heavy and disagreeable odour resembling that of *Govára-ni-siñga*. The taste is bitter.

Preparations : Decoction, confection, and infusion.

Actions and Uses : The seeds are supposed to be stimulant, emmanagogue, and alterative. Properties in common with those of *Ergot*, *Savine*, and *Satápa*. They are used as a fumigatory and as an alterative in palsy, lumbago, &c.

Remarks : Native midwives use it to procure abortion.

Meñdi bija are often substituted for *Ispānda*. Both are alike in form and colour.

FERONIA ELEPHANTUM.

THE LEAVES, RIPE AND UNRIPE FRUIT, AND GUM.

Kavita कवडा *Kotha* (Guz.) *Kabita* (Arab. and Pers.) *Kavita*, (Bom.) *Kavita* (Mah.) *Katha bela* (Beng.) *Kapitha* (Sans.) Wood apple (Eng.) The gum : *Ghāti goṇḍa* (Bom.) *Kotha-no-guṇḍa* (Guz.)

Characters : The leaves are pinnated. The leaflets are cuneate or obovate. They are crenate at the top, pelucid, and dotted, and when crushed, smell like *Variáli*. The fruit is of a light grey or dirty white colour. It is globose and covered with a scurfy epidermis. The rind is dull green, woody, granular, and very fragile. The pulp of the fruit is of a pale, greyish pink colour, containing numerous oblong, compressed, thick, fleshy seeds. The smell is aromatic. The taste is somewhat acid and astringent. The gum is semi-transparent, in tears or irregular masses. In colour it is yellow or brownish red. The mucilage is more or less viscid like *Bávala-no-guṇḍa*.

Preparations : Powder, syrup, pulp, and gum.

Actions and Uses : The leaves are aromatic, carminative, and astringent. They are used with other carminative decoctions in dyspepsia and diarrhœa. The unripe fruit is astringent, and is useful in diarrhœa and dysentery. The ripe fruit is refreshing, astringent, cardiacal, digestive, and tonic. It is a useful remedy in salivation, sore throat, and in strengthening the gums. *Sharabata* made from the fruit increases the appetite, and is refrigerating and astringent. The gum is a good substitute for Gum Arabic, and is useful to relieve tenesmus in bowel affections. The powdered rind is useful as a local application for the bites of venomous insects.

KAPITHA ASHATAKA.

310 B. *Kotha* (the pulp) 8, *Sákara* 6, *Dálimba chhála* 4, *Amali chhála* 3, *Bela phala* 3, *Dhauri phula* 4, *Nága kesara* 1, *Taja* 4. Mix and make a powder. To this add *Ajamoda* 3, *Pipali* 3, *Miri* 4, *Jiruṇ* 4, *Dháná* 4, *Pipali mula* 3, *Válo* 2, *Sañchala* 2, *Elachi* 4, *Tamála pátra* 2, *Chitraka* 1, *Suñṭha* 2. Mix and make a powder. Dose : dr. i to drs. ii.

Used in chronic dysentery and diarrhœa.

The word *Kapitha Ashataka* is derived from *Kapitha*, a drug which is highly astringent, and *Ashataka* means eight. It means a compound preparation of eight drugs which are highly astringent. In the preparation of this compound powder, several carminatives and stomachics are added to improve its astringent action.

CITRUS LIMONUM, C. ACIDA, & C. AURANTIUM.

THE PEEL, OIL, AND JUICE.

Limbu लिंबू *Limbu* (Hind. and Bom.) *Kalanabaka* (Pers. and Arab.) *Máhá jambara phalama* (Sans.) *Thora-limbu* (Mah.) *Mohtuñ limbu* (Guz.) *Lemon* (Eng.)

Characters: There are two varieties of *Limbu*. These are known as *Godariá Limbu* (Guz.) and *Kágaji Limbu* (Guz.) *Godariá Limbu* are thick rinded, while the *Kágaji Limbu* have a thin rind. In shape both are globular, their size varying from *Akharota* to that of a small orange. Their colour also varies from shades of green to yellow. The rind is dotted and tubercled. They contain an oil which gives them a bitter aromatic taste. On section the interior is juicy. The juice is contained in conglomerated cells which are separated in different layers or carpels. On the margin of each layer one or two seeds are attached. The juice is highly acid.

Preparations: Oil, syrup, and juice.

Actions and Uses: The peel of lemons is a gentle stomachic and stimulant. Lemon juice is used to give flavour to medicines. It is refrigerant, cooling, and stomachic. It quenches thirst. It is given in fever, scurvy, dyspepsia with vomiting, and rheumatic affections, such as sciatica and lumbago. It is often given with *Java khára* and *Madha*. The essential oil is used as a stimulating liniment for the relief of rheumatic pains. The juice of baked lemon is useful in bilious affections and to stop diarrhoea.

Remarks: Several species of *Citrus* are in domestic use. These are *Citrus Aurantium*: *Náranja* (Arab.) *Náranğa* (Pers.) *Náranği* (Hind. and Duk.) *Komolá nebu* (Beng.) *Náranğa-phallama* (Sans.) *Nárinğa* (Mah.) *Nárinği* (Guz.) *Orange* (Eng.) *Citrus Bergamia*: *Limu* (Arab. and Pers.) *Limu*, *Nebu* (Hind. and Duk.) *Nebu* (Beng.) *Jambira*

phallama (Sans.) *Limbu* (Mah.) *Nimbu* (Guz.) Lime (Eng.) *Citrus medica*: *Utraja* (Arab.) *Turañja* (Pers., Hind and Duk.) *Housá nobu* (Beng.) *Phala purá* (Sans.) *Turañja*, *Bijoráñ*, *Bálañka* (Guz.) Lime (Eng.) The best lime used by the *Hakimas* are known as *Kágaji nimbu* and *Pattí nimbu* (Hind. and Duk.) They are so called because the rind is very thin like a paper or leaf. *Matulunga* or *Bijoráñ* is much used in native medicine. Pickles are made of *Limbu* in its own juice and salt, and used as a popular remedy for indigestion.

311 *℞. Limbu* (baked) *no-rasa* *dr. i*, *Sákara* *drs. ii*, and water *dr. i*. Dose: *dr. i* to *drs. ii*.

Used in vomiting and dyspepsia.

312 *℞. Limbu-no-rasa* 5, *Java khára* 4, *Morathuthu* 3, *Tañ-kañ khára* 4. Mix and apply.

Used for tumours and warts.

313 *℞. Bijoruñ*, *Váyavarana*, each equal parts. Make a decoction in the usual way. Dose: *drs. iv*.

Used in worms.

314 *℞. Bijoruñ* 5, *Himaja* 4, *Suñtha* 3, *Pipali mula* 3. Make a decoction in the usual way; when ready add *Java khára* 4. Dose: *dr. i*.

Used in pulmonary diseases with dry cough, dyspepsia, &c.

RUTA GRAVEOLENS.

THE PLANT AND LEAVES.

Satapa सटप *Barge Sadába* (Arab.) *Satápa* (Pers.) *Sadába* (Hind.) *Satápa* (Bom.) Common Rue (Eng.)

Characters: The herb is about 2 or 3 feet high. It is of a glaucous green colour. It is smooth and turbercled. The leaves are long petioled. The leaflets are small, dotted, linear, oblong or obovate, and very minutely crenate. Their under surface is pale; the upper

surface glaucous green or dark green. The odour is very peculiar and resembles somewhat that of *Tulasi*. The taste is pungent, nauseous, and slightly bitter.

Preparations : Juice, powder, and oil.

Actions and Uses : Fresh leaves are acrid, bitter tonic, anthelmintic, and digestive. The juice is given as an anthelmintic to children. The leaves are made into a bundle and hung round children's neck in cases of worms. Powdered dry leaves are given with aromatics in cases of dyspepsia. They also increase the mental powers. As a diuretic they increase the flow of urine and menses. They are supposed to be resolvent and emmanagogue, also anti-spasmodic and stimulant, and used in hysteria and flatulent colic. They are also said to be antaphrodisiac, and have a supposed virtue in promoting perspiration. The leaves dried and burnt are used as fumigation in cases of catarrh and cough in children. Fresh leaves bruised and mixed with brandy are used locally as an application for paralytic limbs. Rue is injurious to pregnant women. It often causes abortion and should therefore be used with caution.

Dose : *grs.* x to *grs.* xv.

Remarks : Fresh plant is always sold by herbalists.

315 *℞. Satāpa grs.* 30, *Tañkāṇa khāra grs.* 30, *Suñṭha grs.* 60, *Kálāmiri dr.* 1. Mix and make a fine powder.

Dose : *grs.* xv to *grs.* xxv.

Used in flatulent colic, hiccough, epilepsy, convulsions due to irritation of worms, &c.

316 *℞. Satāpa bija* 5, *Karaphasa* 4, *Fudino* 3, *Kesara* 1, *Suñṭha* 2, *Kálāmiri* 2, *Madha* 30. Mix and prepare a confection. Dose : *drs.* ii to *drs.* iv.

Used in flatulence, colic, epilepsy, irritation of worms, and dyspepsia.

317 *℞. Satāpa, Isasa, Jiruñ (sapheda), Gul-i-armāni*, each *grs.* v. Mix and make a pill mass.

Dose : *grs.* iii to *grs.* vii.

Used in frequent micturition.

XANTHOXYLUM RHETSA.

THE FRUIT AND BARK.

Tiraphala तिरफला The fruit : *Chiraphala*, *Triphala kokali*, *Tessula* (Bom. and Goa.) The bark : *Tejabala* (Bom. and Goa.) *Faghureh kabábeh-i-dahana-kushada* (Pers.)

Characters : The fruits are debiscent. They are small and oval. In size they resemble *Málakágni*. The colour is brownish dark externally and brown within. Each has a small woody stalk at its base. From the top down to more than $\frac{1}{2}$ its length the fruit is bifid. The surface is highly wrinkled and pitted. The seeds are black, very hard, and shining. In size they resemble *Miri*. The fruit has a lemon-like oily odour. The taste is acidulous. The bark occurs in irregular flat pieces of various sizes. It has a brownish colour externally. On section the cut portion consists of several layers, generally of a brownish red colour, and is corky and spongy. About the centre it appears as if containing drops of water. On squeezing it, the water escapes.

Preparations : Infusion and decoction.

Actions and Uses : The fruit is said to be a stimulant, tonic, and aromatic, and useful as a condiment in curries; also an astringent and digestive. The bark is aphrodisiac and also a bitter aromatic. Both are prescribed in dyspepsia, diarrhœa, and urinary diseases. It is reputed to be a purgative of the kidneys.

Remarks : *Kabábeh-i-dahana kushada* signifies open mouthed cubes, from the fact of the dried carpels of *Tiraphala* adhering at one end and being open mouthed at the other. *Nepáli Dháná*, *Tumari*, is the name of the pungent and aromatic fruit of *Xanthoxylum hostile*. The fruit resembles *Dháná* in appearance and is used as an aromatic stimulant.

SIMARUBACEÆ—The Maharukha order.

These are shrubs or large trees. The leaves are without dots, alternate, compound, or simple, and sometimes ex-stipulate. The flowers are axillary or terminal. The fruit is indehiscent, one seeded, and drupaceous. The carpels are 4 or 5 in number.

Properties: A bitter principle is a characteristic of this order; some shrubs or trees are tonic and febrifuge.

BALANITES ROXBURGHII.

THE FRUIT.

Hingana beta हिंगना *Hingana* (Bom.) *Hingoriá* (Guz.) *Hingana beta* (Hind.) *Ingudi* (Sans.) *Hingana* (Beng.) *Hingana* (Mah.)

Characters : The fruit when dry has a wrinkled appearance. It is of a pale yellow or brownish yellow colour. It resembles *Bijorān* or lime in shape. It is oblong and slightly compressed at the base where a short woody stalk is attached. The surface of the fruit is slightly turberled and marked with five longitudinal grooves. On section the rind is very thin and highly brittle. Between it and the stone there is a soapy pulp which is unctuous and oily when touched. The stone is hard, bony, fibrous, of a pale white colour, and contains one large seed. The seed is homogeneous, resinous, and of a dirty grey colour. The pulp is sweet ; the seed has a disagreeable odour.

Preparations : Pulp.

Actions and Uses : The unripe fruit is emetic, purgative, pungent bitter, and anthelmintic, and is used in worms in children. The oil expressed from the seeds is used as *Dájiān* (application) on burns and excoriations, and also as an application to freckles. The ripe nut when emptied of its contents is filled with gun powder and converted into a bomb which explodes with a loud noise.

AILANTHUS EXCELSA.

THE BARK AND LEAVES.

Maharuka महारुका *Mohṭo Araduso* (Guz.) *Máharuka* (Bom.) *Samaga* (Pers.)

Characters : The bark has a pleasant aromatic, but bitter taste. It is of an ash colour. Externally it is very thick and rough, and marked by numerous ridges. Internally it is yellow or white, and fibrous. The leaves are of a bitter taste. They are 3 or 4 feet long and abruptly pinnated. The leaflets are from 10 to 14 in pairs. They are coarsely toothed.

Preparations : Infusion of the bark, decoction, and paste of leaves.

Actions and Uses : The whole plant is reputed to be a bitter tonic, febrifuge, and astringent. An infusion of the bark is given in

dyspepsia and fevers. As a tonic it is given in general debility and anorexia. It is generally combined with vegetable bitters. The paste in small doses acts as a febrifuge ; in large doses as an emetic and a purgative. As a bitter tonic and astringent, it is given in dysentery, diarrhœa, and general debility, chiefly after child-birth.

Doses : Of the infusion, 2 to 3 ounces; of the powder as a febrifuge, *grs.* v; and as an emetic, *grs.* xv.

Remarks : It is a good substitute for *Kudâ chhâla*.

BURSERACEÆ—The Hirabola order.

These are trees or shrubs with compound, often dotted leaves, and small, perfect, and rarely unisexual flowers. The fruits are dry, and from 1 to 5 celled.

Generally the plants abound in a fragrant gum resin, or a resinous juice, and turpentine.

Properties : Some plants are considered as bitter, purgative, or anthelmintic; others are tonic, stimulant, and antispasmodic.

BALSAMODENDRON OPOBALSAMUM.

THE BALSAM OR OLEO-RESIN, FRUIT, AND WOOD.

Balesana *بالسانا* The Balsam : *Dohnula-balashâna* (Arab.) *Roghan-i-Balasâna* (Pers. and Bom.) *Bâlasanakâ tela* (Hind. and Duk.) Balm of Gilead or Balsam of Mecca (Eng.) The fruit : *Tukhm-i-balasâna* (Pers.) *Hab-ul-balasâna* (Arab.) The wood : *Aud-i-Balasâna* (Pers. and Bom.)

Characters : The balsam is collected by making deep incisions through the bark down to the wood. The exudation is then preserved in bottles. Another method is to extract it by boiling the leaves and wood in water. The balsam resembles copaiba in colour and consistence. It also contains an essential oil. The oleo-resin sinks in water, and burns like naphtha. Its odour is similar to that of *Chini-kabûba*. The taste is acrid, aromatic, and bitter. The fruits are ovate, oblong, or obovate. They are elevated on a very small stalk and have a ring-like calyx at the base. The surface is wrinkled, and of a reddish brown colour. There is a small projection (style) at the top from which four longitudinal ridges spread downwards and extend to the calyx. On section the pericarp is brittle and contains

one seed which is resinous looking, oily, and of a brown colour. The taste is balsamic. The odour resembles that of turpentine. The wood is of a pinkish colour and heavy. It occurs in pieces, and is covered with layers of papery bark. The bark is yellow and tubercled. The odour is fragrant. The taste is oily.

Preparations : Decoction of wood and fruits, powder of fruits, balsam, and oil.

Actions and Uses : The fruit is said to be a carminative, digestive, stimulant, tonic, and expectorant. It is usually given in combination with *Bábula-no-guñda*. A paste of it is locally applied to indolent sores. The balsam is given internally in profuse mucous discharges from urino genital organs, as gonorrhœa, gleet, leucorrhœa, &c., chronic catarrh in old persons, and chronic rheumatism. The wood is similar in properties to the fruit.

Remarks : It is said that this tree is affected by heat, cold draught, and moisture, like a human being, hence the Prophet (Mahmet) used this balsam for the resuscitation of the dead. The Christians also value this tree on the same doctrine.

318 *B. Hab-ul-balesana drs. ii, Mulá bija dr. i, Java khára drs. ii, Gokharu drs. ii, Pákhana bheda dr. i. Mix and reduce the ingredients to a fine powder.*
Dose : *dr. ½ to dr. 1.*

Used in chronic diseases of the bladder, urinary calculi, and dropsy.

BALSAMODENDRON MUKUL.

THE GUM RESIN.

Gugala गुग्गुलु *Gugara* (Guz.) *Gugala*, (Duk.) *Gulala* (Beng.) *Athaisá gugula*, *Salai*, *Sallaki* (Hind. and Bom.) *Mogla*, *Aphalátana* (Arab.) *Bi-jahundána* (Pers.) *Guggalaha*, *Kou-shikaha* (Sans.) Indian *Bdellium* (Eng.)

Characters : The resin occurs in moist, viscid, and fragrant pieces, mixed with hairs, stems, pieces of bark, &c. The colour is brownish dark or golden yellow. Each piece is translucent. It hardens very slowly and resembles *Gulakānda*. It is more oily than *Hirábola* and burns very readily. With water it forms a milky emulsion. The odour is terebinthinate. The taste is bitter.

Preparations : Paste and confection.

Actions and Uses : It is said to be a demulcent, aperient, alterative, cordial, stimulant, and purifier of blood. As an alterative it is often combined with aromatics and given in rheumatism, scrofulous affections, nervous diseases, skin diseases, and urinary disorders. It is highly useful when locally applied to painful joints.

Remarks : It is used for the same purposes as *Hirábola*.

YOGARÁJA GUGALA.

- 319 *℞. Gugala 25, Triphalá 15, Suñṭha, Pipali, Chavaka, Pipali mula, Chitraka, Hīṅga, Ajamoda, Sirasa, Jiruṇ, Sháhjiruṇ, Ranuká bija, Indrajava, Paháda mula, Vávadiṅga, Kutaki, Atisha, Bháringi chhála, Vekhaṇḍa, each 1, Moravela 2. Mix and make a pill mass. Dose : grs. iii.*

Anupána : To be given in *Gorakhamuṇḍi kvátha*.

Used in syphilis, chronic gonorrhœa, piles, fistulæ, dysentery, chronic rheumatism, consumption, leprosy, &c.

Yogaváhi : In cases of rheumatism give the pills with decoction of *Rásaná* : in leprosy with decoction of *Limado* ; in cough with decoction of *Garamálo* ; in gonorrhœa with decoction of *Daru halada* ; and in obesity with *Madha*.

- 320 *℞. Gugala 5, Trikatu 2, Gulaṇcha 2, Suñṭha 3, Pipali 1, Miri 1, Vávadiṅga 1, Dáñti mula 2, Nishota 1. Mix and make a powder. Dose : dr. ½.*

Used in chronic skin diseases, and as a blood purifier in chronic rheumatism.

KANCHANARA GUGALA.

- 321 *℞. Gugala 12, Kañchana chhála 10, Triphalá 2, Trikatu 1, Váyavarana 1, Elachi, Taja, Tamála pátra, each ½, Madha, q. s. Mix and make a paste or a pill mass. Dose : grs. iv to grs. v.*

Anupána : Decoction of *Triphalá*, or infusion of *Khera chhála*.

Used in enlarged glands in the neck, chronic rheumatism, dropsy, gleet, &c.

TRIPHALA GUGULA.

322 R. *Gugala* 5, *Triphalā* 3, *Pipali* 1, *Madha*, q. s. Mix and make a pill mass. Dose: *grs.* iv to *grs.* v.

Used in gonorrhœa, dropsy, fistulæ; foul ulcers, ozœna, syphilis, &c.

BALSAMODENDRON MYRRHA.

THE GUM RESIN.

Hirabola हिराबोला *Hirábola* (Mah.) *Bola* (Hind. and Bom.) *Mukala*, *Murra* (Arab.) *Bola* (Pers.) *Bola* (Beng.) *Gāndharasaha*, *Vola* (Sans.) *Bálata-bola* (Mah.) *Myrrh* (Eng.)

Characters : The resin is obtained by making incisions in the tree. It occurs in irregular masses or tears of a reddish yellow colour. Each tear is resinous and homogeneous. When broken the cut surface is studded with white lines or marks. It is less moist and less unctuous than *Gugala*, but is easily pulverizable. It has a peculiar fragrance which is bitterish. The taste is balsamic, oily, and bitter.

Preparations : Gum, decoction, powder, and emulsion.

Actions and Uses : *Hirábola* is both a stimulant and a tonic. In small doses it promotes appetite and digestion. In large doses it irritates the stomach and intestines, and causes nausea, vomiting, and diarrhœa. It is highly prized as an emmanagogue. It is also an expectorant, detergent, and astringent. Internally it is given in fever, flatulence, constipation, atonic dyspepsia, hysteria, and epilepsy. In purulent ophthalmia *Hirábola* dissolved in human or asses' milk is dropped into the eye. In amenorrhœa it is given in combination with iron and vegetable bitters. It is a very useful agent in chronic bronchitis with profuse expectoration, and chronic leucorrhœa. Locally it is used as a dentifrice in caries of the teeth, either alone or mixed with other drugs. As a gargle for spongy gums it is very serviceable. It is also used as a fumigatory and disinfectant on sores and foul ulcers. It is said to prevent the hair from falling off.

Dose : *grs.* v to *grs.* xv.

Remarks : There are several allied gum resins. The most common one is *Mhaisábola* or *Bhesábola*. It resembles *Hirábola* in odour and taste. *Bhesábola* is more sticky, of a darker colour, less oily, and destitute of aroma, and thus closely resembles *Gugala*. The word

Bheṇsa means a buffalo, and *Bola*, a myrrh. This is on account of the drug being given to buffaloes to increase the flow of milk. Another variety of gum resin is opaque bdellium, otherwise known as *Miná haramá*. This is of a yellowish white colour, very opaque, and of a bitter taste. It is used to extract guinea worms. It acts by poisoning the animal. Indian Bdellium is *Mhaisá Gugala* the produce of *B. Mukul*. The pieces are vermiform and thick. The colour is lighter or greenish, the pieces having portions of papery bark attached to them.

323 *B. Hirábola* 5, *Eliyo* 4, *Gaṇdhaka* 4, *Morthuthu* 3, *Siṇdura* 2, *Sonágeru* 3, *Haratála* 2, *Siṇdhava* 4, *Lahána* 5, *Manasila* 2, *Sákara* 10, *Dhupela tela* 20. Mix and apply.

Used in pityriasis, psoriasis, &c.

BOSWELLIA PAPYRIFERA.

THE GUM RESIN.

Visesha विषेश *Visesha* (Mah.) *Isasa* (Guz.) *Seta kuṇḍura* (Hind.) *Bastaja* (Arab.) *Kuṇḍura* (Pers.) *Sela goṇḍa* (Hind.) *Kuṇḍura* (Duk.) *Salai goṇḍa* (Beng.) *Kuṇḍari* or *Sveta kuṇḍuru* (Sans.) *Olibanum*, Indian incense (Eng.)

Characters: *Visesha* is obtained by making incisions in the bark. As met with in the shops it resembles *Bábula guṇḍa* or *Khera guṇḍa*. It occurs in large, clean, detached tears or flat pieces. Each tear is globular or pear shaped, often translucent. Papery bark is sometimes found adherent to flat pieces. The color is whitish pale, yellow, or brown. Very small pieces are generally colorless. It is unctuous to the touch. When held before the flame of a lamp it burns very readily and the whole is reduced to a black charcoal. It does not emit much smoke. When burnt the odour is rather disagreeable. It softens in the mouth. The taste is slightly pungent and terebinthenous. When kept for a time in water, it turns into a white, opaque, and sticky mass.

Preparations: Fumigation, and *Lepa* (paste.)

Actions and Uses: These are similar to those of turpentine and other gum resins. As a discutient *Visesha* is locally applied to indolent swellings as buboes, to promote their suppuration. It is also a local stimulant, astringent, detergent, fumigatory, and dessicative. It is used both internally and externally in chronic lung diseases as

bronchorrhœa, chronic laryngitis, &c. As an astringent it is useful in bloody fluxes, gonorrhœa, &c. Native women take it internally to promote menstruation. As a fumigatory it is much used in fevers. Its *Lepa* is a useful application for sprains, bruises, dislocations, carbuncles, boils, and ulcers.

Remarks: It is a useful substitute either for *Dhupa* or *Lobána*. *Seta kuṇḍara* (Hind.) is a corruption of *Sveta kuṇḍru* (Sans.) which is derived from *Sveta*, white, and *Kuṇḍru*, olibanum. There are several kinds of olibanum. 1st. Deep yellow tears known as *Kuṇḍura Zakara* or male frank-incense; 2nd. Pale tears, *Kuṇḍura Unsa*, otherwise known as female frank-incense; 3rd. *Kuṇḍura Madahrāja*, artificial tears made by shaking the moist exudation in a basket; 4th. *Kishara Kuṇḍura* or *Kashpha*, the bark of the tree coated with the exudation (*Dhupa* of Bombay market); 5th. *Dokaka Kuṇḍura* or dust of olibanum. *Bāṇḍhario dhupa* (Guz.) is another variety of olibanum and consists of the scurf of the tree coated with exudation. The last is chiefly used in the Indian temples as an incense.

324 B. *Isasa* 2, *Taja* 1, *Káli chhada* 2, *Miri* 1, *Suñtha* 1, *Madha* 16. Mix and prepare a confection in the usual way. Dose: *dr. i* to *drs. ii*.

Used in loss of memory and chronic diseases of the brain and spinal cord.

MELIACEÆ—The Nima order.

This order is composed of trees or shrubs, with exstipulate, alternate, pinnate or simple, generally oblique, and serrated leaves. The flowers are small and generally very fragrant. They are followed by baccate, capsular, or drupaceous fruits. The plants of this order are remarkable for thier bitter, tonic, and astringent properties.

MELIA AZADIRACHTA.

THE ROOT-BARK, LEAVES, AND FRUITS.

Bakaena अडिआ Bakána, *Limbado* (Guz.) *Bakáyana*, *Maha nimba* (Hind.) *Gour nima*, *Gouli-nima* (Duk.) *Goru-nima*, *Doñgrá-chá-limbáchá*

Jhāḍa (Mah.) *Mahā nimba*, *Pravata nimba*, *Vrikshaha* (Sans.) The Persian lilac (Eng.) The seeds: *Hab-ul-bāna* (Arab.) The bark: *Bakāna chhāla* (Bom. and Hind.)

Characters : The root bark when fresh is thick and spongy. Externally it is warty and of a dark brown colour. Internally it is white. The taste is astringent, also bitter and nauseous. The leaves are bi-pinnate; the leaflets obliquely ovate, lanceolate, acute, serrated, and glabrous. The flowers are small, purple or lilac, and fragrant. The dry fruit is oblong, of a reddish dark brown colour, and of the size of an *Unāba*. Their shape is somewhat elliptical. Externally the epidermis is shining and wrinkled. On section the interior contains a pulp which is glutinous to the touch, and of a disagreeable smell. Within the pulp, is a hard nut of a yellowish brown colour. On dividing the nut the interior is found to contain 5 cells. Each cell contains a seed enclosed in a dark coloured testa. The seeds resemble in shape and size wheat grains, *Gahuñ*. They are oblong, compressed at the upper part, and slightly jointed: They are generally of a pale brown colour and contain a resinous oil. On opening the seed the cotyledon is greyish white and oily. When crushed the seeds emit a very acrid and disagreeable odour.

Preparations : Poultice of flowers and leaves, decoction of the root bark, and fruit.

Actions and Uses : The root bark is bitter, emetic, anthelmintic, and laxative. In large doses it is a narcotic. As an anthelmintic it should always be followed by a cathartic. The flowers and leaves are emmanagogue and resolvent. The juice of the leaves is anthelmintic, antilithic, diuretic, and emmanagogue. It is given internally in scrofula and leprosy. The leaves are locally applied, as a poultice to relieve nervous headache. The leaves made hot are applied as a resolvent to remove swellings of glands. A poultice of the flowers is also used to kill lice and to cure eruptions of the scalp.

Doses : Of the decoction, for a child, *dr. i* to *drs. ii*; for an adult, *oz. ½* to *oz. i*.

Remarks : All the dry parts of the plant can be had at the druggists. The fresh leaves, flowers, and root bark are sold by herbalists, and generally used in medicine.

325 *B. Bakāyana*, *Tākla*, *Bāvañchi*, equal parts. Mix and make a paste in rose water and apply.
Used in leucoderma.

MELIA SUPERBA.

THE DRIED FRUIT.

Kadu khajura कदु खजुर The tree : *Limbáarro* (Guz.) *Nimbáarro* (Bom.) The fruit : *Kadu Khajura*, *Kálá khajura* (Bom.)

Characters : The dried fruit resembles a date in size, shape, and colour. It is of a dark brown colour and deeply wrinkled. The surface is rugous. On section the pulp is found to be firmly adherent to a large and very hard stone. It is sticky and of a brownish red colour. When soaked in water it swells. The apex of the fruit is blunt and studded with small tubercles. At the base is attached a portion of the fruit stalk and a five partite calyx. The taste of the pulp is bitter and nauseous. The seed is covered with a dark brown polished testa. The kernel is oily and of a *mithi Badáma* and nauseous taste.

Preparations : Fruit and fruit stone.

Actions and Uses : The pulp of the fruit is bitter, astringent, and carminative. It is used for the relief of colic and bowel complaints.

Dose : $\frac{1}{2}$ a fruit.

Remarks : The term *Kadu Khajura* or *Kálá Khajura* is derived from *Kadu* which means bitter, *Kálá*, Black, and *Khajura*, a date. It is bitter, black, and similar in shape and size to a date.

AZADIRACHTA INDICA.

THE PLANT.

Nima नीम The tree : *Limbádá-nu-jháda* (Guz.) *Ázá-darakht-i-hindi*, *Niba* (Pers.) *Nima* (Duk.) *Nimagácha* (Beng.) *Nima*, *Nimba* (Hind. and Bom.) *Nimba*, *Vrikshaha* (Sans.) *Limbáchá-jháda* (Mah.) *Neem* or *Margosa* tree (Eng.) The petioles : *Limbádá-ni-sali* (Guz.) The bark : *Lima* or *Nimba chhála* (Bom. and Hind.) The fruit : *Limbodi* (Guz.) The leaves : *Limbádáná pána* (Guz.) The flowers : *Limdáná phula* (Guz.) The seeds : *Limbádáná bija* (Guz.)

Characters : The bark is dark brown and scabrous externally ; rough, fissured, and of a rusty grey colour internally. It can readily be separated into thin layers. The taste is bitter. The petioles are thickened at the base. They are slender, round, and about a foot in length. The surface is of a brownish colour and longitudinally furrowed. Their taste is bitter. The flowers are small, darkish brown

when dry, and tubular. The leaves are pinnate. The leaflets are oblique, dentate, lanceolate, and smooth on both surfaces. Their taste is very bitter. The dried fruit resembles a raisin. It is of a dark colour, oval, and slightly oblique. It has a small mucro at the top. The surface is wrinkled. The pulp is adherent to the stone. The seeds are of a brownish white colour. They are angular and pointed at the top. The surface is reticulated and fibrous. The epicarp is very brittle and contains one or two almond coloured kernels which are oily and nauseously bitter. The expressed oil is of a pale yellow colour and of a very bitter taste. The gum is yellowish and in vermiform pieces.

Preparations : Decoction, poultice, powder and wash of leaves, and oil.

Actions and Uses : The bark and leaf stalks are bitter tonic and astringent. The bark is used to relieve thirst, vomiting and nausea, in fever, and also in skin diseases. The leaves are discutients, and when heated over a boiling water form a useful poultice for the cure of indolent ulcers and abscesses. They are also useful in dispersing indolent glandular swellings. The leaves made into a pulp are a useful application to pustular eruptions, open sores, and bruised joints. The juice of the leaves is anthelmintic, and is often given in jaundice, worms, and skin diseases such as boils, prurigo, &c. The fruit is a purgative, anthelmintic, and emollient. It is useful in leprosy, intestinal worms, piles, and urinary diseases. The gum is a stimulant. The seeds are used for killing pediculi, and the powdered kernel for washing the hair. The oil is useful as an anthelmintic and stimulant. The medicated oil is applied to skin diseases, suppurating scrofulous glands, leprous ulcers, and also as a liniment to rheumatic affections, and to the head in headache.

Remarks : The dried plant is sold by druggists, but the fresh one is always sold by herbalists. The Mahomedans call the tree *Ázâ-darakht-i-hindi* on account of its resemblance to *Melia Azadirachta* or the Persian lilac.

326 B. *Nimbadá-ni-sali* 15, *Kálá miri* 5, *Kariátu* 4, *Kadu* 5.

Mix and make a decoction in the usual way.

Dose : *dr. i.*

Used in fever.

Remarks : This is a most common remedy used by native women.

- 327 R. *Limdá-ni-chhála* drs. iv, *Gulañchá* dr. $\frac{1}{2}$, *Kálikutaki* dr. $\frac{1}{2}$, *Motha* dr. $\frac{1}{2}$, *Iñdra java* dr. $\frac{1}{2}$, *Karatola mula* dr. $\frac{1}{2}$, *Suñṭha* dr. $\frac{1}{2}$, *Lála chañdana* dr. $\frac{1}{2}$. Mix and make a decoction. Dose : dr. i.
Anupána : *Madha* and *Pipali mula*.
 Used in fever with vomiting, nausea, thirst, and lassitude.
- 328 R. *Limdo* dr. i, *Pipali* drs. ii. Make a decoction.
 Dose : dr. i to drs. ii.
 Used in rheumatism, lumbago, &c.
- 329 R. *Limbodi* 5, *Bodára saṅga* 4, *Rála* 4, *Ghee* 5. Mix and make an ointment.
 Used for itch.
- 330 R. *Limbodi* 5, *Mina* 6, *Mogharela* 4, *Rála* 4, *Tañkaṇa khára* 3, *Kátho* 3, *Siñdura* 2, *Sonágeru* 3, *Ghee* 6.
 Make an ointment.
 Used in skin diseases with itching, pruritis vulvæ and ani, &c.
- 331 R. *Limdá-ni-chhála* 5, *Galo* 4, *Triphalá* 4, *Majitha* 4, *Vávadiṅga* 3, *Dáruhalada* 3, *Bávañchi* 3, *Upaleta* 3, *Dhamáso* 4, *Soná mukhi (Dagaḍi)* 2. Mix and make a powder. Dose : grs. v.
 Used in chronic skin diseases.
- 332 R. *Limdá-ni-chhála* 5, *Bábula-ni-chhála* 5. Make a decoction. Dose : dr. i.
 Used in leucorrhœa.
- 333 R. *Limdá-ni-chhála* oz. i, *Bhui riṅgani* dr. i, *Karatolamula* drs. ii, *Gulañchá* dr. i, *Aduso* dr. i. Make a decoction: when ready add *Triphalá* dr. $\frac{1}{2}$.
 Dose : drs. ii to drs. iv.
 Used in chronic skin diseases.

NIMA TELA (The medicated oil.)

- 334 R. *Nimdá-ná-bija-nu-tela* 40, *Haratála* 1, *Manasila* 1, *Bhilámo* 1, *Elachi* 1, *Kumára-nu-mula* 1, *Chañdana* 1, *Tagara* 1, *Chambeli* 1, Water 100. Boil them together and prepare oil in the usual way.
Used as an application to suppurating scrofulous glands.

- 335 R. *Limdá-ná-pána-no-rasa*.

Yogaváhi: It is given with *Mithuñ* in intestinal worms; with *Himaja* in prurigo, boils and urticaria; and with *Madha* in jaundice.

PANCH NIMBA CHURANA (a powerful alterative.)

- 336 R. *Limdáná mula-ni-chhála*, *Limdáná pána*, *Limdáná phula*, *Limdáná phala*, *Limdáni chhála*, each 15. Mix and make a powder. To this add *Lohá bhashma*, *Himaja*, *Taklá bija*, *Chitraka*, *Bhilámo*, *Vávariñga*, *Sákara*, *Amlá*, *Halada*, *Trikatu*, *Bavañchi*, *Garamálo*, *Gokharu*, each 1. Mix together, make a paste in *Bháñgra-no-rasa*, and add decoction of *Khera chhála*.
Dose : drs. iv.
Used in leprosy and white patches.

- 337 R. *Limdáni chhála* oz. i, *Lavañga* dr. i, *Pipali* drs. 1½.
Prepare a decoction in the usual way.
Dose : dr. i to drs. iii.
Used in malarious fevers, atonic dyspepsia and general debility.

CEDRELACEÆ—The Rohana chhala order.

This order is composed of large trees with alternate, pinnate, exstipulate, and entire leaves. The flowers are generally numerous, and followed by capsular dehiscent fruits.

The properties of this order are aromatic, tonic, astringent, febrifuge, and fragrant. Many are valuable timber trees.

SOYMIDA FEBRIFUGA.

THE BARK.

Rohana chhala রোহা চহা The tree: *Rohana* (Beng.) *Patrāṅga* (Sans.) *Rohāna* (Hind.) The bark: *Rohana chhāla* (Mah.)

Characters: The bark is found in tubular quills about an inch in diameter. Externally it is of a brown colour and smooth, with numerous cracks and small growths, which when they fall off, leave brown rings. It has a bitter astringent taste.

Preparations: Infusion.

Actions and Uses: The bark is a powerful bitter astringent and febrifuge. In large doses it leads to vertigo and stupor. It is useful in fever, dysentery, and diarrhoea.

Dose: One drachm.

Remarks: It is a good substitute for *Kudā chhāla* and is rich in tannic acid. Other allied barks are used in medicine. *Cedrela Toona*, *Tuna chhāla*, is a powerful astringent, and is used in combination with *Sāgara gotā* as a tonic and anteperiodic. The flowers known as *Gul-i-Tuna* are useful as an emmanagogue. The wood is useful for making medicine chests and surgical instrument cases in Bombay.

CELASTRACEÆ—The Malakangani order.

These are shrubs or small trees. The leaves are simple, generally alternate, and rarely opposite. The stipules are small and deciduous. The flowers are small, regular, perfect, and rarely unisexual. The fruits are 2, 3 to 5 celled, drupaceous, and indehiscent or capsular. The seeds are ascending and albuminous.

Properties: The plants of this order are chiefly remarkable for the presence of an acrid principle which resides in the seeds. The oil in the seeds is of a stimulating nature.

CELASTRUS PANICULATA.

THE SEEDS AND THE OIL.

Malakangani মালকানী *Mālakaṅgani-ke-bija* (Hind. and Bom.) *Mālakaṅgoni* (Mah.) *Mālakaganā* (Guz.) The oil: *Mālakaṅgani-mu-tela* (Guz.) *Mālakaṅgani tela* (Mah.) *Oleum Nigrum* (Eng.)

Characters : The drug as met with in the bazaar consists of fruits and seeds. The fruits resemble *Triphalá* in size. They are three celled. When fresh they are globose, but when the cells are opened and the seeds removed, the capsules appear adhering at one end and wide open at the other. In form they resemble the open mouthed fruits of *Kápusa*. Each fruit has a small stalk at the base. Its surface is rugous and of a faint yellow colour. The seeds are hard, angular, and somewhat pointed at one end. In form and size they are nearly similar to *Drákhsha bija*. Their colour is brownish red. The surface is wrinkled and covered with a kind of brownish powdery substance. On removing the testa the kernel is oily and almond like. In the middle of the kernel a green embryo is seen. The oil is of a deep reddish yellow colour ; when kept for a time, it becomes thick and resembles honey.

Preparations : Oil, decoction of crushed seeds, and seeds.

OIL : The oil is obtained by destructive distillation from the seeds.

Actions and Uses : The oil is said to be used as a powerful stimulant and diaphoretic when given internally, chiefly in fevers and beriberi. The crushed seeds combined with aromatics are said to be acrid, stimulating, also aphrodisiac, and used internally in rheumatism, gout, paralysis, and leprosy. As a local application the oil may be used, or the crushed seeds mixed with pepper, *Sun̄tha* &c. The application is highly useful in relieving rheumatic pains of a malarious character and in paralysis.

Dose : One seed gradually increased.

OLEUM NIGRUM.

338 **R.** *Málakángani*, *Lobána*, *Lavaṅga*, *Jáephala* and *Jávaṇtri*, each 1 part. Put the whole in a perforated earthen pot. Destil the contents into another pot. This is the black empyreumatic oil. Dose : *grs.* x to xv.

Used as a stimulant and diaphoretic in fevers and beriberi.

Remarks : The oil is of a red colour, and ought therefore to be called *Oleum Rubrum*.

RHAMNACEÆ—The Boedi order.

In this order there are shrubs or small trees which are often spiny. The leaves are simple, alternate, or rarely opposite. The flowers are small, foetid, and followed by dry, capsular, fleshy, and indehiscent fruits. The seed is one in each cell. The albumen is fleshy.

Properties: Some plants have acrid and purgative properties. A few are used in the preparation of dyeing materials. A few others have edible fruits. The bark in some of the species is highly astringent. In others it is bitter, febrifuge, and tonic.

RHAMNUS WIGHTII.

THE BARK.

Rakta rohado રક્ત રોહડો *Rakta Rohado* (Guz.) *Rukta Rohidí* (Bom.) *Rakta Rohidá* (Mah.)

Characters: The bark consists of thick hard pieces. The colour is brownish red. The texture is tough and fibrous. The bark from the young wood is fragile and soft. The taste is highly astringent.

Preparations: Decoction and powder.

Actions and Uses: The bark is said to be a tonic, deobstruent, and astringent. A decoction of it is given with *Boedi chhúla* to check bloody fluxes. It is locally applied to œdema resulting after wounds. Its powder mixed with rose water is applied to swollen glands and tumours.

ZIZYPHUS VULGARIS.

THE DRIED FRUIT.

Unaba عنبه *Unába* (Pers.) *Unnába* (Arab. and Bom.) *Khorá-sáni bora* (Bom.) Jujube berries (Eng.)

Characters: The fruit is oblong and of a red colour. The size resembles that of small *Jáephala*. The surface is smooth, shining, and wrinkled. It presents a small cup-shaped depression at its base, in the centre of which a small stalk is attached. On removing the epidermis, the pulp is of a greyish yellow colour. It is spongy, unctu-

ous, and lumpy to the touch. In the centre of the fruit is a small stone which is pointed on both sides and adherent to the pulp. The taste of the fruit is sweet.

Preparations : Decoction.

Actions and Uses : These are similar to those of dried raisins or prunes. The fruit is an aperient, suppurative, expectorant, and purifier of blood. In habitual constipation, rheumatism, and chronic skin diseases, the fruit is largely used. It is a chief and constant ingredient in expectoral decoctions.

339 R. *Unába* 8, *Kásani* 10, *Kásani mula* 15, *Gulába kali* 12, *Anisuñ* 7, *Dháná* 7, *Zupho* 7, *Banaphashá* 6, *Tukhm-i-kásusa* 6, *Revañchini khatái* 3, *Sákara* 32. Mix and make a decoction. Dose : *dr.* $\frac{1}{2}$ to *drs.* $1\frac{1}{2}$.

Used in dropsy, ascites, heart disease, constipation, &c.

340 *Unába lb.* 1, *water lbs.* 3 *Sákara lbs.* 2. Prepare a syrup. Dose : From *dr.* $\frac{1}{2}$ to *dr.* 1, diluted with twice its quantity of cold water.

Used in the early stage of fever, bronchitis, and pneumonia.

341 R. *Unába* 7, *Sopistána* 10, *Álu* 10, *Kásani drs.* 3, *Banaphashá drs.* 2. Water *ozs.* xii.

Prepare an infusion. Dose: One-third part every three hours.

Used in constipation, biliousness, &c.

ZIZYPHUS JUJUBA.

THE BARK, LEAVES, AND LAC.

Boedi-ni-chhala બોદીનિચ્છલા The tree: *Boedi-nu-Jháda* (Guz.) The fruit: *Sidra*, *Nabiga*, *Unábe-hindi* (Arab.) *Kunára* (Pers.) *Boera* (Hind. and Duk.) *Kula*, *Bera*, *Bora* (Beng.) *Badari phalama* (Sans.) *Bora* (Mah.) *Boedi*, *Bora* (Guz.) The lac : *Bora lákha* (Mah.)

Characters : The bark is scabrous and of a darkish brown colour externally. It is deeply and longitudinally fissured, and mostly resembles *Bábula chhála*. Internally it is of a pinkish or reddish colour, very tough, and fibrous. The taste is highly astringent. The odour is rather disagreeable. The leaves are one to two inches

long, short petioled, alternate, with the apex often three toothed, oblong, obtuse, glabrous above, and tomentose beneath. The margins are serrated. They are thick, coriaceous, and very mucilaginous when bruised.

Preparations : Paste of leaves, and decoction of bark.

Actions and Uses: The paste is used as a poultice to promote suppuration of boils. The decoction is an astringent and used to check hæmorrhagic fluxes.

Remarks : A kind of lac known as *Bhuri láka* or *Bora láka* is found upon the branches. *Bora lákha* is an ingredient in the preparation called *Lákhashádi tela*. The fruit dried and powdered is called *Berachini*. Other varieties are *Z. Rugosa*, *Turana* (Bom.) The fruit is eaten by the natives. The fruit of *Z. Zylopera*, *Guti* (Bom.) is used for blackening leather.

342 *B. Boedi mula chhála* 5, *Tila bija* 5, *Madha* 2. Mix and make a paste. Dose: *dr.* $\frac{1}{2}$ to *drs.* $1\frac{1}{2}$.

Anupána : To be taken with milk.

Used in diarrhœa, &c.

AMPELIDEÆ OR VITACEÆ.

The Drakhsha order.

It consists of climbing shrubs, with a watery juice. The joints of the stem are swollen but can easily be separable from one another. The leaves are simple or compound. The flowers are small, green, red, or white coloured. The fruits are succulent. The seeds are hard. The leaves, stems, and fruits, abound more or less in an acid juice, the acidity being chiefly due to the presence of tartaric acid. When the fruits ripen, they lose their acidity and become sweet. This is owing to the conversion of the acid into grape sugar.

VITIS VINIFERA.

THE DRIED FRUIT WITHOUT STONES.

Drakhsha द्राक्ष Dráksha (Bom.) *Áinaba* (Arab.) *Añgura*, *Dáka*, (Duk.) *Drákhyá* (Beng.) *Dráksha* (Mah.) *Añgura* (Pers.) *Munaká* (Hind.) *Dákha*, *Dráksha phalama*, *Mridoiká* (Sans.) *Drákha* (Guz.) Grapes (Eng.) *Kisha misha* (Hind., Pers. and Bom.) Raisins (Eng.)

Characters : These are succulent berries of an ovoid form, often globose. There are two kinds of *Dráksha* used in medicine : *Káli dráksha* and *Kisha misha*. The former is of a black colour and large. *Kisha misha* is small and of a browish red, or pale yellowish brown colour.

Preparations : Juice and *Asava*.

Actions and Uses : The skin and stones should be removed before use. *Dráksha* is the most digestible of all fruits. It purifies the blood, also increases it in quantity and quality. Dry grapes are demulcent, laxative, pectoral, and cooling. *Dráksha Asava (Daru)* is a stimulant and useful in relieving thirst and heat of the skin. It allays cough, hoarseness of voice, and checks consumption. *Káli dráksha* is generally used as an ingredient in purgative mixtures. *Kisha misha* is used as an ingredient of several confections.

Remarks : A superior kind of grape comes from Cabul in chip boxes. *Munaká* is the term applied to an inferior kind of grape.

DRÁKSHA ARISHTA.—(MEDICINAL WINE)

343 B. *Dráksha* 20, Water 60. Mix and make a decoction. To this add jaggary, *Taja*, *Elachi*, *Tamála pátra*, *Nága kesara*, *Vávadiṅga*, *Trikatu*, each 2 parts. The whole is then set aside for a fortnight and allowed to ferment. Used in cough, consumption, enlarged glands, general debility and constipation.

344 B. *Dráksha*, *Khajura*, *Kálá miri*, *Vávadiṅga*, *Pipali*, and *Madha*, equal parts. Mix and make a paste.

Dose : dr. $\frac{1}{2}$.

Used as an expectorant in coughs.

345 B. *Dráksha* 4, *Bábula goṇḍa* 4, *Hab-ul-ása* 3, *Sumáka* 2, *Mustaki* 2, *Dádama-ná-phula* 4. Mix and reduce the whole to a pill mass. Dose : 1 to 2 drachms.

Used in chronic diarrhoea.

346 B. *Dráksha*, *Himaja*, *Motha*, *Kutaki*, *Garamáro*, *Sháteraḥ*, equal parts. Mix and make a decoction.

Dose : dr. $\frac{1}{2}$ to dr. 1.

Used in bilious fever, constipation, &c.

CISSUS QUADRANGULARIS.

THE STEMS AND LEAVES.

Hara shankara हरि शङ्कर *Hāḍa jodi, Hāra-jorā, Nallara* (Hind.) *Kāṇḍa vela* (Mah.) *Hāḍa shāṅkara, Chodhāri* (Guz.) *Asthi saṅdhāna, Vajra-valli* (Sans.) *Nallera* (Duk.) *Horajorā, Hārabhāṅgā* (Beng.)

Characters : The stem is obtusely quadrangular, of a greenish colour, and smooth. It is generally dichotomously branched. The nodes are jointed. The leaves are thick, entire, or three lobed. The juice is acrid.

Preparations : Decoction, paste, and juice.

Actions and Uses : The drug is an astringent and is said to be used in bowel affections associated with indigestion. It is also considered a powerful alterative. A paste of the fresh stem is astringent and locally applied to dislocations, sores, and fractured limbs with good effects. The juice of the stem is dropped into the ear in otorrhœa, and into the nose to check epistaxis.

Dose : Of the decoction *drs. ii* to *drs. iii*.

Remarks : The word *Hāra shāṅkara* is derived from *Hāra* or *Hāḍa* which means bones, and *Shāṅkara, Sāṅkala* (Guz.), a chain. It means a chain of bones. The Sanscrit synonym *Asthi saṅdhāna* is derived from *Asthi*, bone, and *Saṅdhāna*, to join or heal. This is in allusion to the stem, which is jointed like the joints of long bones. The stem from its resemblance to articulation of bones is supposed to be useful in healing or reducing fractures and dislocations.

Cissus Edule is fraudulently sold and used by natives under the name of *Hāra shāṅkara*. Both are similar in colour and form, but *Hāra shāṅkara* stem is obtusely 4 angled. Its leaves are generally three-lobed, very thick, and fleshy. *Cissus Edule* stem is acutely four angled, the leaves entire, not thick, and not fleshy.

VITIS CARNOSA AND SETOSA.

THE STEMS AND LEAVES.

Odi ओढी *Khāta, Khatumbro* (Guz.) *Odi* (Mah.) *Jaṅgali Drāksha* (Bom.) *Jaṅgali āṅgura* (Duk.) *Amolukā* (Beng.)

Characters : The plant is plentiful near the sea shore at Malabar hill. The young plants are slightly hairy. The stem is striated,

rather coloured, especially on the joints, and smooth. The leaves are trifoliate, smooth, and succulent. The lateral leaflets are rather obliquely cordate, acuminate, oblong, and serrated. The top leaflet is oval and oblong. The tendrils are opposed, and bifid at the top. The berries are black when ripe and full of purple juice. The whole plant is acrid.

Preparations : Paste of leaves and plant.

Actions and Uses : The whole plant is acrid. The youngshoots and leaves are roasted and applied to indolent tumours to promote suppuration. The paste of the leaves is locally applied to sores with benefit.

Remarks : Fresh can be obtained.

SAPINDACEÆ—The Aritha order.

This order is composed of large trees, or twining shrubs, and rarely of climbing herbs, with leaves generally compound, rarely simple, alternate or opposite, often dotted, and with or without stipules. The flowers are unsymmetrical and generally polygamous. The ovary is generally two to three celled. The fruit is capsular or fleshy and indehiscent. The seeds are arillate. The most prominent property of plants of this order is the presence of a saponaceous principle.

CARDIOSPERMUM HELICACABUM.

THE ROOT AND LEAVES.

Nayaphataki (করোডা) *Karodio* (Guz.) *Náyaphatáki*, *Latáphatakari* (Beng.) *Jyāntishamati* (Sans.)

Characters : It is a climbing plant with leaves biternate, and leaflets coarsely cut and serrated. The root is white and fibrous, of a disagreeable odour, and of an acrid, nauseous, and bitter taste.

Preparations : Powder, decoction of the root, and juice of leaves.

Actions and Uses : The root is said to be a diaphoretic, diuretic, emetic, laxative, stomachic, and rubefacient. It is used in rheumatism, nervous diseases, piles, &c. The leaves (powdered) are given for pulmonic complaints. As a rubefacient the leaves are rubbed with castor oil and used for rheumatic pains, swellings, and tumours

of various kinds. The juice of the plant taken internally or the leaves fried and applied to the pubes are said to increase the menstrual flow in amenorrhœa.

Remarks : Fresh should be obtained from herbalists.

347 B. *Náyaphataki-pána*, *Sáji khára*, *Vácha*, *Ásana*, equal parts. Mix and reduce to a paste in milk.

Dose : *dr. i.*

Used in amenorrhœa.

SAPINDUS EMARGINATUS.

THE PULP OF THE FRUIT.

Aritha *अरिथ* *Arithá* (Guz.) *Rithá* (Hind., Beng., Duk., and Mah.) *Phenila*, *Arishta phalama* (Sans.) *Fīnduk-i-hindi*, *Bāñdaka hindi* (Arab.) *Ratáh* (Pers.) The soap nut or Indian filbert (Eng.)

Characters : The drug consists of three dry berries which are generally united together. It can also be had in separate berries. The skin of the berry is thin, shrivelled, and of the colour of raisin. The berry when ripe is soft and of a greenish colour. In shape it somewhat resembles a kidney. When united together their points of attachment are marked by a heart shaped scar. The pulp is translucent. The berry is one seeded. The seed is round, smooth, black, and shining. The testa is hard and bony. The kernel is yellowish brown and oily. *Arithá* smells like burnt sugar. The smell of the pulp resembles that of *Khajura*. The taste is sweet at first; afterwards it becomes bitter.

Preparations : The pulp.

Actions and Uses: The pulp of the fruit is detergent and is used to remove lice. It is also astringent, anthelmintic, and tonic. A cold infusion of it is given internally as an emetic. The pulp with *Ásana* is given internally to relieve colic and to check diarrhœa and cholera. In catarrh of the eye the pulp brayed in water is introduced beneath the lids. It is dropped into the nose in hemicrania, hysteria, or other fits leading to insensibility. It is locally applied to relieve the pain of bites of insects and to lessen scrofulous swellings.

The seeds are a narcotic and acrid poison. Pessaries made of the kernel of the seed are used in amenorrhœa and after child-birth to stimulate the uterus to a healthy contraction.

Dose : *grs. v.*

Remarks : It resembles *Sikákái*. The fruit pulp is said to be fifty times more powerful in cleaning linen than soap.

ANACARDIACEÆ—The Bhilamo or Kaju order.

This order is composed of trees or shrubs with alternate, exstipulate, simple, or compound dotless leaves. The flowers are regular, often small and unisexual, and followed by an indehiscent, drupaceous, or nut-like fruit. The seeds are without albumen.

Properties : The bark of many plants abound, in a resinous, some what gummy, acrid, or milky juice. The juice is occasionally very poisonous. It sometimes becomes black on drying. The fruits and seeds of some species are in high estimation and used as food. Some of them as *Káju* and *Bhilámá* contain an acrid and almost corrosive juice of a black colour. The mango fruit (*Ámbá*) of India is largely eaten with relish. Some are turpentine producing trees. Many furnish varnishes.

MANGIFERA INDICA.

THE KERNEL, GUM RESIN, FRUIT, LEAVES, BARK, &c.

Amba *अम्र* *Keri*, *Ámbo keri* (Guz.) *Áma* (Duk. and Beng.) *Áma*, *Ámba* (Hind.) *Ámra* (Sans.) *Dorakhte ámbah* (Pers.) *Ámbaja* (Arab.) The mango (Eng.) The kernel : *Ámbá gopa* (Bom.) *Ámbá báthá* (Mah.) *Ámbáni-gotáli* (Guz.) The dried raw decorticated fruit : *Ámbosi* (Guz.) *Amachura* (Mah.) *Áma-ke chittá*, *Áma-khushka* (Hind.)

Characters : The fruit of this plant is a juicy drupe of various shapes and sizes. It has several varieties which differ very much in flavour. The stone is compressed and fibrous. The kernel is large and covered with a papery testa. The cotyledons are two. They are plano-convex, lobed, and often unequal. In taste the seed is bitter and astringent. The gum resin occurs in pieces. It exudes from the fruit at the time of flowering and just before

ripening. It is generally found deposited upon tender portions of the plant. The leaves are long, lanceolate, stiff, and of a darkish green colour. The young leaves are very delicate and of a pale or pale reddish colour. They have a very astringent taste and an aciduous aromatic smell. The bark is of a dark brown colour. It is longitudinally fissured. The inner part of it is of a light white, pale yellowish, or reddish colour. It has also an agreeable aroma and an astringent taste.

Preparations: Powder of kernel and leaves, juice of fruit, *Athínu*, *Baphenu*, *Murabbo*, *Ambá puri*, *mbá-no-chika*.

Actions and Uses: The ripe fruit is considered to be invigorating, refreshing, fattenning and also a diuretic. It is also somewhat laxative. The unripe fruit is acid and astringent. It is used as a stomachic and digestive. *Ambosi* is a valuable antiscorbutic owing to its containing citric acid. The kernel is an astringent and used in diarrhoea. *Ambá puri* is a laxative, slightly acid, and astringent. The leaves when burnt are fumigatory, and are used as a smoke in affections of the throat. The ashes of the leaves are a popular remedy for burns and scalds. Tender leaves dried and made into a powder are useful in diabetes. The powdered kernel is anthelmintic, and is used for lumbrici. It is also an astringent and given in menorrhagia, diarrhoea, and bleeding piles. *Ambá-no-chika* is the gum resin. Mixed with lime juice, it is locally applied to the skin in scabies.

Doses: As an anthelmintic the powdered seeds *dr.* $\frac{1}{2}$.

Remarks: *Kerinu páninu Athánu*: These are mango pickles prepared by soaking unripe fruits in salt. *Baphená*: These are ripe fruits baked and then mixed with mustard powder and *Sarasuñ tela*. *Murambo* is a confection made of large sized unripe fruits, adding to them *Sákara*, *Elachi*, &c. It is used as an article of confectionary. *Ambá puri* (Gúz.) *Amba pápada* (Bom.) is a favourite preparation, made of ripe mango juice exposed and dried in the sun. It is prepared in the form of country bread or country *Pápada*.

348 B. *Ambá chhála* 5, *Ambádá chhála* 5, *Jámbu chhála* 5, *Arajuna sádará* 4. Mix and make a decoction.

Dose: *dr.* i to *drs.* $1\frac{1}{2}$.

Anupána: *Cáñji* made of rice.

Used in diarrhoea, dysentery, and bleeding from internal organs.

- 349 R. *Ambá-no-chika*, *Kátho*. Mix, make a paste and apply.
Used in toothache.
- 350 R. *Ambá-ni-gotali* 5, *Suñtha* 3, *Kátho* 2, *Bela* 4. Make a decoction. Dose : dr. i to drs. 1½.
Used in diarrhœa.
- 351 R. *Ambá-ni-chhála*, *Jámbu chhála*, *Káhu*, Water. Make an infusion.
Used in diarrhœa.
- 352 R. *Ambá-ni-gotali* 5, *Kolambá-ni-kátari* 5, *Ativisha* 4, *Bela* 5, *Dálimba chhála* 5. Mix and make a powder.
Dose : grs. xx to grs. xxx.
Used in diarrhœa.

SEMECARPUS ANACARDIUM.

THE FRUIT.

Bhilama बिलम *Bibavá* (Mah.) *Bhilámo* (Guz.) *Bhilává* (Duk.) *Bela*, *Bhelava* (Beng.) *Bhellátaka*, *Arshoghani*, *Bhelláteki-bijama* (Sans.) *Bhela*, *Bhilává* (Hind.) *Biládara* (Pers.) *Hub-ul-kalba*, *Hab-ul-phahama*, *Iñkaradiya* (Arab.) The marking nut (Eng.)

Characters : The fruit is a nut resting upon a receptacle, the whole resembling in shape the heart of an animal. The seeds are eatable like those of *Káju*. The nut is obliquely cordate, flattened on both sides, smooth, shining, and wrinkled. The colour is black. The epidermis is minutely pitted. It has a small broad stalk at its base where the receptacle is attached. On squeezing the nut a dark coloured or tarry looking oily fluid escapes. The pericarp is made up of two layers, the inner one being hard, and the outer one leathery. Between these layers are cells which contain a black resinous acrid juice.

Preparations : Juice and the fruit itself.

Actions and Uses : *Bhilámo* is chiefly used as a vesicant, counter irritant, and a local stimulant for the relief of rheumatic pains, inflammation of bones and joints, bruises and sprains. In such cases a small quantity of it is rubbed over the affected part. When

applied over the skin its thin epidermis causes deep bluish coloured vesicles. The mark does not disappear for many months. For internal administration the whole fruit is at first boiled with cow dung, washed, and mixed with butter before use. It thus acts as an acrid stimulant, a digestive and nervine tonic, and is given in dyspepsia, worms, nervous debility, skin diseases, palsy, and epilepsy. It is often given in the form of a confection in piles. In small doses it is given as an alterative in scrofula, venereal diseases, and leprosy. It is also given to relieve asthmatic attacks. The susceptibility of the constitution to the use of the fruit varies. Some persons are affected even by a touch of the fruit; others eat the torus without any ill effects resulting. The vesications over the skin resulting from its ill effects are relieved by *Tila tela* or any other demulcent oil having been rubbed over the part.

Dose : As an alterative $\frac{1}{4}$ to $\frac{1}{2}$ a grain. The poisonous dose is 20 grains.

Remarks : Natives mix *Bibavá* in the preparation of mercurial compounds to annihilate the dangerous effects of mercury namely salivation. The Sanscrit word *Arshagani* is derived from *Arsha*, *Harasha* (Guz.), which means piles, and *Gani*, to destroy. *Bhilámo* is a destroyer of piles, and hence the name. The Arabic name *Hab-ul-kalba* is in allusion to the heart shaped form of the fruit. It is called marking nut because the nuts are used extensively for marking linen. It is also used in the preparation of a black varnish.

353 B. *Bhilámo*, *Lasana*, *Tila*, *Ajamoda*, *Koparuñ*, Jaggary.
Mix and make a pill mass. Dose : grs. x to grs. xx.

Used internally in rheumatism, and for the relief of painful joints.

BUCHANANIA LATIFOLIA.

THE KERNELS.

Charoli चारोली *Chirouji* (Hind.) *Piyala* (Sans.) *Charoli* (Bom.)

Characters : The seeds are of a pale reddish colour. The kernel is whitish. The taste is pungent and almond like. The seeds soon get rancid.

Preparations : A bland oil and kernels.

Actions and Uses : *Chárolí* is used as a demulcent. It is one of the ingredients of various cough mixtures and is used by confectioners.

354 **R.** *Chárolí* 5, *Tila bija* 5, *Badáma magaja* 4, *Kháráka* 3, *Kákadi bija* 4. Mix and make a powder.

Dose : dr. $\frac{1}{2}$ to drs. 2.

Anupána : To be given in milk.

Used in neuralgic headache and fainting.

ANACARDIUM OCCIDENTALE.

THE FRUIT AND TAR.

Kaju कaju *Káju* (Hind. and Bom.) *Hijali badáma* (Beng.) *Káju-ki-gutali* (Duk.) *Káju-chá-bija* (Mah.) *Káju* (Guz.) *Badám-i-pharañgi* (Pers.) The cashew nut (Eng.)

Characters : The tree bears enlarged fleshy peduncles. They are eaten as edible fruits. Each peduncle bears a small kidney shaped nut (*Káju*) the pericarp of which is acrid. The acidity is destroyed by roasting the nut. The acrid principle is the oil or tar. The tar is black. The seed contains a bland oil and is edible. The juice of the torus produces a kind of wine. Often a spirit is distilled from it. The spirit has a peculiar flavour.

Preparations : Spirit, kernel of the nut, and tar.

The tar is prepared by burning the pericarp of the nut. The spirit is prepared by distilling the fermented juice of the torus.

Actions and Uses : Tar is a powerful irritant and vesicant, and is used in leprosy. It is also used to preserve wood from the attack of insects. The spirit is locally applied as a rubefacient to joints in rheumatism. The nuts are roasted and eaten.

Remarks : *Anacardium* literally means Ana, above, and *Cardis* Cardia, the heart. The torus of this species is situated above the heart shaped fleshy peduncle.

RHUS SUCCEDANEA.

THE GALL.

Kakada singi ककदा सिंगी *Kákadá siñgi* (Hind. and Bom.) *Karakata sriñgi* (Sans.) *Kákorá sriñgi* (Beng.) *Kákadá shiñgi* (Mah.) *Kákada Siñgi* (Duk.)

Characters: The galls are large, hollow, thin walled, horn-like excrescences caused by insects on the branches of *Rhus succedanea*. They are single; sometimes lobed. They vary in shape. Some of them resemble bivalve shells, others are obovate or obcordate. They are generally cylindrical and tapering at either end. Their size also varies. Externally their colour is yellowish brown or greenish grey. The surface is smooth and here and there wrinkled, furrowed, and marked with tubercles. The gall is marked with a cavity at its base which shows its attachment to the plant. It is brittle and breaks with a crackling noise. Internally the colour resembles that of dried blood. The internal surface is marked with tubercles. The whole wall is resinous looking and resembles in colour that of *Rála*. The odour is slightly acidulous. The taste is strongly astringent, also bitter, and similar to that of *Himaja*.

Preparations : Powder, decoction, and confection.

Actions and Uses : It is seldom given alone. In combination with demulcents and aromatics it is generally prescribed. The galls are highly astringent, tonic, and expectorant. As an expectorant it is used in cough, phthisis, asthma, &c.: as a tonic in fevers, want of appetite, and irritability of the stomach. As an astringent they are highly recommended in diarrhoea. A paste of them is recommended as an external application in psoriasis.

Dose : *grs.* xx.

355 *B. Kákadá siṅgi* 5, *Triphalá* 4, *Riṅgani* 3, *Bháraṅga mula* 3, *Seṇdhálona* 4, *Soṇchala* 4. Mix and make a powder. Dose : *grs.* iii.

Used in asthma.

356 *B. Kákadá siṅgi*, *Pipali*, *Atisa*, equal parts, *Madha*, q. s. Mix and make a pill mass. Dose : *grs.* v.

Used as a cough linctus for children.

357 *B. Kákadá siṅgi dr. i*, *Káyaphala dr. i*, *Káli dráksha dr. i*, *Suṇṭha dr. ½*, *Jadavára dr. i*, *Pipali dr. ½*. Mix and reduce the whole to a powder. Dose : *dr. ½* to *dr. 1*.

Anupána : To be given with *Madha*.

Used in bronchitis, especially in dry cough, asthma, catarrhal fever, and difficulty of breathing.

PISTACIA KHINJUK.

THE CONCRETE RESIN, AND GALLS.

Mastaki मस्तकी The resin: *Rumi Mastaki* (Bom.) *Alake Rumi*, *Ilakulambata*, *Mastaki Rumi* (Arab.) *Kinnoli*, *Kuṇdrune tulkha*, *Kiṇ-dure-Rumi* (Pers.) *Rumi Mosataka* (Ben.) *Rumi Mastaki* (Mah. and Guz.) *Mastich* (Eng.) The galls: *Guli pistā* (Hind.) *Gul-i-pistāha* (Pers. and Hind.) *Buzagañja* (Bom.)

Characters : This is not a true mastich. It is described as the turpentine of the Pistachio tree. It is a concrete resin obtained by making incisions into the stem. It occurs in globular or elongated tears of the size of a pea. The color is pale yellow, often perfectly transparent. It has a glass-like lustre. It breaks with a conchoidal fracture. True *Mastaki* is rarely met with, but the small, yellowish white tears of the gum resin known as *Isasa* or *Sveta kuṇḍala* are sold by druggists as Mastich. The taste is slightly terebenthinous. The flavour is weakly balsamic. It softens in the mouth and becomes ductile. When melted at a moderate heat it exhales a sweet odour. The galls are ovoid and of a brownish red colour. In size they are about an inch long and $\frac{1}{2}$ inch in diameter at the apex. They have a hole at the base which communicates with a hollow cavity within. They resemble small fig buds or pendants used by ladies as ear ornaments (*Lolaka*.) At one end there is a scar, the remains of a leaf. Their external surface is shining, wrinkled, and here and there marked with white specks. On section the inner surface is rugous. Within the sac are often seen some debris, or skeletons of some worms. The wall is brittle, resinous, and shining. The smell is aromatic and balsamic. The taste is astringent and aciduous.

Preparations: Galls, resin, and paste.

Actions and Uses: The resin is used as a masticatory. It is used by dentists for filling cavities in caried teeth. When kept in the mouth it perfumes the breath and hence it is considered as balsamic. It is also a stimulant and a fine diuretic. It is given internally for the same purposes as other terebenthinate resins. It is given with *Sālepa* in general debility and in catarrh of the bronchi and of the urinary passages. The paste is applied to the chest in catarrh or pain. Its solution made with alcohol is a useful styptic to arrest bleeding from leech bites. The galls have an acid and astringent property. They are much used as emulsion in cough

mixtures. As an astringent they are kept in the mouth in sore mouth. They are useful applications for the cure of aphthæ on the tongue.

Remarks : Mastick has derived its name from the process of mastication. It is chiefly employed dissolved in turpentine as a varnish. *Guli pistá* means the flowers of Pistacia Vera. The term is applied to the galls from their supposed resemblance to a flower. What is sold in the bazaar under this name is the gall of Pistacia Khinjuk and not as some suppose the abortive fruits. It is used for dyeing silk and tanning leather.

358 R. *Mastaki* 4, *Kabába chini* 5, *Jávañtri* 4, *Jáephala* 3, *Lavañga* 3, *Lobána* 2, *Mashka dáná* 3, *Madha* 6.

Mix and make a pill mass. To be kept in the mouth.
Used to remove fœtid odour.

359 R. *Mastaki* 4, *Miri* 4, *Suñtha* 3, *Upaleta* 4, *Morathuthu* 2, *Dháná* 5, *Jiruñ* 5, *Señdhálona* 4, *Hirákashisha* 2.

Mix, make a paste and apply.
Used in tooth-ache.

360 R. *Mastaki* 2, *Tálama kháná* 2, *Shegata bija* 2, *Bahu phali* 5, *Sákara* 10, *Kákadi bija* and *Tarabuja bija*, each 2 parts. Mix and make a powder.

Dose: grs. x.
Used in gonorrhœa.

361 R. *Mastaki* 1, *Kabába chini* 2, *Vañsa lochana* 1, *Elachi* 1.

Mix and make a powder. Dose : grs. v to xxv.
Used in leucorrhœa.

PISTACIA VERA.

THE KERNELS.

Pistan पस्तान *Pistá* (Hind., Beng. and Bom.) *Posti-pistá* (Pers.)
Pistachio nut (Eng.) The kernels : *Piste-ká-magaja* (Hind.) *Pistáná bija* (Guz.)

Characters : The seeds or nuts are of a brownish white colour. In texture they are hard, horny, and polished. They are of an ovoid

shape. The kernel or almond is of a pale greenish colour, and covered with a thin, brownish red, and brittle skin which can easily be removed by scratching. The taste of the kernel is sweet and balsamic. The flavour is agreeable and resinous. It contains an aromatic oil, which soon becomes rancid.

Preparations : Paste and confection.

Actions and Uses : The pericarp made into powder is used as an astringent. The kernels are considered to be warm, demulcent, and restorative, and are used in general debility and as edible fruits. They are frequently used in the preparation of aphrodisiac confections. They are eaten raw or after having been fried with *Miri* and *Mithun*.

RHUS CORIARIA.

THE FRUIT.

Sumaka *सुमाक* *Samāka* (Pers.) *Sumāka*, *Tamatama* or *Timatima* (Arab.) *Tatraka* (Hind.) Sumach (Eng.) The thin pericarp : *Gardaha Samaka* (Arab.)

Characters : The fruit is a small and flat drupe. Like *Guvāra-bija* or *Mehesura* it is hairy and of a reddish colour. The surface is smooth, shining, and pitted here and there. The calyx is small and of a brown colour. The epidermis is fragile so that the seed escapes readily. The seed is of a greyish brown colour, very hard, flat, reniform, and resembles a pea. It has a white scar at the centre. It is acidulous and very astringent.

Preparations : Powder, paste, liquid, and extract.

Actions and Uses : The fruit is a powerful astringent also an acid and a styptic tonic. It is said to be useful in dysentery. It checks bilious diarrhoea, allays vomiting and purging of blood, and checks leucorrhœa and diuresis. Locally the paste is mixed with *Kolasā-no-bhuko* and applied to unhealthy sores and suppurating piles. A gargle prepared of fruits is used in catarrhal affections of the pharynx.

Doses : *grs.* xx to xxx.

Remarks : The leaves dried and powdered constitute Sumach which has been employed in tanning and dyeing.

- 362 R. *Sumáka* 2, *Májuphala* 1, *Dálimba chhála* $\frac{1}{2}$, *Hab-ul-ása* 10, *Sákara* 5. Reduce the ingredients to a fine powder and mix. Dose: *dr.* $\frac{1}{2}$ to *dr.* i.

Used in chronic diarrhœa, chronic dysentery, and passive hæmorrhages.

- 363 R. *Sumáka* 1, *Hab-ul-ása* 5, *Gulanára* 5, *Kheruba* 15, *Bábula goñda* 2. Reduce the whole to a fine powder. Dose: *dr.* $\frac{1}{2}$ to *dr.* i.

Used in diarrhœa and passive hæmorrhages.

MORINGACEÆ—The Shengata order.

It is composed of trees with bi-pinnate or tri-pinnate leaves, and white irregular flowers. The capsules are pod-shaped and three valved, with winged seeds. The seeds are numerous and without albumen.

Properties: The plants are pungent, acrid, slightly aromatic and stimulant.

MORINGA PTERYGOSPERMA.

THE BARK, LEAVES, FRUIT, SEEDS, AND GUM.

Shengata शेंगता The tree: *Sekato* (Bom.) *Badodi-shevagákhá* *jháda* (Mah.) *Mūnge-ká-jhára* (Duk.) *Saragavo* (Guz.) *Shajanáh*, *Seṅgá* (Hind.) *Sojaná* (Beng.) *Shobhana-jana vrikshaha*, *Sigru* (Sans.) The horse radish tree (Eng.) The bark: *Shengata chhála* (Mah.) The leaves: *Shengata-pána* (Bom.) The fruit: *Shengatáchi sheṅgá* (Bom.) The seeds: *Shengatá bija* (Bom.) The gum: *Shengata goñd* (Mah.) *Saragavá-no-guñda* (Guz.)

Characters: The root bark is of a light brown colour. Its external surface is reticulated. Internally it is white, soft, and thick. In smell and taste it is pungent owing to its containing an essential oil. The leaves are large, and bi-pinnate or tri-pinnate, the leaflets small, oblong, obtuse, or rounded, and smooth. They are green above and pale beneath. They have an acrid smell and a very burning taste. The fruit.

is long, of a greenish colour, triangular, and ribbed. On section it consists of 3 valves each containing a soft white pulp and from 10 to 15 seeds. The seeds are roundish and winged. The taste of the seed when fresh is bitter and oily. Dried seeds are dark brown externally, white within, and resemble *Amali*. They yield a fixed oil. The gum when fresh is of a pink or brick red colour. Dried specimens are of a yellowish or reddish colour. The gum is in pieces or masses, the masses being formed of agglutinated tears. The pieces are translucent, of variable sizes, and generally vermicular in form. They can easily be broken. The taste is mucilaginous and astringent. On section the interior is white.

Preparations : Decoction of the root bark, poultice of leaves, paste of seeds and gum, confection, &c.

Actions and Uses : The bark of the stem and root is acrid, pungent, stimulant, and diuretic, and is used internally in asthma and cough. It is also given in ascites due to enlargement of the liver and spleen. In internal and deep seated inflammation it is given with *Hīnga* or *Saṅchala* salt. Its decoction is useful in calculous affections. A poultice of the root is used as a rubefacient to reduce swellings, relieve rheumatic pains and in paralysis. The leaves are made hot and applied as *Varāliāns* for the same purposes. The bark is used to procure abortion. It is also used as a substitute for *Laminaria* tents for dilating the os. A poultice of the leaves is useful in reducing glandular swellings. It always produces a blister. The seeds are acrid and stimulant, they enter into the composition of some stimulant applications. The gum is rubbed with milk on the temples in headache. Locally it is also applied to buboes and to the pain of bones in syphilis. The gum with sweet oil is poured into the ear in severe earache. Pessaries made of the gum are used to dilate the os uteri. The oil known as oil of Beni is used by painters, perfumers, and watch makers. *Segatānā-phula* are said to be tonic, diuretic, and useful to increase the flow of bile. Natives soak the flowers in vinegar and use them with food. The pods are a wholesome vegetable and used in curry.

Remarks : The plant can be obtained fresh.

364 B. *Shegata chhāla* 5, *Chitraka* 4, *Seṇdhālona* 3, *Pipali* 4, *Palasa* ashes 3, and *Javakhāra* 4. Mix and prepare a decoction. Dose : dr. $\frac{1}{2}$ to dr. 1.

Used in enlargement of the spleen and liver.

365 R. *Shegata chhála* 5, *Gul-i-hamáza* 5. Make a decoction.

When ready add *Trikatu* 5, *Señdhálona* 4.

Dose : dr. $\frac{1}{2}$ to dr. 1.

Used in ascites, and enlargement of the spleen and liver.

366 R. *Shegata bija*, *Rái*, *Pachaka mula*, *Señdhálona*, equal parts. Reduce the whole to a paste in cow's urine.

Used as a stimulant application to the neck and calves to arouse comatose or drowsy persons.

LEGUMINOSÆ—The Aghathia and Babula order.

This large and very useful order is composed of trees, herbs, or shrubs. The leaves are alternate, usually compound, and stipulate. The flowers are of various colours, often papilionaceous or globose. The fruit is usually a legume, hence the name of the order. The seeds are one or more, sometimes attached to the upper or ventral suture. The albumen is absent or present. The cotyledons are leafy or fleshy.

Properties : The properties are exceedingly variable. Numerous species are amongst the greyish coloured and most graceful plants. From a general point of view this order is considered poisonous. Some few exceptions are used as nutritious food by men or animals. In them the poisonous properties are replaced by sugar or starch. The gum exuded by most plants is generally demulcent. The bark is astringent. The pulp in some species is purgative. The leaves are aperient.

AGATI GRANDIFLORA.

THE BARK, FLOWERS, LEAVES, AND GUM.

Agasthi chhala অগস্তি চহা *Agatiká jhára* (Duk.) *Bako* (Beng.) *Agashti* (Mah.) *Agatti* (Guz.) The bark : *Agathi-ni-chhála* (Guz.) *Agosta-ki-chhála* (Hind.) *Agasta-valakala* (Sans.) *Agasti-chhála* (Mah.) The leaves : *Agasthá pána* (Mah.) *Agatichá pálá* (Bom.)

Characters : The leaves are pinnate, oblong, and of a slightly acrid and astringent taste. The flowers are large and fleshy, of a

white, pale, pink, or purplish colour, and of an acidulous bitterish taste. The bark is fissured longitudinally, and is of a greyish brown colour externally. The gum is found in tears of a dark brown colour, and resembles *Dámula Akhavena* for which it is a good substitute.

Preparations: Juice and infusion.

Actions and Uses: The bark is a tonic, also very astringent but not bitter. The juice of the leaves is poured into the nose in nasal catarrh with headache, with good results. It is dropped into the eyes for expelling dimness of vision. During the accession of fever an infusion of its leaves acts as a good cathartic. The gum is an astringent, and used in relieving tooth-ache.

Remarks: The plants can be had fresh from herbalists.

ACACIA ARABICA.

THE BARK, GUM, EXTRACT, AND LEAVES.

Babula বাবুল The tree: *Kálo bávala* (Bom.) *Babula gacha* (Beng.) *Káli kikara* (Duk.) *Mughilána* (Arab.) *Khará mughilána* (Pers.) *Kikara*, *Bábula* (Hind.) *Kála Bábula vrikashaha* (Sans.) *Báblichá-jháda* (Mah.) *Kálo bávala* (Guz.) The Babool tree (Eng.) The bark: *Bávala chhála*, *Kikara chhála* (Bom.) *Bábula sála* (Mah.) The gum: *Bábula goñda*, *Kikara-no-goñda* (Guz.) *Bábula goñda* (Mah.) *Mesváí goñda*, *Makalai goñda* (Bom.) *Savaghi* (Arab.) Gum arabic (Eng.) Extract or juice of the pods: *Akákiá* (Bom. and Arab.) The fruit or pod: *Kharazhávali* (Arab.) *Bávalio* (Guz.) *Bábula sheṅgá* (Mah.) The leaves: *Bábula pána* (Mah.)

Characters: The bark is fissured, highly scabrous, tough, and woody. It is of a dark red colour externally, and pale red within. The whole bark can be easily separated into layers. The taste is astringent. The gum is obtained by making incisions into the bark. It occurs in irregular or broken tears of various sizes, agglutinated masses, and angular fragments or pieces. The thick pieces are opaque; the thin ones are transparent. Each tear is about $\frac{1}{2}$ an inch to an inch in diameter. The gum is brittle. The taste is bland and mucilaginous. That known as *Makalai goñda* is of the best quality. It is colorless and occurs in large round tears or twisted pieces of a white colour. That of an inferior quality is known as *Mesvai goñda*. It is in angular pieces which are fissured, shining, of a yellowish red or straw colour, or brownish yellow with a tinge of white. It is soluble in water

forming a sticky solution. The pod is about 4 to 5 or 6 inches long, compressed, and of a grey glaucous colour. It contains an extract in which are imbedded several seeds. The seeds are arranged in a single row along the whole length of the pod. On both the margins of the pod and between each seed there is a constriction. The pod when fresh is full of the extract or juice. The juice is yellowish white and resembles lardaceous pus. When dry the juice is of a bottle green or dammer colour, heavy, hard, and can easily be powdered. The powder has the smell of *Rójama*. It sticks between the fingers.

Preparations : Powder and mucilage of gum, decoction of bark, and poultice of leaves.

Actions and Uses : The gum is an emollient and demulcent. Locally it is the best protective against superficial excoriations and ulcers. As a demulcent it is employed to relieve irritation from inflamed surfaces, as the throat, pharynx or larynx, urinary organs, and the gastrointestinal mucous membranes, &c. *Akákiá* is a styptic, tonic, and astringent. Its powder is used to stop bleeding from leech bites. It is highly useful in relaxed condition of the mucous membranes, as diarrhoea, dysentery, and leucorrhœal discharges. A paste of it with the white of an egg is used as an application to burns and scalds. It is a nice collyrium for the eyes in conjunctivitis. The bark is astringent and tonic. A decoction of it is useful as a gargle in salivation and as a wash for ulcers. The pods are used in coughs. Poultices made of tender leaves when bruised are astringent and stimulating applications to ulcers with nauseous discharges.

Doses : Of the gum and extract 30 grains.

Remarks : Two other species of *Acacia* are known as: 1. *Acacia Farnisiana*: *Ghu-bábula* (Hind.) *Ghu kikara* (Duk.) *Ghu-bábula* (Beng.) *Gu-bávala* (Guz.) The smell of the bark and wood of this plant is like that of the human ordure. Hence the meaning of its native synonyms; 2. *Acacia leucophlea*: *Sapheda kikara* (Hind.) *Ujali kikara*, *Sharaba-ki-kikara* (Duk.) *Sapheda bábula* (Beng.) *Sveta bábura vrikashaha* (Sans.) *Sapheda bávala* (Guz.)

367 B. *Akákiá* drs. ii, *Hab-ul-ása* drs. ii. Reduce these to a fine powder. Dose: grs. x to grs. xxx three times a day.

Used in chronic diarrhoea, dysentery, and passive hæmorrhages.

- 368 B. *Akákiá* 5, *Gulábakali* 4, *Afima* 4, *Bazarul-i-bañja* 4, *Gul-i-aramáni* 4, *Dádama-ná-phula* 4. Prepare lozenges. Dose : 1 to 2 lozenges.
Used in hæmoptysis and hæmatemesis.

MELILOTUS HAMATUS.

THE SEEDS AND PODS.

Aklil-ul-Mulk अकलील-उल-मुल्क *Aklula mulka* (Bom.) *Aklil-ul-Malika*, *Giah-i-kaisara* (Arab.) Sweet cloves (Eng.)

Characters : The drug consists of small, crescent shaped pods, of a grey or brownish yellow colour. The pods are hard, tough, beak-like, and slightly curved upwards. They are grooved or channelled on both sides. Their surface is smooth and slightly wrinkled. The portion near the beak is generally of a lighter colour. On section the interior presents two partitions, each containing greyish green coloured, very hard seeds. The seeds resemble *Methi*. The drug is mucilaginous and pealike in taste.

Preparations : Infusion, decoction, and powder.

Actions and Uses : The seeds are said to be deobstruent, astringent, and alterative. As a discutient their poultice is applied to disperse swellings and to allay local pains. Internally they are given to check colic, diarrhœa, dysmenorrhœa, and rheumatism. They are a purifier of blood and used in scrofula.

Remarks : *Lobána-ná-phula* is the odorous principle found in this drug.

TAMARINDUS INDICA.

THE PULP AND SEEDS.

Amali अमली The pod: *Amali*, *Chiñch* (Bom.) *Tamara-hindi*, *Humara*, *Sábára* (Arab.) *Ambalah* (Pers.) *Ambli* (Duk.) *Ambli*, *Amali-ká-bota*, *Imali*, *Amali* (Hind.) *Amali* (Guz.) *Amalika Tiñtidi*, *Tenatrani phalama* (Sans.) *Tentula*, *Tetai*, *Tiñtri*, *Amali* (Beng.) *Chiñcha* (Mah.) *Tamarind* (Eng.) The seeds: *Chiñchoká* (Mah.) *Kachiká* or *Amali-ná-chichorá* (Guz.) *Tamarind stone* (Eng.)

Characters : The leaves are pinnate, linear, oblong, obtuse, and of a dark green colour. The leaflets are linear, very short petioled, and oblique at both ends. The legume is from 5 or 6 inches long, linear, oblong, slightly compressed, curved or nearly straight, and as thick as the middle finger. The outer shell is hard, brittle, and of a cinnamon colour. Within the shell is the pulp which is very acid and juicy. The pulp is of a dark red or brownish dark colour. It is covered with strong, woody, ramifying nerves, which extend along the edges and sides. The seeds are enclosed in a tough membranous cell. They are flattened, of an irregular outline, obtuse, and roundish or obovate. They are glabrous, shining, and of a dark brown colour. On both surfaces there are scars conforming to the outline of the cells. The scars are of a dark colour and marked with transverse parallel ribs. On section the cotyledon is ivory white and hard.

Preparations : Syrup, powder, succulent pulp, and ashes.

Actions and Uses : The unripe fruit is highly acid. The ripe fruit is antibilious, antiscorbutic, refrigerant, carminative, digestive, and laxative. It is used to quench thirst, cure intoxication from spirituous liquors or *Dhaturá*, &c. and as a cooling drink in sun-stroke. In fevers with constipation, bilious vomiting, and dysentery, the refrigerant effects of the pulp are well marked. The pulp and leaves made hot are applied locally to inflammatory swellings. As an aperient the pulp is extensively given in habitual constipation. A gargle of it is useful in healing apthous sores, and for the relief of sore throat. The seeds are used as a discutient poultice for boils. Powdered seeds are astringent and used in dysentery. The ashes obtained by burning the shells or the epicarp is used with other alkaline ashes.

Remarks : The word Tamarind is derived from the Arabic *Tamára* which means a date, and *Hīndi*, the Indian. It was supposed to be a product of Indian palm. A variety of it known as *Káchchi Ámalī* is nutritive, and eaten as dry dates. It may be had in the bazaar in the form of a sticky black mass made up of pulp and seeds mixed with fibres and fragments of shell. The pulp consists of an acid principle. It is prepared by removing the seeds and epicarp by a squeeze of the hand. The pulp is next mixed with *Mithuñ*. It is generally free from fibre and husk. The seeds are fried and eaten by the natives.

- 369 B. *Amali* (stone), *Kátho*, each 1 part. Mix and make a paste. Dose : *grs. v.*
Anupána : To be taken in curd.
 Used in dysentery.
- 370 B. *Amali* (pulp) *drs. ii.* Make a paste in water. To the paste add *Kálá miri*, *Lavaṅga*, *Elachi*, each *dr. i.*, *Kapura dr. ½*, and *Sákara drs. iv.* Dose : *dr. ½.*
 Used as a cooling drink in fever with loss of appetite.
- 371 B. *Amali-no-khára* 20, *Pañcha lavana* 15, *Saṅkha bhashma* 40, *Hiṅga*, *Miri*, *Jirūṇ*, *Shájirūṇ*, *Suñṭha*, *Pipali*, each 4, *Párá kajali* 2. Mix, add *Limbu-no-rasa* and make a pillmass. Dose : *grs. v.*
 Used in dyspepsia, diarrhoea, and vomiting.
- 372 B. *Amali*, *Khajura*, *Drákhsha*, *Anáradánáh*, *Amalá*, equal parts. Mix and make an emulsion.
 Dose : *dr. i.*
 Used against intoxication from spirituous liquors, *Dhaturá*, &c.

PSORALEA CORYLIFOLIA.

THE SEEDS.

Bavachi বাবচি *Bábachi* (Guz.) *Bávañchi*, *Bávañchiyān* (Duk. and Hind.) *Bavachi* (Bom.) *Vakuchi*, *Somarāja* (Sans.) *Bávachi*, *Hakucha* (Beng.) *Bávachiá* (Mah.)

Characters : The seeds are unctuous to the touch. Each seed is kidney shaped, flat, and of a dark brown colour. At the lower end of its concave margin is the hilum which is somewhat bifid. At its upper end there is a small pointed projection which is the remainder of the style. In some seeds the five partite calyx is found adherent. The surface is highly reticulated. The epidermis is oily and sticky. It can be easily separated or scratched from the testa. The odour of the epidermis is faintly aromatic and agreeable. The taste is pungent. The testa is of a brown colour and rather horny. On section the cotyledon is of a yellow colour and dry. The taste of the cotyledon is pealike.

Preparations : Powder, paste, and extract.

Actions and Uses : The seeds are considered to be alterative, laxative, and stimulant. Internally they are highly recommended in leprosy and chronic skin diseases. As a laxative, they are given internally in bilious affections. A paste of them is applied externally to leucodermal patches.

Remarks : The powder is given internally with small doses of arsenic in leucoderma with good results. For the application the seeds are well powdered to which milk is added. The paste thus formed is locally applied to white spots. Very often the medicated oil obtained from the seeds, by soaking them for a few hours in *Gorá tela* or *Karañja-nu-tela* and then expressed, is rubbed over the patches. The extractive matter obtained from the seeds by allowing ether to pass through the powdered seeds is more efficacious than any other preparation. In hopeful cases, after a few days the affected patch becomes studded with red points which gradually spread and coalesce. Sometimes pimples and small vesicles appear, which dry up and leave dark spots behind. The discoloration gradually disappears and a normal color of the skin takes its place.

373 *℞. Bávañchi 2, Akadá-nu-mula 2, Ámbá halada 1, Shátera 2, Sákara 3.* Mix and reduce the ingredients to a powder. Dose : *dr. ½ to dr. 1.*

Used in white spots and chronic skin diseases.

374 *℞. Bávañchi 2, Limadá-ni-chhála 2, Harade 2, Ámalá 2, Míri 1.* Mix and reduce the ingredients to a powder.

Dose : *dr. ½ to dr. 1.*

Used in white patches and chronic skin diseases.

375 *℞. Bávañchi 5, Káli jiri 4, and Majitha 3.* Mix and make a powder. Dose : *dr. ½ to grs. 40.*

Used in white patches.

376 *℞. Bávañchi 4, Ámbá halada 3, Gañdhaka 2, Morathu 2, Mina 10.* Mix and make an ointment.

Used for itch and psoriasis.

ARACHIS HYPOGÆA.

THE SEED AND OIL.

Bhui singa ଭୂସିଂଗା *Bhui siṅga*, *Vilāyati muṅga* (Hind. and Duk.) *Bilāti muṅga*, *Chinai badāma* (Beng.) *Bhoi chane* (Mah.) *Bhoe chaná* (Guz.) *Muṅga phali* (Hind.) *Bhui-muṅga* (Sindh.) Ground nuts (Eng.) The oil : *Siṅga-nu-tela* (Bom.)

Characters : The oil is of a pale yellow colour, an agreeable odour, and an olive-oil-like taste. The seeds are of a brownish red colour. The testa is papery. On section the kernel is white and sweet. The cotyledons are plano-convex and more pointed at one end than at the other.

Preparations : Ointments and plasters.

Actions and Uses : The seeds are eaten like nuts. The oil is used as a substitute for olive oil. It is mostly used in the preparation of *Gorá tela*.

Remarks : *Gorá tela* is an oil used in Bombay. It is prepared by expressing the seeds of *Bhui siṅga* with other seeds such as *Karadi* and *Tila*. The word *Gorá tela* is derived from *Gora* which means *Mithuṇ* (sweet), and *Tela*, oil. *Gorá tela*, *Mithuṇ tela*, or sweet oil was at one time the name for *Tila tela*. *Bhui siṅga* is called *Chinai Badāma* on account of the seeds being first introduced from China where they were mistaken for *Badāma*. The oil is used for soap making.

CASSIA SENNA.

THE LEAVES.

Bhui taravara ଭୂଟରବର *Bhui taravara* (Hind.) *Meṇdhi-Ávala* (Guz.) *Bhuya Taravada* (Mah.) *Senná Baladi* (Arab.) Country senna (Eng.)

Characters : The drug consists of pieces of stems, flowers, pods, and leaves. The stems are slender, hairy, and of a greenish brown colour. The pods are curved and resemble the horn of *Meṇdhi*. The leaves are pinnate. The leaflets are from 4 to 6 pairs, obovate, glabrous above, and hairy beneath. Their colour is darkish green. The taste and odour of the leaves resemble those of *Sonámukhi*.

Preparations : Infusion.

Actions and Uses: The leaves are said to be purgative. Other actions and uses are similar to those of *Sonámukhi*.

Remarks: The word *Meñdhi Ávala* (Guz.) is derived from *Meñdhi*, a sheep, and *Ávala*, a name of the plant. This is in allusion to the shape of the pods of *Ávala* resembling the horns of a sheep.

The Arabic word *Baladi* means a wild animal. The plant is said to grow wild.

CASSIA ABSUS.

THE SEEDS.

Chakasu चाकसु *Chákasu*, *Chákuta* (Hind.) *Chímada*, *Kínakuti*, *Chákasu* (Mah.) *Chinola*, *Chimara* (Guz.) *Habusa-sonadava* (Arab.) *Tasha mizaja*, *Chasa mizaja* (Arab.) *Chosha maka*, *Chashuma* (Pers.)

Characters: The seeds are black and highly polished. In size they resemble big sized bugs. In form they are obliquely ovate and flat on both surfaces. The testa is horny, tough, and thick. The cotyledons are yellow. The taste is bitter.

Preparations: Powder and confection.

Actions and Uses: The seeds are said to be astringent and used as a collyrium to strengthen the sight. As an aphrodisiac they form one of the ingredients of *Methi-no-ládu* and *Vakerio ládu*. The seeds baked and reduced to powder are applied beneath the eyelids in the form of an ointment in ophthalmia.

Remarks: The term *Chákasu* is a corruption of the Sanscrit word for the eye. The seeds are used to strengthen the sight.

CICER ARIETINUM.

THE PLANT, GRAINS, ACIDULATED LIQUOR, AND KHARA.

Chana चना The grains: *Chanyá* (Guz.) *Chaná kámala* (Sans.) *Chaná* (Mah.) Fresh grains: *Harabará* (Bom.) Dried grains: *Chaná* (Bom.) The vinegar: *Khallula himmasa* (Arab.) *Sirakáhe nakhuda* (Pers.) *Buñta-ká-sirakáh*, *Chaná-ke-sirakáh* (Hind.) *Harabará-ká-siraká*, *Buñta-ká-siraká* (Duk.) *Chanera siraká* (Beng.) *Buñta-no-sirako*, *Chaná-ni-khatái* (Guz.) *Chaná kámala* (Sans.) *Chaná*, *Ambá* (Mah.) The alkali: *Chaná*, *Ambá* (Bom.) *Chaná-no-khára* (Guz.) *Bure aramáni* (Bom.)

Characters : It is an annual small plant, with pinnate leaves. The leaflets are small, and hairy, of a greenish grey colour, and an acidulous taste. The seeds are gibbous, mucronate, and of a yellowish or reddish brown colour. The testa is brittle, containing a yellow cotyledon. *Chaná-ni-khatái*, or the vinegar is an acid liquid of a dull dirty colour. It is obtained by collecting the dew falling upon the plant. *Chaná-no-khára* is a white silvery powder. It exists in fine needle-shaped crystals and has an acidulous taste.

Preparations : The acid, juice of leaves, poultice, and *Khára*.

Actions and Uses : The vinegar is an acid similar to that found in *Kamarakha*, *Bilambi*, &c. It is said to be a stomachic, refrigerant, and laxative. It is very useful in dyspepsia, to promote digestion, and to remove flatulence and costiveness. The juice of leaves possesses similar properties. The medicated vapour baths prepared by adding the plant to boiling water are useful to relieve dysmenorrhœa. A poultice of its leaves is applied as a relief to sprained and dislocated limbs. The seeds are considered antibilious. *Chaná* is the most favourite pulse with the natives. It is taken raw or cooked in green or ripe state. It is made into *Dála*, roasted, ground into meal, and used as *Ládu*. *Chaná-no-khára* is used in bilious affections such as jaundice &c.

Remarks : The word *Bure aramáni* is derived from *Bure* which means powder or crystals, and *Aramáni*, a place in Persia.

What is sold by druggists as *Chaná-ni-khatái* is *Gandhaka-no-tejába* diluted and tinged with *Kiramaja*.

ENTADA PUSÆTHA.

THE SEEDS.

Garabi गरुड *Garambi*, *Garadala* (Mah.) *Suvali* *Amali* (Guz.) *Gilla* (Beng.) *Garabi* (Hind.)

Characters : The seeds are very large. Each is about 2 or 3 inches in diameter, flat or compressed, and roundish or heart shaped. The surface is very shining, smooth, and of a dark red colour. It has a blackish scar at the hilum. On section the testa is of a reddish colour and thick. Within the testa is the cotyledon which is of an ivory colour and hard. The odour of the cotyledon resembles that of *Bhui siंगा*. The taste is slightly bitterish.

Preparations : Paste and powder.

Actions and Uses : The seeds are discutient and emetic also said to be febrifuge and tonic. A paste of them is said to be a useful application to relieve inflammatory glandular swellings in the axilla known as *Kákha biláiri*. It is also recommended for the relief of pain in the loins. It is applied to swollen hands and feet in cases of general debility with marked relief.

CASSIA FISTULA.

TEH PULP SURROUNDING THE SEEDS.

Garamalo गरमले The drug : *Katha-ul-hinda* (Arab.) The pod : *Báhaváichi sheṅge* (Mah.) *Garamálo* (Guz.) *Garamálaha*, *Amalatása* (Hind.) *Khiyara-chambara* (Arab.) *Soṇdháli*, *Honálu*, *Bánoraláti* (Beng.) *Aragabadha*, *Suvarnaka*, *Rájataru* (Sans.) Riding pipe, Purging cassia (Eng.)

Characters : The pod is cylindrical, of a dark brown color, about 2 feet in length, and one to 1½ inch in diameter. The stalk is short, but woody. The blunt end or the apex is contracted into a point. The pod contains numerous cells arranged one upon the other transversely. Each cell is separated from the other by the pulp. The cell is thin, membranous, flat on both surfaces, and contains a seed which is oval, flat, and of a reddish brown color. The pulp is soft, glutinous, and of a dark colour. The smell of the pulp resembles that of *Khajura*. The taste is sweet and datelike.

Preparations : Decoction and pulp.

PULP : The pods are warmed and the pulp extracted.

Actions and Uses : The pulp is seldom used alone as it causes colic and flatulence. Used as a cathartic, it is a safe aperient even for children and pregnant women. With tamarind it is given to relieve biliousness. When given for a long time it tinges the urine yellow. Locally it is applied with relief to gouty or rheumatic painful joints. The root is a laxative and is used in fever, biliousness, and retained excretions. The powdered seeds are said to act as an emetic. The juice of the leaves is applied for the relief of dropsical swellings.

Doses : Of the pulp as a laxative *grs. 20* to *grs. 40* ; as a purgative *dr. i*.

Remarks : The Persian name *Khiyara chambara* is derived from *Khiyara*, a tree, and *Chambara* which means a necklace. This is in allusion to the structure of the pods which resembles a necklace. The

Arabs call it *Katha-ul-Hīndi* which means Indian cucumber, the pods having the resemblance in shape, size, and colour to fresh cucumber. The pulp is called *Asal-i-Khiyara chambara*, which means Honey of *Khiyara chambara*. The Sanscrit synonym *Suvarnaka* is in allusion to its yellow flowers. The Sanscrit name *Rājataru* means the king of trees, the tree being uncommonly beautiful when in flowers.

- 377 B. *Garamálo* drs. iv, *Káli-drákhsha* (without seeds) drs. ii. *Gulukañda* drs. vi, *Badáma-nu-tela* drs. ii, Boiling water ozs. viii. Macerate for half an hour and strain. Dose : drs. vi to drs. viii.

Used as a mild and safe laxative in constipation and colic, diseases of the brain and fever, &c.

ARAGHADHADI.

- 378 B. *Garamálo* drs. ii, *Pipali mula* dr. $\frac{1}{2}$, *Motha* drs. $1\frac{1}{2}$, *Kutaki* drs. ii, *Himaja* drs. ii, Water ozs. 20. Make a decoction. Dose : oz. i.

Used in malarious fever, and ague with mucous stools.

- 379 B. *Garamálo* 2, *Pákhābheda* 3, *Dhamáso* 4, *Himaja* 5, *Gokharu* 6. Make a powder.

Anupána : To be given with honey.

Used in sun-stroke.

CLITOREA TERNATEA.

THE ROOT AND SEEDS.

Gokara-na-bija गुकरना बीज The seeds : *Phiki-ke-jara-ká-jhára-ke-biñja*, *Ghutti-ke-jara-ká-jhára-ke-biñja* (Duk.) *Garani-ná-bija* (Guz.) *Kalizerá*, *Vishanukránti*, *Kaváthenathi* (Hind. and Beng.) *Kájali Gokarana* (Bom.) *Aparajita-ke-biñja* (Hind.) *Vishanukránti* (Sans.) *Buzrula Mázeriun-e-hiñdi* (Arab.) *Tukhm-i-bikhe-hayáta* (Pers.) *Mazerion* (Eng.) The root : *Gokaraná mula* (Bom. and Hind.)

Characters : The fresh root is white, tapering, branched, and fleshy. The stems are several and twining. It has an acrid bitter taste. The root bark is soft and thick. The seeds should be collected quite mature and dried on the plant. They are generally black or

greyish brown. They are minutely mottled green and black. Their shape is oblong, round, or nearly reniform. They have a white scar at one margin. They are slightly compressed near the edges. The ends of some seeds are round as if cut off by a knife. They resemble in size *Soná-ná-bija*. The testa is brittle and contains a cotyledon which is full of granular starch, thus resembling *Soná-ná-bija*. The seeds have an acrid bitter and a disagreeable oily taste.

Preparations : Infusion, decoction, and powder.

Actions and Uses : The root is said to be a laxative for children. As a diuretic it is used with other medicines in ascites, fever, &c. In croup it acts by causing nausea and vomiting. It is useful in dropsy and several enlargements of the abdominal viscera. It is a good demulcent when given to relieve irritation of the bladder. The seeds are useful as a purgative and may be given in combination with a little *Suñṭha*. It is thus a good substitute for *Kálá dānāh* as well as *Gulabāsa bija*. One, two or more seeds baked and then brayed in human milk or fried in *Ghee* are given to children in colic and constipation as a purgative by native women.

Dose : Of the powder as a purgative *grs.* 25 to *grs.* 40.

380 *B. Gokarani mula, Sañkha huli, Dāñtimula, Guli*, equal parts. Mix and make an emulsion in cow's urine.

Dose : A tea spoonful.

Used in ascites and enlargement of the abdominal viscera.

381 *B. Gokarani bija*. The juice to be dropped into the nose. Used in hemierania.

382 *B. Gokarani bija, Bodāra kākaro*. Make a powder. Used in constipation for children.

383 *B. Mázeriuna dr. i, Apathimuna ozs. ii, Suñṭha oz. i, Señdhá-lona ozs. ii, Water ozs. 40*. Prepare an infusion of the first three ingredients and dissolve the salt in the strained liquid. Dose : *oz. i* to *ozs. ii*. Used as a valuable diaphoretic and diuretic in dropsy, chronic rheumatism, and chronic skin diseases.

ASTRAGALLUS SARCOCOLLA.

THE GUM RESIN.

Gujara ગુજરા *Anzeruta*, *Kohala pharasi* (Arab. and Pers.) *Guzara* (Bom.) *Gujara* (Hind.) *Tragacanth sarcocolla* (Eng.)

Characters: It occurs in minute tears or in irregular pieces. The colour is yellow, pink, or red. When reduced to powder the colour becomes grey. The powder resembles *Isasa-no-bhuko*. *Gujara* is shining, opaque, and easily pulverizable. The smell is agreeable. The taste is like that of *Jethi madha*. When heated it burns with a heavy smell of burnt sugar.

Preparations: Plaster.

Actions and Uses: It is useful in closing wounds and checking discharges from the eyes. A plaster of it is useful in relieving inflammatory rheumatic pains. Roasted with onions it is dropped into the ear in otorrhœa and earache. Women use it owing to its possessing fattening properties. It is given to children as an anthelmintic and aperient; and as an alterative to adults in rheumatism. It is also an aperient and a resolvent. It acts best when combined with *Trikatu*, *Nishota*, &c. It is useful in congestive apoplexy.

Remarks: It is one of the chief ingredients of *Lepa* or the plaster made of a combination of stimulant gum resins and used by bone setters in Bombay. The word *Kohala pharasi* is derived from *Kohala*, collyrium, and *Pharasi*, Persian. The drug is used as a collyrium in purulent discharges from the eyes.

384 B. *Gujara* 10, *Jadavára* 8, *Eliyo* 6, *Phataki* 8, *Isasa* 8, *Medá lákadí* 10, *Lobána* 8, *Ámbá haláda* 6, *Revañchi-no-siro* 8. Mix intimately in *Mohorá* spirit (double distilled.)

Used as a *Lepa* in sprains, fractures, dislocated joints, lumbago, &c.

INDIGOFERA TINCTORIA.

THE PLANT AND INDIGO.

Guli গুলি The tree: *Guli-chá pata*, *Nila gachha* (Beng.) *Nili-chá jháda* (Mah.) *Nila vrikshaha* (Sans.) *Gali-no-pálo* (Guz.) *Nila-ká-jhára* (Duk.) *Nabátuna nilaja* (Arab.) *Darakhat-e-nila* (Pers.)

Nila-ká-pera (Hind.) The extract: *Guli* (Mah.) *Gali*, *Nili* (Guz.) *Nila* (Hind. and Beng.) *Nilaja* (Arab.) *Nilaha* (Pers.) *Nilama* (Sans.) Common East Indian Indigo (Eng.)

Characters : It is a shrub with pinnate leaves. The leaflets are arranged in pairs. They are cuneate at the base, rather pointed towards the apex, and of a dark green colour. On squeezing a dark green juice oozes out. The flowers are many and of a pink or purple rose colour. The legumes are nearly cylindrical, deflexed and curved upwards. The seeds are truncated at both ends. The extract occurs in the bazaar as hard pieces of an Indigo colour.

Preparations : Decoction, powder, poultice and paste of the plant.

Actions and Uses : As a deobstruent and alterative, the plant is highly useful in enlargements of the liver and spleen, dropsy, affections of the lungs and kidneys, whooping cough, and palpitations of the heart. Natives apply Indigo to the navel of children with castor oil to act on the bowels. *Guli* mixed with warm water and applied to the pubes and hypogastrium, acts favourably in relieving retention of urine. A poultice of the plant is useful to cure hemorrhoids. Indigo is a soothing application to burns and scalds, and to bites of venomous animals.

Remarks : Indigo is used both as a dye and a medicine. It is prepared in the following manner. The plant is cut, steeped in water, and kept till the liquid becomes charged with the coloring matter. The liquid on evaporating sets free the fecula, which is next collected in shallow wooden boxes and moulded into small pieces each of one inch square.

ABRUS PRECATORIUS.

THE ROOT, LEAVES, AND SEEDS.

Gunza ગુઝા *Chanothi*, *Gumachi*, *Chano-kadi* (Guz.) *Guñgachi*, *Guñja* (Hind.) *Gumachi* (Duk.) *Kuñcha-gulá* (Beng.) *Guñza* (Mah.) *Chiramiti* (Hind.) *Ain-ud-dika* (Arab.) *Chashami-khurosa* (Pers.) *Káka chĩnchi bajáma*, *Guñja* (Sans.) The root: *Guñja mula* (Mah.) The leaves: *Guñja plina* (Bom. and Mah.)

Characters : The leaves are 2 or 3 inches long. The leaflets are many, small, linear, and oval. The taste is sweet. The root is

woody, hard, much branched, and of an acrid odour and taste. There are three varieties of seeds: red, white, and black. The red seeds are bright, scarlet, polished, as large as peas, and egg shaped. They have a black spot containing a white scar at one end which indicates a place where they were attached to the pods. The white seeds are used medicinally. They are larger than those of the red variety, ivory white, very hard, and highly polished. They have a scale-like attachment at the hilum. On section the testa is brittle and contains a yellow cotyledon. The odour is disagreeable.

Preparations : Paste of seeds, juice of fresh leaves, and medicated oil.

THE MEDICATED OIL : Take of *Mithuñ tela* 4, *Bhāñgrá* (*Bhrīngaraja*) *no-rasa* 16, *Guñja* 1. Boil them together in the usual way.

Actions and Uses : The root is said to be an emetic and demulcent, and is used in gonorrhœa. The fresh leaves are chewed to relieve hoarseness of voice in sore throat. The seeds are said to be poisonous. They are made into a paste and used as a rubefacient in sciatica, stiff shoulders, paralysis, also in skin diseases with leucodermal patches. In leucoderma the juice of its leaves is applied with *Chitrakamula*. This paste is also recommended as a cure for baldness over the scalp. The seeds used as a lotion over the eyes are said to produce purulent ophthalmia. The oil is useful in removing scurf of the scalp, prurigo, &c.

Remarks : The root is called Indian or country liquorice and is often sold for it. It has no resemblance in appearance to it and is seldom used as *Jethimadha*. The seeds are of different varieties and are specified as *Lála*, *Sapheda*, or *Káli guñza*, but the first only is used medicinally. The *Lála Guñza* or *Lála Chanoti* is used by jewelers and gold-smiths, as *Ratti* weights. In some parts of India natives use the paste of the seeds as a means of killing bullocks. They prepare small spikes of powdered seeds and use after the manner of a driver's goad. The word *Ain-ud-dika* means cock's eye in allusion to the seeds resembling cock's eye.

385 B. *Guñja* 6, *Pára kajali* 12, *Limbodi*, *Gāñjá*, *Jamála gotá*, each 2. Rub them together and make a paste in *Limbu-no-rasa*. Dose : grs. v to grs. vi.

Anupána : *Señdhálona*, and *Hīnga*.

Used in paraplegia.

JONESIA ASOKA.

THE BARK.

Jasundi जसुंदी *Asoka* (Mah., Hind. and Beng.) *Ashoka* (Sans.)

Characters : The bark is smooth, of a dark brown or ash colour externally ; fibrous, and of a pale reddish colour internally. The taste is astringent.

Preparations : Decoction made in milk.

Actions and Uses : As an astringent a decoction of the bark with the addition of a number of aromatics is given with milk in uterine affections chiefly in menorrhagia.

Remarks : The fresh plant should be obtained from the herbarists. *Jásuñdi* is the Marathi name for *Hibiscus Rosasinensis* for which it should not be mistaken.

ALHAGI MAURORUM.

THE PLANT AND MANNA.

Javasa जवस The plant : *Javáso* (Guz.) *Javásá*, *Javáñsá*, *Javashá* (Beng. and Hind.) *Haja Akkula*, *Shonkula-jamala* (Arab.) *Duralabha*, *Yavasa* (Sans.) *Khár-e-shutara*, *Ushatara-khára*, *Shutara khára* (Pers.) *Javása* (Sans.) Camel's thorn (Eng.) The manna or the sugary exudation : *Turañjabina* (Arab., Per., Hind. and Bom.) *Yavása*, *Sarkará* (Sans.)

Characters : The plant is armed with hard spines. The leaves are oblong, obtuse, coriaceous, and of a reddish brown colour. The pods are constricted. The flowers are reddish. The flower stalks are thorny. The sugary exudation exists in lump or in a small whitish and saccharine granular powder, mixed with pods, and leaves of the plant. Its colour is dirty white. The smell is sugary. The taste is sweet, slightly acid, and bitter.

Preparations : Decoction, fresh juice, and manna.

The manna is obtained by evaporating a decoction of the plant.

Actions and Uses : The plant is a laxative, diuretic, and expectorant. The manna is used as a demulcent in the cough of children. The fresh juice is a diuretic and useful in combination with aromatics in suppression of urine. A snuff of it is useful as a remedy for me-

grim. A poultice of the plant or a fumigation of it is used in piles. The manna is a cholagogue. With milk it is used as an aphrodisiac and restorative.

Remarks: The fresh juice is used with laxatives, and aromatics.

386 R. *Turañjabina*, *Drákhsha*, *Himaja*, and *Pipali mula*, equal parts. Mix with honey and make a pill mass.
Dose : grs. v to grs. x.

Used in cough of children.

387 R. *Turañjabina* 4, *Harade* 5, *Pákhābheda-nu-mula* 3, *Ajamoda* 5, *Garamálo* 3, *Gokharu* 6. Mix and prepare a decoction. Dose : oz. $\frac{1}{2}$ to oz. 1.

Used in constipation with suppression of urine.

GLYCERRHIZA GLABRA.

THE ROOT AND EXTRACT.

Jethi madha जैथमध The root : *Jethi madha-ni-lákari* (Guz.) *Aslussiesa* (Arab.) *Bikhe mahaka* (Pers.) *Juthi madha mulatu* (Hind.) (Hind.) *Jeshta madha* (Mah.) *Mithi lákari* (Duk.) *Jaistomadhu* (Beng.) *Yashti madhu kama* (Sans.) Liquorice root (Eng.) The extract : *Jethimadha-no-siro* (Guz.) *Mulahatti* (Hind.) *Yashti madha*, *Madhuka* (Sans.) *Rubbususa* (Arab.) *Ausáreha mahaka* (Pers.) *Jethimadha-ká-rasa* (Bom.) *Jashti madhu* (Beng.) *Mithi lákari-ká-rasa* (Duk.) *Jesti madha* (Mah.)

Characters: The bark is brown. The wood is tough, fibrous, heavy, and of a yellow colour. It occurs in pieces of various sizes. It has the thickness of a finger. The taste is sweet at first; after a time it becomes somewhat acrid and bitter. The odour is earthy and rather sickly.

Preparations: Powder and *Siro* of the root.

Actions and Uses: The root is a nutritive, emollient, a sweet, cooling demulcent, and laxative. It promotes the secretion of the air passages. It is used to quench thirst, in inflammatory affections, febrile catarrh, cough hoarseness, of voice, asthma, and irritation of the bronchi and of the urinary passages. It is given in

combination with other demulcents. It is also used as a diuretic and an emmanagogue ; also for flavouring decoctions and oils for internal use.

Dose : *grs.* x to *grs.* xxx.

Remarks : It is a good substitute for liquorice. Under the name of *Kubas-susa* (Hind.) it is sold in the bazaar in the shape of black pencils. It is an ingredient in various laxative powders, confections, and lozenges.

388 *B.* *Jethi madha* 10, *Rájahan̄sa* 6, *Kásani* 6, *Khubázi* 6, *Variáli* 8, *Banaphashá* 8, *Dháná* 8, *Jiruñ* 8, *Khasakhasa* 10, *Methi* 10, *Alasi* 6, *Unába* 10, *Drákhsha* 10, *Añjira* 8, *Sirakhishata* 8, *Sákara* 10. Make a decoction. Used in asthma and cough.

389 *B.* *Jethi madha* 10, *Bábula guñda* 8, *Miri* 6, *Akalakaro* 4, *Gulavela* 6, *Kesara* 12, *Sákara* 10. Make a pill mass. Used in cough and asthma.

BAUHINIA VARIEGATA.

THE BARK.

Kanchana sala कंचन सला *Kañchana*, *Kachanára* (Hind.) *Kovidíra*, *Kañchanára* (Sans.) *Rakta kañchana síla* (Mah.) *Rakta Kanchana* (Beng.)

Characters : The bark on the trunk is rather scabrous and tubercled. It is of a darkish brown colour externally ; and tough, fibrous, and reddish internally. On the young parts the bark is smooth and of an ash colour externally, and very tough and green or white within. The taste is highly astringent, and resembles that of *Bávala-nichhála*.

Preparations : Decoction.

Actions and Uses : The bark is an alterative tonic and astringent. A decoction of it is highly useful in scrofula, liver complaints, and skin diseases. In scrofulous enlargement of the cervical glands the bark is given with benefit. As an astringent and tonic it is useful to check diarrhœa, to remove intestinal worms, and to improve blood ; and hence its given in leprosy and scrofula.

Remarks : It can be obtained fresh from the herbalists. The bark of *B. Racemosa*, *Āpta* (Mah.), and of other species is often substituted for *Kañchana chhāla*. The dried leaves of *B. Tormentosa*, *Pivalā kañchana* (Mah.), are given in dysentery.

The actions and uses of all *Bauhinias* are generally similar. The leaves of *B. Variegata* are known as *Biri-nā-patrāñ*. They are also known as *Sonā-nā-pāna* in allusion to their wide distribution on the *Daserā* festival among the Hindus.

KANCHANARA GUGULA.

- 390 *B. Kañchana chhāla* 10 parts, *Triphalā*, *Trikatu*, *Vāyavarana*, *Elachi*, *Taja* and *Tejapātra*, each one part. Make a powder, add *Gugula* 15 parts, and make a pill mass. Dose : *dr.* $\frac{1}{2}$.

Anupāna : Decoction of *Triphalā* and *Khera chhāla*.

Used in scrofulous enlargement of glands, gonorrhœa, and dropsy ; also to check diarrhœa.

- 391 *B. Kañchana chhāla*, *Suñtha*. Make a paste and apply. Used in scrofulous enlargement of glands in the neck.

- 392 *B. Kañchana chhāla* 5, *Akakiā* 4, *Dālimba chhāla* 6. Mix, make a powder, add water and use as a gargle. Used in sore throat and salivation.

PONGAMIA GLABRA.

THE LEAVES, ROOT BARK, POD, SEEDS AND OIL.

Karanja *करंज* *Karañja* (Guz.) *Dara karañja* (Beng.) *Kirāmāla* (Hind.) *Karañja*, *Naktamāla* (Sans.) *Karañjela* (Mah.)

Characters : The leaves are large and pinnate with odd ones. The leaflets are oval, pointed, smooth, and shining. The taste is acrid and bitterish. Externally the bark is smooth, of an ash or yellowish green colour, and here and there marked with tubercles or scars. Internally it is green or greyish white, very tough, and fibrous. The odour is very disagreeable and heating. The taste is pungent. The

seeds are larger than *Badāma-nā-magaja*. They are of a brownish red colour, rather kidney shaped, and compressed. The testa is wrinkled, very thin, and papery. The cotyledons are oily and yellow. The odour and taste resemble those of the bark. The oil is bitter, and of a pale sherry colour. It solidifies at 60 F.

Preparations : The oil obtained from the seeds by expression, decoction and poultice of leaves, paste of seeds, and juice of roots.

Actions and Uses : Locally the oil is useful in rheumatism and as an insecticide in scabies, herpes, pityriasis versicolor and porrigo capitis. It is generally combined with sulphur. A decoction of its leaves is used as medicated baths in rheumatism. A poultice of the leaves is used in ulcers infested with maggots. The bark is useful internally as an astringent in the treatment of bleeding piles, over foul ulcers infested with maggots, and for closing fistulous openings. A paste of the seeds is used for the relief of painful rheumatic joints and skin diseases.

Remarks : The leaves, bark, and root should be obtained fresh.

393 *℞. Karañja, Katuki, Mena, Halada, Jethimadha-ni-lá-kadi, Pátalá, Nimdáchhála* equal parts. Mix, make a paste and boil with *Ghee* and water in the usual manner.

Used as an ointment for unhealthy ulcers and wounds.

394 *℞. Karañja, Táñklá, Upaletá*, each equal parts. Mix, make a paste in lime juice and apply.

Used in eruptive skin diseases.

395 *℞. Karañja tela* ozs. v, *Kuchalá bija* ozs. 4. Mix and boil; then add *Siñdura* ozs. ii, *Morathuthu* oz. i, and make an ointment.

Used in psoriasis.

396 *℞. Karañja tela* 10, *Chitraka mula* 4, *Kánera* 4, *Niraguñdi* 6. Mix, make a paste and apply.

Used in eczema and other skin diseases.

CASSIA OCCIDENTALIS.

THE LEAVES, SEEDS, AND ROOT.

Kasundi कसुन्दी *Kasonda*, *Hikala* (Bom.) *Kasundi* (Guz.) *Kasundā*, *Bari-kasondi* (Hind. and Duk.) *Kasamarda* (Sans.) *Dādamardana* (Mah.) *Kāla kasundā* (Beng.) The seeds : *Hikala bija* (Mah.)

Characters : It is an herbaceous plant or a small shrub from 3 to 5 feet high. The leaves are pinnate. The leaflets are in 3 to 5 pairs, obliquely oblong or lanceolate, finely pointed, green glabrous above, and pale beneath. On bruising the smell is very foetid. The taste is pungent and very acrid. The root is tapering, fibrous, of a brownish white colour, and very bitter. The smell is aromatic. The legumes are linear, turgid or brimmed, and many seeded. The seeds are horizontal.

Preparations : Paste.

Actions and Uses : The whole plant is a purgative. It is also an expectorant and useful to relieve whooping cough. The seeds are a nutritive tonic. A paste of them is applied, in pityriasis and psoriasis with benefit. A poultice of the root with sandal wood is used as a cure for ring-worm. The leaves made hot are applied to painful swellings with relief.

Doses : Of the leaves *dr. i.*

Remarks : In France a kind of wine known as Malagá wine is used as a febrifuge. It is prepared from *Kasundi bija*. Hindus mistake the plants of this species for those of *C. Sophora*. Both are generally substituted for one another.

The word *Kāśi murdā* is derived from *Kāśa*, *Khāśa*, a cough, and *Murdā*, a destroyer. It is a destroyer of cough.

397 B. *Kāli kasondi* 5, *Chaṇḍana* 4. Make a paste and apply.

Used in ring worm.

398 B. *Kasondā*, *Mulābija*, *Gaṇḍhaka*. Mix, make a paste and apply.

Used in pityriasis and psoriasis.

MUCUNA PRURIENS.

THE SEEDS AND HAIRS COVERING THE PODS.

Kavacha कवच *Kavacha* (Guz.) *Kavacha*, *Kivañcha* (Hind.) *Kuhili*, *Kavacha* (Mah.) *Kachakuri*, *Kañchakuri* (Duk.) *Kavacha*, *Bichhoti*, *Hub-ul-kulai* (Pers.) *Atmaguptā*, *Kapikachachu*, *Vānari* (Sans.) *Kuhili* (Bom.) *Alakusi* (Beng.) Cowhage or cowitch (Eng.) The seeds : *Kavacha bija* (Bom. and Mah.)

Characters : The pods are curved like the letter S. They are 3 or 4 inches long, covered with rigid brown hairs, which if handled irritate the skin. They are of a tawny colour. The skin of the pod is hard and of a dark colour. The pods contain from 3 to 5 seeds. The seeds are of a dark brown or dark colour. They are kidney shaped, compressed, shining, and smooth on the surface. Some are mottled. Each has a large, white, oblong ring, which is wrinkled at the margin. The ring occupies the hilum. The testa is thin and brittle, and contains a greyish-white coloured, hard cotyledon, of a disagreeable smell and taste.

Preparations : Hairs of the pods, powder, confection and decoction of the seeds.

Actions and Uses : The seeds are astringent, nutritive, powerful aphrodisiac and nervine tonic. The confection is given in paralysis and seminal debility. The hairs of the pod are used as vermifuge in round worms. They work mechanically in injuring the worms or promoting their expulsion. When applied to the skin or to the mucous membrane, the hairs produce a painful irritation and eruptions, and hence are very dangerous if left into the intestine. In such cases their use should always be followed by a purge. A decoction of the seeds is used by women in leucorrhœa and menstrual derangements.

Dose : Of the confection *dr.* $\frac{1}{2}$; decoction, *dr.* 1.

Remarks : The English name Cowhage is derived from the Hindi *Kavacha*.

399 B. *Kavacha bija* 2, *Golcharu* 4, Cow's milk 8. Boil them till the milk becomes thick. Remove the seeds, decorate them, and then make a powder. Fry the powder in *Ghee*, and add sugar to make a confection.

Dose : *drs.* ii to *drs.* iii.

Used in leucorrhœa, profuse menstruation, and also in paralysis.

- 400 R. *Kavacha* 3, *Gokharu* 5, *Posta* 4, *Ekharo* 3, *Mocharasa* 3, *Nága kesara* 2, *Musali* (*Káli* and *Sapheda*) 2, *Sákara* 10 parts. Mix and make a powder.
Dose : grs. xv.

Anupána : Milk.

Used in seminal weakness.

- 401 R. *Kavacha*, *Jáephala*, *Kapura*, *Samañdara-sosha*, *Vája*, *Sákara*, each equal parts. Mix and make a powder. Dose : grs. x.

Used in general debility.

- 402 R. *Kavacha*, *Chitraka*, *Suñtha*, *Pipali*, *Pipali mula*, *Mastaki*, *Taja*, *Lavañga*. Mix and make a pill mass.
Used in colic, dyspepsia, worms, &c.

ACACIA CATECHU.

THE BARK, EXTRACT OF THE WOOD, GUM, AND CATECHUIC ACID.

Khera-bavala किरा बावला The tree : *Khera-ká-para*, *Khera bábulá* (Hind. and Bom.) *Khadira* (Sans.) Catechu tree (Eng.) The bark or wood : *Kátha-khera*, *Khera*, (Hind.) *Khera-gacha* (Beng.) *Khadira vrikashaha* (Sans.) *Kherisála* (Mah.) *Káthe-ke-kikara* (Duk.) *Khera-sála* (Bom.) The extract of the wood : *Khadira* (Sans.) *Khera* (Beng.) *Kátho* (Guz.) *Kathá* (Hind.) Catechu (Eng.) The catechuic acid : *Khera-sára* (Hind. and Bom.) *Khadirasara* (Sans.) The gum : *Khera-chá-goñda* (Mah.) *Kherio-guñda* (Guz.)

Characters : The bark is rough, of a dark brown colour externally, and smooth and reddish within. It resembles *Bávala chhúla*. In some specimens the bark is smooth and of a yellowish colour. It is rather thin. The external surface is here and there denuded of its epidermis. The taste is highly astringent. The extract : There are several kinds of *Káthas* found in the bazaar. Some are true extracts of the wood. Others are preparations of clay flavoured with Catechu. There are five varieties.

1. THE BLACK CATECHU : *Khadira* (Sans.) It is of a dark brown or reddish colour, and has a shining, granular appearance. It occurs

in irregular masses. It is hard and very brittle. The granules resemble those of *Hirá dakhana*. The taste is highly astringent. It sticks to the tongue.

2. THE PALE CATECHU: *Kadira* (Sans.) *Pápari khára* (Hind.) *Pápadio Khára* (Guz.) This Catechu has a laminated structure. To prepare this instead of evaporating the decoction, the inspissation is stopped at a certain point and the liquor allowed to cool. It coagulates and crystallizes over twigs and leaves thrown into the pots for the purpose. It occurs in irregular fragments of a porous earthy appearance, with a laminated texture, easily broken and of a light pinkish brown colour. It is less astringent and less sticky than the black catechu.

3. CHINAI KATHA: There are two varieties known as true and false. The true *Chinai kátho* is imported from China, and is of a light brown colour. It is marked with ridges. In shape it resembles *Sogati*. It is of various forms and sizes. The taste is bitter and earthy, also slightly astringent. The false variety is not imported from China. It is disc-like or resembling *Thepali* (Lozenges.) It is of a pale white colour, and chiefly composed of *Mulatáni máti* flavoured with Catechu water.

4. VADINO KATHO: Like *Chinai kátha*, *Vadino kátho* is met with in two forms known as true and false. Both occur in irregular lumps of about an inch in diameter. The true form is dark brown above, and pale within. The false is pale or pinkish above, and earthy within.

5. CHAKI-NO-KATHO: It occurs in quadrangular squares, of a reddish or pale brown colour above, and pale white within. The taste resembles that of clay.

THE CATECHUIC ACID: *Khera-sára*: It is of a pale brownish colour, and an astringent taste. It occurs in small irregular fragments mixed with chips of reddish wood. The *Khera sára* is obtained from cavities in the wood of *Acacia catechu*. It is found in irregular fragments and resembles pale catechu. It is found by persons who split fire-wood. It has a sweetish but feebly astringent taste. The gum, *Kherio guñda*, is of a light yellow or white colour, and resembles the commercial inferior gum. It occurs in tears or agglutinated masses. The tears are brittle and porous.

Preparations: Infusion, powder, and lozenges.

Kátho is obtained by boiling the wood in water and obtaining the extract by drying the decoction.

Actions and Uses: *Kátho* is an astringent, cooling, and digestive. As a digestive it is an ingredient of the packet of *Pána* (betle leaf) popularly known as *Pána-ni-bidi*, which also contains besides betel leaves, aromatics, spices, and *Sopári* nut made into powder or slices. Catechu by virtue of the tannic acid it contains, constricts the relaxed tissues and arrests the fluxes. It is a more energetic astringent than *Chuno*. It is given internally in dysentery, diarrhœa, chronic bronchitis, and uterine hæmorrhages. In relaxed condition of the mucous membranes as sore throat, affections of the mouth and bleeding gums it is very useful. In ulcers, syphilitic chancres, sore nipples and other eruptions on the skin, catechu is externally applied with benefit. It is locally applied to the nostrils in epistaxis. It checks hoarseness of voice. *Khera sála* is an astringent. A decoction of it is highly useful in promoting expectoration, and checking internal hæmorrhages, also in diarrhœa, and dysentery.

Dose: *grs.* v to *grs.* xv of the powder.

Remarks: What is sold in all the Indian bazaars under the name of *Golábi-khili* is prepared with *Kátho* soaked in *Golába pláni*. *Káthaláñ* is a term applied to a confection prepared by mixing fried *Kherasára* with *Sákara* and clarified butter. It is used by parturient women after delivery. Sometimes *Káthaláñ* is a name given to ready made pills sold in the bazaar. They are of a darkish brown colour, and as large as grain seeds. *Kátha bola* is a mixture of *Hirábola* and *Kátho*. It is given to women to promote the secretion of milk.

403 ℞. *Kátha* 5, *Hiñga* 4, *Pápada khára* 3, *Afima* 2. Mix and make a pill mass. Dose: *grs.* v to *grs.* 10.

Anupána: To be given in the juice of *Pána*.

Used in chronic dysentery.

404 ℞. *Kátho* *drs.* ii, *Hirádakhana* *dr.* i, *Taja* *dr.* $\frac{1}{2}$, *Tamála patra* *dr.* $\frac{1}{2}$. Mix and reduce the whole to a fine powder. Dose: *grs.* xv to *grs.* xxx.

Used in diarrhœa.

405 ℞. *Kátho*, *Triphalá*, *Nimadá-ni-chhála*, *Pátalá*, *Guláñchá*, *Aduso*, equal parts. Prepare a decoction.

Dose: *dr.* $\frac{1}{2}$ to *dr.* 1.

Used in prurigo and other chronic skin diseases.

- 406 *℞. Khera chhála 2, Indrajava 2, Nimadá-ni-chhála 2, Vája 2, Triphalá 2, Nishotará 2, Water 20. Mix and make a decoction. Dose : dr. 1.*

Used in gonorrhœal rheumatism.

- 407 *℞. Khera chhála 5, Elachi 5, Chini kabába 4, Hirá-dakhana 3, Tamakhira 2, Barása kapura 2. Mix and make a pill mass. To be kept in the mouth.*

Used to remove fætor from the mouth.

- 408 *℞. Khera chhála, Morathuthu, Kátho, Upaleta. Mix, make a paste and apply.*

Used to remove fætor from the mouth.

- 409 *℞. Kátho 10, Jáephala, Kapura, Sopári, Elachi, each 2. Mix, make a powder and add Bábula goñda to make a bolus to be kept in the mouth.*

Used in affections of the teeth, gums, tongue and palate.

DOLICHOS UNIFLORUS.

THE SEEDS.

Kulitha कुलिथ Kulathi (Guz.) Kulitha (Mah.)

Characters: The seeds are of different colours. They vary from light red to dark red and black. The light red ones are mottled with greenish dark. In size they resemble *Chákasu*. They are highly polished and shining. They have a white scar about the middle of the margin. The testa is very thin and brittle within. It has a whitish cotyledon.

Preparations: Decoction.

Actions and Uses: The seeds are astringent, diuretic, and diaphoretic. A decoction of them is used in urinary diseases and menstrual derangements. Parturient women use it to promote lochial discharges. It is also useful in checking profuse leucorrhœa and menstrual derangements. Like *Añkola* powder, a powder of these seeds is applied to the skin to check cold sweats.

Remarks: There are two varieties of this, the red and white. Both are used for similar purposes.

ERVUM LENS.

THE PULSE.

Masura मसुर *Masura* (Mah.) *Masuri* (Beng.) *Masura* (Hind.)
Adasa (Arab.) *Miraju maka* (Pers.) *Masuriká* (Sans.) The lentil (Eng.)

Characters : The pulse is of a light *Hīngalo* or *Sīndura* colour. It is highly nitrogenous.

Preparations : Poultice and *Dāla*.

Actions and Uses : As a poultice it is useful over small-pox ulcers. As an aperient lentils are highly recommended in constipation. They are used as a restorative, strengthening, and stimulating article of food by the natives for weak and consumptive people.

Remarks : This pulse is not used by high caste Hindus as they have a sort of repugnance to it on account of its colour resembling that of animal flesh. It is said to be the chief ingredient in the *Revalanta Arabica* food used for children.

TRIGONELLA FÆNUGRÆCUM.

THE SEEDS AND HERB.

Methi मूँ *Methi* (Hind., Duk., Beng. and Guz.) *Hulabaha* (Arab.)
Shanabalida, *Shamaliza*, *Shamalita* (Pers.) *Methinika* (Sans.) Fenu-
 greek (Eng.)

Characters : The seeds are rhomboid, semi-transparent, somewhat compressed, and of a greenish yellow or yellowish brown colour. The hilum is on the sharper edge. There is a channel extending along the middle of the seed and dividing it into 2 irregular bodies. The surface of the testa is tubercular. The taste is bitter. The odour is aromatic. They are oily and contain no starch, nor mucilage, but only fatty and granular matter.

Preparations : Infusion, confection, powder, and ashes.

Actions and Uses : The seeds are valued both as food and medicine. They are demulcent, emmanagogue, aromatic, diuretic, nutritive, tonic, also considered as emollient, astringent, carminative, and aphrodisiac. They are recommended in dyspepsia with loss of appetite, rheumatism, diarrhœa in puerperal women, chronic cough, and enlargement of the liver and spleen. A decoction of them is given in

affections of the throat and air passages. *Methi* seeds are applied externally in alopecia to promote the growth of hairs. A cataplasm of the seeds is useful to relieve inflamed parts. In cases of leucorrhœa, the pessaries made of *Methi* are used for the uterus and vagina. A poultice of *Methi-ká-bhâji* is a useful application for the relief of external swellings. As an aperient the leaves are boiled, fried in butter, and given internally in bilious state of the system. The powder of the seeds is applied to the skin to keep it soft and clean.

Remarks: Several confections made of *Methi* and a number of aromatic substances are recommended. They are known as *Methi Modaka*, *Svelpa Methi Modaka*, &c.

- 410 *℞. Methi* (Fried in *Ghee*), *Anisuñ*, and *Nimaka* Mix and make a paste. Dose: *dr. ½ to dr. 1.*
Used to check diarrhœa.

- 411 *℞. Methi* 20 parts, *Triphalâ*, *Trikatu*, *Nâgora*, *Motha*, *Kâluñ jiruñ*, *Sapheda jiruñ*, *Dhânâ*, *Kâtaphala*, *Kâkarâ siñghi*, *Ajavâna*, *Siñdhava*, *Bitalavana*, *Nâga kesara*, *Tejapâtra*, *Taja*, *Elachi*, *Jâephala*, *Jávañtry*, *Lavañga*, *Kapura*, *Chañdana*, each one part. Mix and make a confection.
Dose: *oz. i to ozs. ii.*

Used in dyspepsia with loss of appetite, diarrhœa of puerperal women, and rheumatism.

PHASEOLUS TRILOBUS.

THE LEAVES.

Matha मथु *Jañgali mátha* (Mah.) *Mudgaparani* (Sans.) *Muñgani* (Beng.)

Characters: It is an herb. The leaflets are three-lobed. The lobes are oval. The leaves are ovate, lanceolate, and with long peduncles. The legumes are cylindrical, smooth, and six seeded.

Preparations: Paste and leaves.

Actions and Uses: The leaves are sedative, cooling, antibilious, and tonic. They are applied externally to the eyes to improve the sight.

PHASECLUS MUNGO.

THE SEED.

Munga मुँगा *Muṅga*, *Muga* (Beng. and Mah.) *Valli muṅga* (Hind.) *Maga* (Guz.) *Mudga* (Sans.) *Muga-ká-dāḷa* (Mah.) Green gram (Eng.)

Characters : The seeds resemble in form and shape those of *Urada*. In colour the *Maga* seeds are green, whereas *Urada* seed are black. *Muga* seeds are smaller in size than those of *Urada*.

Preparations : *Magani dāḷa*.

Actions and Uses : These are same as those of *Urada*. When given in large quantities it is an aperient. It is also given to relieve thirst in fevers. It is highly nutritive. The green variety is useful for sick persons after recovery from acute illness. A poultice of it is useful for checking secretion of milk and reducing distension of the mammary glands.

BUTEA FRONDOSA.

THE LEAVES, FLOWERS, SEEDS, AND GUM.

Palasa पालसा The tree : *Khákharo*, *Khákharā-nu-jháda* (Guz.) *Palásaká jhára* (Duk.) *Palásha* (Beng.) *Paláshá-chá-jháda*, *Kakrá-chá-jháda* (Mah.) *Palasa*, *Dháka* (Hind.) *Darakhate Palaha* (Pers.) *Palásha vrikshaha*, *Kinasuka* (Sans.) Bastard teak (Eng.) The seeds : *Kákaranān biān*, *Palása pápado* (Guz.) *Tukhm-e-palásha* (Pers.) *Palása-ke-binja* (Hind.) *Palása pápará* (Duk.) *Palása bijāma* (Sans.) *Kakrá-chá-bija*, *Palasa pápadá* (Mah.) The gum : *Palásá-chá-goṇda*, *Palasa goṇda* (Mah.) *Dháka-goṇda*, *Palása-ki-goṇda* (Hind.) *Khákharā-no-guṇda* or *Chinio guṇda* (Guz.) *Samaghe palaha* (Pers.) *Palásha goṇda* (Beng.) *Palásha neryásama* (Sans.) Bengal kino (Eng.) The flowers : *Kesurá*, *Kesuri-ná-phula* (Guz.) *Palása phula* (Mah.)

Characters : The leaves are ternate, from 9 to 12 inches long, leathery, shining above, and hairy below. The flowers are large and irregular. When fresh they are of a beautiful, deep yellowish-red colour, and shaded with silver colored down ; when dry, they become paler in colour. The seeds are flat. Each is about 2 inches long and about 1½ inch in breadth. In shape they resemble shell *Lákha*. The

surface is shining and of dried blood or reddish colour. The testa is very thin and contains a yellowish brown coloured cotyledon. The cotyledons are leafy. The taste is somewhat acrid. The gum resin when pure is either translucent and in tears, or in small, flat, or irregular fragments of a brilliant ruby red colour. It is brittle and softens between the teeth. It is highly astringent. It is generally mixed with numerous small particles of a light grey colour. The fragments of a corky bark are found adherent to it.

Preparations : *Varáliāns* of leaves, powder and paste of seeds, poultice of flowers, and mucilage.

Actions and Uses : The *Varáliāns* of leaves are non-irritating and used to disperse boils and pimples. Hot leaves are used as fomentation to the region of the bladder in retention of urine. The leaves are astringent, also a tonic, and used in diarrhœa, pyrosis, sweating of phthisis, diabetes, menorrhagia, worms, and flatulent colic. A solution of them is used as an injection into the rectum in diarrhœa and dysentery, and into the vagina in leucorrhœa. As a gargle it is used in ulcerated sore throat. The seeds are acrid and used as a purgative, diuretic, and anthelmintic. As an anthelmintic they are used in tape worms and ascarides. A decoction of the seeds mixed with nitre is useful in gravel complaints. Applied externally the seeds blister the skin. Chronic fistulæ heal by their use. Mixed with *Limbu-no-rasa* the seeds act as a rubefacient and almost as a specific for Dhobee's itch. A paste of them is dropped into the nose in epilepsy. The gum is a substitute for kino. Made into a paste it is used as a local application over the abdomen in colic. With *Señdhá-lona* it is also applied over the abdomen in cases of worms and flatulence. The flowers, *Kesuri-ná-phula*, boiled in water are used as hot fomentations and poultices to the pubes in retention of urine.

Remarks : *Butea superba* and *Butea parviflora* also yield Bengal kino. The alkaline ashes of this plant are used in the preparation of diuretic medicines along with other diuretics.

- 412 B. *Khákhara-no-guñda* 5, *Lodhra* 5, *Jáephala* 2, *Máiyāñ* 2, *Musali* 5, *Padavása* 5, *Khubakalána* 5, *Mocharasa* 3, *Dháuri-ná-phula* 5, *Khorásáni ajavána* 5. Mix, add *Madha* or *Sákara*, and make a confection. Used in leucorrhœa and seminal weakness.

- 413 B. *Palāsa*, *Nisotara*, *Khorásāni ajamo*, *Kamāla*, *Vāradīṅga*, Jaggary, equal parts. Mix and make a powder.

Dose: *grs.* x.

Anupāna: *Madha*.

Used in worms with constipation.

CAESALPINIA SAPPAN.

THE WOOD.

Patanga पतंग *Pataṅga-nu-lákaruṇ* (Bom.) *Pataṅga-ki-lákari* (Hind. and Duk.) *Pataṅga-no-lákado* (Guz.) *Bakama* (Pers., Beng. and Arab.) *Pataṅga* (Sans. and Mah.) Sappan wood (Eng.)

Characters: The dried wood is hard, heavy, of a light reddish colour, and here and there sprinkled with a reddish resinous substance. The taste is oily and acrid. The odour is acrid.

Preparations: Decoction and paste.

Actions and Uses: The wood is an efficient astringent, alterative tonic, and emmanagogue. A decoction of it is a good substitute for logwood and used for the same purposes as *Rakta chaṇḍana*. As a dye it is used in the preparation of *Gulála*.

Remarks: *Gulála* or red powder is a preparation of *Pataṅga* and *Phataki*. A paste of them or their solution is poured upon arrow-root, and the whole is intimately mixed. *Gulála* is a dry powder. It is used by the Hindus during the Holy festival and in other religious ceremonies. It is also used by a sect of Hindus for *Tiká* on their forehead. Medicinally the powder is blown into the ear in otorrhœa.

Vákeri mula is another species of *Cæsalpinia digynia*. The root is used, as a powder and infusion, and has marked astringent properties, and hence it is very useful in diarrhœa and other chronic fluxes. It is externally used in tanning.

- 414 B. *Pataṅga* (bruised) *oz.* i, *Taja* (bruised) *ozs.* ii, Water *ozs.* 40. Prepare a decoction in the usual way.

Dose: Of the decoction *oz.* i to *ozs.* ii.

Used in diarrhœa, especially of children.

URARIA PICTA.

THE ROOT BARK.

Pitavana পিতবান *Rānagāñjā* (Mah.) *Pitavana* (Hind.) *Shaṅkera jāṭī*, *Chākuliā* (Beng.) *Dābrā* (Hind.) *Prisha-ni-pārani* (Sans.) *Pitavana* (Guz.) *Chākaha* (Beng.)

Characters : The plant is from 3 to 4 feet high. The young parts are clothed generally with minute hooked hairs. The lower leaves are simple, oblong, and ovate. The upper ones or the leaflets are compound, linear, and lanceolate. The upper surface of the leaves and leaflets is clouded. The flowers are arranged in racemes. They are terminal, very long, and spike-like. The legumes are small, often pale, and of a purple or reddish colour. The seeds are shining, and of a dull grey colour, thus resembling *Bhāṅga* seeds.

Preparations : Compound decoction.

Actions and Uses : The plant is supposed to be an antidote to poisoning by Phoorsa snake, (*Echis carinata*.) It is also an alterative tonic and astringent, and useful in catarrh of the air passages.

Remarks : The bazaar drug *Pitavana* is fictitious. Generally of the whitish root of *Abelmoschus esculentus* is given in its stead. Fresh specimens should be procured.

Uraria logopodioides is also known as *Pitavana*, and forms one of the ingredients of the *Dasha mula*, the ten roots. The synonym *Rānagāñjā* (Mah.) is derived from the resemblance of the spikes and seeds of *Pitavana* to those of the *Gāñjā* plant.

PTEROCARPUS SANTALINUS.

THE WOOD.

Ratanjali রত্নজলি *Tāmarā chaṇḍana* (Mah.) *Ratāñjali* (Guz.) *Saṇḍale-ahamara* (Arab.) *Saṇḍale surkha* (Pers.) *Ragata chaṇḍana*, *Lāla chaṇḍana* (Hind.) *Tāmbadā chaṇḍana*, *Tāmbadā goṇḍhāchā chekka* (Duk. and Mah.) *Rakta chonadana* (Beng.) *Agaru-gaṇḍhakā-āshtaha*, *Rakta chaṇḍana* (Sans.) Red dye wood or Red sandal (Eng.)

Characters : The wood is dark red with black streaks. It occurs in pieces which resemble in shape and size to *Chaṇḍana*. They are heavy in weight. The taste is slightly astringent. The smell is somewhat aromatic.

Preparations : Emulsion or paste, infusion, and compound decoction.

Actions and Uses : The paste is useful as a local application to the head in headache and to inflamed and swollen limbs. As an astringent tonic, it is used internally in combination with other astringents in bilious fluxes, dysentery, &c.

Remarks : There are 3 kinds of sandal wood : white (*Shri khaṇḍa*), yellow (*Pita chaṇḍana*), and red (*Rakta chaṇḍana*.) The white and yellow varieties are one and the same, only differing in colour. The word *Rakta chaṇḍana* is derived from *Rakta*, blood-like (colour,) and *Chaṇḍana*, sandal wood. It means sandal wood of a deep red colour. *Rakta chaṇḍana* is not true sandal wood but as the Hindus use this wood for *Tikā* on their forehead, like true sandal wood, this wood is also called *Rakta chaṇḍana*. There is another species known as *Pterocarpus Marsupium*, *Bijesara* (Hind.) *Bijesara-ke-jhāra* (Duk.) *Pitasāla* (Beng.) Indian kino tree. The gum is known as *Dāmula akhavana hīndi* (Arab.) *Khune siyālvushane hīndi* (Pers.) *Hira dokki*, *Kholara-māṇḍā*, *Raṅga barata* (Hind.) *Nāta-kā-dāmula akhavana* (Duk.) The Indian gum kino.

415 B. *Ratāñjali*, *Lodhra*, *Upaleta*, *Mañjitha*, *Ambā haḷada*, each equal parts. Make a paste in water and apply. Used in Leucoderma.

416 B. *Ratāñjali* 10, *Gaṇḍhaka* 10, *Kapura* 6, *Sākara* 8, *Gahulā* 8. Mix, make a paste and apply. Used in ringworm.

BONDUCELLA GUILANDINA.

THE SEEDS AND LEAVES.

Sagaragota सगरजो The seeds : *Kākachiā* (Guz.) The plant : *Kākachiā-ni-vela* (Guz.) *Katakarañja*, *Katakalaḷā*, *Karañju* (Hind.) *Nata*, *Karañja* (Beng.) *Sagaragota* (Mah.) *Saguraghota*, *Gūjagā kāchakā* (Bom.) *Karañjike*, *Putikarañja* (Sans.) *Akitā makita* (Arab.) *Khaya-i-Ibalisa* (Pers.) Bonduc nut (Eng.)

Characters : The seeds are globular, very smooth, shining, and of a dull grey colour. The shell is very thick and bony. Its sur-

face is traversed by minute brownish coloured stripes. The cotyledon is dull white, wrinkled, and hard. It consists of mucilage, starch, albumen, oil, and tannin. The taste is bitter and rather mucilaginous. The leaves are large, pinnate, and prickly. The leaflets are small, glabrous, and of a dark green colour.

Preparations : Powder of seeds, and juice of leaves.

Actions and Uses : The juice of fresh leaves is a febrifuge and used in fevers. The leaves are astringent and emmanagogue. The seeds are astringent and discutient. They are useful in dispersing swellings and restraining hæmorrhages. In cases of hydrocele, powdered seeds are taken internally and applied externally with castor-oil leaves under the belief that they remove the accumulated fluid. As an alterative, tonic and antiperiodic, they are given internally in leprosy, fever, &c. The oil expressed from the seeds is used to remove freckles from the face. One seed of *Ságaragota* with *Lavaṅga* relieves pain of colic. With *Pipali* it is very useful in malarious fevers. A paste of it given internally checks vomiting.

Remarks : The seeds are worn as necklaces by pregnant women to prevent abortion. The Persian *Khaya-i-Ibalisa* means the devil's testicles from the resemblance of the seeds in shape and size to human testicles. The word Bonduc is derived from the Arabic word *Buṇḍaka* or the Persian *Fiṇḍuka* which means a ball of earth or a filbert.

The soap nut (*Sapindus triphatus*) is also known by the name of *Buṇḍuk-i-hiṇḍi*.

DESMODIUM GANGETICUM.

THE ROOT AND BARK.

Salavana शलवना *Sálavana* (Mah. and Guz.) *Sárivana* (Hind.)
Shála parani (Sans.) *Sálapani* (Beng.)

Characters : The plant is sub-erect. The stems are angular, from 3 to 4 feet high, and largely covered at the top with short gray hairs. The leaves are oblong, from 3 to 6 inches long, rounded at the base, and narrowed towards the point. The flowers are pale and purple. The legumes are from 6 to 8, jointed, and compressed. The joints are small, rather roundish or kidney shaped, and covered with minute hooked hairs. The fresh root is of a light white colour. The taste of the root bark is astringent. The odour is slightly aromatic.

Preparations : Decoction.

Actions and Uses : It is a febrifuge, alterative, and anti-catharrhal, and used in catharrhal fever, cough, &c.

Remarks : In the bazaar sometimes the stem or the root of the *Tephrosia purpurea* (*Surapuñkha*) is sold for *Sálavana*. *Sálavana* is one of the ingredients of the compound decoction known as *Dasámula-di-kvátha*.

DASAMULA-DI-KVATHA.

- 417 B. The five minor roots or plants called *Hrasva pañcha mula* include *Sála párani*, *Presana párani*, *Bhuirīngani*, *Gokharu*, and *Doralī mula*. The five major roots or plants collectively known as *Vrehata pañcha mula* include *Bela*, *Tetu mula*, *Shevana*, *Pátála*, and *Tákalá*. Mix the ten drugs in equal parts, and make a decoction in the usual way.

Dose: dr. $\frac{1}{2}$ to drs. $1\frac{1}{2}$.

Used during convalescence from fever.

The word *Dasamula-di-kvátha* is derived from *Dasa*, ten, *Mula*, roots, and *Kvátha*, a decoction. It means a decoction of ten roots.

- 418 B. *Sálavana*, *Balabija* or *Chikanápáta mula*, *Drákhsha*, *Gulavela*, *Upalasari*, each equal parts. Make a decoction in the usual way. Dose: oz. $\frac{1}{2}$ to i.

Used in remittent fever.

CROTALARIA JUNCEA.

THE SEEDS AND FIBRES.

Sanana bija सना के बीज *Sanake biñja* (Hind.) *Janába-ke-biñja* (Duk.) *Sonabichi* (Beng.) *Tága bija* (Mah.) *Sana-nu-bija* (Guz.) Sun-hemp seeds (Eng.) The fibre: *Sana* (Hind.) *Janába-ká-núra* (Duk.) *Sona-páta* (Beng.) *Sana* (Guz.)

Characters : The seeds are compressed, markedly reniform and of a light or greyish brown colour. The surface is shining, glabrous, and slightly tubercled. They are hard and bony. On section the cotyledons are yellowish red. The taste and smell are like those of *Maga-ni-dála*.

Preparations : Infusion.

Actions and Uses : They have a cooling property and are used to purify the blood. An infusion of them is given in fevers and skin diseases.

Remarks : This plant furnishes a coarse fibre called *Sana*, *Taga*, or Bengal hemp. It is used for making gunny bags.

POINCIANA PULCHERRIMA.

THE BARK, LEAVES, AND FLOWERS.

Shankeshura शङ्केशुर *Shāṅkeshura* (Bom.) *Gula-mohara* (Arab.)
Gul-i-turaha, *Krishna chura* (Hind. and Beng.)

Characters : It is a most beautiful tree. The leaves are doubly pinnate. The leaflets are oblong, oval, and emarginate. The surface is smooth. The flowers are in loose spikes at the extremity of the branches. They are of an agreeable odour, and a beautiful orange or deep red colour, or yellow with some spots of green. The bark is ash coloured, smooth, and studded with elliptical, corky, wart-like growths. Internally it is of a pinkish tinge. The taste is astringent.

Preparations : Infusion of bark, and paste of leaves.

Actions and Uses : The root is said to be acid and tonic. The leaves are said to be laxative, febrifuge, and emmanagogue. The flowers are febrifuge. The seeds are anti-spasmodic, and used to relieve colicky pains.

Remarks : The French call it the flower of paradise.

ACACIA CONCINNA.

THE PODS.

Sikikai சிகிகை *Sikekai* (Duk.) *Shiká*, *Telasheṅgá* (Mah.) *Sikekái*, *Sikákái* (Bom.) *Koch-ai* *Baurithá* (Beng.) *Sapatalá* (Sans.) *Chikákai* (Guz.)

Characters: The pods or legumes are flat. Their colour is darkish or brownish red. The surface is rugous and highly wrinkled. In size each pod is generally from 4 to 5 inches in length, and about 1 to 1½

inch in breadth. It contains numerous seeds. It is bi-valved. The valves are much wrinkled, marked by a transverse depression on both surfaces, and much contracted between the seeds. The seeds are black coloured and shining. The odour of the pod is aciduous. The taste is sourish and nauseous, and resembles that of *Kokama* or *Arithá*. It is also astringent.

Preparations : Mucilage and infusion.

Actions and Uses : The dry pods are used by native women as a detergent and a wash for the head. They are also expectorant and deobstruent, and given internally in jaundice. In jaundice and other biliary complaints the pod is a very good adjuvant to other purgatives as *Mithuñ*, *Señdháloná*, &c. Its use is not attended with griping in the bowels as *Sonámukhi*.

Dose : Of the infusion *dr.* 1 to *drs.* 1½.

ALBIZZIA LEBBEK.

THE SEEDS.

Sirasa श्रीरा The tree: *Sirasa-ká-pára* (Hind.) *Sirisha-ká-jhára* (Duk.) *Sirisha-gáchha* (Beng.) *Sarasa-nu-jháda* (Guz.) The seeds: *Sirasa*, *Sirisha* (Mah. and Beng.) *Serisha* (Sans.) *Sarasado* (Guz.)

Characters : The seeds are oblong, flat, smooth, and of a reddish brown colour. In size they resemble *Turiá bija*. Both the surfaces are marked by a depression in the middle. The depression is limited by a distinct, narrow, oblong, broken ring. The testa is very hard and contains a yellow cotyledon. The smell of the cotyledon is disagreeable. The taste is bitterish sweet.

Preparations : Powder.

Actions and Uses : The seeds are said to be astringent, tonic, and useful in piles and diarrhoea. They form part of an *Āñjana* used for eye diseases.

CASSIA LANCEOLATA.

THE LEAVES.

Sonamukhi सनामुक्खी *Sonámukhi* (Guz.) *Sonámaki* (Bom.) *Mulakácha Shoná makhi* (Mah.) *Saná-o-hiñdi* (Pers. and Arab.) *Náta-ki-*

sonáká pata (Duk.) *Soná pāta* (Beng.) *Hīndī soná-ká-pāta* (Hind.)
Sonámukhi (Sans.)

Characters: The drug generally consists of leaves, pieces of petioles, broken stems, and some portions of pods. The pods are broad, of a brownish dark colour, and contain seeds. The seeds are muricated and pale coloured. The leaves are oval or lanceolate, one to two inches long, and tapering from the middle towards the apex. They are of a greenish yellow or glaucous colour, and of a disagreeable odour and taste.

Preparations: Decoction, confection, infusion, and powder.

Actions and Uses: As a sure and safe purgative it is highly useful in constipation, determination of blood to the head, biliousness, gout, and rheumatism. As a vermifuge it clears out the worms from the intestines. Chewed with betel leaves it acts as a laxative and an aromatic corrective. It should not be used alone. Its ill effects are nausea, griping, flatulence, and depression of the pulse. It is a stimulant of the abdominal and pelvic vessels, and hence it promotes hemorrhoidal and menstrual discharges. It is less powerful than *Sakamumid* and *Revañchino siro*. It is more irritating and stronger in its purgative effects than salines and rhubarb. Unlike rhubarb, it is devoid of tonic operations. It should not be given in inflammatory conditions of the alimentary canal, hemorrhoids, menorrhagia, threatening abortion, and prolapse of the uterus or of the rectum. Locally a paste of it is applied to clear the skin from pimples.

Dose: Of the powder *grs.* 30; of the infusion *oz.* 1.

419 *B.* *Sonámukhi* 5, *Ālu* 4, *Suvá* 4, *Āmalī* 3, *Mithuñ* 4, *Sirakhishta* 4, *Gulakañda* 5. Mix and make a confection. Dose: *drs.* ii to *drs.* iv.

Used as a safe and efficient purgative for delicate persons and children.

420 *B.* *Sonámukhi* *dr.* i. *Harade* (*Survári*) *dr.* i, *Suñthas* *dr.* $\frac{1}{2}$, *Sákara* *dr.* $\frac{1}{2}$. Rub them into a fine powder. Dose: *dr.* $\frac{1}{2}$ to *dr.* 1.

Used as a valuable aperient in constipation &c.

- 421 *B. Sonámukhi* 20, *Banaphashá*, *Gulába kali* 5, *Nilota phala* 5, *Unába* 4, *Atavisha* 5, *Sopistána* 5, *Kákadi-bija* 6, *Kásani* 4, *Sákara* 4, Water 100. Mix and prepare a syrup in the usual way.

Dose: *drs. ii* to *drs. iv*.

Used as a very safe purgative in fevers and constipation.

- 422 *B. Sonámukhi* 6, *Anáradáná* (seeds) 10, *Suñtha* 2, *Nimukh-i-hiñdi* 2, *Nishota* 2, *Soñpha* 2. Mix and reduce to a powder. Dose: 1 to 2 drachms.

Used in constipation, at bed time; to be repeated next morning if necessary.

TEPHROSIA PURPUREA.

THE PLANT.

Surpunkha ಸುಪುಂಕು *Surpañkho* (Guz.) *Jaṅgli kulthi*, *Hunnái* (Duk.) *Sarphuñká* (Hind.) *Sharapukkha* (Sans.) *Bon-ñila-gáchha* (Beng.) *Goat's rue* (Eng.)

Characters: The drug consists of thickened stems, root, leaves, flowers, and pods. The root is hard and woody. It is as thick as a finger. The colour is dirty white. The smell is aromatic. The taste is slightly bitter. The stem is slender, angular, furrowed, and hairy. The colour is greyish brown. The leaves are pinnate in 5 to 7 pairs. The leaflets are oblong, obovate, and shortly petioled. They are hairy especially on their under surfaces. The veins run parallel to one another on each side of the mid rib. The flowers are small, and purple. The pods are compressed and curved. Each pod is 5 or 6 seeded. The whole drug smells like *Sonámukhi*. The taste is bitterish.

Preparations: Decoction and infusion.

Actions and Uses: The plant is described to be a deobstruent and diuretic. It is used in cough, fever with bilious derangements, and obstructions of the liver, spleen, and kidneys. As a purifier of blood it is given in boils &c. As a diuretic it is given with *Kálá miri* in gonorrhœa. In bleeding piles its administration with *Bhánga* is very useful. The root is a bitter tonic, laxative, and vermifuge. It is also said to be an antidote to snake bites. An infusion of it is given in fevers.

Remarks: The root of this plant is generally sold by druggists for *Sálavana*.

CASSIA TORA.

THE LEAVES AND SEEDS.

Takala তাকাল *Chákoñdia* (Beng.) *Chakoñdí, Chakoñda, Panavára, Dáda mardana* (Hind.) *Tarotáh* (Duk.) *Táñklá bija, Táñkli, Takala bija* (Mah.) *Kuváriá* (Guz.) *Chakra mardana, Dadarugma* (Sans.) *Sañja saboyah* (Arab.) *Sānga saboyah* (Pers.)

Characters: The leaves are in three pairs. The uppermost pair is the largest and longest. The leaflets are obovate and obtuse. The taste is mucilaginous and nauseous. The seeds are of a greyish brown or darkish colour. They are of various shapes. Some are cylindrical and pointed at one end, others are roundish or ovate, others again are rhomboid. In size they resemble *Methi*, but are somewhat larger. Their surface is tubercled and marked with yellowish or greenish yellow coloured narrow stripes, the stripes occupying the upper and lower surfaces of the seed.

Preparations: Decoction, paste, and powder.

Actions and Uses: The juice of the leaves is applied to inflammation caused by *Bhilámo*. It is also used like other alteratives in skin diseases. A paste of the seeds mixed with *Karañja* is used locally as a cure for ring worm. With curd it is used externally in eczema. The seeds and leaves are said to be resolvent, and hence used in skin diseases accompanied with thickening. They are also useful in leprosy, psoriasis, and cheloid growths. The leaves are aperient when given internally. Locally they are used as a poultice over boils to hasten suppuration.

Dose: Of the leaves decoction *dr.* $\frac{1}{2}$.

Remarks: The Sanscrit word *Chakra mardana* is derived from *Chakra*, a wheel or ring, and *Mardana*, to kill. The skin disease of ring-worm occurs in the form of a ring, to kill which this drug is used. *Dadru ghna* is also derived from *Dadru*, which means ring-worm, and *Ghna*, to burn or ignite. It burns the disease. *Dáda mardana* is a Hindi synonym derived from the Sanscrit *Dadru ghna*, and has the same meaning. *Dáda mardana* is a name given to *Cassia alata* which is also called *Viláyati agati* (Bom.)

423 B. *Kuvádiá bija* 10, *Gañdhaka* 6, *Limbodi* 10, *Bávañchi* 10. Mix, make a paste and apply.

Used in leucoderma and ringworm.

CASSIA AURICULATA.

THE BARK, LEAVES, AND FLOWERS.

Taravada Avala तारवद अवाल Taravara (Hind. and Duk.) *Taravadā* (Mah.) The bark: *Āvala chhāla* (Guz.) *Taravada sāla* (Mah.) The leaves: *Āvala pāna* (Guz.) *Taravara pāna* (Mah.) The seeds: *Taravada bija* (Mah.)

Characters: The bark occurs in pieces or quills folded like pancakes. In colour and form it resembles *Taja*. Each piece is from 2 to 3 or 4 inches long. The external surface is dark brown and slightly tubercled. Internally it is of a reddish colour. The surface is rugous. The bark is very brittle. The taste is astringent and sweetish. The leaves are pinnate. The leaflets are about an inch long, and from 3 to 4 lines in breadth. The shape is oblong. They are shortly petiolated. Their upper surface is smooth, under surface hairy. The colour is dark brown when dry. The flowers are yellow and resemble those of *Tākalā*. The legumes are compressed and straight, thus differing from those of *Meṇdhi āvala* which are curved like sheep's horn. The seeds are heart-shaped, small, and of a dark brown colour.

Preparations: Pessaries of flowers, infusion of bark, and medicated baths of leaves.

Actions and Uses: The bark is said to be a tonic and astringent. An infusion of it is dropped into the eyes in ophthalmia. The bark as well as *Āvala-pāna* are used as fomentations and as an adjuvant in warm water baths. The flowers are considered highly astringent, and used by Gujrati women to check excessive menstrual flow. The seeds are astringent and refrigerant. A paste of them is used as a cooling application to the eyes in ophthalmia.

Remarks: The *Dātavanas* or native tooth-brushes are made of the stems of *Taravara* which are as thick as the little finger. The specific term *C. auriculata* is due to the shape of the seeds which resemble that of the auricles of the heart.

LUPINUS ALBUS.

THE SEEDS.

Tiramisha تيراميشا *Tiramisha* (Pers.) Horse beans (Eng.)

Characters: The seeds are white, globular, and hard, with a depression at the centre of both surfaces. They have a hole on the top. The taste is bitter.

Preparations : Paste and powder.

Actions and Uses : The seeds are used as a nutritive tonic, alterative, and deobstruent; also as a stomachic, diuretic, anthelmintic, and emmanagogue. Locally they are applied to bites of insects, and to ulcers to promote their healing. As discutients, they are applied to swollen glands with benefit.

Remarks : *Bákhila* : These are the seeds of *Vicia Faba*. Natives sell them for *Tiramisha*, both being nutritive tonic, deobstruent, and expectorant.

PHASEOLUS RADIATUS.

THE SEEDS.

Udida उदडा *Udida* (Mah.) *Arada* (Guz.) *Másha* (Sans.) *Másh-kalai* (Beng.) *Urida* (Hind.)

Characters : The seeds are larger in size than those of *Mūnga*. They are nearly cylindrical and slightly truncated at both ends. The hilum is white and oval. The testa is black and mottled. The cotyledons are often white, generally grey.

Preparations : Confections, *Ládu*, *Dála*, and paste of seeds.

Actions and Uses : The seeds are aphrodisiac, nutritive, also nervine tonic. As a nervine tonic, the *Udida Dála* and a compound confection known as *Urida-chá-ládu* are much used in paralysis, rheumatism, and affections of the nervous system. The *Dála* is also useful as a preventive of frequent attacks of cold which occur in winter. When parched it is eaten in uterine complaints.

Remarks : The root is said to possess some narcotic properties.

MASHADI MODAKA.

- 424 B. *Udida* (without husk), *Ghauṇ*, *Javá* (without husk), *Chokhá*, *Pipali*, each 1, *Sákara* 5. Make a *Ládu* by adding *Ghee* in quantity equal to $\frac{1}{2}$ the weight of the whole. Finally bake the whole over a gentle fire. Used as an aphrodisiac in seminal debility, leucorrhœa, &c.

INDIGOFERA TRIFOLIATA.

THE SEEDS.

Vekharío वेखरीओ *Vekharío* (Guz.)

Characters: The seeds are oblong, very smooth, highly shining, and beautifully mottled with dull red or black points. The colour varies from yellow to dark red or pink. In size they resemble *Rái bija*. On section the cotyledon is of a yellow colour. The taste is that of *Maga-ni-dála*.

Preparations: Confection and decoction.

Actions and Uses: The seeds are alterative, nutritive tonic, restorative, astringent, and mucilaginous. They are also aphrodisiac. A confection of them is used in rheumatism, lumbago, general debility after delivery, seminal weakness, and leucorrhœa. A decoction of the seeds is useful for the relief of pain in the back and waist.

AQUILARIACEÆ—The Agara order.

These are trees, with entire, exstipulate leaves. The flowers are tubular or top shaped. The fruit is capsular and bi-valved. It is sometimes succulent and indehiscent. The seeds are abortive and exalbuminous.

Properties: Some species yield a fragrant stimulant resin.

AQUILARIA AGALLOCHUM.

THE WOOD.

Agara अगार *Agar-i-hīndī* (Hind.) *Uda aghalu khi* (Arab.) *Agara* (Beng.) *Ayalura-che* (Pers.) *Aguru* (Sans.) Aloes-wood, Eagle wood (Eng.)

Characters: The wood occurs in irregular pieces of a grey or dark brown colour, and marked with longitudinal veins. The veins are of a darker colour. Its pieces sink in water, are astringent, bitter, and odoriferous. When burnt they diffuse an agreeable odour. The taste is bitter and aromatic. The wood is liable to decay. Only the

diseased part is found infiltrated with odoriferous resinous secretion which is obtained by tapping the trunk. The decayed wood is generally heavy, oily, and black.

Preparations : Paste, decoction, and incense.

Actions and Uses : It is said to be useful as a cordial and stimulant. It is an ingredient in various nervine tonic and stimulant preparations. It is a useful remedy for gout and rheumatism. A paste made of *Agara* and *Sápasaṇḍa* with brandy is applied to the chest in bronchitis of children, and to the head in headache. During religious ceremonies, it is generally used as an incense, mixed with other odoriferous substances. It is a chief ingredient in the preparation of incense sticks known as *Agara batti*. The sticks are ignited like candles and hence the name. There are two kinds of *Agara batti*: Black and White.

Remarks : The wood fetches a fanciful price. A rich variety of cups and walking sticks are manufactured from it. It is often adulterated with pieces of *Chaṇḍana* or *Tagara*. A superior variety is not commonly sold in the shops. What is commonly sold is the *Krishnā gara*, the wood of *Aloxylon agallochum*.

JAVARASA-UDA.

425 B. *Agara* 5, *Elachi* 8, *Post-e-Turañja* 6, *Lavaṅga* 8, *Mastaki* 6, *Kesara* 4, *Golābani kali* 8, *Sálema misari* 6, *Sumāka* 6, *Sákara* 10, *Sumbula tiba* 4, *Zirashka* 3, *Ambara* 2, *Rupá-no-varaka* 1, *Soná-no-varaka* 1, *Taja*, *Suñṭha*, *Peppermint*, each 1.
Mix and make a powder. Dose : grs. xx to xl.

Used as a nervine tonic in general debility, leucorrhœa, &c.

ROSACEÆ—The Gulaba order.

These are trees, shrubs, or herbs, with simple or compound, alternate, and usually stipulate leaves. The flowers are regular, rarely unisexual, of different lovely colours, and highly odoriferous. The fruits are entire, a drupe, an achæmium, a follicle, or a pome. The seeds are exalbuminous.

Properties : The fruits are astringent, succulent, and edible.

CERASUS CAPRONIANA.

THE SEEDS OR STONES.

Alubalu अलुबालु *Alubálu* (Hind. and Bom.) *Álubálu* (Pers.)

Characters : The stones and the fruits are of a light brown colour. The seeds are embedded in them. The seeds resemble those of *Gahulá*. The kernel contains an essence of *Kavari badáma* and an oily matter.

Preparations : Powder.

Actions and Uses : The kernel is said to be a restorative and a stimulant tonic. Natives give the kernels with other tonic and aphrodisiac medicines in nervous debility and exhaustion.

Remarks : The stones are sold by druggists under the name of *Hab-ul-kila-kila*. When dried the plums are termed prunes. *Álubálu* is a vulgar corruption of *Alu-Bu-Ali*.

PRUNUS BOKARIENSES.

THE FRUITS.

Alu Bokhara अलु बखरी *Ijása* (Arab.) *Álu* (Pers.) *Zardálu*, *Álu Bokhárá* (Hind., Duk. and Beng.) *Álu Bokhárá* (Guz.) Bokhara plums (Eng.)

Characters : The fruit is sweetish, acidulous, and succulent. In form it is globular. The surface is rather compressed and wrinkled. It is of a reddish yellow or brown colour. It has a rather *Khajura*-like smell. Inside the fruit is an almond-like nut which is obliquely ovate, convex on both surfaces, and marked with three prominent ridges at one of its margins. The nut when broken contains a kernel which resembles *Mithi badáma* in all its characters.

Preparations : The pulp.

Actions and Uses : The fruit is subacid, digestive, nutritive, and aperient. It is useful in bilious affections and fevers. As an aperient it relieves costiveness. When taken in excess it causes flatulence and colic.

Remarks : The amber coloured Bokhara plums are used medicinally. They are generally preserved in honey and sold in the bazaar.

They are highly acid, and are used for dietetic purposes, and also as aperients. The wild plums, probably *Prunus spinosus*, are known as *Zardalu*. These are dried in the sun and used as a dessert.

426 B. *Alu* 5, *Amali* 5, *Nishota* 5, *Gule Banaphashá* 10, *Sákara* 10, Water 50. Prepare a syrup.

Dose : *drs.* ii to *oz.* $\frac{1}{2}$.

Used in constipation, and congestive diseases of the liver and brain.

AMYGDALA COMMUNIS VAR DULCIS AND AMYGDALA COMMUNIS VAR AMARA.

THE SHELLS, SEEDS, AND OIL.

Badama अमर The seeds of sweet almond: *Mithi badáma* (Hind. and Duk.) *Louz-ul-halá* (Arab.) *Badáme-shirina* (Pers.) *Mithá badáma* (Beng.) *Madhuryá badámitte* (Sans.) *Gulachilá-badáma* (Mah.) *Mithi badáma* (Guz.) The seeds of bitter almond: *Karavi badáma* (Hind. and Duk.) *Kaḍu badáma* (Mah.) *Kaḍavi badáma* (Guz.) *Louz-ul-murra* (Arab.) *Badám-e-tulkha* (Pers.) *Tito badáma* (Beng.) *Tikta badámitte* (Sans.) The common almond (Eng.) The almond: *Louza* (Arab.) *Badáma* (Pers. and Hind.) *Badáma* (Duk.) *Belati badáma* (Beng.) *Badáma* (Guz.) *Badámitte* (Sans.) *Badáma* (Mah.) The oil from sweet almond: *Badáma-nu-tela* (Guz.) The almond oil (Eng.) The shell: *Badáma-na-kotaláñ.* (Guz.)

Characters: Almond is a nut. Its outer shell is of a pale brown colour, porous, and hard. When broken it contains one or sometimes two seeds. When in pairs the seeds are in juxtaposition to one another as in the case of twin children when within the bag of membranes. The seed is about an inch in length, flattened, lanceolate, ovate, compressed, rounded at one end, and pointed at the other. The testa is of a cinnamon brown colour, astringent, and contains tannin. The kernel is white blanchet, fleshy, and inodorous. It contains an oily matter, and has a bland sweet nutty flavour. The oil is of a pale sherry colour. Almonds are known as sweet and bitter according to their taste. In bitter almonds, the kernels are thinner, broader, and shorter than in those of the sweet variety.

Preparations : Burnt shell, oil, emulsion, powder, and poultice.

Actions and Uses : The burnt shell is used as an ingredient in the preparation of tooth powder. In the case of sweet almonds, the kernels are nutritive and emollient. Bread made of almond powder is useful in diabetes. Sweet almond oil when taken in large doses acts as a laxative and often produces urticaria and nausea. It is used as a demulcent and emollient. In small doses it is nutritive. Almond emulsion with peppermint is useful in allaying cough and irritation of the respiratory passages. As a laxative it is given to children with syrup of roses. When applied to the head the oil is useful in killing lice. The pain of dysmenorrhœa is often relieved by powder of almond suppositories. *Kadu badāma magaja* are extensively employed for flavouring and in confectionery. As a poultice they are useful in relieving headache or any other neuralgic pains. They are also lithontriptic and diuretic, and useful in relieving hepatic and splenic obstructions. They contain hydrocyanic acid and hence are useful in fevers. The oil is a useful application to the chest in rickets and consumption. The cake left after expressing the oil is used in fattening pigs.

Remarks : Sweet almonds yield by expression a fixed oil. It contains gum sugar and vegetable albumen or emulsion. The cake left after the expression of the oil is dried and powdered, and is known as almond powder. Bitter almonds contain an essential oil known as oil of bitter almonds. This oil contains hydrocyanic acid. There are two kinds of sweet almonds. The *Kágadi* or thin shelled and *Gadari* or thick shelled. *Badāma* is often used as a medium in extracting the perfume of flowers. The flowers are kept in contact with almond powder.

427 B. *Badāma bija* drs. x, *Dudhyā bija* drs. x, *Kákadi bija* drs. v, *Tukhm-e-kulpha* drs. v, *Tukhm-e-káhu* drs. v, *Khasakhasa* drs. iii, *Bábula goñda* drs. iv, *Badāma-nu-tela* ozs. iii, *Sákara* ozs. iii. Powder the decorticated seeds together till a homogeneous mass is formed. To this add powdered *Guñda*, *Sákara*, and a sufficient quantity of *Badāma-nu-tela* to form an electuary.
Dose : drs. iii to drs. vi, 3 times a day.

Used as an emollient, demulcent, and nutritive in irritating cough.

- 428 ℞. *Badáma* 10, *Pistān* 10, *Chilagosá* 10, *Kesara* 3, *Barása kapura* 1, *Khasakhasa* 10, *Chárolí* 10, *Lavaṅga* 5, *Ekharo* 10, *Sákara* 50. Mix and make a paste.

Used in nervous debility, anæmia, and fainting.

- 429 ℞. *Badáma*, *Indrayána*. Mix, make a paste and apply.
Used in acne.

PYRUS CYDONIA.

THE SEEDS.

Behi-danah بهیدانه *Behidánáh* (Duk.) *Hubbus-sapharjala*, *Muzza* (Arab.) *Beha-dánáh*, *Bihidánah*, *Tukhm-e-abí* (Pers.) *Mogalái behedáná*, *Bihidánáha* (Hind.) Quince seeds (Eng.)

Characters: The drug consists of cells and seeds. The seeds are irregularly ovoid, flattened, and angular or three sided, mixed with oblong oval cells. The cells are formed of many seeds which are adherent to one another by mucilage, and covered by a membrane. The colour of the testa is dark brown; that of the kernel, yellowish white. The seeds have the odour and taste of bitter almond *Magaja*.

Preparations: Seeds emulsified in water.

Actions and Uses: They are cardiacal, cooling tonic, and slightly astringent. The mucilage is demulcent and given with *Sákara* in cough, bowel complaints, and urinary disorders. Externally the mucilage is applied to burns and scalds.

Remarks: The fruit resembles an apple in shape and size. It is of a golden yellow colour. They are of three kinds; the sweet, sour, and subacid.

- 430 ℞. *Behi-dáná* drs. ii, *Ispoghula* drs. ii, *Tukhm-i-khatamí* drs. iii, Water ozs. x. Mix, macerate the whole for half an hour, then stir it for a few minutes till a thin mucilage is formed, and strain.

Dose : drs. ii to drs. iv, 3 or 4 times a day.

Used as a demulcent and emollient in catarrhal affections of the throat and pulmonary mucous membranes, and in renal diseases.

PRUNUS MAHALEB.

THE SEEDS AND OIL.

Gahula गहूला The seeds: *Gahulá*, *Gávala* (Mah.) *Hab-ul-mahaleba* (Arab.)

Characters: *Gahulá* is a kind of almond. The shell is of a dark brown or light brown colour. It is of an oval or ovate shape and very fragile. The seed is of a pale buff colour. The testa is thin and striated. The kernel is of a light brown colour. It has a bitter almond-like taste. The oil is rancid in flavour and resembles hydrocyanic acid.

Preparations: Confections.

Acitons and Uses: The kernel is a cordial and stomachic, and is used in dyspepsia, anorexia, and general debility.

Remarks: The word *Gahulá* is derived from *Gahuñ* which means wheat. The grains of wheat resemble in shape and colour those of *Gahulá*.

ROSA DAMASCENA.

THE FLOWERS, BUDS, ANTHERS, AND FRESH PETALS.

Gulaba-nu-phula गुलाबनु फुल The flower buds and flowers: *Gulába-kali* (Guz.) *Gulába-ká-phula* (Hind. and Duk.) *Gulábachá phula* (Mah.) *Gulápa phula* (Beng.) *Varda*, *Varde-ahmara* (Arab.) *Gule surkha*, *Gule-gulába* (Pers.) Rose buds (Eng.) The anthers: *Gulába-ke-bija* (Hind. and Bom.) *Tukhm-i-Gule-surkha* (Pers.) The water: *Gulápa páni* (Beng.) *Gulába* (Hind. and Duk.) *Maula varda* (Arab.) *Gulába*, *Arake-gule-surkha* (Pers.) *Gulába-páni* (Mah.) Rose water (Eng.) The conserve: *Gula-kañda* (Guz.) *Julañjabina* (Arab.) *Gulañjabina*, *Gulakañda*, *Gula-shakara* (Pers.) *Gulakañda* (Hind.) The confection: *Gulába-páka* (Hind. and Bom.) The otto: *Gulába-ká-atara* (Hind. and Bom.) *Aitrul-vardul-ahmara* (Arab.) *Atare-gulába*, *Aetare-Gule-surkha* (Pers.) *Golaba atára* (Beng.) *Golába-chá atara* (Mah.)

Characters: The dried flower-buds are oblong, and of a brownish, light red colour when fresh, but if very old, they are perfectly deep brown. The sepals are five partite, of a greenish brown colour, viscid, and ciliated. Below the sepals is an ovary resembling a thick

stalk of a flower. The ovary is viscid, of a greenish brown colour, and clubbed within the sepals. The petals are over-lapping one another so as to form a cone. It has an aromatic, agreeable smell, and a bitterish taste.

Gulāba-ke-bija : These are not seeds, but the compressed, two lobed, oblong, reniform or roundish, small, dark coloured anthers. *Gulakañda* is of a darkish red or brown colour. It occurs in a limpish state intimately mixed with granules of *Sákara*.

Preparations : *Gula-kañda*, and Rose water.

Gulakañda is a conserve of rose petals and *Chinai sákara* beaten together.

Actions and Uses : Rose buds are astringent, also cephalic, cardiacal tonic, restorative, and aperient. *Gulakañda* is a tonic, and fattening to women and old people. It is used to relieve habitual constipation, and as a cure for consumption. The petals are cooling and astringent, and used to relieve uterine hæmorrhages. Locally they are applied to cure apthæ.

Remarks : The rose buds as used in medicine are of several varieties : 1. *Rosa centifolia*, one hundred leaved, cabbage, or white wild rose (Eng.) *Vard-ul-abaniaka* (Arab.) ; 2. *Rosa gallica*, red wild rose (Eng.) ; 3. *Rosa damascena*, red garden rose (Eng.) ; 4. *Rosa canina*, wild yellow rose (Eng.) ; 5. Dog rose (Eng.) *Dalika* (Arab.). The red garden rose is used in medicine and from it the rose water and otto of roses are obtained. Much of the rose water sold in the bazaar is in a diluted state. It is further adulterated with *Chañdana-nu-tela*.

431 *℞. Gulāba phulu 3, Bávala-no-guñda 3, Sumāka 3, Behi dáná 3, Añgura dáná 4.* Mix and reduce the whole to a powder. Dose : 1 to 2 *drs.*

Used in diarrhœa and bleeding piles.

432 *℞. Gulāba kali 10, Nagaramotha 10, Lavañga 8, Mastaki 6, Tabáshira 6, Asáruna 6, Sumbula tiba 6, Zarnaba 6, Jávañtri 6, Jáephala 3, Elachi 8, Taja (kerpha) 8, Taja 8, Kesara 4, Ambara 2, Methi 2, Soná varaka 2, Marajoráma 2, Paravála 1.* Mix and make a powder. Dose : *grs. xx to grs. xl.*

Used as a purgative in constipation.

- 433 R. *Gulába-ni-kali* 5, *Chañdana sapheda* 2, *Kapura* 1, *Dháná* 5, *Káhúbija*, *Kásani*, *Kákadibija*, *Tarabuza bija*, *Kohalá bija*, each 5, *Khasakhasa* 5, *Álu Bokhára* 10, *Nilota phala* 5, *Gule banaphashá* 5. Mix and make a decoction in the usual way. Dose : oz. i.
Used in headache, faintness, nervous debility, &c.

- 434 R. *Gulába-ni-kali* 6, *Jethi madha* 5, *Variáli* 8, *Utakátará* 4, *Kásani* 4, *Kariátuñ* 6, *Turañjabina* 4, *Sákara* 10. Mix and make a decoction.
Dose : oz. $\frac{1}{2}$ to oz. 1.
Used in intermittent or remittent fever with constipation, chiefly during the remission or intermission.

- 435 R. *Golába-ni-kali* 5, *Sonámukhi* 4, *Garamálo* 3, *Himaja* 5. Mix and make a pill mass.
Used in habitual constipation.

BRAYERA ANTHELMINTICA.

THE FLOWERS AND TOPS.

Kussu कसु *Kussu* (Guz.) *Kousso* (Bom.)

Characters : The drug is gathered before the seeds are quite ripe. It is generally of a light or reddish brown colour. It occurs in compressed and broken bunches of long panicles of flowers, mixed with some entire flowers. The bunch is sometimes a foot or more in length. The panicle consists of a hairy stalk which is twisted and more or less branched. There are large bracts at the base of each branch. At the base of each flower there are 2 or 3 smaller ones between which is the calyx which is 5 partite and arranged in double rows. Each segment of the calyx is ovate and reticulated. The drug has a fragrant balsamic odour, and an acrid and disagreeable taste.

Preparations : Powder.

Actions and Uses : The flowers are used as an anthelmintic. They act mechanically and kill the worms. *Kousso* is a true vermicide.

Remarks : Castor oil should be taken 4 hours after the use of this drug.

PRUNUS PUDUM.

THE WOOD.

Padmakasta पद्मकस्तु *Padma-nu-lákaruñ* (Guz.) *Padmakásta* (Hind. and Bom.) *Padmakáshtha* (Mah.)

Characters : The wood is of a light reddish brown colour, sometimes covered with a brownish thin bark which peels off in flakes. It has an oily odour and a faintly almond-oil like taste.

Preparations : Decoction.

Actions and Uses : The bark is used as an astringent, bitter tonic, and sedative. It is given during convalescence from acute diseases and in palpitations of the heart.

Dose : *dr.* $\frac{1}{2}$.

Remarks : The drug is described by various authors as bark, but the name fully agrees with the description of wood.

436 *R.* *Padma káshtá*, *Dáru haláda*, equal parts. Make a paste in water and apply.

Used in leucoderma.

MAHAJAN-E-TILA.

437 *R.* *Padma káshtá* 4, *Lavañga* 4, *Daruñj-e-akrabi* 4, *Behaman-e-sapheda* 3, *Behaman-e-surkha* 3, *Taja* 2, *Jáephala* 2, *Jávañtri* 2, *Jatámánasi* 2, *Sara kachurá* 2, *Jaramabáda*, *Pipali* 2, *Pipali mula* 2, *Kesara* $1\frac{1}{2}$, *Ispañda* 3, *Kabábachini* 3, *Elachi* 1, *Kulpha* 3. Mix and make a confection.

Used in dyspepsia, congested liver, anorexia, &c.

LYTHRACEÆ—The Mendi or Henna order.

This order is composed of herbs, shrubs, or trees, with leaves generally opposite, rarely alternate, and exstipulate. The flowers are regular or irregular, and of a white red or yellowish colour. The fruits are capsular and with many seeds.

The plants are remarkable for the presence of an astringent property, and are used in dyeing.

AMMANNIA VESICATORIA.

THE FRESH LEAVES.

Ageya અગેયા *Aginabuti* (Duk.) *Agiya*, *Gurena*, *Bhāra-Jāmbula* (Bom.) *Dādmlāri* (Hind.) *Agiyā* (Mah.)

Characters: It is an herb, erect, and much branched. The stems are four sided. The leaves are sessile, opposite, and lanceolate. The whole plant is aromatic and of an agreeable odour.

Preparations: Juice.

Actions and Uses: The plant or its fresh leaves are acrid. When applied to the skin they raise a vesicle within half an hour or an hour. The application is recommended in rheumatism, fevers, &c. Natives use it as a counter irritant to the head in headache.

Remarks: It is a blistering agent and the properties remain after the plant has been dried.

GRISLEA TOMENTOSA.

THE FLOWERS.

Dhauri ધૌરી The shrub: *Dhāi* (Hind.) *Dhāiti*, *Dhāuri* (Bom.) *Dhāiphula* (Beng.) *Dhātaki*, *Dhāyati*, *Tāmra pushpi*, *Guchchha-pushpi* and *Pārvati Aganijvāla* (Sans.) The flowers: *Dhūtri-nā-phula* (Hind. and Bom.)

Characters: The drug consists of flowers, leaves, seeds, and soft reddish brown pithy wood. The flowers are brownish red, long, and covered with calyces. The calyces are striated. They contain a circle of long thread-like stamens in the middle of which a mature capsule is present. The capsule is slightly channelled on both sides. It is membraneous and contains many seeds. The seeds are very minute, of a brown colour, and shining. They are angular. The taste is highly astringent. The smell is somewhat aromatic.

Preparations: Infusion and powder.

Actions and Uses: The dried flowers are stimulant and astringent. They are given in dysentery beaten up with honey. They are useful in checking hæmorrhages and chronic discharges. In menorrhagia and leucorrhœa they are very useful. The powdered flower is sprinkled over foul ulcers for diminishing their discharge and promoting granulations.

Remarks : The word *Támrá pushpi* (Sans.) is derived from *Támrá*, which means copper, and *pushpi*, flowers, the flowers being of a coppery red colour. The shrub is used as a dyeing and tanning material. *Guchchha pushpi* means having clusters of blossoms or numerous small flowers. *Párvati* means hill born. It is in allusion to the plant being common in mountainous tracts. This plant is sometimes called *Woodfordia floribunda*.

438 B. *Dháuriphula*, *Bela*, *Lodhra*, *Válo*, *Gajá pipali*, each drs. ii. Mix and make a decoction.

Dose: oz. i.

Anupána : *Madha*.

Used in dysentery of children.

439 B. *Dháuriphula*, *Mocharasa*, *Ajamoda*, equal parts. Mix and make a powder. Dose : grs. ii.

Anupána : Curdled milk and honey.

Used in menorrhagia and dysentery.

LAWSONIA ALBA.

THE LEAVES, AND SEEDS.

Mendi मँदी *Meñdi*, *Mheñdi* (Duk. and Bom.) *Mhiñdi* (Hind.) *Mehedi* (Beng.) *Hinná*, *Yoranná* (Arab.) *Hiná* (Pers.) *Kuravaka* (Sans.) *Meñdhi* (Mah.) *Meñdi* (Guz.) Henna plant (Eng.) The leaves: *Meñdi pána* (Bom.) The flowers: *Meñdi phula* (Bom.) The seeds : *Meñdi bija* (Bom.)

Characters: The leaves are opposite, smooth, lanceolate, oblong, and pointed at both ends. They are about one inch long and $\frac{1}{2}$ inch broad. The seeds are irregularly angular and marked with prominent ridges with intervening depressions. They are of a reddish brown colour and somewhat rugous. The taste is bitter. The plant contains colouring matter of a deep orange colour.

Preparations: Paste of leaves and seeds, and decoction of leaves.

Actions and Uses: The juice of the plant is used as an external application with *Mithá tela* to the head in headache. As a cholagogue it is given in jaundice and enlargement of the liver and spleen ; also as an alterative in leprosy and skin diseases. A decoction of it is

used locally as an application to burns and scalds. As a diuretic the plant is useful in calculous affections. In burning of the feet its fresh leaves mixed with a little *Kátho* and vinegar are rubbed over the part with relief. The plant has a reputation for promoting healthy growth of the hair and nails. Infusion of the seeds is said to cure headache and is a good remedy when applied to bruises. The leaves and seeds are aromatic and used in menorrhagia, vaginal discharges, and leucorrhœa. In such cases a powder of the leaves and seeds is put on cotton or on a piece of calico and kept as a *Potali* into the vagina.

Remarks : The Mahomedans apply *Meñdi* to the nails from a belief that it promotes the growth of the hair. The Mahomedans and Hindus use the herb for dyeing their hands, feet, and nails.

LIQUIDAMBERACEÆ—The Silarasa order.

In this balsamiferous order there are large trees with simple or lobed and alternate leaves. The flowers are amentaceous and unisexual. The fruits are cone shaped. This order is chiefly remarkable for its fragrant balsamic properties.

LIQUIDAMBER ORIENTALE.

THE RESIN.

Silarasa सिलरसा *Silárasa* (Hind. and Guz.) *Miáh-sayelaha* (Arab.) *Silaháka* (Sans.) *Asli*, *Lubani* (Pers.) *Silárasa* (Mah. and Guz.) Liquid storax, Sweet gum, Gum storax (Eng.)

Characters : Storax is a soft, viscid resin, of an opaque or greyish brown colour. It has a pleasant balsamic odour. The taste is pungent, burning, and aromatic. It is obtained by pressing the bark of the tree, or by boiling the bark at first and then pressing it. It is the gum of a tree resembling *Behedíná*. The bark is sold under the name of *Usturaka* (Bom.)

Preparations : Plaster, incense, and pills.

Actions and Uses : It is considered to be an aromatic, tonic, resolvent, pectoral, and astringent. It is supposed to strengthen all the viscera, and principally the respiratory and urinary organs. It is given internally in bronchitis, cystitis, pyelitis, and gleet; also in affections of the throat, copious perspiration, and skin diseases. As a

resolvent, it is a favourite application to glandular swellings. In orchitis *Silárasa* is applied at first to the testicles, and then it is covered over with tobacco leaves. Externally it is a useful application to the chest in affections of the throat, and in copious expectoration. It is a useful application over the abdomen of children to relieve colicky pains. The Hindus use it for perfuming medicinal oils.

Remarks: The word *Silárasa* is derived from *Silá*, a stone, and *Rasa*, juice. It signifies an exudation or *Rasa* from stones or rocks.

- 440 R. *Silárasa* drs. $3\frac{1}{2}$, *Afima* grs. xv, *Zuñde-bidástara* drs. $1\frac{1}{2}$. Mix and add sufficient mucilage to form a pill mass. Dose: grs. v to grs. x.

Used in chronic bronchitis, spasmodic cough, asthma, and chronic coughs of the aged.

- 441 R. *Silárasa* 10, *Bháñga* 1, *Máju phala* 3, *Kesara* 1, *Jethi madha* 1. Mix and make a powder. Next add *Kokuma tela* and make pessaries.

Used in leucorrhœa.

COMBRETACEÆ—The Himaja order.

These are trees or shrubs, with exstipulate, entire leaves, and perfect or unisexual flowers. The flowers are of a beautiful red white or greenish yellow colour. The fruits are indehiscent, and generally winged or obtuse angled.

The plants are remarkable for their astringent properties.

TERMINALIA ARJUNA.

THE BARK.

Arjuna sadara अर्जुन सदा री *Arjuna sádará* (Mah.) *Kahu*, *Arjuna* (Hind.) *Arjuna* (Beng.) *Arjuna*, *Kakubha* (Sans.) The bark: *Kahu chhála* (Hind.) *Arjuna sádará chhála* (Mah.)

Characters: The bark is soft, scabrous, and corky. It is of a dark brown colour and easily separable from the wood. It breaks with a short fracture, The taste is astringent. The odour is aromatic.

Preparations : Decoction.

Actions and Uses : The bark is considered to be a tonic, astringent and refrigerant. It is locally used as a wash in ulcers, contusions, and fractures. Internally it is given with milk in heart diseases.

Remarks : *Káhu* is a true Hindi name for Lettuce.

TERMINALIA BELLERICA.

THE DRIED PULP-FRUIT WITHOUT STONES.

Beheda बहेडा *Behdān* (Guz.) *Balilaja* (Arab.) *Balilah* (Pers.) *Bharlá*, *Bhairáh* (Hind.) *Bálará*, *Baladá* (Duk.) *Bohorá* (Beng.) *Behadá* (Mah.) *Behadá*, *Yella* (Bom.) *Vibhitaki* (Sans.) The Belleric myrobalans (Eng.)

Characters : The dry fruit is larger in size than a *Jáephala bija*. It is obtusely angled. The external surface is brown, velvety, or silky looking. It is slightly wrinkled. It has a small stalk at the bottom and a depression on the top. On section the interior contains a dried pulp which is yellow and brittle. It is astringent in taste, and can easily be removed from the stone. The stone is hard, woody, oval in shape, of a pale yellow colour, and contains a seed which is *Badāma* like but very much wrinkled. The seed when fresh is oily.

Preparations : Powder of pericarp, and decoction of fruit.

Actions and Uses : The fruit is astringent, laxative, and tonic. The pericarp is used in expectorant electuaries, cough, hoarseness of voice, eye diseases, affections of the throat and chest, bilious headache, and dyspepsia. The dried pulp when roasted is often kept in the mouth for the relief of sore throat. The kernel of the fruit is a local sedative and is used for the relief of local inflammatory pains.

Remarks : This tree produces a quantity of gum which is hardly soluble in water. As a constituent of *Triphalá* it is used in all diseases. The kernel is said to be a narcotic and astringent, and is used as a local application over inflamed parts.

Aina Chhāla is the bark of *Terminalia tormentosa*. It is said to be useful as an astringent. *Aina* is the commonest kind of timber used for fire wood.

442 B. *Behedá*, *Señdhálona*, *Pipali mula*, *Lavañga*, *Jethi madha*, and *Himaja*, equal parts. Mix and make a linctus to be kept in the mouth.

Used in hoarseness, sore throat, cough, and catarrh.

TERMINALIA CHEBULA.

THE UNRIPE FRUIT.

There are several varieties of Chebulic myrobalans, but they are the same fruit in different stages of maturity. The principal varieties are four.

1. **Survari harade** સુરવરી હરદે *Mohoti harade*, *Kábuli harade* (Guz.) *Halilaja*, *Halilaje-asphara* (Arab.) *Hálilah*, *Halilahe zarda* (Pers.) *Harja*, *Pile hara*, *Hará* or *Harade* (Hind.) *Haradá*, *Pilá haradá*, *Haladá* (Duk.) *Haritaki* (Beng.) *Haritaki phallama*, *Pránadá*, *Pathiyá*, *Sudhá*, *Bhishaka-priya* (Sans.) *Hiradá* (Mah.) *Harale*, *Pili harale* (Guz.) Chebulic myrobalans (Eng.)

2. **Rangari hirade** રંગરી હીરદે *Hirade* (Bom. and Hind.) *Rāngári hirade* (Guz.) *Rāngári hiradá* (Mah.)

3. **Bala harade** બાલા હરદે *Halilaje-asvade* (Arab.) *Haliláhe sibajáh* (Pers.) *Bála harade* (Bom.) *Bála hiradá* (Mah.) *Himaja*, *Himaji* (Guz.) *Kále hará* (Hind.) *Zānge hálare*, *Bála halare* (Duk.) *Imachi* (Sind.) *Abhayá*, *Bála haritaki* (Sans.)

4. **Java harade** જાવા હરદે *Java harade* (Guz.) *Javasa* (Mah.)

Characters: *Survári harade*: It is a very large fruit of an ovoid form, smooth, dense, and heavy, about 2 inches long, and tapering especially at the lower end. It is 5 or 6 sided, furrowed longitudinally, and highly wrinkled. The epidermis is yellowish brown. When cut into, it contains a yellowish or darkish brown pulp and stone. The pulp is astringent and somewhat sticky to the taste.

Hiradá: These are smaller in size, less wrinkled, and less furrowed than *Survári harade*. In length each is about an inch or more. The epidermis is yellow. When cut into, it presents a yellow dried pulp and a stone. The pulp is less astringent than that of *Survári harade*.

Bála harade: These are smaller in size than the above two varieties. Their colour is deep brown or black. They are highly wrinkled, very tapering, and their epidermis is of a dark or brown colour. On section the interior contains a pulp which is dark and homogeneous. There is no stone.

Java harade: These are in size the most diminutive of all *Harade*. The word *Java* means barley, and it is so called as its size resembles that of *Java*. Other characters are similar to those of *Himaja*.

Preparations : *Survári harade* : confection, paste, and electuary of the fruit deprived of stone; *Hirade* : decoction; *Himaja* : powder fried in *Ghee* or castor oil; *Java harade* : the same as those of *Himaja*.

Actions and Uses : The seeds are rejected and their cortex and pulp only are used in medicine. The unripe fruits possess more of the purgative element, while the more ripe ones are astringent. *Survári harade* is particularly valuable as a purgative medicine and fetches a fanciful price. A paste of it made by rubbing it over a piece of stone is useful to relieve constipation and biliousness.

Raṅgári hirade : It is a powerful alterative, stomachic, laxative, and tonic. It is given in fevers, cough, urinary diseases, piles, intestinal worms, and rheumatism.

Himaji or Bála harade : It is a mild and safe aperient and astringent. Like rhubarb it causes one free motion and then regulates the bowels. It is highly useful in chronic diarrhœa and dysentery, flatulence, vomiting, hiccough, colic, and enlargement of the liver and spleen. *Bála hirade* brayed with *Sákara* and water is used in ophthalmia.

Java harade : Its actions and uses are similar to those of *Himaja*. A cold infusion of it is recommended as a gargle in sore mouth. Brayed in rose water it is a cooling application to swellings.

Remarks : The large ripe fruit is called *Haritaki* (Sans.), and the unripe dried fruit, *Jaṅgi haritaki* in the vernacular. The Sanscrit word *Pránadá* is derived from *Prána*, life, and *Dá*, giver. It is supposed to be the giver of life. The term *Sudhá* means nectar, and *Bhishaka priya*, Physician's favourite. *Harade* is a favourite remedy for all diseases and physicians value it as a nectar. The term *Pathyá* is a corruption of *Paraiya* or *Páhareja* which means abstinence from unwholesome or luxurious living. This drug has such properties that it can be given with benefit to persons who may be suffering from the ill effects of reckless eating and drinking.

Raṅgári harade is so called from the dyers or *Raṅgáris* who use it in dyeing. It is one of the chief ingredients of *Triphalá*.

Bála harade or *Himaja* : The word *Bála* means a child. It has three significations : 1. That it is a useful and safe drug for children, 2. That it is a child-like or a diminutive sized fruit of *Survári harade*, and 3. That when dry, the colour of *Harade* becomes black (*Kálá* or *Bála*.) The Sanscrit word *Abhaya* is derived from *A*, not, and *Bhaya*, danger or fear. *Bála harade* can be given with impunity or

without any danger of doing harm. Many imitations of *Survári harade* are found in possession of *Jogis* and *Máraváris* who sell them at a very high price. Spurious preparation often weighs as much as 6 to 12 ounces. Fictitious *Harade* is prepared by over-lapping diminutive *Survári harade* (taken as a nucleus) with several slices of other *Survári harade*, the whole being cleverly glued together and made to resemble a natural big-sized fruit. The high price paid for *Survári harade* is said to be due to its rarity and also to the fanciful medicinal properties it is said to possess. It is said of *Rájás* and others who have a repugnance to take medicine internally, that they are made to keep *Survári harade* in their hands for a few minutes and believe that it acts as a purgative. In order that the public may give ready credence to such fanciful virtues, the *Jogis* who prepare fictitious *Harade* generally paint them with some highly powerful irritant cathartics, the result being that when held in the hand the irritants become absorbed and produce purging in the weak and the nervous.

Triphalá is a compound preparation of three myrobalans; viz: Chebulic (*Haradá*), Belleric (*Behedá*), and Emblic (*Ámalá*). It is used as adjuncts to other medicines in numerous diseases.

- 443 *℞. Triphalá Pipali*, each oz. i, *Taja, Elachi*, each drs. iv, *Gugala* ozs. v. Mix and make a powder.
Dose: dr. i to drs. ii.

Used in rheumatism affecting the loins and sacrum.

- 444 *℞. Triphalá* 10, *Trikatu* 10, *Kákrásiṅgi* 8, *Upaleṭa* 6, *Dháná* 8, *Seṇdhálona* 6, *Jadavára* 6, *Talispatra* 8, *Kátaphala-ni-chhála* 6, *Nágakesara* 4, *Ajavána* 4, *Jethimadha-nu-mula* 6, *Methi* 8, *Sapheda jiruṇ* 6, *Kaloṇji* 6, *Bháṅga* 4, *Charasa* 2, *Gáṇjá* 2, and *Sákara* 10. Make a confection. When ready, add *Tila bija*, *Taja pátra*, *Kapura*, each 4. Dose: oz. i.

Used in chronic bowel complaints, diarrhoea, loss of appetite, dyspepsia, seminal debility, &c.

- 445 *℞. Triphalá* 8, *Dálachini* 6, *Tagara* 6, *Pipali* 4, *Jáephala* 6, *Nimaka* 6, *Kabábachini* 8, *Kuṇḍara-no-guṇḍa* 8, *Mastaki* 4. Mix and make a paste.
Dose: dr. $\frac{1}{2}$ to dr. i.

Used in loss of memory, giddiness, faintness, &c.

- 446 ℞. *Triphalā*, *Motha*, *Gulañcha*, *Abraka*, *Nágakesara*,
Taja pátra, *Taja*, *Elachi*, *Lavañga*, *Suñtha*, *Pipali*,
Dháná, *Válo*, *Unába*, each dr. i, *Madha*, q.s. Make a
confection. Dose : oz. i.
Used in indigestion with constipation.
- 447 ℞. *Triphalā* 10, *Devadára* 8, *Motha* 8, *Udarakáni* 6,
Segata chhála 6. Mix and make a decoction. When
ready add *Pipali* 6, *Vávaniñga* 6. Dose : oz. i.
Used in worms and fevers.
- 448 ℞. *Triphalā*, *Trikatu*, *Motha*, *Kaloñji*, *Jiruñ* (*sapheda*),
Dháná, *Kátaphala*, *Káluñ mithuñ*, *Talispatra*, *Nága*
kesara, *Taja patra*, *Taja*, *Elachi*, *Jaephala*, *Lavañga*,
Chañdana, *Jávañtri*, *Kapura*, each 1 part, *Meṭhi* seed
in quantity equal to all the above ingredients. Powder
them all and prepare a confection with old treacle.
Dose : 1 to 2 drachms.
Anupána : To be taken with clarified butter and honey.
Used in dyspepsia, loss of appetite, and diarrhœa.
- 449 ℞. *Himaja* drs. $1\frac{1}{2}$. Fry it in *Ghee* or castor oil. To this
add *Soñpha* dr. i, and *Suñtha* dr. i. Mix and make a
powder. Dose : dr. $\frac{1}{2}$ to dr. 1.
Used in mild cases of acute and chronic dysentery,
where the stools consist only of mucous and blood.
- 450 ℞. *Himaja* dr. i, *Sáthrá* dr. i, *Tukhm-i-karaphas* dr. i,
Teñdli (*Kañduri*) dr. i, *Variáli* drs. ii, *Anisuñ* drs ii,
Azakhara dr. $\frac{1}{2}$. Mix and make a decoction.
Dose : oz. 1.
Used in fever with constipation.
- 451 ℞. *Himaja*, *Trikatu*, *Hĩnga*, *Kachulá*, *Gañdhaka*, *Señdhá-*
lona, equal parts, *Madha*, q. s. Make a pill mass.
Dose : grs. iv.
Used in dyspepsia and diarrhœa.

- 452 B. *Himaja* 6, *Motha* 5, *Padma káshtá* 4, *Aduso* 5, *Indra java* 6, *Ratāñjali* 4, *Garamálo* 3, *Suñtha* 5, *Kutaki* 6, *Válo* 4, *Gulavela* 3, *Dháná* 5. Mix and make a decoction. Dose : oz. $\frac{1}{2}$ to ozs. $1\frac{1}{2}$.

Anupána : *Pipali* powder.

Used in fevers, cough, constipation, and vomiting.

- 453 B. *Himaja* 6, *Kariátu* 6, *Suriñjana* 5, *Kaloñji* 4, *Soñpha* 6, *Jethimadha* 10, *Madha* 4. Make a decoction.

Dose : oz. 1 to ozs. $1\frac{1}{2}$.

Used in cough, fever, &c.

PATHYADI KVATHA.

- 454 B. *Himaja* 5, *Garamálo* 4, *Ámalá* 5, *Dāntimula* 3, *Kutaki* 6, *Thuvara-nu-dudha* 3, *Nishota* 4, *Motha* 5, *Sonámukhi* 6, *Revañchi-no-siro* 4. Mix and make a decoction at first, then evaporate the whole to an extract. To this extract add *Jamálagotá-ná-bija* 1, *Suñtha* 5, *Gañdhaka* 4, and make a pill mass.

Dose : grs. ii.

Used in constipation, apoplexy, paralysis, &c.

- 455 B. *Himaja* 6, *Java khára* 5, *Pipali* 4. Mix and make a decoction. Dose : oz. $\frac{1}{2}$ to oz. 1.

Used in enlargement of the spleen and liver.

- 456 B. *Himaja* 6, *Señdhálona* 5, Alkaline ashes 4, *Suñtha* 5, *Jiruñ (sapheda)* 6, *Hīnga* 4, *Kálá miri* 5, *Pipali* 5, *Ajavána* 5, *Upaleta* 4, *Jadavára* 4. Mix and make a powder. Dose : grs. x.

Used in ascites, and enlargement of the liver and spleen.

- 457 B. *Himaja* 5, *Dāntimula* 4, *Nishota* 4, *Pipali* 5, *Suñtha*, *Taja*, *Tejapátra*, *Elachi*, each 4, *Nága kesara* 1. Mix and make a powder. Dose : dr. $\frac{1}{2}$.

Used as a purgative in dysentery with only mucous and blood.

- 458 ℞. *Harade* (*Survári*) 1, *Ambara* 1, *Ervadasa* 1, *Kirapháh* 1, *Agara* 1, *Elachi* 1, *Bháringá* 1, *Mastaki* 1, *Ushanáh* 1, *Tulasibija* 1, *Nágakesara* 1, *Shájiruñ* 1, *Shada-j-i-hiñdi* 1, *Kálá miri* 1, *Pipali* 1, *Satávári* 1, *Tabáshira* 1, *Lavañga* 1, *Jatámánasi* 1, *Jáephala* 1, *Daruñj-e-akrabi* 1, *Kasturi* $\frac{1}{4}$, *Kapura* $\frac{1}{4}$, *Soná-no-varaka* 1. Mix and make a powder. Then add *Sákara* 10. Dose : ozs. $1\frac{1}{2}$ to ozs. 3.
Used in impotence, general debility, seminal weakness, faintness, giddiness, loss of appetite, habitual constipation, and congestion of the liver.
- 459 ℞. *Harade* 1, *Ámalá*, *Mañdura bhashma* 4, *Jaggary* 1. Mix and make a powder. Boil this in *Ghee* and *Madha*. Dose : gr. i to grs. ii.
Used in dyspepsia, diarrhœa, lientery.
- 460 ℞. *Harade* 5, *Behadá* 4, *Jethi madha* 5, *Dháná* 6, *Variáli* 6, *Anisuñ* 4, *Gulába kali* 5, *Sákara* 10. Mix and make a powder. Dose : grs. x to grs. xx.
Used in rheumatism.
- 461 ℞. *Harade* drs. iii, *Himaja* drs. iv, *Káli drákhsha* drs. v, *Behedá* drs. iii, *Badáma-nu-tela* drs. iii, and *Madha* drs. ii. Mix and prepare a decoction in the usual way. Dose : ozs. iii to ozs. vi.
Used as an aperient in head affections, hepatic congestion, dyspepsia, abdominal complaints, and biliousness.
- 462 ℞. *Harade* (pericarp) drs. x, *Alu* 20, *Sáthrá* dr. $\frac{1}{2}$, *Sirkhista* drs. iii. Prepare a decoction in the usual way. Dose : ozs. iii to ozs. v.
Used in diseases of the head, atony of intestines, &c.
- 463 ℞. *Harade* 5, *Jamálagotá* 1, *Sendhálona* 5. Mix and make a paste. Dose : grs. iv to grs. vi.
Used in ascites, colic, constipation, and fever.

- 464 B. *Harade* drs. ii, *Behedá* drs. ii, *Ámalá* dr. i. The pericarp of the fruits of each to be bruised and boiled with a sufficient quantity of water to prepare six ounces of decoction. Dose : *ozs.* ii to *ozs.* iii of the decoction three times a day.

Used in chronic diarrhœa and dysentery.

AMRITA HARITAKI.

- 465 B. *Harade* : Boil it in milk and remove the seeds. Take of *Trikatu*, *Taja*, *Chitraka mula*, *Chavaka mula*, *Pañcha lavana*, *Ajavána*, *Javakhára*, *Sháji khára*, *Tañkana khára*, *Hĩnga*, *Lavañga*, each 4 parts. Reduce the whole to a powder and soak it in *Ámali-no-rasa* and *Limbu-no-rasa*. Introduce this paste in the seedless *Harade* and dry it in the sun. Then make a powder. Dose : *dr.* $\frac{1}{2}$ to *dr.* i.

Used in dyspepsia, indigestion, &c.

ONAGRACEÆ—The Singoda order.

It consists of herbs or shrubs, with simple, exstipulate, dotless leaves. The fruit is dehiscent or indehiscent. The seeds are numerous and without albumen.

Properties : Generally the plants are harmless. Most of them possess mucilaginous properties. The fruits are many and edible. Some species are astringent.

TRAPA BISPINOSA.

THE FRUIT OR NUT.

Singoda शिंगोदा *Shigodá* (Guz.) *Sĩngárá*, *Sĩnghárah*, *Páni-phala* (Hind. and Duk.) *Páni-phala* (Beng.) *Sĩngorá* (Bom.) *Sĩngádá* (Mah.)

Characters : The fruit or nut when newly gathered is dark green. Externally it is marked with projecting spines. The nut abounds in starchy fecula, which is of a white colour and a sweet-

ish taste. The dried fruit deprived of husk is dull brown externally and white within. In shape it is compressed, and like an obtuse angled triangle. On section it is hard and brittle.

Preparations : Powder.

Actions and Uses : *Siṅgodā* is a nutritive tonic, and given with milk in nervous and general debility, seminal weakness, and leucorrhœa. Fresh ones are edible. The dried ones are baked and then eaten. Powder of the dry fruits is used to prepare breads.

Remarks : *Pāna lavaṅga* : (*Jussiaea villosa*) : The pulp of this plant is used in dysentery. A decoction of it is a vermifuge and purgative.

BARRINGTONIACEÆ—The Samudara-phala order.

It is a very small order composed of trees or large shrubs, very much allied to Myrtaceæ. The leaves are alternate and serrated. The flowers are scarlet, finely long, or racemose. The fruits are drupaceous.

Properties : This order is rather intoxicating and dangerous. Some have faintly aromatic and bitter bark.

BARRINGTONIA ACUTANGULA.

THE SEEDS OR FRUIT.

Samudra-phala সমুদ্র ফল *Samudra phala* (Mah.) *Samudara-phala* (Bom.) *Hijala* (Hind. and Beng.)

Characters : The seeds are hard, and resemble *Haradā* in shape and size. They are dark brown, compressed, and marked with longitudinal striæ. On section each seed consists of a homogeneous substance of a pale white colour. The odour is very agreeable. The taste is acrid.

Preparations : Paste.

Actions and Uses : It is faintly aromatic. As an emetic it is given to children. As an aromatic and stimulant, it is useful in colic and parturition. It is also used as an external application to the head and nose in colds and catarrh.

- 466 B. *Samudra phala* 1, *Miri* 1, *Limbu-no-rasa*, q. s. Mix
and make a paste. Dose : grs. v.
Used in seminal weakness.
- 467 B. *Samudra phala* 5, *Nirguṇḍi* 4, *Sákara* 6. Mix and
make a powder. Dose : grs. x.
Used in gonorrhœa.
- 468 B. *Samudra phala* 1, *Varadhara* 1, *Riṅgani* 1,
Sákara 5. Dose : grs. v.
Used in menorrhagia.

MYRTACEÆ—The Jambu order.

These are trees or shrubs with opposite, alternate, entire, exstipulate, and usually dotted leaves. The flowers are white or scarlet, and generally brown. The fruits are dry or succulent, dehiscent or indehiscent, and with numerous seeds.

Properties : This order is remarkable for pungent and aromatic properties. Many species are stimulants, anti-spasmodics, diaphoretics, and carminatives.

PUNICA GRANATUM.

THE FLOWERS, RIND OF THE FRUIT, JUICE, AND SEEDS.

Dalimba दालिमा The fruit : *Daruma*, *Anára* (Hind.) *Dálimba* (Mah.) *Dádama* (Guz.) *Anára* (Duk.) *Rumana* (Pers.) *Dárima* (Bom.) *Dádimba phallama*, *Dádima* (Sans.) *Anára*, *Dálíma* (Beng.) *Ráná*, *Rummána* (Arab.) *Anára*, *Nára* (Pers.) Pomegrenate (Eng.) The flowers : *Darakhte gunára*, *Gulanára* (Pers.) *Gulanára* (Hind. and Duk.) *Dálimba-nu-phula*, *Gulanára-nu-phula* (Guz.) The dried acid seeds : *Anára dáná* (Hind. and Bom.) *Dálimba-ná-dáná*, *Dádama sara* (Guz.) The rind of the fruit : *Dádama chhodi*, *Dádama chhála* (Guz.) *Dálimba-sála* (Mah.)

Characters : The flowers are of a reddish colour and very showy. The fruit is globular, somewhat flattened, and obscurely six sided.

The berry is crowned with from 5 to 9 toothed, thick, and tubular calyces. When cut into, the fruit is divided into 5 or 6 compartments, each containing numerous grains. Each grain consists of a thin transparent vesicle which contains a sweet, red, juicy pulp surrounding a small angular seed. In some cases the juice is highly acid. The seeds (dried ones) are sticky, lumpy, and black. Their taste is acidulous. The rind or the skin of the fruit is known as the peel. The peel occurs in thick fragments. It is hard, and brownish, yellow, or reddish in colour. The external surface or the epidermis is shining and tubercled. The under surface of the rind is of a yellow colour, rugous, concave, and marked with depressions conforming the marks of seeds. On section the rind is brittle and yellow. It can easily be powdered. The taste is astringent.

Preparations : Decoction, juice of grains, powder, and paste of rind.

Actions and Uses : The flowers, and rind of the fruit are both astringent, vermifuge, and stomachic. The juice mixed with *Kesara* is an ingredient of cooling and refrigerant mixtures, and used as a cooling drink in dyspepsia. Locally the acid juice is used as drops for the eyes in ophthalmia. *Dálimba chhála* mixed with aromatics is used as an astringent in chronic diarrhœa of children, and chronic dysentery unaccompanied with tenesmus. The root bark is a nice febrifuge and a specific in tape worms, leucorrhœa, and passive hæmorrhages. It is highly useful as a gargle in relaxed sore throat, and as an application to ulcers of the uterus and rectum. The seeds are stomachic ; the pulp, cardiacal and stomachic.

Dose : *grs.* xx to *grs.* xxx of the rind ; of the decoction *oz.* i.

Remarks : *Dálimba* juice is highly useful as a vehicle in the preparation of *Loha bhashma*, to facilitate its powdering, and as a coloring agent.

469 B. *Dálimba chhála*, *Lavaṅga*, *Taja*, *Miri*, *Jáephala*, *Suvá*. Mix and make a powder.

Used in chronic diarrhœa in children, and chronic dysentery with tenesmus.

470 B. *Dálimba chhála* *dr.* i. Powder and mix with *Dahi* or *Chhása*. To the paste add *Saṅga jirun*, *dr.* i.

Dose : *grs.* xx.

Used in dysentery in children.

- 471 R. *Dálimba chhála* drs. ii, *Kásani* drs. iii, *Kulphá bija* drs. ii, *Dháná* drs. iii. Bruise the ingredients and make an infusion. Dose : oz. i to ozs. ii.

Used in diarrhœa, dyspepsia in adults, worms, and fever.

- 472 R. *Dálimba chhála* 1 part, *Dháuri phula* 1 part, *Ajamoda* 1 part, *Kudá chhála*, *Indrajava*, *Jiruñ sapheda*, each one part, *Mocharasa* $\frac{1}{2}$ part, *Suñtha* 1 part, *Májuphala*, *Bela*, each 2 parts, *Sákara* 4 parts. Mix and make a powder. Dose : grs. x.

Used in dysentery.

- 473 R. *Dálimba chhála*, *Sákara*, each 8, *Pipali*, *Pipali mula*, *Ajamoda*, *Miri*, *Jiruñ*, *Suñtha*, *Dháná*, each 1, *Vańsa lochana* 1, *Dára chini*, *Tamála patra*, *Elachi*, *Nága kesara*, each $\frac{1}{2}$. Make a powder.

Dose : dr. $\frac{1}{2}$ to dr. 1.

Used in chronic dysentery, chronic diarrhœa, enlarged cervical glands, anorexia, &c.

MYRTUS COMMUNIS.

THE BERRIES AND LEAVES.

Hab-ul-asa हब-उल-असा *Veláyati mheñdi* (Bom.) *Hab-ul-ása* (Arab.) Myrtle (Eng.) The leaves : *Baragásha* (Hind.) *Makaliná-pátráñ* (Guz.)

Characters : The berries are black, pear-shaped, and slightly sweet. They contain seeds which are yellowish white, hard, kidney shaped, and 6, 8 or 12 in number. They have a bland taste. The leaves are small, lanceolate, and dotted. Their margins are revolute, and hence they resemble henna leaves. They are very agreeably aromatic when bruised.

Preparations : Infusion and powder of leaves, and berries.

Actions and Uses : The plant is an aromatic astringent. An infusion of the berries is used as an injection in leucorrhœa and prolapsus of the uterus. It also renders the vagina narrow. The powder of the leaves is a useful application in eczema and intertrigo, and also for wounds and ulcers. As an antiseptic it is used as a wash for foetid ulcers and as an injection for deep sinuses.

Remarks : The fresh plant can be had at herbalists, but the seeds are procurable at druggists' shops. It is called *Viláyati mheñdi*, because of its leaves &c. resembling henna or *Meñdi* plant.

- 474 **B.** *Hab-ul-ása* drs. ii, *Bábula goñda* dr. i, *Kháranubasámi* drs. ii. Mix and reduce the ingredients to a fine powder. Dose : dr. i to drs. $1\frac{1}{2}$.

Used in diarrhœa and chronic dysentery.

- 475 **B.** *Hab-ul-ása* (bruised) ozs. ii, Distilled water ozs. xii, *Sákara* ozs. vi. Macerate the bruised seeds in water for three hours ; then add *Sákara*, and boil for half an hour over a gentle heat.

Dose : Of the syrup oz. $\frac{1}{2}$ to oz. i.

Used in diarrhœa and dysentery.

EUGENIA JAMBOLANA.

THE BARK, LEAVES, AND FRUIT.

Jambula chhala *জাম্বুলা* The bark : *Jámbula síla* (Mah.) *Jámbuni chhála* (Guz.) The fruit : *Jámbuna* (Hind.) *Sittala chini* (Duk.) *Jámbula* (Bom.) *Kálá jama* (Beng.) *Jambu* (Sans.) The Indian allspice (Eng.) The leaves : *Jámbula péna* (Guz.)

Characters : The bark when fresh is grey, or of a pale brown colour. The surface is rather fissured and scabrous. On section it is pale white, soft, brittle, and full of starch-like granules. The wood is tough and fibrous. The juice is rather sticky. The taste is acidulous and astringent. The smell is acidulous. The leaves are oblong, acuminate, smooth, shining, and glabrous. The colour is green or darkish green. They have an aromatic odour and taste. The fruit is slightly acid, sweetish, and astringent. When eaten it imparts a dark colour to the lips, teeth, and tongue. A vinegar is prepared from it. The fruit is edible, and resembles *Páo-zaraha* in shape and size. The colour is purple. The epidermis is smooth, shining, and very thin, and can be easily removed by scratching. Within it is the pulp of a dark reddish colour. The seed when fresh is of a pinkish colour which becomes brown on drying. The testa is thin and brittle, within which thick, hard, and wrinkled cotyledons are present. The taste of the seed is aromatic.

Preparations : A wash, juice, decoction, gargle, and powder.

Actions and Uses : The juice of the ripe fruit or vinegar prepared from it is an agreeable stomachic, carminative, and also diuretic. It is given in suppressed or scanty urine. The bark is an astringent. Its decoction is used in diarrhœa of children, in chronic dysentery, menorrhagia, &c. and as a gargle for spongy gums and sore mouth. The fresh juice of the leaves mixed with *Āmbāni goṭali* and *Himaja* is given with goat's milk or *Madha* in diarrhœa and dysentery. The stone or the powdered seeds are highly useful in diabetes. The seeds contain gallic acid.

Remarks : *Jambāva* (Sans.) is a spirituous liquor prepared by distillation from the juice of the ripe fruits.

PSIDIUM PYRIFERUM AND P. POMIFERUM.

THE BARK AND FRUIT.

Peru ३३ The fruit of *P. Pyrifera* : *Amarude abyaza* (Arab.) *Amarude supeda* (Per.) *Sapheda saphriama* (Hind.) *Sapheda jama* (Duk.) *Dhopa goṭichi phāla*, *Sādā peyará* (Beng.) *Sveta amaruta phallama*, *Sveta bahu bija phallama* (Sans.) *Pāṇdhra jāmba*, *Pāṇdhra-tupa-kela* (Mah.) *Ujalo-piyara*, *Ujalo peru*, *Sapheda jamaruda* (Guz.) White guava (Eng.)

P. Pomifera : *Amarude ahmara* (Arab.) *Amarude surkha* (Pers.) *Lāla saphriama* (Hind.) *Lāla jama* (Duk.) *Lāla goṭichi phāla*, *Lāla peyará* (Beng.) *Rakta amaruta phallama*, *Rakta bahu bija phallama* (Sans.) *Tāmbadā jama*, *Tāmbadā-tupa-kela* (Mah.) *Lāla payara*, *Lāla jamaruda* (Guz.) Red guava (Eng.)

Characters : The bark is smooth and of a brown colour. The external surface is marked with superficial scars showing the separation of squamous plates of the dead bark. On removing the epidermis the bark is green. Internally it is marked with striæ and is of a light brown colour. The taste is astringent and somewhat acid. The fruit is edible, when unripe it is of a green colour, and highly astringent in taste. On section the pulp is very hard and contains numerous seeds embedded in the pulp. The rind is very thin. When ripe the fruit has a faintly yellow or grey colour. The pulp is soft and delicious to the taste. It has a strong aromatic flavour.

Preparations : Jelly and fruit.

Actions and Uses : The fruit is an astringent and causes costiveness if eaten without the rind. Unripe fruits are indigestible and often lead to bilious vomiting and feverishness. The bark is an astringent. A decoction of it is useful when given with other astringents as a remedy for chronic diarrhœa of children. It is also useful as a wash in prolapsus ani with good results.

MELALEUCA LEUCADENDRON.

THE ESSENTIAL OIL.

Kajuputi-tela কাঁচা তেল *Kajaputi-kā-tela* (Hind.) *Kāyā-kuti tela* (Mah.) *Cajaput oil* (Eng.)

Characters : The oil is a transparent mobile fluid, yellowish green or bluish green in colour, of an agreeable but penetrating, warm, camphoraceous odour, and a bitter cooling and aromatic taste. Its green tint is due to the presence of copper.

Preparations : Essential oil.

Actions and Uses : The oil is a powerful sudorific. It is also a stimulant, aromatic, and antispasmodic. It is used externally as an application to rheumatic pains in the joints, in paralysis, muscular rheumatism and neuralgia. Internally it is given in colic, flatulency, dysmenorrhœa, and cholera. As a stimulant and diaphoretic it is useful in dropsy, hysteria, nervous vomiting, hiccup, and dyspnœa. With olive oil it is dropped into the ear to cure deafness and earache. It is always mixed with other liniments when used locally.

CARYOPHYLLUS AROMATICUS.

THE FLOWER-BUDS, CALYCES, OVARY, AND THE OIL.

Lavanga কাঁচা *Karana phula* (Arab.) *Mekhaka* (Pers.) *Louga* (Beng.) *Lavaṅga* (Mah., Guz. and Duk.) *Lavaṅgaha* (Sans.) *Karana phula*, *Lauṅga* (Hind.) *Cloves* (Eng.) The fruit : *Nara lavaṅga* (Bom. and Hind.) The oil : *Lavaṅga-nu-tela* (Guz.) *Lavaṅga tela* (Mah.)

Characters : The drug consists of calyces, ovary, and flower-buds. *Lavaṅga* is plump, of a rich or darkish brown colour, and

very oily. Its form resembles that of *Vákumbhá*. The four teeth of the calyces diverge at the top of the ovary. Within them the petals form a small globular ball enclosing stamens and style. Below the teeth of the calyx is a club-like stalk, which is the unripe ovary. The surface of *Lavaṅga* is much wrinkled. The smell is aromatic. The taste is aromatic and very agreeably pungent. All parts of the clove abound in oil cells. The oil is a colourless or yellowish liquid, of a powerful odour and pungent taste.

Preparations : Powder, paste, oil, essence, and tea.

The oil of cloves sold in the bazaar is made by steeping *Lavaṅga* in *Mithuṇ tela* and keeping them for some days.

Actions and Uses : Cloves are a constant ingredient in various confections. They are regarded as a light cooling and stomachic ; also a general stimulant, carminative, digestive, and an aromatic. They allay vomiting, and promote digestion of fatty or crude food. Their tea is useful to relieve colic and indigestion. They also relieve flatulency, vomiting, and thirst. They are given in combination with other spices and rock salt. The oil is used externally as an application for the relief of rheumatic pains, to the head in headache, and to the teeth in toothache. As a cephalic they are used both externally and internally. If kept in the mouth they improve the breath and strengthen the gums. The powder is a chief ingredient in *Lavaṅgādi-churaṇa* which is useful to relieve cough, asthma, &c. A paste of them applied to the forehead and to the nose is a popular remedy among natives in headache, cold, or coryza. Cloves are a familiar remedy for sore throat and used by natives very freely. One or two cloves are held over the flame of a lamp and when made hot they are kept in the mouth and their juice swallowed.

Remarks : Early writers call *Lavaṅga* by the name of *Karana phula*. This is due to the practice of keeping *Lavaṅga* in the hole in the lobe of the ear to prevent the hole-opening from becoming blocked up. The word *Karana phula* is derived from *Karana*, ear, and *phula*, a flower. It means an ornament for the ear. Cloves resemble in shape and size gold or silver ornaments used for the ear, hence, the ornament is often called a *Lavaṅga* or *Karana phula*.

Nara lavaṅga or the fruit is also called male clove because of the erroneous notion that the seed bearing organ is always a male. It is also known as mother clove. Its berries are ovate and oblong, and when cut, the interior is found to contain 2 starchy cotyledons. In size they resemble *Pipali*. The odour faintly resembles that of *Lavaṅga*. The properties are similar but milder.

Jaṅgali lavaṅga is a species of *Calyptranthus caryophyllatus*. They are young flowering buds, and are aromatic, bitter, and astringent.

- 476 ℞. *Lavaṅga*, *Barása kapura*, *Elachi*, *Jáephala*, *Válo*, *Suñṭha*, *Taja*, *Shá jiráha*, *Krishnágara*, *Vaṇsaloohana*, *Jatámánasi*, *Nilotaphara*, *Pipali*, *Rakta chañdana*, each 1 part, *Sákara* 8 parts. Mix and make a powder.

Used in general debility, hiccough, chronic lung and intestinal diseases, consumption, &c.

- 477 ℞. *Lavaṅga* 5, *Bháṅga* 4, *Pipali* 6, *Akala karo* 6, *Madha* 8. Mix and make a pill mass.

Dose : grs. v to grs. x.

Used in giddiness, dyspepsia, and general debility.

- 478 ℞. *Lavaṅga* 1, *Elachi* 1, *Sálama* 15, *Taja* 5, *Jávañtri* 1, *Ekharo* 1, *Galo* 10, *Siṅgodá* 10, *Kavacha-bija* 2, *Gokharu* 5, *Asana* 5, *Sákara* 20. Mix and make a confection. Dose : grs. x.

Used in seminal debility.

- 479 ℞. *Lavaṅga* 5, *Kesara* 4, *Afima* 3, *Chinái kapura* 2. Mix and make a pill mass.

Used in giddiness and general fainting.

- 480 ℞. *Lavaṅga* 5, *Suñṭha* 5, *Ajavána* 6, *Señdháloná* 6. Mix and add *Madha* to make a pill mass.

Dose : grs. v.

Used in indigestion.

CAREYA ARBOREA.

THE OVARY, CALYCES OF FLOWERS, AND THE BARK.

Vakumbha वाकुम्भा The calyces of the flowers : *Vákumbha*, *Vákumbhá* (Mah.) The tree : *Kumbha* (Guz.) *Kummeo* (Hind.) The bark : *Kumbhá sála* (Mah.)

Characters : The calyces are about an inch or $1\frac{1}{2}$ inches long and of a brownish dark colour. They are *Lavaṅga* shaped. The epidermis is deeply furrowed and much wrinkled. It has a very small stalk at the bottom. On the top of the fruit there are diverging four scaly calyx-lobes. In the middle of these, there is a cup shaped depression from the centre of which a long, slender, and wire-like curved style projects. On transverse section the ovary presents cavities in the interior of which abortive seeds are attached. In taste they are faintly aromatic, aciduous, and astringent. The odour is aromatic. The bark is rough. On section the interior is red and fibrous. On moistening it much mucilage is given out.

Preparations : Decoction and paste.

Actions and Uses : *Vākumbha* is an astringent, gentle, aromatic, and stomachic. A decoction of it is used in cases of indigestion, and also as a demulcent in coughs and colds. The bark is useful in preparing emollient embrocations.

Remarks : *Vākumbha* is erroneously called by the druggists *Vāvani phula*.

CUCURBITACEÆ—The Dodhi or Kakadi order.

These are herbs, generally succulent, prostrate, or climbing by tendrils. The leaves are alternate, more or less lobed, and scabrous. The flowers are unisexual, monœcious or diœcious, and of a yellow or white colour. The fruit is a pepo or a succulent berry. The seeds are more or less flattened. The testa is horny or leathery.

Properties : The pulp surrounding the seeds possesses acrid, bitter, and purgative properties. The seeds are inert. By cultivation the fruits lose their acidity and become edible.

CITRULLUS COLOCYNTHIS.

THE FRUIT AND ROOT.

Indrayana ईश्वरा *Indrāvana* (Mah.) *Indrāyana* (Hind.) *Indarāvana* (Duk.) *Indrāvana*, *Mākhāla* (Beng.) *Indrayana* (Bom.) *Indrāvāruni* (Sans.) *Hañzala*, *Aulagama* (Arab.) *Hīndavānahe talkha*, *Kharbuzāhe talkha*, *Kabiste talkha*, *Kharbuzāhe-rubāha* (Pers.) Bitter apple, bitter cucumber, Indian colocynth (Eng.)

Characters : The fruit is globular when fresh. It contains a white spongy pulp, within which are embedded numerous small, ovate, oblong, compressed, smooth seeds. When dry its external surface is smooth, yellowish brown, and tubercled. The rind is brittle. The inner surface of the rind is covered with a soft, spongy, white substance. Within the rind the fruit contains a dark coloured soft pulp covered with a soft down. The taste is bitter. The root is woody, brownish white, and tapering. The wood is fibrous, and contains a bitter starchy substance. The top of the root is semi-globular, tubercled, and giving off several diverging slender stems. All parts of the plant are very bitter, the pulp more so than the seeds.

Preparations : Decoction and powder.

THE POWDER : Make a small hole at one end of the fruit, and introduce *Miri* powder or *Revañchino siro* in the interior of the fruit. Close the hole with a paste of wheat flour, also envelope the fruit with the same paste. Keep the fruit so enveloped under the ground for 7, 14 or 21 days. Then remove it, triturate it to a very fine powder, and give with salt and *Suñtha*.

Actions and Uses : *Indráyana* or the decorticated fruit freed from the seeds is bitter, acrid, and cathartic. It is useful in biliousness, fever, constipation, and acute diseases of the nervous centres. In constipation its administration causes copious secretion or rapid watery evacuations from the bowels. It is an evacuant of fæcal and other accumulations which obstruct the intestinal canal. It is also a vermifuge. It promotes absorption or the discharge of fluid effusions; hence it is given in jaundice, ascitis, urinary diseases, enlargement of the liver, rheumatism, colic, and elephantiasis. It is a valuable revulsive in coma, apoplexy, and recent paralysis due to congestion of the brain. Its irritant action on the bowels extends to the urethra and bladder and leads to stranguary. On the uterus it also acts as an irritant and hence in amenorrhœa, it is given to bring on the menstrual flow. A snuff or the dust of the root when dry is irritating to the eyes and nostrils.

Dose : As a laxative, *grs.* iii to *grs.* v ; as a purgative, *grs.* x.

Remarks : The root sold by druggists under the name of *Indráyana* is often that of *Citrullus pseudo colocynthis*. Fresh fruits of true *Indráyana* are also met with in their shops.

Kirabuta is a fruit of the species of *Cucumis amarus*. It is sold in the dry state, and used as an emetic and stomachic for children. It is very bitter.

- 481 B. *Indráyana* 5, *Miri* 5, *Amali* 4, *Eraṇḍa tela* 10. Mix and make a powder. Dose : oz. i to ozs. ii.
Used in facial paralysis.
- 482 B. *Indráyana* 4, *Pára kajali* 3, *Elachi* 4, *Harade* 5, *Pipali* 6, *Akala karo* 3. Mix and make a pill mass with *Madha*, q. s. Dose : grs. iv to grs. viii.
Used in jaundice, ascites, recent fever and rheumatism.

LUFFA AMARA.

THE FRUITS AND SEEDS.

Kadavi ghisodi కడవి గిసోడి *Kadudodaká* (Hind.) *Kadavi ghisodí* (Guz.) *Karavi-turai* (Hind.) *Karavi turái* (Duk.) *Ghoshá latá*, *Tito jhīngá*, *Tito-tarai*, *Tito-dhuṇḍula* (Beng.) *Tikta*, *Koshátaki* (Sans.) *Rána turái* (Bom.)

Characters : The fruit is smooth, ovoid, and marked with ten prominent ridges. It is about 4 or 5 inches long. When cut into, the pulp is white and spongy. The odour resembles that of *Kákadi*. The seeds are dark brown. In shape and size they resemble *Tarabuzá bija*. The epidermis or testa is highly tubercled and wrinkled.

Preparations : Infusion and watery extract.

Actions and Uses : The plant is a bitter tonic and diuretic. It is useful in enlargement of the spleen. An infusion of the ripe seeds is said to be a violent purgative and an emetic. A watery extract of the fruit is dropped into the nostrils for the cure of jaundice. The juice of the immature fruit when roasted is applied to the temples in headache.

BRYONIA EPIGÆA.

THE ROOT OR TUBER.

Kadavi-nai-no-kando కడవి నానోకాండో *Kadavi-nái-no-kāṇḍo* (Guz.) *Akása-gaddah*, *Rakása-gaddah* (Hind.) *Akása-gaddah*, *Rakkása gaddah*, *Garoja phala* (Beng.) *Bryoms* (Eng.)

Characters : The root is very large and heavy. It occurs in pieces or slices resembling *Rejade kalamba*. Each piece is from 1 to 4 inches in length, and from 1 to 1½ inch in thickness. It is similar

in colour to that of *Bhui koholá*. In thickness and length it resembles the tuber of *Kartola*. The outer surface is of a brownish colour, and marked with four rings. When cut into, the cut surface is white and harder near the bark than in the centre. The taste is very bitter, mucilaginous, and subacid. The odour is somewhat acrid.

Preparations : Infusion and powder.

Actions and Uses : These are similar to those of *Indrayana*. The root is used as an alterative in syphilis, latter stages of dysentery and also as a powerful remedy in snake-bites. It is also used as an anthelmintic. Locally a paste of it with *Kándo* and *Ajamo* mixed with *Erañdi tela* is used as an embrocation for rheumatic painful joints.

Dose : Of the powder *dr. i.*

LAGENARIA VULGARIS VAR AMARA.

THE SEEDS AND THE PULP.

Kadavi tumbi కడవి తుంబి The bitter fruit : *Karavi tumbadi* (Guz.) *Kadu bhopalá* (Mah.) *Jañgali kadu* (Hind.) *Karavi-tumbi*, *Tumbi* (Hind.) *Karavá-bhopalá* (Bom.) *Tikta-lana* (Beng.) *Tikta tumbi*, *Katu tumbi* (Sans.) The Bitter bottle-gourd (Eng.) The sweet variety : *Dudhi* (Bom.) *Bhopalá* (Mah.) *Kadu* (Hind.) *Tumbi*, *Alábu* (Sans.) The seeds of the sweet variety : *Kadu bija* (Hind.) *Dodhi bija* (Bom.) *Dudhyá bhopalá bija* (Mah.) The pulp : *Dodhi-no-gara* (Guz.)

Characters : *Karavi tumbi*: The wild fruits vary much in shape and size. They are generally bottle-shaped. The rind is hard and ligneous. It contains a white spongy pulp which is very bitter. On drying, it becomes a soft powdery substance, and resembles thin scales of *Peparamiñta-ná-phula*. The seeds are grey, about $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, and about 3 lines broad at the base. Their outline is ovate. They are 3 lobed. Those at the base are broader than those at the apex. The central lobe is projecting. Two broad belts project from the centre of the base. They extend longitudinally downwards on each side, and join together at the apex chiefly above the middle lobe. The kernels are white and oily. The oil is bland and of an olive colour. It soon gets rancid.

Dodhi: The fruit is bottle-shaped or oblong. The rind is soft. The pulp is white, spongy, and sweet. The seeds resemble in shape those of *Karavi tumbi*. They are larger. In some of them the central lobe disappears.

Preparations : Decoction of seeds, oil, and confection.

OIL : The oil is obtained by expression from the seeds.

Actions and Uses : The pulp of *Karavi tumbi* is a powerful emetic and purgative. It is used externally as a poultice. The oil is a good and cooling application for the cure of headache. The pulp of *Dudhi* is used in preparing confection. The seeds are cooling and a diuretic. They form one of the five Cucurbitaceæ seeds, and are used as a cooling drink.

Remarks : The pulp and seeds of *Karavi tumbi* are used in medicine. Sweet gourd is a cultivated variety of this fruit. It is largely used as a vegetable. Large and handsome looking and well formed fruits are generally dried and preserved by long keeping. When long kept, the pulp becomes hard and shrivelled up, and a cavity is formed within. The gourd retains its original shape and size, but loses considerably in weight. In this state it is known as *Tumbá* or *Tumrá*. They are used by *Joghies* as water pots, by divers as life buoys, and by musicians as instruments of music known as *Tamburá*, *Sitára*, *Bina*, or *Vina*. The word *Tumbadi* or *Tumbá* is derived from *Tamborá* the instrument, or from the sound produced while striking on the wires of this instrument. The sound is allied to the word *Tumba*.

CUCUMIS SATIVUS.

THE SEEDS.

Kakari bija ककरी बीज *Kákari-ná-bija* (Guz.) *Trapusha* (Sans.) *Kákadi bija* (Mah.) *Bazarula-kisá* (Arab.) *Tukhm-e-kheyáre-daraza* (Pers.) *Kákari-ke-bija* (Hind.) *Kańkri-ke-bińja* (Duk.) *Káńkari bija* *Khirdra bija* (Beng.) The cucumber seeds (Eng.)

Characters : The seeds are of a brownish white colour, linear, oblong, and pointed on both ends. At the apex they are slightly notched. On section the testa is rough. The cotyledon is oily and sweet.

Preparations : Paste and confection.

Actions and Uses : The seeds resemble in actions and uses to the five Cucurbitaceous seeds. The five varieties of seeds belonging to Cucurbitaceæ are: 1. *Tarabuza bija*, 2. *Kharabuza bija*, 3. *Kákadi bija*, 4. *Koholá bija*, and 5. *Kadu bija*.

- 483 ℞. *Kákadi bija* oz. i, *Kharabuza bija* oz. i, *Kásani* ozs. ii, *Tarabuza bija* oz. i, *Añguri sarako* ozs. x, *Sákara* ozs. x, Water 1 lb. Boil the 4 kinds of seeds in water and strain; then add *Sákara* and vinegar, and prepare a syrup in the usual way.

Dose: oz. $\frac{1}{2}$ to oz. i, mixed with water, three or four times a day.

Used as a valuable diuretic in stranguary, and as a refrigerant in remittent and inflammatory fevers.

- 484 ℞. *Kákadi bija*, *Kásani*, *Kulphá*, *Káhu*, *Kutaki*, equal parts. Mix and make a paste.

Dose: grs. x to grs. xv.

Used in fevers. It is a favourite prescription with *Unáni Hakimas*.

- 485 ℞. *Kákadi bija*, *Tarabuza bija*, *Kharabuza bija*, *Gájara bija*, *Dudhyá bija*, each 10 parts, *Badáma* kernel 10, *Gul-i-pistá* 6, *Chárolí* 6, *Khasakhasa* 5, *Chilagozá bija* 4, *Elachi* 5, *Gokharu* 6, *Miri sapheda* 5, *Pipali mula* 5, *Sálama pañjábí* 5, *Suñtha* 5, *Musali sapheda* 5, *Kamarakasa* 5, *Sákara* 20. Mix and make a confection.

Used in seminal weakness and urinary disorders.

- 486 ℞. *Kákadi bija* 5, *Baratañga* 5, *Dudhyá bija* 5, *Kharabuza bija* 5, *Huzre-ul-huda* 2, *Tukhm-e-káhu* 2, *Phatare sályuñ* 1½, *Sámage arabi* 1, *Nishasto (gahuñ satva)* 1. Mix and reduce the ingredients to a powder.

Dose: ozs. ii.

Used in gravel, calculus of the kidney, and of the bladder.

- 487 ℞. *Kákadi bija*, *Tukhm-e-káhu* 9, *Tukhm-e-kulphá* 9, *Afima* 1, *Khorásáni ojavána* 5. Reduce these to a powder. Dose: 1 to 3 drachms.

Used in painful diseases of the bladder and of the urethra.

MOMORDICA CHARANTIA.

THE FRUIT AND SEEDS.

Karelan కరేలీ *Kárelān* (Guz.) *Kárelá* (Bom.) *Kára-vallá*, *Kissáula-barri* (Arab.) *Simá huṅga* (Pers.) *Lata sushavi*, *Kára valli latá* (Sans.) *Kárelá* (Duk.) *Károlān* (Hind.) *Korolá* (Beng.) *Kárali* (Mah.) The seeds : *Kárelān-ná-bija* (Guz.) *Kárelá bija* (Mah.) Squirting cucumber (Eng.)

Characters : There are two varieties of *Kárelān*. Some are oblong, less tubercled, larger, and of the size of *Kákadi*. Others are ovate, muricated, tubercled, and small. The taste is extremely bitter. The ripe fruits are of a yellow colour, but they are greenish dark, when young. The decaying fruits are red. In young fruits the pulp over the seeds is whitish. It becomes red in advanced cases.

Preparations : Paste and fruit.

Actions and Uses : The whole plant combined with *Taja*, *Pipali*, &c. is used as an application in scabies and other skin diseases. Internally the pulp of the fruit is given as an anthelmintic. The fruit is a tonic, alterative, and stomachic. It is given in rheumatism, gout, and diseases of the liver and spleen. The seeds *Kárelān-ná-bija* are said to be anthelmintics and given in lumbrici.

Remarks : The fruit is bitter and wholesome, and used as a vegetable.

MOMORDICA DIOICA.

THE FRUIT AND TUBEROUS ROOT.

Karatoli కరటోలి *Karatoli* (Bom.) *Vehessi* (Sans.) *Kaṇṭolān* (Guz.) The tuber : *Vánjha karatele mula* (Mah.)

Characters : The fruit is ovate, muricated, and somewhat tapering at the base. When ripe, it bursts irregularly, showing red or yellow arillus of the seeds. The seeds are black, shining, and almost spherical. The tubers of the female plant are used in medicine. When fresh they are yellowish, smooth, and of the size of a turnip or even larger. They are irregular in shape. When dry and sliced, the pieces resemble those of *Kolamba*. When reduced to powder, it becomes yellow. The taste of the fruit as well as of the tuber is astringent.

Preparations : Powder, and paste of fruit and electuary of tuberous root.

Actions and Uses : As an astringent the root when powdered is highly recommended as an application to the skin to render it soft and supple. It is also useful when rubbed over the skin to lessen sweats. The fruit is anthelmintic. The tubers of the female plant are used as an electuary to check bleeding piles. The fruits are anthelmintic and also used as vegetables.

Dose : *drs.* ii of the electuary.

Remarks : Fresh root can be obtained from herbalists. Dried roots in slices and powder can be had from druggists.

488 B. *Karatoli* 5, *Koparuñ* 4, *Miri* 4, and *Ratāñjali*. Mix, make a paste and apply to the head.
Used in headache.

TRICHOSANTHES PALMATA.

THE FRUIT.

Kaundala कण्टका *Lila Indráyana* (Hind.) *Gudá pañdu* (Duk.) *Mákúla* (Beng.) *Mahákúla* (Sans.) *Ambaghola*, *Hañzal-e-ahmara* (Arab.) *Hañzal-i-surkha* (Pers.) *Kauñdala* (Bom.) *Kauñdala* (Mah.)

Characters : The fruit is round, oval, or pyriform, resembling in size a small apple. It is of a dull orange colour. When dry the shell is thin, brittle, and very bitter. Within the shell the pulp is also dry, and the seeds and pulp lie loose, so that the contents when shaken rattle. The seeds are blackish, flat, irregular in shape, and generally triangular. The kernel is sweet and oily.

Preparations : Medicated oil, and smoke.

MEDICATED OIL : The fruit is well grinded and mixed with warm cocoanut oil.

Actions and Uses : The oil is used as ear drops in *œzena* and other foetid discharges from the ear. Natives sometimes smoke the drug as a remedy for asthma. It is used as a fumigatory in *œzena* and other discharges from the nose.

Remarks : The word *Kondala* means a circle, pendant, or an ear ring. In shape the fruit resembles *Lulaka* or a *Gourd*. *Lulaka* is an ornament for the ear used by Dukhnee Hindus as an ear pendant

for their god *Ganapati*. They also use the fruit *Kauṇḍala* as a pendant hanging from the ceiling over the head of the idol as a symbol of purity from above (God) descending and bringing good luck with it.

CUCUMIS MELO.

THE SEEDS.

Kharabuza bija खरबुज बीज *Kharabuza bija* (Hind. and Bom.)
The melon seeds (Eng.)

Characters: The seeds are of a greyish brown colour, and oblong or rather ovate. They are smaller in size than *Kākari bija*. They are acute at the apex. At the base a small circular ridge is seen. On section the testa is tough. The cotyledon is white. The taste is sweet and resembles that of *Badāma*.

Preparations: Paste and confection.

Actions and Uses: These are the same as those of *Tarabuza*, *Kākadi*, &c. This as well as the other four Cucurbitaceous seeds are used by native *Hakimas* in gonorrhœa and as a cooling diuretic.

BENINCASA CERIFERA.

THE FRUIT.

Bhurun Koholun بھرون کھولون *Mazdabah* (Arab. and Pers.) *Koholuṇ*, *Kátá*, *Bhuruṇ kohaluṇ* (Guz.) *Kohala*, *Pāṇḍri chiki* (Bom.) *Chalakomará*, *Kumaráha* (Beng.) *Kudimaha*, *Koṇdhá*, *Pethá* (Hind.) *Pethah* (Duk.) *Kohola* (Mah.) *Kushamáṇḍa*, *Kushapaṇḍaha* (Sans.)
The white gourd (Eng.)

Characters: The fruit is large, cylindrical, smooth, and covered with a greyish white and waxy bloom. The pulp is white and juicy.

Preparations: Confection and preserve.

CONFECTION: Take large, ripe, heavy gourds, scrape out the pulp in thin flakes, or cut it into small pieces, the seeds being rejected. Boil the scraped pulp or the pieces over a fire for a few minutes. When the fluid portion separates, drain this away through a sieve. Now dry the remaining soft mass, and boil it with *Ghee* and *Sákara* (dissolved in the remainder of the juice.) To this add *Pipali*, *Suñṭha*, *Jiruṇ sapheda*, *Dháná*, *Elachi*, and *Taja*, in the proportion of 10 of the fried *Koholuṇ* to 1 of each, and preserve in jars.

Actions and Uses : The fruit possesses alterative, tonic, nutritive, and diuretic properties, and is known as a valuable antimercurial. A confection of it is said to be a tonic, nutritive, and restorative. It is a specific remedy in phthisis and to check internal hæmorrhages, such as hæmoptysis, &c. The confection is also given in marasmus, and for the relief of cough and asthma.

Dose : *dr. i* to *drs. ii.*

489 **B.** *Kohaluñ bhuruñ, Lavañga, Taja, Jávañtri, Jáephala, Elachi, Akalakaro, Pipali, Musali káli, Musali sapheda, Kabábachini, Asana, Tejábala, Anisuñ, Sonámukhi, Khorásáni ajavána, Harade, Rakta rohidá, Hiñgalo, Kesara, Behman-e-sapheda, Behman-e-surkha, Tamálapátra, Nága kesara, Agara, Tagara, Jiruñ sapheda, Jiruñ káluñ, and Jaggary.* Make a confection or *Sharabata*.

Used in impotence, dyspepsia, and anorexia.

LUFFA ECHINATA.

THE FRUITS AND SEEDS.

Kukadavela कूकडावेल *Kukaravela* (Bom. and Guz.) The fruit: *Kukadavela-ná-didavúñ* (Guz.) *Kukadavela* (Mah.) The seeds: *Vápalá bija* (Bom.)

Characters : The fruit is oval, and of the size of a large nutmeg. It is covered with several long, broad-based, stiff bristles. It is open at the top. The colour is brownish yellow. On section the fruit consists of three cells, each being separated from the other by tough fibrous walls. The cell is triangular. The cell-wall consists of tough fibres and a soft spongy pulp. Within the cell are the seeds which fall off when the cell dries up. The seeds are ovate and oblong, compressed, of a pale yellowish colour, and marked with tubercles. The fruit is intensely bitter.

Preparations : Wine, and powder of seeds.

Actions and Uses : The wine and fruits are emetic. The fibrous substance of the fruit and seeds are highly purgative. The seeds are used to procure abortion. The fruit is reputed as a bitter, and is an ingredient of bitter decoctions.

CUCURBITA MAXIMA.

THE SEEDS.

Pilun kohalun পিলুঁ কোহলুঁ *Lāla bhopalā* (Mah.) *Mithā kaddu* (Duk.) *Saphuri komrā* (Beng.) *Prata kálu* (Sind.) *Kāshi-phala*, *Pilā kohalā* (Hind.) *Bhopalā*, *Dāngara*, *Pilun koholun* (Guz.) Red gourd (Eng.) The seeds: *Lāla bhopalā bia* (Mah.) *Kohalā bi* (Hind.)

Characters: The fruit is large, and of a yellowish red colour, with longitudinal obtuse ribs. The pulp is yellowish red. The seed are of a pale yellow or white colour. They are flat, ovate, and acuminate. In shape they resemble battle door, an instrument used in the game of Badminton. Their margins are turgid. On section the testa is tough. The cotyledons are pale yellow, and have a bland and oily taste.

Preparations: Paste of the seeds, and seeds freed from husks.

Actions and Uses: The seeds are a vermifuge and diuretic. As a vermifuge they are given with sugar in tape worm. They are given at bed time, and next morning a dose of castor oil is given. As a diuretic they are useful in gonorrhœa and urinary diseases. Other uses and actions are similar to those of the five Cucurbitaceous plants.

Remarks: The shape of the seeds resembles that of *Orasiā* (a stone of the shape of *Pilun Kohalun bija*, and used by Hindoos for rubbing sandal wood over it and making a paste for the purposes of *Tikā*.)

TRICHOSANTHES CUCUMERINA.

THE PLANT AND FRUIT.

Patola পাটলা *Kodu padavala* (Bom.) *Jaṅgali palavala*, *Paravara*, *Jaṅgali-chichoṇḍā* (Hind.) *Jaṅgali parula* (Guz.) *Bāñchi-chaṅgā*, *Potola* (Beng.) *Patola* (Sans.) *Rāñchī padavali* (Mah.)

Characters: The plant is foetid. The leaves are broad, cordate, lobed, and serrated. Their upper surface is scabrous. The under surface is downy. The flowers are white and fringed. The fruit is oblong, acute or pointed at both ends. It is about 3 to 6 inches long,

of a glaucous greenish white colour, and marked with irregular longitudinal stripes. The stem is rather quadrangular and striated. The tendrils are divided.

Preparations: Decoction.

Actions and Uses: The plant is a cathartic, alterative, and febrifuge. The leaves and capsules are bitter, stomachic, and laxative. A decoction of leaves with sugar is given to assist digestion in fevers and rheumatism. The seeds are stomachic and anthelmintic, and given in disorders of the stomach. The juice of the leaves is emetic and expectorant, and that of the root purgative. A poultice of the leaves is a useful medicine for boils. In obstinate cases of fever, the plant is given in combination with aromatics and bitters.

490 B. *Patola* 5, *Triphalā* 5, *Limbado* 4, *Kariātu* 6, *Kherasāla* 4, *Asana* 4. Mix and make a decoction. When ready add *Gugala* 10. Dose: oz. $\frac{1}{2}$ to oz. 1.

Used in syphilis.

PATOLADI KWATH.

491 B. *Patola* 5, *Ratāñjali* 4, *Kadu* 5, *Galo* 4, *Jethi madha* 5, *Venivela* 5, and *Pāshana bhedā* 5. Mix and make a decoction in the usual way.

Dose: oz. i to ozs. ii.

Used in rheumatism, syphilis, fever, general weakness, &c.

BRYONIA GRANDIS.

THE LEAVES, ROOT, AND FRUIT.

Tondali তেঁদালি *Teñdali* (Mah.) *Gholi* (Guz.) *Kañdori* (Hind.) *Vimba* (Sans.) *Talá kucha* (Beng.)

Characters: The plant is very commonly cultivated for its fruits which are used as edible vegetable. The leaves are more or less 5 lobed, thick, and of a green or darkish green colour. The flowers are white. The fruits are oblong, and of a green or yellowish green colour. When ripe, the colour changes to scarlet.

Preparations: Poultice and paste.

Actions and Uses: A poultice of leaves is a useful application for carbuncles, abscesses, and buboes. The ripe fruits are used as an application on pityriasis. The juice of the root with *Vaṅgasvara rasa* is useful in diabetes.

Remarks: Fresh can be obtained from herbalists.

VANGASVARA RASA.

492 B. Take of prepared tin 2, *Pára kajali* 2, *Rupá varakha* 2, *Soná varakha* $\frac{1}{2}$, *Abraka* 2, *Bhimaseni kapura* 2, *Moti* $\frac{1}{2}$. Mix them together and make a fine powder.

Dose : grs. v to grs. viii.

Anupána : The juice of *Teṇḍi-nu-mula*.

Used in diabetes and urinary diseases.

CITRULLUS VULGARIS.

THE SEEDS DEPRIVED OF TESTA, AND SAP OF THE FRUIT.

Tarabuza तरबुज *Kárigu* (Guz.) *Tarabu* (Hind.) *Taramuja* (Beng.) *Kaliṅgada* (Bom.) Water melon (Eng.) The seeds : *Tarabuza bija* (Hind.) *Kaliṅgada bija* (Bom.)

Characters: The seeds are flat, and of a reddish or blackish colour. They are ovate or oblong, and marked with two small channels running from both sides of the apex. A projecting ridge extends from the apex downwards about the middle of the seeds. The surfaces are smooth. On section the testa is brittle, and contains cotyledons which are white and oily, and of an almond like taste.

Preparations: Paste of seeds, and sap.

Actions and Uses: The seeds are cooling, strengthening, and diuretic. The sap is mixed with sugar and given as a cold drink.

PAPAYACEÆ—The Papau order.

These are trees or shrubs, sometimes with an acrid milky juice. The leaves are on long petioles, lobed, and alternate. The flowers are unisexual or hermaphrodite. The fruits are succulent. The seeds are many.

CARICA PAPAYA.

THE MILKLY JUICE, SEEDS, AND PULP.

Papai ۛۛۛ *Kátha chibhadu* (Sind.) *Papaya*, *Popaiya* (Hind.) *Papai* (Duk.) *Papayáha* (Beng.) *Papayá* (Mah.) *Papai* (Bom.) *Papluñ* (Guz.) *Anabahe-hiñdi* (Arab. and Pers.) *Papai* (Eng.) The seeds: *Popaya bija* (Mah.)

Characters : The fruit is succulent, oblong, and furrowed. It is yellowish green when ripe, and contains numerous, round, grey seeds. The seeds are stony, and smell like *Asálio*. The unripe fruit contains a thick milky juice, which is of a gelatinous consistence, and adheres most tenaciously to the more hardened substances. It contains starch grains.

Preparations : Juice, pulp, and paste.

Actions and Uses : The Action of the juice upon raw meat is well known among Indian cooks. It is that of a ferment and acts like pepsin. The juice makes the meat tender. Like pepsin it curdles milk. It is active in its effects even without the addition of a free acid which is a necessary adjunct to pepsin. It operates at a temperature between 60° and 70°, and also very rapidly. Medicinally its active principle is used as a resolvent. It removes exudations in cases of diphtheria. Locally in chronic eczema its application (as a paint) with borax and water is highly prized. The milky juice mixed with honey is anthelmintic. Its use should be followed by a dose of castor oil. It expels lumbrici. The seeds are a powerful emmanagogue. The juice of them made into pessaries is used to procure abortion. It is also useful in dyspepsia and bleeding piles. Locally it is used as a cure for ring worm and psoriasis.

Dose : Of the juice *dr. i.*

Remarks : Although the Sindhis are not great botanists they have applied to Papai a very good name of *Kátha chilaba*. This word is derived from *Kath*, which means wood, and *Chilaba*, *Chibaru*, a cucumber. It is a cucumber growing on the stem of an erect shrub instead of on a creeper. It is called cucumber from its resemblance in shape, and arrangement of its pulp and seeds, to those of cucumber.

CRASSULACEÆ—The Zakhme-hayata order.

The plants are generally succulent herbs or shrubs, with exstipulate, entire, or pinnatifid leaves. The flowers are perfectly symmetrical. The fruits are follicular or capsular.

Astringent, refrigerent, and acrid properties are attributed to the plants.

KALANCHOE LACINIATA. K. PINNATA.

THE LEAVES.

Ghai mari गैय मरी *Zakhm-e-hayata* (Hind.) *Ghā-e-māri*, *Airavana mairavana* (Bom.) *Hemasigara* (Sans.)

Characters: It is a tall, fleshy, erect plant. The leaves are compound, and ovate, having one large or two small leaflets, which are pinnatifid, oblong, and coarsely toothed or crenulated. The margin and petiole of leaves are purple. The leaves are strongly acid and astringent.

Preparations: Poultice.

Actions and Uses: The leaves are made hot and applied to contused wounds, bruises, and boils. By their application the edges of incised wounds heal generally by first intention. It is by far a better treatment than even water dressing. The leaves when applied to unhealthy wounds and foul ulcers, allay their irritation and facilitate cicatrization. They are a useful application to bites of venomous insects as gnats, house leek &c.

Remarks: Fresh leaves should be obtained from herbalists. The word *Zakhm-e-hayata* is derived from the character of the plant, which is, that the crenulations of the leaves when they come in contact with the ground, at once give rise to fresh bulbs, which soon develop into new plants. The synonym *Zakhm-e-hayata* or *Airavana mairavana* means healing of a wound, or a recovery to a healthy condition. By its use a wound heals at once and no trace of any morbid condition is left behind. In Hindu mythology *Airavana mairavana* is also the name given to devils who, it is said, when their heads or hands are cut off and separated from their body, had a magic power of restoring them at once to a healthy condition. This they did by using this plant.

UMBELLIFERÆ—The Ajamoda order.

This order consists of herbs, shrubs, or rarely arborescent plants, with alternate, generally sheathing, and compound leaves. The flowers are small, and in umbels of yellow, white, pink, or blue colours. The fruits are generally marked with longitudinal ridges. The plant abounds in an essential oil, which has a powerful odour. The oil can be obtained from the roots, stalks, and seeds. It is usually colourless, and of a strong hot taste, which resides in the episperm of the seeds and not in the almond. The roots of some of the species contain sugar and mucilage. They are generally alimentary, and contain very little essential oil.

In some species the essential oil and mucilage in the roots undergo by process of time, chemical changes, and are converted, the mucilage into gum, and the oil into resin. The gum and resin are often found in stems.

One species Hemlock contains an active principle known as conium.

PLYCHOTIS AJOWAN.

THE FRUITS.

Ajamo अजमो *Vovasádá, Vová* (Mah.) *Ajavána, Ajamo* (Guz.) *Ajaváiyana, Ajavána* (Hind.) *Ajaváina, Juvani, Ajavána* (Beng.) *Ajavána* (Duk.) *Ová* (Bom.) *Yavani* (Sans.) *Ziniána, Nañkhvah* (Pers.) *Tolib-ul-khubza, Kamume-muluki, Amusa* (Arab.) Bishop's weed (Eng.) The fruits: *Ajamá-ná-phula* (Guz.) The oil: *Ovátela* (Mah.)

Characters: The drug consists of the fruits with mericarps adherent by a stalk, or of separated mericarps. The colour is pale brown, resembling that of *Anisuñ*. In size the fruits are smaller than *Anisina*. In shape the fruits with adherent mericarps are broadly ovate and pointed. Those with separate mericarps are compressed or arched on one side, and convex on the other. The surface of the fruit is highly tubercled. It is marked with five or ten prominent ridges, the intervening spaces being dark brown. On bruising the

fruits the odour is peculiarly heating, pungent, and also aromatic. The taste is warm and pungent. The fruit contains an aromatic volatile oil, which, when evaporated, leaves a crystalline essential oil known as *Ajamá-ná-phula*.

Preparations: Powder, *Araka*, *Avana-ká-phula*, decoction, infusion, and tea.

Actions and Uses: It is a fine stimulating and hot carminative, and antispasmodic. It is given in colicky pains and tympanitis. It checks chronic discharges. Thus in bronchitis with profuse expectoration, it is given to lessen the sputum. Internally its *Araka* is highly prized to relieve colic. A plaster or poultice of the crushed fruits is said to relieve pain. The *Araka* is also locally applied to painful rheumatic joints and to painful parts in neuralgia. The seeds made hot are used as a dry fomentation to the chest in asthma, and to the hands and feet in cholera, fainting, and syncopi. *Ajamá-ná-phula* is useful as a carminative for the relief of colicky pain, bowel complaints, tympanitis, and in hysteria. It is used locally for the relief of painful limbs. The oil is used as an external application for pains in the limbs.

Dose: grs. xx to grs. xl, of the powder; of the oil, drop 1 to 2.

Remarks: *Nañkhvah* is a Persian name for *Ajamo*. It is derived from *Nána* which means bread, and *Khvah*, a desire. *Ajamo* is given on account of its promoting appetite or increasing a desire for bread (food.)

Javána: Under this name a sort of small darkish or brownish dark colored seeds resembling *Ajamo* in shape but smaller in size are sold by druggists.

493 *B. Ajamo, Dháná, Kudá chhála, Bela, Ativisha*, each equal parts. Mix and make a powder.

Dose: grs. xv to grs. xxv.

Used in chronic diarrhoea.

494 *B. Ajamo 5, Dáruñj-e-akrabi 5, Variáli 5, Kudá chhála 5, Posta 5, Suñtha 5, Jámbula chhála 5, Mocharasa 2, Ambá bátha 5, Bela 5, Jáephala 1, Afima ½, Dháná 5, Dháuri phula 5, Indrajava 5*. Mix and make a powder.

Dose: grs. xv to grs. xx.

Used in chronic diarrhoea.

- 495 B. *Ajamo*, *Soñchala*, *Siñdhava*, *Javakhára*, *Himaja*, *Hinga*, each equal parts. Mix and make a powder.

Dose : grs. xxx to grs. xlv.

Anupána : To be taken with wine.

Used in colic, dyspepsia, &c.

- 496 B. *Ajamo*, *Vávadiñga*, *Siñdhava*, *Chitraka chhála*, *Deodára*, *Trikatu*, *Pipali mula*, *Hiñga*, *Suvá*, each drs. iv, *Himaja* drs. 2½, *Suñtha* drs. ii, *Samudra sosha* drs. v. Mix and make a powder. Dose : drs. ii.

Used in rheumatic affections, hemiplegia, and chronic dyspepsia.

- 497 B. *Ajamo* 5, *Señdhálona* 5. Mix and make a paste.

Dose : grs. x to grs. xv.

Used in indigestion.

- 498 B. *Ajamo* 4, *Anisuñ* 4, *Bádávarda* 2, *Ushte-khudusa* 2, *Sumbul-ul-tiba* 2, *Sákara* 16, Water 40. Prepare a syrup in the usual way.

Dose : oz. i to ozs. ii.

Used in flatulence, biliary colic, and spasmodic affections.

- 499 B. *Ajamo* 5, *Mocharasa* 3, *Ádu* 4, *Dháuri phula* 6. Mix and make a powder. Dose : grs. x.

Anupána : *Dahi*.

Used in diarrhoea, with watery stools.

BALA GOLI.

- 500 B. *Ajamo* 1, *Harade* 1, *Khárika* 1, *Jáephala* ½, *Mocharasa* ½, *Afima* ½, *Kesara* 1, *Madha* 2, *Jávañtri* 2, *Lavañga* 2. Mix and make a pill mass. Dose: gr. ½ to 1.

Used in restlessness and wakefulness in children.

- 501 B. *Ajamo*, *Bodi ajamo*, *Elachi*, *Jáephala*, *Jávañtri*, *Mocharasa*, *Ativisa*, *Bálávaja*, *Murdá siñga*, *Vávadiñga*, *Vákumbhá*, *Indrajava*, *Akalakaro*, *Bela*, *Harade*, *Kákachio*, *Kolumba*, *Afima*, each 1. Mix and make a pill mass. Dose : gr. i.

Used for children in diarrhoea, colic, and wakefulness.

BALA GHUTI.

- 502 B. *Ajamoda*, *Taja*, *Suvá*, *Vávadiṅga*, *Vákumbhá*, *Indrajava*, *Kiramáni ová*, *Kákanaja*, *Zarera*, *Isasa*, *Pipali*, *Pipalimula*, *Bálávaja*, *Jáephala*, *Jávañtri*, *Akalakaro*, *Kutaki*, *Kariátuñ*, *Kolumba*, *Kolijana*, *Soñchala*, *Señdháloná*, *Dikamali*, *Señgroti mula*, *Pita pápado*, *Moráda siṅga*, *Bodára kákaró*, *Sápasañda*, *Elachi*, *Ajavána*, *Anisuñ*, *Suñṭha*, *Sonámukhi*, *Golába-ná-phula*, *Himaja*, *Vápalá-ná-bija*, *Garani-ná-bija*, *Ativisha*, *Variáli*, *Gañdhaka*, *Jethi madha*, *Harade*, and *Phudino*, equal parts. Mix and make a pill mass.
Dose: grs. ii to grs. iii.

Used in vomiting, purging, and indigestion in children.

MEDICATED OIL FOR APPLICATION.

- 503 B. *Ajavána* 5, *Taja* 4, *Kulpha* 4, *Koshte tulkhá* 4, *Málakágani* 3, *Hurahura* 3, *Jáephala* 4, *Miri* 4, *Pipali* 4, *Sádaja-i-hindi* 4, *Sumbala tela* 4, *Asaruna* 3, *Vaja* 4. Mix, add *Gorá tela* and boil.

Used in rheumatism, bruises, dislocations, lumbago, &c.

PIMPINELLA ANISUM.

THE FRUIT.

Anisun अनीसु *Anisuñ* (Hind.) *Ervadasa* (Bom.) *Mithá jirá* (Beng.) *Sompa* (Mah.) *Chhotti soñpha* (Hind. and Duk.) *Ráziyánaja*, *Shamára* (Arab.) *Ráziánah*, *Bádiyána*, *Váláne-buzarga* (Pers.) *Anisuñ* (Bom.) Anise or ani seeds. (Eng.)

Characters: The fruits generally known as anise seeds are smaller in size than those of *Kirdamána*. In form they resemble them. They are of a pale brown colour. The surface is rugous, slightly wrinkled, and marked with five longitudinal ridges. The ridges are ovate. Each seed has a long point at the apex. On crushing, it gives out an agreeable aromatic odour, and a sweet spicy taste resembling that of *Variáli*. Its oil resembles oil of fennel. It becomes dark by keeping.

Preparations: Oil and fruit.

Actions and Uses: The fruit is an aromatic stimulant, carminative, and stomachic. The oil is also an aromatic stimulant, and carminative, and is useful in flatulent colic. It allays griping of purgative medicines. It has a special influence over the bronchial tubes. It is a stimulant expectorant like all volatile oils and resins. In infantile bronchial catarrh it is useful after the acute stage has passed away. It is also useful in bowel complaints. Locally the oil is applied to the head to relieve headache, and to the abdomen to expel flatus.

Doses: Of the bruised seeds, *grs.* xx to *grs.* xxx; of the oil, *ms.* ii to *ms.* v; of the fruit, *dr.* $\frac{1}{2}$.

Remarks: The Bombay name *Ervadasa* is a corruption of the Portuguese Herbadoce.

504 *℞. Anisuñ drs. ii, Soñpha drs. 1½, Boiling water ozs. viii. Prepare an infusion in the usual way. Then dissolve Navaságara and Surokhára, each dr. 1 in the strained liquid. Dose: ozs. ii to ozs. iii.*

Used in dropsy and diseases of the genito-urinary organs.

505 *℞. Anisuñ 2, Apathimuna 10, Káládáná 10, Sakamuniá 10, Bispháēja 4, Sákara 20, Madha, q. s. Prepare a confection. Dose: drs. v to drs. viii.*

Used in colic and ascites, and in chronic diseases of the liver and spleen where a drastic purgative is required.

PASTINACA GRANDIS.

THE FRUIT.

Baphalli बाफली *Baphulli* (Bom.) *Dakku* (Pers. and Hind.) *Duku* (Hind.) Wild carrot (Eng.)

Characters: The fruit resembles that of *Gájara*. It is elliptical, compressed, and marked with three ridges of a pale yellow or brown colour. It has a lemon like smell and a pungent, bitterish taste.

Preparations: Infusion.

Actions and Uses : These are similar to those of *Ervadasa* and *Dháná*.

Remarks : The name *Duku* is a corruption of *Daucus* (Carrot.)

APIUM GRAVEOLENS.

THE FRUIT.

Bodi ajamo બોદી અજમો *Bodi ajamo* (Guz.) *Ajamoda* (Sans.) *Tukhm-e-karaphasa* (Pers.) *Karaphsa* (Arab.) Wild celery (Eng.)

Characters : The fruits are small and globular. In size they are smaller than *Ová*. The surface is hairy, slightly tubercled, wrinkled, and marked with prominent ridges. The colour is greenish yellow or brown. The taste is aromatic, somewhat pungent, and slightly mint-like at first, then bitterish. The odour is faintly terebinthaceous.

Preparations : Powder, decoction, and infusion.

Actions and Uses : The fruit is a carminative, aromatic stimulant, pectoral, tonic, diuretic, emmenagogue, and lithontriptic. As an adjunct to purgatives it is given in constipation. It is also a deobstruent and resolvent. With linseed or barley meal it is used as a poultice on swellings.

Remarks : *Ajamoda* (*Pimpinella involucrata*) is not obtainable in the bazaar. Druggists sell *Bodi ajamo* under this name.

506. *B. Bodi ajamo* 2, *Motha* $1\frac{1}{2}$, *Anisuñ* $1\frac{1}{2}$, *Tagara* 1.

Mix and reduce these to a powder.

Dose : *dr.* $\frac{1}{2}$ to *dr.* i.

Used in flatulence, colic, and gastrodynia.

507. *B. Bodi ajamo* 2, *Karaphsa* 1, *Anisuñ* 1, *Sákara* 1.

Mix and reduce the whole to a powder.

Dose : *dr.* $\frac{1}{2}$ to *dr.* i.

Used in flatulence and colicky pains.

508. *B. Bodi ajamo* 1, *Ajavána* 1, Water 20. Distill the whole.

Dose : *oz.* i to *ozs.* ii.

Used in flatulent colic, and as an adjunct to antispasmodic and carminative drugs.

HYDROCOTYLE ASIATICA.

THE PLANT.

Brahmi अ० अ० *Artāniyā-e-hīndī* (Arab.) *Brahmi* (Mah.) *Bráhami*, *Brahama-māṇduki* (Hind.) *Thola-kuri* (Beng.) *Bráhami* (Bom.) *Vallāri-ká-patīa* (Duk.) *Bráhāmi*, *Māṇduka parani* (Sans.) *Khara bráhami*, *Khi brahami* (Guz.) Indian penny wort (Eng.)

Characters : It is a creeping herb, sending out large runners which produce leaves, roots, and fruits at the joints. The leaves are with long stalks. They are reniform, crenate, glabrous or hairy on the under surface, and cordate at the base. The stem is slender and longitudinally furrowed. The fruits are clustered at the joints. They are small, laterally compressed, and furrowed or ribbed longitudinally. The plant has an aromatic odour, and a nauseous, bitter taste.

Preparations : Decoction, and fresh juice.

Actions and Uses : As an alterative tonic the fresh juice is given to children in combination with milk and *Jethi madha*. The plant is a well known local stimulant, and is very useful in chronic nervous diseases, leprosy, chronic eczema, syphilitic eruptions, disorders of the blood, scrofulous ulcers, and chronic rheumatism. An infusion of leaves is given with *Methi* to children in bowel complaints, and also to check fever. The plant is also a diuretic. The leaves are applied to bruises and inflamed parts with relief.

Remarks : Dried plant as obtained from druggists is generally adulterated. It is mixed with grass. The word *Khara brahami* or *Khi bráhami* is derived from *Khara*, which means grass, and *Brahmi*, the name of the plant. This is in allusion to the plant growing near grass and the drug when collected is found to be mixed with grass, and hence the name. Fresh plant can be obtained from herbalists who erroneously call it *Brahama dāṇḍi*.

509 ℞. *Bráhami*, *Vāja*, *Himaja*, *Aduso*, *Pipali*, Honey, equal parts. Mix and make a decoction.

Used in hoarseness of voice in phthisis.

510 ℞. *Bráhami* 5, *Upaleṭa* 4, Honey 6. Mix and make a pill mass. Dose : grs. iii to grs. v.

Used as a nervine tonic in insanity and hypochondriasis.

CORIANDRUM SATIVUM.

THE FRUITS.

Dhana धान Kuzabaraha (Arab.) Kashniza (Pers.) *Dhanya* (Hind.) *Dhanyána* (Duk.) *Dhane* (Mah.) *Dhanya-á* (Beng.) *Dhanya*, *Dháná* (Guz.) *Kustambaru*, *Dhanyakama* (Sans.) Coriander fruits or seeds (Eng.) The plant : *Kothamira* (Guz.)

Characters : The fruits are of a pale yellow colour. They are plump and of an oval or ovoid form, resembling inflated balloons. In size they resemble *Gahulá* seeds. The mericarp of the fruit is adherent. The surface is marked with 10 ridges. Between every two ridges, the surface is covered with tubercles, or with undulated or longitudinal lines. The apex of the fruit is crowned with two prominences. The base presents a hole from which the stalk is removed. At the base the mericarps are adherent to the two joining ridges. The smell is rather like that of *Limbu*, and the taste is rather aromatic and oily. The fruits yield a volatile and fixed oil.

Preparations : Powder, infusion, and decoction.

Actions and Uses : The fruits are aromatic, stimulant, and carminative, and useful in sore throat, bilious complaints, and common catarrh. They are also diuretic, tonic, and aphrodisiac, and often given in dyspepsia. With barley meal the leaves (*Kothamira*) form a poultice which is a useful application for indolent swellings. *Dháná* corrects and assists the action of purgatives. The oil is a carminative and aromatic, and is useful in flatulent colic, also in rheumatism, neuralgia, and in correcting the griping effects of purgatives.

Dose : Of the oil, *ms.* iii ; of the fruit, *dr.* $\frac{1}{2}$ to *dr.* i.

Remarks : The scientific name Coriander is derived from *Koris*, a bug, in allusion to the peculiar smell of the plant. Its constituents are volatile oil, fatty matter, mucilage, tannin, and malic acid. The fresh herb is called *Kothamira*, and is used to flavour vegetable and curry.

Fried *Dháná* or *Dháná-ni-dála* is thus prepared : The fruits are lightly pounded, husks being removed. To this is added *Jiráh*, *Kálá miri*, *Lavaṅga*, and *Nimakha*. The whole is stirred together, lime juice being subsequently added, and the mass dried in the sun.

Actions and Uses : It is a digestive, carminative, and stomachic, and given in dyspepsia and to promote digestion. It is mixed with *Pána sopári* (*biri*) in Kathiavar.

- 511 *℞. Dháná, Variáli, Dálimba chhála, Gulába kali, Tamála pátra, Lavaṅga, Elachi, Jáephála, Kapura, Kulijana, Chaṇḍana*, equal parts. Mix and make an *Ásava*. Dose : *ozs. ii* to *ozs. ix*.

Used in colic, dyspepsia, &c.

- 512 *℞. Dháná, Morathuthu, Bela, Válo, Sugaṇḍha bálo, Kudá chhála, Ativisha, Álubálu, Ámbá chhála, Murada siṅga, Dháuri phula, Indrajava*, each equal parts. Mix and make a pill mass with honey. Dose : *grs. vi*.

Used in diarrhœa and dyspepsia.

- 513 *℞. Dháná, Ámali, Banaphashá, Nilota phara, Mohti harade*. Mix and make a powder. Dose : *grs. xv*.

Used in dyspepsia with costiveness.

PRANGOS PABULARIS.

THE FRUIT.

Phatara saliuna *ਫਟਰਾ ਸਲੀਊਨਾ* *Phattera sáliuna* (Bom.) *Phatara sályuna* (Mah.) *Phatarae saliyyuna* (Arab.) *Silphium* (Eng.)

Characters : The drug is of a yellow colour. It becomes darkish brown when old. It consists of fruits, and pieces of slender stems. The mericarp is adherent in some fruits. Each fruit is oblong, rather compressed, and larger than *Variáli*. The surface is rugous, and marked with ivory ridges on each mericarp. On the top of it there are two prominences of the styles which are curved. The mericarps separate from below where the stalk is jointed. On bruising the seed its odour resembles that of *Limbu*. When old the smell resembles that of cat's urine. The taste is rather pungent, and resembles that of an inferior variety of *Hīnga*.

Preparations : Infusion.

Actions and Uses : It is a good diuretic, stimulant, and carminative, and useful in urinary diseases and dyspepsia. It is said to promote the expulsion of the foetus.

Remarks : *Phatarae saliyuna* is an Arabic corruption of *Pitroselinum*. It is used as food for sheep and cattle in countries devoid of good pasturage.

DAUCUS CAROTA.

THE SEEDS.

Gajara bija गजरा बीजा The seeds: *Gájara-ke-biñja* (Hind. and Duk.) *Bazarula jázara* (Arab.) *Tukhm-e-gazara*, *Tukhm-e-zaradaka* (Pers.) *Gájara bichi* (Beng.) *Gájara bijáma*, *Sikhá mulá bijama* (Sans.) *Gájara-chá-bija* (Mah.) *Gájira-nu-bija* (Guz.) Carrot seeds (Eng.) The root: *Gájara* (Guz.) *Gárjarama*, *Shikhá mulama* (Sans.) *Jazara* (Arab.) *Gazara*, *Zaradaka* (Pers.) *Gájara* (Hind. and Duk.) *Gájara* (Beng.) *Gázara* (Mah.) Carrots (Eng.)

Characters : The seeds are of a greyish or darkish brown colour. The fruits are of a pale, dull brown colour, oval, and compressed on sides. They are rather longer than *Suvá*. The mericarps are adherent in a majority of cases. At the apex of the fruit there are two prominences the remains of styles. Their surface is rugous, and marked with ridges, which are three on the convex back, and two on the plane of the commissure. In some the ridges are distinctly winged, the wings being fringed with white teeth or bristles. When crushed they emit an acrid odour which is also balsamic. The taste is balsamic, acrid, bitter, and oily. On expression they yield an essential oil. The root is fusiform, from 6 to 12 inches long, and of a reddish yellow colour. The parenchyma is fleshy. It has a sugary and mucilaginous taste, and a feebly aromatic smell.

Preparations : Powder.

Actions and Uses : The seeds are a carminative, stimulant, and diuretic. They are much used for procuring abortion by native women. Poultices of the root are used for correcting foetid discharges from unhealthy sores.

FERULA ALLIACEA.

THE GUM RESIN.

Hinga हिङ्गा *Vaghāyāni* (Sind.) *Hīṅga* (Mah.) *Hīṅga*, *Vagāranī* (Guz.) *Hīṅga* (Hind. and Duk.) *Rāmāthāma*, *Hīṅguhu* (Sans.) *Hilatita* (Arab.) *Aṅgozah*, *Aṅgusta gaṇdah*, *Aṅgudāna* (Pers.) *Assafoetida* (Eng.)

Characters: It is the gum resin exuded from the root of the plant or obtained by incision into the roots when fresh. It exists as a semifluid of an opaque white colour, but gradually becomes dull yellow, or darker, or irregular masses of opaque tears which are moist or dry and imbedded in a yellowish or brownish grey sticky mass, in which gypsum, sand, wheat, or barley flour and other earthy matters are found. It has a strong garlic like odour, which is generally persistent, and an acrid bitter taste. With water it forms a white milky emulsion. The odour is due to the volatile oil it contains. It dissolves entirely in rectified spirit.

COMPOSITION: It consists of volatile oil, resin, gum, &c.

Preparations: Gum resin, paste, pills, and powder.

Actions and Uses: It must be fried before being used as medicine. Raw *Hīṅga* causes vomiting. It is a most powerful of other foetid gum resins, a valuable stimulant over the organs of circulation and secretion, also an antispasmodic. As a condiment and carminative, it is used in dyspepsia, colic, and other gastric affections. It is devoid of acrid and irritating properties like those of other gum resins, such as gamboge, turpentine, &c. It is said to ward off malaria if taken with food in malarious districts. It is also an aphrodisiac and hypnotic. It is useful in relieving gaseous distension of the bowels, and to cure dyspepsia, colic, and nervous disorders. As a nervine tonic it is useful in hysteria, hypochondriasis, &c. An enema of *Hīṅga* is the best form in which it is exhibited. As an antispasmodic it is useful in chronic bronchitis with dyspnoea. It acts by diminishing the secretions of the lungs. It is a useful remedy in whooping cough. With aloes it is very useful for the cure of habitual constipation. With *Hirābola* and *Ushaka* it is given in tympanitis. In tympanitis of typhoid fever, an enema of *Hīṅga* with *Eraṇḍi tela* and turpentine is very beneficial. In other nervous disorders such as chorea occurring in feeble persons its use is highly extolled.

Dose : In substance, *grs.* iii to *grs.* x ; as emulsion, 20 drops.

Remarks : There are two kinds of assafœtida known as *Hīnga* and *Hīngra*. The one known as *Hīnga* is highly odorous and pungent in smell and taste. It is chiefly used for medicinal purposes. The other *Hīngra* is very foetid and inferior. This has an odour resembling that of *Lasana*, and is used for external applications.

Hīngla hastaka churana : It is a preparation of *Hīnga* and seven other drugs

- 514 R. *Hīnga* 4, *Shājirā* 5, *Pipali* 4, *Ajavāna* 4, *Bodi ajamoda* 5, *Sonachala* 4, *Miri* 3, and *Suñṭha* 3. Mix and make a powder. To this sometimes *Afima* 2 is added.

Dose : *grs.* x to *grs.* xx.

Used as a carminative and digestive in dyspepsia, vomiting, colic, flatulence, &c.

HINGA VADI VARATI.

- 515 R. Take of *Hīnga* 5, *Madha* 6, *Siñdhava* 4. Mix and make a paste in *Ghee*.

Used as suppositories for the rectum in constipation, piles, &c.

- 516 R. *Hīnga*, *Sonachala*, *Elachi*, *Suñṭha*, *Bharaṅgi*, equal parts. Mix and make a powder.

Dose : *grs.* iii to *grs.* v.

Used in flatulence of children.

FERULA GALBANIFLUA.

THE GUM RESIN.

Javashira *Barijā-goṇḍa* (Duk.) *Javāshira* (Bom.) *Jhāushira*, *Gaoshira*, *Birezada* (Pers.) *Bārazada*, *Kinneha* (Arab.) *Galbanum* (Eng.)

Characters : It is a solid gum resin resembling an inferior kind of jaggary. It is of a yellowish brown colour, and mixed with its stems, fruits, and flowers. It is found in crystals or granules. The smell resembles that of *Ushaku*. The taste is balsamic and rather acrid.

COMPOSITION : It contains a volatile oil and resin.

Preparations : Plaster and pills.

Actions and Uses : Its medicinal virtues are the same as those of *Ushaka* and *Hīnga*. Locally a plaster of it if applied to the skin causes papular eruptions. As a general stimulant it gives rise to fulness of the pulse. Taken with other gum resins it is useful as a nervine stimulant, detergent, antispasmodic, and expectorant. It is given in paralytic diseases, hysteria, and chronic bronchitis. It has a stimulant action upon the uterus. It is also useful in intestinal, vaginal, and uterine catarrh, and in amenorrhœa. Locally it is used as an ointment mixed with vinegar for acne. It is seldom given alone.

Doses : *grs. v* to *grs. xv*.

Remarks : The word *Javāshira* is a corruption of the Persian *Gaoshira*, or *Jhāu-shira* which means milk of the *Jhāu* or pine. It is supposed to be an exudation from a pine.

517 **B.** *Javashira*, *Pára kajali*, *Siṇdura*, *Kalai saphedo*, each 1 part, *Tila tela* 10 parts. Mix, make an ointment and apply.

Used over rheumatic painful joints.

CUMINUM CYMINUM.

THE FRUITS.

Jirun जिरुन *Sapheda jirun*, *Jirun* (Guz.) *Jirā*, *Zirāh* (Beng.) *Zirā* (Hind.) *Jirakāh* (Sans.) *Jire* (Mah.) *Kamun* (Arab.) *Zirā*, *Zirāh* (Pers.) Cumin seeds (Eng.)

Characters : The drug consists of pieces of stems, broken umbels, stalks, complete fruits, &c. The pieces of stems are yellow, slender, slightly furrowed externally, and hollow and pithy within. The pieces of umbels are of a pale colour, and attached to long stalks. The fruits are of a light brown colour. They are elongated, cylindrical, and ovoid in shape. They are smaller in size than *Variāli*. Their surface is rugous, hairy, and marked with longitudinal ridges. At the apex the fruit is surrounded by two small acute projections, which are the remains of the styles which are attached to each mericarp. On bruising, the odour and taste resemble those of *Shājirā*.

Preparations : Powder.

Actions and Uses: The fruit is a condiment, also carminative, aromatic, stomachic, stimulant, and astringent, and useful in hoarseness of voice, dyspepsia and diarrhœa. Locally a poultice of it allays pain and irritation of worms in the abdomen.

Remarks : This is called *Sapheda jirâ* to distinguish it from *Shâjirâ*.

518 R. *Zirâh sapheda* 4 parts, *Hirâ dakhana* 2 parts, *Suro khâra* 5 parts, *Dhânâ* 5 parts, *Golâba kali* 2 parts.

Mix and make a powder. Dose : *grs. xx.*

Used in gonorrhœa and high colored urine.

CONIUM MACULATUM.

THE FRUIT.

Kirdamana किरदमना *Kirdamana* (Hind. and Bom.) *Kirdamânî*, *Shovakarîna* (Arab.) *Duras-i-tapakati*, *Tukhm-i-Tokhra*, *Karvayâ-i-dashti* (Pers.) Spotted hemlock (Eng.)

Characters : The fruit is of a dark grey colour. It is small, and elongated with vertical ridges on its outer surface. The ridges are of a pale or grey colour. In form it resembles *Anisun*, but is rather larger. When crushed the odour is offensive and acrid. On section the interior is resinous, yellowish black, and oily. The taste is slightly bitterish, somewhat acrid, and oily. It contains an active principle known as conium.

COMPOSITION: A peculiar volatile alkaloid (conia) and a volatile oil.

Preparations : Decoction, powder, and paste.

Actions and Uses : The seeds are poisonous. In large doses they lead to disorder of the cerebro-spinal functions. They are intoxicating, narcotic, and give rise to insensibility of the limbs, suspended or laboured respirations, coma, convulsions, or violent delirium. In small and repeated doses they are resolvent and discutient. In enlargement of the breasts with profuse lacteal secretion, their application gives rise to their atrophy and the secretion of milk also becomes scanty and even suspended. They stimulate the absorbing vessels and hence give rise to profuse sweats and papular eruptions. They are used as an application in headache. Their influence over the cerebro-

spinal system, to paralyse motor nerves, has led to their use as an antispasmodic in whooping cough, spasmodic asthma, and tetanus. As an anodyne, they are said to be useful in cases of tender glandular enlargements, painful ulcers, cancer, rheumatism, &c. As an alterative in neuralgic affections they are reputed to be efficacious. The fruit is very useful as an external application to foul ulcers, cancer, and other similar growths. In jaundice due to enlarged liver, and in scrofulous enlargement of glands, its prolonged use internally is of great benefit and gives relief. It is contraindicated in cases complicated with great exhaustion, debility, and heart disease (with irregular rhythm.)

Doses : Extract, *grs.* v to *grs.* x ; Juice *ms.* x to *ms.* xxx.

Remarks : The odour is due to the volatile oil which is not poisonous. The name *Kirdamína* can easily be mistaken for *Kiramáni ová*, which are the flower-heads of a composite plant, but these are not poisonous. *Kirdamína* is a poison. The poison resides in the fruits.

FERULA SP. ?

THE GUM RESIN.

Sakabinaja ಸಕಬಿನಾಜ Sakabinaja (Arab.) *Iskabiní* (Pers.) *Sugapenum* (Eng.)

Characters : It is a gum resin. It occurs in crystalline masses forming brown cakes. It closely resembles *Javashira*. The odour is like that of garlic. The taste is acrid and terebinthaceous.

Preparations : Paste and plaster.

Actions and Uses : It is a resolvent, emmanagogue, and anthelmintic, and is useful in chronic bronchitis with profuse secretion. Externally it is used as a stimulating plaster.

CARUM NIGRUM.

THE FRUIT.

Shajira ಶಾಜಿರ Kamune, *Kiramáni* (Arab.) *Zirahe-siyah*, *Zirahe kiramáni*, *Siyáh-ziráh* (Pers.) *Sháh ziráh*, *Sháh zira* (Hind. and Duk.) *Kálá jirá*, *Sheá jirá* (Bom.) *Káluñ jiruñ* (Guz.)

Characters : The drug consists of broken slender stalks, and of fruit with adherent or separate mericarps. The colour of the drug is darkish brown or black. In form the fruits are oblong, and darker than *Veláyati jiruñ*. They are slightly curved vertically, and have vertical furrows on their convex surfaces. The whole surface is rugous. On bruising the fruits, the odour is agreeable and aromatic. The taste is oily, aromatic, and mildly pungent.

Preparations : Powder.

Actions and Uses : These are similar to those of *Carum ajowan* (*Ajamo*).

Remarks : It is an ingredient of various stomachic and carminative preparations. The Persian name *Siáh ziráh* or *Ziráhe kiramáni* means black *Jiruñ* or *Kiramáni Jiruñ* or cumin. It resembles *Sapheda jiruñ* in flavour. It is known in the Bombay bazaar under the name of *Karavá jiráh*. *Karavá jiráh* is also the name for *Káli jiri* (*Vernonia anthelmintica*.) Both are similar in colour, being darkish brown or black. They differ however from the seeds of *Vernonia* in the latter being larger and rounder than those of *Carum nigrum*. *Shájjirá* differs from *Viláyati jiruñ* in that the former having more slender and dark coloured fruits than carravay.

519 B. *Shiá jiruñ* 5, *Navaságara* 4. Mix and make a powder.

Dose : grs. xv to grs. xx.

Used in jaundice.

520 B. *Shiá jiruñ* 6, *Miri* 5, *Harade* 6, *Señdhálona* 4, *Phudino* 4. Mix and make a powder. Then add *Madha* 6 to form a pill mass.

Dose : grs. v to grs. viii.

Used in dyspepsia.

521 B. *Shiá jiruñ* drs. iv, *Kálá miri* dr. $\frac{1}{2}$, *Suñṭha* drs. ii, *Setápa* drs. ii, *Tañkaṇa khára* dr. $\frac{1}{2}$. Reduce the ingredients to a fine powder and mix with sufficient honey to prepare a confection.

Dose : dr. i to drs. ii.

Used in flatulence, hiccough, tympanitis, colic, and spasm of the bowels.

JIRA-NO-PAKHA.

522 B. *Shiá jiruñ* 15, *Kálámiri* 4½, *Suñṭha* 4½, *Pipalimula* 4½, *Setápa* 4½, *Peppermint* 4½, *Ajamo* 4½, *Poste-Haleh-zarda* (*Pili harade*) 4½, *Sonachala* 4½, *Agara* 4½, *Madha* 20. Soak *Jiruñ* in vinegar for 24 hours, then dry it in the sun and bake it over a fire. When ready mix it with the other ingredients.

Dose : grs. xxx to grs. lx.

Used in constipation, deranged digestion, headache, biliousness, &c.

PASTINACA SEKAKUL.

THE ROOTS.

Shakakul-i-misari शककुल मिसरी *Shakákula* (Hind.) *Sakakul-i-misari* (Pers.) Egyptian *sakakula* (Eng.)

Characters : The roots are of the shape and size of small carrots. Externally they are longitudinally furrowed, highly wrinkled, and of a light brown colour. The surface is here and there marked with scars of fallen rootlets and leaves. On section it is resinous or sugary looking, and of a dark amber colour. The taste is sweetish and starchy.

Preparations : Confection and compound decoction.

Actions and Uses : It is a powerful tonic and aphrodisiac. It resembles in its action to *Sapheda musali*. It is given in seminal debility and leucorrhœa.

Remarks : The word *Sukákula* means sugary. This substance *Sakakul-i-misari* like carrot, parsnip &c. contains saccharine matter and mucilage. The word *Misari* is affixed to *Sukákula* to distinguish this drug from the *Sakákul-i-hĩndi* (*Sapheda Musali*) which is also called *Sávali*, *Sátali* or *Dudheli*.

ANETHUM GRAVEOLENS.

THE FRUITS.

Sova सूवा *Suvá-na-bija*, *Suvá* (Guz.) *Suvá*, *Soyah* (Hind.) *Soyi* (Duk.) *Soválakiñda*, *Shonavá*, *Shová*, *Sulpha* (Beng.) *Suvá*, *Shepata*, *Shepu* (Bom.) *Misareyá* (Sans.) *Shibbita* (Arab.) *Váline khurda*, *Shoda* (Pers.) Common garden dill seeds (Eng.)

Characters: The drug is of a greyish yellow colour. The fruit is broadly oval, rather flat, and smaller in size than *Variáli*. The mericarps are closely adherent. At the base of the fruit is a slender long stalk. At the apex there are two small projections which are the remains of the styles. The surface of the fruit is of a darkish or greyish yellow colour and rather rugous. Each has two thick ridges united together from the apex to the base, and forming a thick margin on both sides. The three intervening ridges are thin and occupy their surfaces. On bruising, the odour is like that of peppermint. The taste is warm and somewhat pungent.

Preparations: Infusion, powder, and oil.

Actions and Uses: It is a well known carminative and an aromatic stimulant. It is useful to promote the secretion of milk. Women use it as a cordial drink after confinement. The fruit is a resolvent, diuretic, and emmanagogue. It is highly useful to relieve griping and flatulence in infants. With *Methi* the seeds are fried in butter and used to check diarrhoea.

Dose: In adults *grs.* x to *grs.* xxx.

Remarks: The natives use this drug very freely, and also *Ajmuda* as a carminative in various prescriptions.

523 B. *Suvá, Ajamo, Methi, Pána-ni-jada (Kaṅgara), Sapheda miri, Nagaramotha, Kutaki, Kariátu, Mula-ná-bija, Gájara-ná-bija, Suñṭha, Pipali, Akalakaro, Indrajava, Kuchala, Kalambo, Gulavela, Patola, Aduso, Riṅgani, Dhamáso, Kudá chhála, Vāṅs-ni-gānthá, Kulathi, Gola,* each equal parts. Mix and make a decoction.

Dose: *oz.* i to *ozs.* 1½.

Used in wakefulness, and general debility, particularly in women after delivery.

DOREMA AMMONIACUM.

THE GUM RESIN AND ROOT.

Ushaka عراك *Guṇḍalayaka* (Guz.) *Ushaka* (Bom.) *Usha shaka, Usha shaja* (Arab.) *Usha shah, Kilijama* (Pers.) Gum ammoniacum (Eng.) The root: *Boi* (Pers.)

Characters: It occurs in tears and also in masses or cakes. The tears are of a pale cinnamon or brown colour. They break

into an opaque, shining, white fracture. They have a faint odour and a bitter, nauseous taste. They resemble in appearance and smell slightly to *Hinga* cake. Ammoniac cake is an inferior kind of gum resin and consists of tears mixed with a brown mass of resin. The cake is obtained from the base of the stem. It is often mixed with vegetable fragments and earthy matters. It softens by handling. The root is fibrous and of a faint aromatic odour.

Preparations : Plaster and pills.

COMPOSITION : It consists of a volatile oil and resin.

Actions and Uses : It is used as a fumigation. It is a stimulant of the circulatory system. It promotes nutrition in the part to which it may be applied. A plaster of it produces papular eruptions. Internally it is given in chronic pulmonary catarrh (bronchitis) with profuse secretion, attended with difficult expectoration and without fever. As a stimulant it gives tone to the feeble, circular muscular fibres. In asthma it is very useful. It removes the exciting cause of the nervous paroxysm. Its use should not be long continued as it leads to a dry and irritable state of the bronchi and larynx. In hysterical asthma it is useful when combined with assafætida. It is sometimes given in chronic catarrh of the urinary passages. Externally it is used as a plaster and as a rubefacient in chronic muscular rheumatism. In chronic bronchial catarrh and chronic plury, its application to the chest is of great benefit. The root is used as a fumigatory.

Dose : *grs.* x to *grs.* xv.

Remarks : Gum ammoniacum has derived its name from Ammos which means sand. The word *Ushaka* is a corruption of the Persian *Ushanah* or *Usah* which means sugar-cane. The word *Boi* is derived from *Bo* or *Bu* which means fragrance.

CARUM CARUI.

THE FRUIT.

Vilayati zirah زیره *Karoyah* (Duk.) *Bilāti-jira* (Beng.) *Viláyati zirah* (Hind. and Bom.) *Karoyá*, *Kamune-aramáni*, *Kamune-rumi* (Arab.) *Zirah-i-rumi*, *Jirah-i-aramáni* (Pers.) Common carraway seed (Eng.)

Characters : The fruit is ovoid and slightly arched. It is laterally compressed and of a brown colour. The mericarps commonly

called caraway seeds are separate and have five ridges. The fruit has an agreeable odour and a spicy taste which resembles that of *Sapheda jirun*. The oil is limpid, and colorless or of a pale yellow colour. It becomes brown by exposure to the air. The taste is burning, spicy, and aromatic. The odour is pungent.

Preparations : Fruit and oil.

Actions and Uses : The fruit is an aromatic. This quality depends on its containing volatile oil. As a carminative, it is used to expel wind and allay pain of flatulent colic in infants. It is also a stimulant, astringent, diuretic, anthelmintic, and pectoral. Locally it is used as a poultice for painful piles. As an eye wash it is said to strengthen the sight. The oil is a digestive, stimulant, and carminative, and very useful in flatulent colic. Locally like other oils it is also an anæsthetic. It is given to correct nauseating and other qualities (gripping) of medicines and hence added to purgative mixtures.

Dose : Of the seeds, *oz.* $\frac{1}{2}$; of the oil, *ms.* ii.

Remarks : *Shájirá* is often substituted for *Carum carui*.

FENICULUM VULGARE.

THE FRUITS.

Variari *৩৩৩৩৩৩* *Soñpha* (Hind.) *Bari sophia*, *Bari soñpha* (Bom.) *Panamohari* (Beng.) *Mudhuriká* (Sans.) *Ráziánah* (Pers.) *Variáli* (Guz.) Indian sweet fennel seeds (Eng.)

Characters : The fruits are of a bright yellow colour. When old, the colour changes to dark brown. They are oblong, cylindrical, and nearly straight. They have a long, slender, thread-like stalk at the bottom. At the apex they are slightly pointed. The surface is smooth, deeply channelled, and marked with ten prominent ridges. The mericarp is closely adherent to the stalk. When crushed, the odour is aromatic and agreeable. The taste is sweet, oily, and aromatic. The oil is colourless, of an agreeable sweet odour, and of a sweet aromatic taste.

Preparations : Confection, paste, infusion, distilled fennel water, and tea.

Actions and Uses : *Variáli* is an aromatic and used as an adjunct to other carminative and aromatic medicines. It is a carmi-

native, digestive, and stimulant. It promotes the secretion of urine and perspiration, and is also useful for the relief of nausea and colic. As an active emmanagogue, its hot infusion is given in amenorrhœa. As a lactagogue it is useful in re-establishing lacteal secretion when wanting or suppressed. The oil is useful in flatulence and in arresting griping of purgatives. A paste of it is used as a cold drink in fevers and in scalding in the urine. It is a common ingredient in confections. *Araka bádiána* is a domestic carminative.

Dose : Of the seeds, *dr.* $\frac{1}{2}$; of the oil, *ms.* v to *ms.* x.

Remarks : The distilled water is known as *Ark-e-bádiána*. These fruits and the Anise have been confounded together.

524 *℞. Variáli, Kásani, Gulába kali, Dháná, Kákubija, Dudhi bija, Kákadi bija*, each equal parts. Mix and make a powder. Add *Ámali* 6 parts, Sugar 20 parts, and make a decoction. **Dose :** *oz.* i.

Used in fever with chills.

525 *℞. Variáli* 5, *Sákara* 6, *Ámali chhála* 4, *Lavaṅga* 2. Mix and make a powder. **Dose :** *grs.* x to xx.

Used in chronic skin diseases.

526 *℞. Variáli* 5, *Trikatu* 4, *Soṇpha* 2, *Anisuṇ* 2. Mix, and make a powder. **Dose :** *dr.* i to *drs.* iii.

Used in feverishness and indigestion with vomiting.

ALANGIACEÆ—The Ankola order.

These are trees or shrubs, with alternate, entire, and exstipulate leaves. The leaves are without dots. The fruit is drupaceous, and one celled. The seeds are solitary with a fleshy albumen. The cotyledons are large, flat, and leafy.

Properties : Some species are said to be purgatives and aromatics. With some the fruits are edible.

ALANGIUM LAMARCKII.

THE BARK, WOOD, SEEDS, AND LEAVES.

Ankula अङ्कुरा *Ankole* (Guz.) *Ákala*, *Anakula* (Mah.) *Dherá*, *Ákola*, *Áñkaela*, *Káli akolí* (Hind. and Duk.) *Dhala kurala* (Beng.) *Áñkota* (Sans.) The seeds : *Áñkola bija* (Guz.)

Characters : The bark is of a whitish brown colour, and of a bitter taste. The leaves are narrow, oblong or ovate, lanceolate, and of a green or darkish green colour.

Preparations : Poultice of leaves, decoction and paste of root, and powder of seeds.

Actions and Uses : The leaves are used as a poultice to relieve rheumatic pains. The root bark is given internally in chronic skin diseases and leprosy. In large doses it is a safe and efficient emetic. It is nauseant and febrifuge in small doses. A paste of the wood is locally applied to indolent swellings.

Doses : As an emetic, *grs.* xxx to *grs.* xl.

Remarks : Fresh plant can be had at herbalists. The wood and bark can be obtained from druggists.

RUBIACEÆ OR CINCHONACEÆ—The Majitha order.

This is a very important order. It is composed of herbs, shrubs, or trees, with always opposite, entire leaves having interpetiolar stipules. The flowers are of a white, blue, pink red, or yellow colour, and followed by dry or succulent inferior fruits.

Properties : Many species possess tonic, febrifugal, astringent, emetic, and purgative properties. Some are dyeing agents ; others are intoxicating, and in rare cases even poisonous.

MORINDA CITRIFOLIA.

THE LEAVES AND FRUITS.

Baratindi ala बारतुंदी अला *Barátuñdie* (Mah.) *Ácha* (Beng.) *Ácha chhuka* (Sans.) *Ála* (Hind.)

Characters : The leaves are oblong, smooth, and of a yellowish green or dark green colour. The taste is bitter. The fruit is fleshy, oblong, and marked with scars, the remnant of fallen flowers. When ripe it emits a foetid odour. When dry, the seeds and pulp within the fruit, become black or brown and sticky. They resemble the seeds and pulp of *Anúra dlná*.

Preparations : Juice and paste of leaves, and decoction of fruits.

Actions and Uses : A paste of leaves mixed with aromatics is given in diarrhœa and dysentery with benefit. It is also used as a tonic and febrifuge. The fruit is a deobstruent and an emmenagogue. The juice of the leaves is a good application for the relief of pain in gout, and healing of wounds and ulcers.

Remarks : Fresh leaves and fruit can be had at herbalists. The word *Bárá tañdi* is derived from *Bárá*, twelve, and *Toñdi*, mouth. The fruit is marked with as many as twelve scars which may be compared to so many mouths.

The root has long been used as a red dye.

GARDENIA GUMMIFERA.

THE GUM RESIN.

Dika mali दिका मली *Diká mári* (Guz.) *Diká máli* (Duk.)
Dikamáli (Hind.) *Dikemáli* (Mah.)

Characters : The gum resin exists in masses. It is opaque and of a dull olive green colour. It is often mixed with soft bark, and pieces of stems, &c. The smell is very foetid.

Preparations : Decoction, and paste.

Actions and Uses : A decoction of the resin is useful as an antiperiodic in intermittent fevers, dyspepsia, flatulence, and chronic skin diseases. A paste of it is used as a safe and effective application for the relief of itching in piles. It is much used to keep away flies or maggots from sloughing sores.

SPERMALOSCE STRICTA.

THE PLANT.

Gandhana-no-palo गंधनानो पालो *Gāndhaná, Prasárana* (Bom.)
Prosrani (Sans.) *Gāndhali* (Hind.) *Gāndhabháduli* (Beng.)

Characters : It is a climbing plant, twining up and over trees. The dried herb is of a brownish dark colour, and from eight to 12 inches long. The stem is quadrangular. The lower part is generally naked and slightly hairy. The leaves are opposite, linear, oblong or lanceolate, and scabrous. The stipules are minute. The flowers are clustered in the axils of leaves and are sessile. The smell is slightly foetid. The taste is bitterish and acrid.

Preparations : Decoction.

Actions and Uses : As an alterative it is a reputed remedy for rheumatism, in which disease it is used both externally and internally.

527 *B. Gaṇḍheli, Bráhami, Chitraka, Rásaná, Trikatu, Charaka, and Sákara*, equal parts. Mix and make a decoction. Dose : oz. i to ozs. 1½.
Used in acute rheumatism.

RANDIA DUMETORUM.

THE DRIED PULP.

Gelaphala गेलाफला *Gelaphala* (Mah.) *Miṇḍhola* (Guz.) *Menaphala* (Beng.) *Meṇḍaphala, Medaphala* (Duk.) *Menaphala, Mayina* (Hind.) *Madana* (Sans.) *Jouzula, Kousala, Jouzula-kai* (Arab.) The emetic nut (Eng.)

Characters : The fruit is of the size of a small *Jalephala*. It is globular or obovate, and of a deep grey or reddish brown colour. At its base is a small disc-like stalk or rim of the calyx. The surface is minutely as well as roughly wrinkled. It is obtusely ribbed. The ribs vary from five to seven. The fruit consists of a shell or pericarp, pulp, and seeds. On section it has two cells or cavities. The walls of the cavities are thick, woody, and covered externally with a yellowish grey coloured, rather soft pulp. Within the cells are the seeds, which are small, hard, numerous, translucent, shining, oblong or rather kidney shaped, and very adherent to a grey or reddish brown or yellowish coloured unctuous pulp. The pulp is nauseous in taste and smell.

Preparations : Infusion of seeds, and pulp.

The pulp is obtained by breaking the shell when the lump of mucous like pulp and seeds is removed. The pulp is separated from the seeds by dissolving the lump in water and then passing through a cloth.

Actions and Uses : The dry nut is used as the best and safest of emetics. It is not free from irritation. The thick shell and hard seeds are not emetic at all. The dried pulp or the manna possesses emetic or nauseant properties. Its action should be promoted by the addition of aromatics. Its shell and seeds are cathartic, anthelmintic, and also astringent. They are used to remove biliousness. *Gelaphala* is sometimes useful to procure abortion. A paste of it if locally applied acts as a discutient. It desperses abscesses and also cures acne. In dysentery it is a good substitute for Ipecacuanha.

Doses : Of the *Gelaphala*, as an emetic, *grs.* xl ; as an astringent, *grs.* xv to *grs.* xx.

Remarks : As an emetic it is quite equal to Ipecacuanha. It should be given with aromatics and honey. The nuts have the power of intoxicating fishes in the same way as that of *Kákamári*.

The Arabic name *Jouzala kai* means an emetic nut.

MADANA FALADI VARATI.

- 528 *B.* *Midhola*, *Pipali*, *Kulijana*, *Vaja*, *Dholása-mudrika*, and *Jaggary*, equal parts. Mix, make a paste in milk, and use as a suppository in the rectum. Used in constipation.

RUBIA CORDIFOLIA.

THE ROOT.

Majitha मजिथा *Mañjishta* (Mah.) *Majitha*, *Mañjitha* (Hind.) *Mañjita* (Duk.) *Mañjita* (Beng.) *Mañjishthá*, *Kála mashika* (Sans.) *Fuvvaha*, *Fovvahu-sabbá-ghni* (Arab.) *Runása* (Pers.) The Indian Madder (Eng.)

Characters : The root consists of pieces of bark and wood. The wood is smooth, of a light red colour, and porous. It is covered with a brownish red bark, which is marked with longitudinal but irregular furrows. The odour is somewhat aromatic. The taste is corky and acrid. The wood is slightly bitter.

Preparations : Infusion, powder, oil, and decoction.

Actions and Uses : Its medicinal properties are due to its containing resinous and acrid extractive matter. It is used in medicine as a colouring agent. As an alterative and deobstruent, it is used in paralysis, jaundice, obstructions in the urinary passages, and disordered menstruation. It is a useful application to inflamed parts to reduce swelling and inflammation. Rubbed with honey, it is applied to ulcers, fractures, various discolorations of the skin, pityriasis versicolor, leucoderma, and freckles. In cases of scanty lochia after delivery, an infusion of madder root is a grateful drink.

Remarks : It is used for dyeing coarse cloths red.

529 *℞. Majitha, Nimba-ni-kali*, each one part, *Sákara* 2 parts. Mix and make a pessary for the vagina.

Used in menorrhagia.

530 *℞. Majitha, Triphalá, Kutaki, Vekhañda, Dáruhalada, Gulavela, Limado*, equal parts. Mix and make a decoction. Dose : oz. i to ozs. 1½.

Used in gout, chronic skin diseases, and leprosy.

VALERIANACEÆ—The Jatamanasi order.

These are herbs, with exstipulate, opposite leaves. The flowers are hermaphrodite, and rarely unisexual. The fruits are dry and indehiscent.

The plants are remarkable for the presence of a strong scented volatile oil, which renders them stimulant, astispasmodic, and tonic.

VALERIANA OFFICINALES.

THE ROOT AND STEMS.

Kalo valo काले चले *Viláyeti jatámánasi, Viláyeti-bálachara* (Hind.)
Viláyeti jhatamanasi (Duk.) *Sugañdha bálá* (Hind.) *Kálá válá* (Mah.)
Bálá hrivra (Sans.)

Characters : The drug consists of pieces of roots and stems. The roots are knotty. The rootlets are cylindrical, thin, and wiry.

Each piece is from 2 to 4 inches long, rather furrowed, and of a pale brown colour. On section the interior is white. The odour is highly aromatic and camphoraceous. The taste is somewhat pungent. The pieces of the stems are of a dark brownish colour. They are angular, fissured, furrowed, and here and there marked with scars of fallen leaves. In a few cases the leaf-sheaths are present. Each piece is tough. Its surface is rugous.

Preparations : Infusion.

Actions and Uses : The infusion is stimulant and antispasmodic. It is highly useful in hysteria, and hiccough. As a tonic, it is given in fevers.

Dose : *drs.* v to *drs.* vi.

Remarks : *Káloválo* is often sold for serpentary root. The word *Káloválo* means a black variety of *Khasakhasa* or *Válo* (*Andropogon Muricatus*.)

NARDOSTACHYS JATAMANSI.

THE ROOT.

Jatamanasi जटामन्सी *Jatá mási*, *Kálichada*, *Bálu chhara* (Hind.) *Jetá mánasi* (Mah.) *Jhatá manasi* (Duk.) *Jatá mánasi* (Beng.) *Sumbul-ul-áspire-hiñdi* (Arab.) *Jatámánasi* (Sans.) *Sumbul-ul-hiñdi* (Pers.) Indian spikenard (Eng.)

Characters : The roots are of a dark brown colour. The lower portion of the root is very fibrous, the upper portion being scaly. The scales are the remains of the leaf-sheaths. In shape and size they resemble *Nagaramotha*. The odour is peculiarly fragrant and resembles that of *Tagara gañdhodá*. *Jatámánasi* is rather sweeter. The taste is bitter and acrid.

Preparations : Confection, decoction, and paste.

Actions and Uses : It is a useful stimulant and nervine tonic. As an aromatic it is given as an adjunct to other medicines. It is highly recommended in epilepsy. It is also a diuretic and emmanagogue, and very useful in hysteria and disorders of the digestive and the respiratory organs. It is said to promote the growth and blackness of the hair when locally applied.

Remarks : It is a good substitute for the valerian root. It has been in use as a perfume.

- 531 R. *Jatá mánasi*, *Urída*, *Java*, *Álubálu*, *Sená bija*, *Gugala*, *Himaja*, *Dasha mula* (the ten drugs), equal parts.
Mix and make a decoction. Dose : oz. i.

Anupána : Butter or *Ghee*.

Used in epilepsy.

- 532 R. *Káli chhada* 4, *Tamála patra* 1, *Chini kabába* 1, *Anisuñ* 1, *Suñtha* 1, *Sákara* 2. Reduce the ingredients to a fine powder and mix.

Dose : dr. $\frac{1}{2}$ to drs. $1\frac{1}{2}$.

Used in flatulence, colicky pains, gastrodynia, and hysterical affections.

- 533 R. *Káli chhada* drs. ii, *Mastaki* dr. $\frac{1}{2}$, *Ghárikuna* drs. $1\frac{1}{2}$, *Eliyo* grs. xx. Reduce the whole to a fine powder and mix. Dose : grs. xv to grs. xx.

Used in epilepsy, hysteria, and convulsions.

- 534 R. *Sambul-ul-tiba* 5, *Lavañga* 6, *Elachi* 8, *Dárachini* 8, *Taja* 8, *Kaliñjana* 6, *Nágaramotha* 6, *Suñtha* 6, *Jápharána* 4, *Miri sapheda* 6, *Koshta* 6, *Hab-i-balashána* 5, *Asaruna* 5, *Kariátu* 10, *Ziñde bidástara* 4. Mix and make a decoction.

Dose : oz. i to ozs. $1\frac{1}{2}$.

Used as a tonic in general debility and seminal weakness.

VALERIANA HARDWICKII.

THE RHIZOMES.

Taggera ganthoda তগ্গের গাংথোদা *Taggera* (Beng.) *Taggera gañthoná* (Hind.) *Asáruma* (Arab.)

Characters : The rhizomes are short, knotty, and about 1 to $1\frac{1}{2}$ inches long. In diameter they vary from a quill to a little finger. They are of a dark brown colour. The surface is highly wrinkled, and here and there marked with transverse ridges and prominent tubercles which are the scars of leaf-sheaths. Their lower end is blunt, very hard, and tough. The upper end is broad and sometimes

shows traces of long stripe-like leaves. The odour is aromatic pungent, and resembles that of Valerian, but is much more powerful. The taste is camphoraceous.

Preparations : Powder and infusion.

Actions and Uses : They are stimulant, antispasmodic, and used in hysteria.

Remarks : Sometimes the roots are sold under the name of *Tráyamána* by the druggists. It has long been in use as a perfume. The root is much like *Tagara*.

535 *B. Asaruna* 2, *Kábuli harade* 2, *Señdhálona* 2, *Soná mukhi* 4, *Zirakhista* 4, *Himaja* 2, *Turabada* 2, *Variáli* 2. Mix and make a pill mass.

Dose : oz. $\frac{1}{2}$.

Used in constipation.

COMPOSITÆ—The Sevati order.

These are shrubs or herbs, with leaves opposite, alternate and exstipulate, simple, or lobed. The flowers are of various colours, hermaphrodite, unisexual, or neuter, and arranged in capitula. The fruits are dry and indehiscent.

Properties : These are variable. A bitter principle is common in many, and hence they are purgative, tonic, anthelmintic, and stimulant, also diaphoretic. Some contain volatile oil and are aromatic and carminative.

SPILANTHES OLERACEA.

THE FLOWER BUDS.

Achara bondi अचार बोंदी *Achhara boñdi* (Mah.) *Akalakaro* (Guz.)

Characters : It is a pot herb. All its parts contain an active agent which resembles that in the pellitory root. This is a small plant cultivated in gardens with small, smooth, succulent stems, and flower heads with long stalks. The flower heads are solitary, of a brown colour, and conical in form. In size they resemble *Unába*. The smell is aromatic. The taste is acid, sialogogue, pungent, and warm, thus resembling that of the true pellitory root.

Preparations : Paste.

Actions and Uses : As a sialogogue its paste is useful in relieving inflammation of the under surface of the tongue.

Remarks : The word *Āchāra bōṇḍi* is derived from *Āñchāra*, breast, and *Bōṇḍi*, which means nipples. The flower heads have resemblance to the well developed nipples of pregnant women.

ANACYCLUS PYRETHRUM.

THE ROOT.

Akarakara अकराकर The root : *Akala karā*, *Akarakarā*, *Mitho akalakaro* (Bom.) *Akalakora* (Duk.) *Akara karha*, *Aod-ala-karākha* (Arab.) *Akala karā* (Pers.) *Ākarakarā* (Beng.) *Akkala karā* (Mah.) *Ākarā karabhaka* (Sans.) *Akarakarā* (Hind.) The Pellitory root (Eng.)

Characters : The roots appear to have resemblance to the narrow end of *Sāmbarasiṅga*. They are long, compact, tapering, shrivelled, and marked with a few scars of fallen rootlets. They are also round, smooth, and marked with longitudinal, irregular furrows. The surface is rough. The colour is light brown. On section they are homogeneous and pithy in the centre, where the colour is whitish. The taste is rather sweet at first, and then becomes pungent; it produces a glowing heat in the mouth, followed by a tingling and pricking sensation on the tongue and lips.

Preparations : Paste, infusion, and powder.

Actions and Uses : An infusion of its roots is given as a stimulant and cordial in low states of the system with drowsiness, headache, rheumatic affections of the face, and paralysis. In toothache and relaxed uvula the root is chewed as a masticatory. It is a powerful irritant and rubefacient if rubbed over the skin. It is often used to open the mouth of recently closed wounds.

Remarks : The Arabic word *Akara karah* is derived from *Akara*, a sore, and *Karah*, to cause. It is in allusion to its local irritant action when applied to the skin or the mucous membrane. Pellitory root is given to parrots to make them talk. A paste of these roots is an insecticide and used to kill flies.

536 B. *Akalakaro*, *Pākhanabheda*, *Gokharu*, *Tulasi bija*, *Eraṇḍa mula*, *Elachi*, *Pipali*, *Jethi madha*, *Nāgora*, *Lavaṅga*, *Suñṭha*, equal parts. Mix and make a decoction. Dose : oz. i.

Used in scanty urine.

AKARA KARABHADI CHURANA.

- 537 R. *Akalakaro*, *Suñtha*, *Kesara*, *Jáephala*, *Pipali*, *Lavañga*, *Rakta chañdana*, each *drs. ii*, *Afima dr. i*. Mix, add *Sákara drs. vi*, and make a confection.

Dose : *grs. vi*.

Used in impotence and chronic bowel complaints.

- 538 R. *Akalakaro* 3, *Zuñde bidástara* 3, *Chitraka* 3, *Bazrula bañja* 3, *Sakabinaja* 4, *Huñzala* 4. Mix and reduce the whole to a powder. Dose : *dr. i*.

Used in shaking palsy and spasmodic complaints.

- 539 R. *Akalakaro* 4, *Indrayáni* 2, *Navaságara* 3, *Kaloñji* 2, *Kutaki* 4, *Miri* 4. Mix and make a powder, to be blown into the nose.

Used in epilepsy.

- 540 R. *Akalakaro* 4, *Jáephala* 3, *Lavañga* 2, *Taja* 3, *Pipalimula* 2, *Kesara* 2, *Afima* 1, *Bháñga* 4, *Jethi madha* 4, *Kháraka* 5, *Vávadiñga* 3, *Madha* 5. Mix and make a pill mass. Dose : *gr. i* to *grs. v*.

Used in children for irritability of temper, wakefulness, painful dentition, diarrhœa, colic, and vomiting.

EUPATORIUM AYAPANA.

THE LEAVES.

Ayapana आयपना *Áyápána* (Hind. and Bom.) *Allópá* (Guz.)

Characters : It is a shrub of a pleasant aromatic odour. The branches are straight. The leaves are triple nerved, opposite, smooth, and lanceolate. The taste is bitter.

Preparations : Infusion, and poultice.

Actions and Uses : Internally the shrub is given as a stimulant tonic in dyspepsia and other cases where stimulants are indicated. It is a specific for cough. It is a powerful diaphoretic, antiscorbutic, and alterative. Locally a poultice of its leaves is

highly recommended as an application to foul ulcers and bites of venomous animals. As an antidote to snake-bites it is given with some success.

Remarks : This drug can be obtained from herbalists.

ANTHEMIS NOBILIS.

THE FLOWER HEADS.

Babunaha *بابونجا* *Bábund-ná-phula* (Guz.) *Bábune-ke-phula* (Hind. and Duk.) *Bábundja* (Arab.) *Gule-bábunáh*, *Bábunáh* (Pers.) Chamomile flowers (Eng.)

Characters : The drug consists of brown coloured, small flower heads, with long, slender, furrowed stalks. Some portions of the pieces of stems are also found in the drug, and are of the same colour as the flowers. The flower heads are oblong. The florets are arranged on a conical receptacle. They are very minute. On crushing, the odour is balsamic and aromatic. The taste is acrid. It contains an essential oil which is of a brownish yellow colour.

Preparations : Infusion, powder, and oil.

Actions and Uses : The flowers are a carminative, and tonic. They improve digestion, and hence are useful in flatulent colic, dyspepsia, chlorosis, and during convalescence from acute febrile and other diseases. In general debility from any cause they are taken with benefit. Their warm infusion leads to vomiting, and thus they are useful to relieve the attacks of periodic headache. They are also given to confirmed drunkards and heavy gluttons, who suffer from the evil effects of hard drink and excessive food. The infusion is also useful as an emmanagogue, and diaphoretic, and is given in malarious fevers with biliary derangements. Fomentation of chamomile flowers is a very soothing application to relieve local pains. The oil is a stimulant and antispasmodic. When applied to the genitals it gives tone to them. It relieves colic. Its application soothes the irritant action of *Ágiá* on the skin. With stimulating liniments, it is used as a local application to sprains and rheumatic affections.

Doses : Of the oil, *m. i* to *ms. iii*; of the decoction, *oz. ½* to *oz. i*.

Remarks : Its odour is destructive to gnats and itch insects and hence the flowers are used as an insecticide.

- 541 B. *Bábunáh*, *Golába kali*, equal parts. Add *Mithuñ tela* 8 times the quantity, and mix.

Used as drops into the ear in earache and otorrhœa.

- 542 B. *Gul-i-bábunáh* 5, *Variáli* 4, *Ajamoda* 4, *Suvá* 5, *Kharabuja bija* 4, *Kasumba* 3, *Kulathi* 5. Mix and make a powder. Dose : grs. xxx to grs. xl.

Used in painful menstruation.

BLUMEA AURITA AND OTHER SP. ?

THE PLANT.

Bhamaburada ભામબુરદા *Kamáphitusa* (Arab.) *Bhámaburadā* (Mah.) *Kalára*, *Cháñcharamári* (Guz.) *Bhámaburadā*, *Jañgali muli* (Bom.) *Diváli muli*, *Kakaroñdá* (Hind.) *Jañgali kásani* (Duk.)

Characters : It is an herbaceous and somewhat shrubby plant, covered all over with white down. The stem is reddish and slightly angled. The lower leaves or the stem are very large and resemble those of *Mulá* ; the upper ones are oblong and finely toothed. The flowers are numerous and of a pink colour. The whole plant has an odour similar to that of *Tulasi*, but not very camphoraceous like that of other species of *Bhámaburadā* (Blumea.)

Preparations : Infusion, and decoction.

Actions and Uses : The plant is generally a deobstruent and stimulant, also aromatic and astringent. As a diuretic it is given to increase the flow of urine. A warm infusion of *Bhámaburadā* is a powerful sudorific and also used as an expectorant. As a stomachic and antispasmodic, it is very useful in various catarrhal affections. It is also used as an emmanagogue. Natives use it to drive away fleas.

Remarks : It is called *Diváli muli*, which means radishes (*Muli*) generally found along the walls (*Divála*) of ruinous buildings. It is called *Muli* because of its lower leaves resembling in appearance to those of radish. The Marathi name *Bhámaburadā* as well as the Hindi name *Kakaroñdá* is commonly applied to all the Blumeas. The Gujarati word *Cháñcharamári*, is also a name common for all Blumeas. It is derived from *Cháñchara*, which means fleas, and *Mári*, a killer. The Blumeas are used to kill fleas. *Blumea lacerá* is highly camphoraceous, and hence sold for all the Blumeas. Fresh should be obtained from herbalists.

PYRETHRUM INDICUM.

THE ROOT.

Bozidan بوزیدان *Bozidāna* (Pers.) *Mithā akalakara* (Hind.)
Mithā Akalakara (Bom.) Sweet pellitory (Eng.)

Characters : The root is devoid of the acridity of the true pellitory root. In appearance it closely resembles *Akalakaro*. It is larger and of a lighter colour than the true pellitory. It is rough and furrowed externally, and hard and whitish within. On section it is starchy and fibrous. The taste is sweet.

Preparations : Paste, and confection.

Actions and Uses : It is an aphrodisiac tonic, alterative, and deobstruent. It is useful in rheumatism, gout, and enlargement of the liver and spleen. It is also said to be an anthelmintic and abortifacient.

ECLIPTA PROSTRALA.

THE HERB.

Bhangra भिङ्गरा *Mākā* (Mah.) *Bhāṅgro* (Guz.) *Bhāṅgrā* (Duk.)
Bhāṅgrā, *Bhāraṅgarāja* (Hind.) *Kesarāja*, *Bhrīṅgarāja* (Sans.)

Characters : The plant is a small, prostrate, or erect herb, of a darkish brown colour, and covered all over with white stiff hairs. The leaves are opposite, entire, lanceolate, or rather waved. In the axils of the leaves on their margins one or two flower heads are given off. The flower heads are in pairs, pedicelled, or stalked. They are of a white colour. The seeds are rugous, and of a dark brown colour. They are wedge-shaped or compressed, and marked by a ridge in the middle of both surfaces. The taste is acrid. When fresh the odour is disagreeable. The root is white, fibrous, and much branched.

Preparations : Expressed juice, decoction, and oil.

Actions and Uses : The leaves are tonic and alterative; and used in cough, and enlargement of the liver and spleen. A paste of the plant is locally applied to chronic glandular swellings and skin diseases. It is also highly recommended as a hair restorer. The expressed juice is dropped into the ears in earache. Mixed with

aromatics it is a useful tonic and deobstruent in liver diseases. With *Erañdi-nu-tela* it is given in worm complaints. A decoction of *Pivalá Bhāṅgrá* is given internally in uterine hæmorrhages.

Remarks : *Bhāṅgro* is a popular remedy. If taken interally, or applied externally it turns the hair black. In tattooing, the natives after puncturing the skin, rub the juice of white *Bhāṅgrá* over the part which thus becomes indelibly black. It is a good substitute for *Taraxacum*. *Bhāṅgrá* is of 3 kinds: yellow, white, and black. The yellow or *Pivalá bhāṅgrá* is *Wedelia calandulacea*. This herb has yellow flowers on long peduncles. The whole plant is pleasant and aromatic to the taste. It is not commonly met with in the bazaar. The white *Bhāṅgrá* (*Eclipta prostrata*) can be obtained fresh from herbalists and dry from druggists. This weed has white flowers and darkish green leaves. Black *Bhāṅgrá* is a variety of white *Bhāṅgrá*. It is the same plant which when in flowers is called white *Bhāṅgrá*, and when in fruits, *Kálá bhāṅgrá*. In the latter the white carollas having withered away they are followed by the development of a dark green or black acineas or fruits which are mistaken for flowers by the natives. It is also called black *Bhāṅgrá* on account of its dark coloured stems.

BRINGARAJA TELA.

- 543 B. *Bhāṅgro* juice 15, *Maṇḍura*, *Triphalá*, *Upalsari*, each 1. Mix, add *Mithuñ tela* 4, and boil.
Used in pityriasis, alopecia, &c. and as a depilatory.

ACHILLÆA SANTOLINA.

THE FLOWER BUDS.

Biranjá sipha बिरंज सिफ़ा *Birānjá sipha* (Pers. and Hind.) *Bu-i-Máderána* (Pers.)

Characters : The flower buds are very hairy, small, oval, and of a brownish yellow colour. The bracts are one nerved, the nerve being distinct. The smell is slightly aromatic. The taste is aromatic and bitter.

Preparations : Infusion, and syrup.

Actions and Uses : The drug is a tonic and bitter, and used with other bitters in dyspepsia, fever, &c. A medicated vapour-bath of it is used in fevers. Other properties are similar to those of *Reja-mári*.

Remarks : The drug is sometimes mixed with the spikes and spikelets of an elusive grass. Both are of the same colour.

Roja mári is a species of *Achillea millefolium*. It has properties similar to those of *Birañjá sīpha*.

TRICHOLEPIS PROCUMBENS.

THE FLOWER HEADS.

Badavarda باداواردا *Bádávarda* (Hind. and Bom.) *Sukáyi* (Mah.) *Shañkat-ul-beda* (Arab.) *Asphar-i-bari*, *Kāngar-i-supheda* (Pers.)

Characters : The drug consists of slender, whitish, smooth, tough pieces of triangular stems, (as thick as the thumb,) broken up flowers and heads of needle like spines, all parts being covered with a white down. The flower heads resemble those of *Brahma dāñḍi* with this difference that the bracts in *Bádávarda* are not ciliated and are broader. The apex is terminated into a long, white, needle shaped, and channelled bristle. It is slightly mucilaginous in taste.

Preparations : Decoction.

Actions and Uses : Medicinally it is used as a tonic, deobstruent, aperient, and febrifuge, and often prescribed in fevers and general debility. As a mucilage it is used in coughs.

Remarks: Some have supposed this plant to be similar in properties to *Shukáti*. The term *Bádávarda* means that which is carried about by the wind. A quantity of white down of this plant when the seeds are ripe is carried about by the wind.

TRICHOLEPIS GLABERRIMA.

THE PLANT.

Brahmo dandi ब्रह्मो दंडी *Brahmo dāñḍi* (Mah.) *Bráhámá dāñḍi* (Bom.)

Characters : The drug consists of pieces of stems and flower heads. It is of a pale brown colour. The stem is slender, round, furrowed, and slightly hairy. It is soft, and contains a white pith. The flower heads are conical and surrounded by numerous bristly bracts. Within these, or in the middle of the flower head, there are numerous down-like serrated papus which are white in colour and are

surmounted on acineas (seeds) which are erect, wrinkled, furrowed, and of a darkish brown colour. The taste of the drug is highly bitterish.

Preparations : Infusion and syrup.

Actions and Uses : The flowers are aromatic bitter, nervine tonic, and aphrodisiac. They are highly recommended in seminal debility.

Remarks : Fresh should be obtained. The flowers smell like *Báunáh*.

DARONICUM SCORPIOIDES.

THE RHIZOMES.

Darunaj-i-akrabi दारुनाज अकराबी *Akarabi* (Hind.) *Dárunaj-i-akrabi* (Pers. and Arab.)

Characters : It is a rhizome, brittle and horny. In form it is scorpioid, flat, and jointed. It is of a dirty white colour. The upper surface is scaly. The under surface is marked with scars of rootlets. The smell resembles that of *Sapheda musali*. The taste is mucilaginous and somewhat acrid.

Preparations : Decoction, and powder.

Actions and Uses : It is an antispasmodic, also aphrodisiac, resolvent, cardiacal, stomachic, and tonic. It is useful in dyspepsia, flatulence, nervous depression, and impaired digestion. Given with milk its powder is useful in seminal debility.

Remarks : It is given to persons bitten by venomous animals. Many superstitious notions prevail among the people in India. With some it is hung up in houses, to keep away zymotic and other virulent diseases. Pregnant women make a wreath of it and wear it round their waist. It is said to act like a charm, procuring a safe delivery and protecting the foetus from destruction.

GLOSSOCARDIA BOSVALLEA.

THE PLANT.

Phatara suva फातरा सुवा *Phatara suva* (Hind.)

Characters : It is a small diffuse plant with many stems. The leaves are alternate, linear at the base, and much divided. The flower heads are solitary and yellow, each with a short naked peduncle. The plant has a bitter taste.

Preparations : Confections.

Actions and Uses : It is used to promote the flow of menses.

Remarks : The word *Phatara suvā* means rock anethum. In the mufossil it is erroneously called *Pitta pāpada* which is an Acanthaceous plant.

SPHARANTHUS MOLLIS.

THE PLANT.

Gorakha mundi गोरख मुंड़ी *Gorakha muṇḍi* (Mah.) *Kamā zariusa* (Arab. and Pers.) *Muṇḍi* (Hind. and Duk.) *Muramuria*, *Muṇḍi* (Beng.) *Muṇḍitika*, *Bhumi-kadamba* (Sans.)

Characters : The drug is of a dark brown colour. It generally consists of pieces of hairy stems, and flower-heads. The flower-heads are either with long stalks or detached. The stem is slightly furrowed. The flower heads are slightly oblong or perfectly rounded, and composed of numerous minute flowers which are in close contact with one another. The bracts are hairy and ciliated. The seeds are very minute, and of a grey colour. The odour of the whole plant is peculiarly aromatic. The taste is rather acrid and bitter. It is a good substitute for *Māshi pātri*.

Preparations : Powder and paste.

Actions and Uses : The powdered herb is used as an anthelmintic. The powder of the root is a stomachic and tonic. Externally the paste is applied to piles.

Dose : grs. xx.

Remarks : The Sanscrit synonym *Bhumi kadamba* is derived from *Bhumi*, earth, and *Kadamb*, the flower-heads of *Nochlea kadumba*. The flowers of *Nochlea kadumba* resemble in form the globular flowers of *Gorakha muṇḍi*. But the flowers of *Nochlea kadumba* are very large, while those of *Gorakha muṇḍi* are very small. As *Gorakha muṇḍi* grows on earth and is a prostrate herb, it is known as *Bhumi kadamba*.

LACTUCA SATIVA CAPITATA.

THE SEEDS.

Kahu کاهو *Kāhu-ke-biñja* (Hind. and Duk.) *Bazar-ul-khosa* (Arab.) *Tukhm-e-kāhu* (Pers.) Lettuce (Eng.)

Characters : The seeds are very small, whitish brown, ribbed, and a little curved vertically. They are elliptical, lanceolate, and

marked with numerous long ribs. They are compressed. The apex is pointed. The smell is slightly aromatic. The taste is bitterish.

Preparations : Decoction, infusion, and powder.

Actions and Uses : The seeds are cooling and refrigerant, and used in fevers and inflammations. They are slightly narcotic, sedative, and soporific. They relieve wakefulness due to over mental work. They are also used as a demulcent in coughs.

Doses : *grs.* ii to an infant.

Remarks : The word *Lactuca* is derived from lac which signifies milk. The plant or the flower-stem abounds in milky juice. *Káhu* is also the name of *Arajuna sádrá* (*Terminalia Arjuna*) with which it should not be mistaken.

VERNONIA ANTHELMINTICA.

THE FRUITS.

Kalijiri કાલી જીરી *Kálijiri*, *Kadavojiri* (Guz.) *Karavi ziri*, *Káli ziri* (Duk.) *Bukachi*, *Somarája* (Hind. and Beng.) *Itritála*, *Ataritála* (Arab. and Pers.) *Kálenajiri*, *Ránáchá jire* (Mah.) *Somaráji*, *Avala guja*, *Atavijirákáh*, *Vakuchi* (Sans.)

Characters : The fruits are of a black or dark brown colour. Each is about 3 or 4 lines in length, and about 1 or 2 lines in breadth. They are cuneate at the base, and seated on a glabrous sessile ring. They become broader as they approach the apex. The apex is crowned with brownish white coloured scale like remains of the toothed calyx. The surface is covered with whitish scattered hairs, and marked with 10 or 12 longitudinal ribs. On section it contains one seed. The seed is oily, of a brown colour, and conforms with the fruit. The taste is bitter and nauseous. The odour is faintly aromatic.

Preparations : Powder, and infusion.

Actions and Uses : As an alterative, it is esteemed to be a very useful remedy in leucoderma and other skin diseases, as lepra and psoriasis. As an anthelmintic, the powdered seeds are given for the removal of ascarrides. Native women use locally a paste of the seeds for destroying pediculi. Internally it is also a valuable tonic and stomachic, and given to relieve flatulence.

Dose : As an anthelmintic *dr.* i.

Remarks : It is very bitter, and hence the Guzarati synonym *Kadavi jiri*.

- 544 B. *Káli jiri* 5, *Triphalá* 4, *Kátho* 3. Mix and make a decoction. Dose : oz. $\frac{1}{2}$ to oz. i.
Used in leucoderma.

- 545 B. *Káli jiri* 5, *Kálá tila* 5. Mix and make a powder.
Dose : grs. xxv to grs. xl.
Used in lepra, psoriasis, &c.

TIKTA JIRAKADI CHURANA.

- 546 B. *Káli jiri* 3, *Jirun* 1, *Miri* 1, *Sonachala* 1, *Drákhsha* 1, *Jaggary* 6, *Madha* 6. Mix and make a pill mass.
Dose : dr. $\frac{1}{2}$ to dr. 1.
Used in loss of appetite, indigestion, dyspepsia, &c.

CICHORIUM ENDIVIA OR C. INTYBUS.

THE SEEDS AND ROOT.

Kasani कसनी *Káshani* (Mah.) *Kásani-ke-biñja* (Hind., Bom. and Beng.) *Bazarula*, *Hīndibá* (Arab.) *Tukhm-e-kásani* (Pers.) *Endive* *Chichory* (Eng.)

Characters : The seeds are small, and of a light or dark brown colour. They are angular, furrowed, and rather cuneate or narrow at the base. The apex is crowned with numerous torn calyces or teeth. The sides of the seeds are rather curved. The taste is slightly bitter. The root is of a brown colour. It is light, soft, pithy, and corky. The taste is bitterish.

Preparations : Decoction, and powder.

Actions and Uses : The seeds are resolvent and cooling, and used in bilious complaints. Like *Taraxacum* they increase the appetite, and promote digestion. As a purifier of blood, they promote the secretion of the liver, bowels, and kidneys. A decoction of the seeds is highly useful in torpor of the liver, and enlargement of the spleen with general dropsy, also in obstructed menstruation. The root is bitter, and given with other vegetable bitters in dyspepsia.

Remarks : The seeds are a good substitute for *Taraxacum*. The Arabic word *Hīndibá* is a corruption of *Intyba*.

- 547 *℞. Kásani drs. ii, Siraká ozs. vi, Kharabuza bija dr. i, Kákadi bija dr. i, Tarabuza bija dr. i, Sákara oz. i.*
Mix and make a decoction.

Dose : oz. i to ozs. ii, every 4 hours.

Used during the paroxysm or hot stage of fever.

- 548 *℞. Kásani dr. ½, Kulaphá bija drs. 1½, Álu bokhárá dr. i, Water ozs. xii.* Macerate for half an hour and strain.
Dose: ozs. ii to ozs. iii with a little sugar every three or four hours.

Used in the hot stage of fevers and inflammatory diseases.

- 549 *℞. Kásani 5, Dháná 1, Kharabuza bija 5, Dudhiá bija 5, Kasumbá-bija 5, Bikh-i-kásani 3, Gul-i-gápheza 3, Khitami 3, Jethi madha 3, Sambula-ula-tiba 3, Banaphashá 5, Gáo zabána 3, Káli drákhsha 5.* Mix and make a decoction. Dose : oz. ½ to oz. 1.

Used as a diuretic and diaphoretic in fever and high coloured and scanty urine.

- 550 *℞. Kásani 5, Gokharu 6, Kharabuza bija 7, Variáli 8.*
Mix and make a powder. Dose : grs. xxx to xl.
Used as a diuretic in acid, high coloured urine. and calculous affections.

CARTHAMUS TINCTORIUS.

THE SEEDS AND FLOWERS.

Kasumba كاسمبا The plant : *Karadai* (Mah.) *Kusuma* (Beng.) *Kasumbo* (Guz.) *Kara*, *Kasumbá* (Hind.) *Kiratuma*, *Kuratuma* (Arab.) *Khasaka*, *Kázirah*, *Kájirah* (Pers.) *Kamalottara*, *Kusumbha* (Sans.) False Saffron (Eng.) The flowers : *Karadi-chá-phula*, *Kasumbá-chá-phula* (Mah.) *Kasubá-ná-phula* (Bom.) *Kasumbi-ke-phula* (Hind.) Safflower (Eng.) The seeds : *Kára*, *Kárara-ke-bija* (Hind.) *Kusama-ke-biñja* (Duk.) *Karadi-chi-bija* (Mah.) *Kasumbá-ná-bija* (Bom.) *Kusuma-bichi* (Beng.) *Kusamba bijama* (Sans.) *Hab-ula-asphara*, *Basrula aharisa* (Arab.) *Tukhm-e-kaphsha*, *Khasaka dánáh* (Pers.)

Characters : The flower heads are of a saffron colour and surrounded by numerous leafy bracts. The seeds are white, angular, smooth, and shining like little concha shells. They are broad at the base and pointed towards the apex. The apex is marked with concentric rings. Near the base is a small brownish scar. On section the cotyledon is greyish and oily.

Preparations : Powder of the seeds, and medicated oil.

Actions and Uses : The seeds are used as a purgative. The medicated oil prepared from the plant is used as a local application to rheumatic painful joints, paralytic limbs, and bad ulcers. The dried flowers are used internally in jaundice, nasal catarrh, and muscular rheumatism. They favour efflorescence of eruptive fevers.

Remarks : The flowers are used by dyers as a coloring agent. Rouge used by ladies to colour their cheeks and lips is made from these flowers.

ARTEMISIA MARITIMA.

THE FLOWERING HEADS AND YOUNG BRANCHES.

Kiramani ova કીરમની ઓવા *Kiramāni ajamo* (Guz.) *Kiramāni ovā* (Mah.) *Shiha*, *Sariphuna*, *Aphasañtina-ula-bahara* (Arab. and Pers.) *Gadādara* (Sans.) Worm seed (Eng.)

Characters : The drug is of a light brownish yellow or brown colour. It consists of very small, elliptical, numerous flower buds, flowering axils, and a portion of pieces of very slender stems. The whole is generally covered with a white down. Its smell is agreeably aromatic. The taste is bitterish and mint like. It consists of an essential oil of a peculiar smell and taste, a crystalline substance named santonine, resin, sugar, fat, and salts of lime.

Preparations : Paste.

Actions and Uses : It is an anthelmintic, deobstruent, and stomachic tonic, and used in cases of worms, flatulence, and dyspepsia. Locally a poultice of the flower buds is used to relieve pain from the bites of scorpions and other venomous reptiles.

Remarks : The word *Kiramāni ajamoda* is probably derived from *Kira* or *Kirda*, which means worms, *Māni* or *Māri*, to kill, and *Ajamoda*, the drug. This drug resembles *Ajamoda* in its pungent taste.

- 551 *℞. Kīramāni ová, Phudino*, each one part. Make a decoction. Dose : *drs. ii.*
Used in worms.
- 552 *℞. Kīramāni ová 2, Bhūiriṅgani bija 2, Nimadáná-bija 2, Indrajava 5, Nákkā chhikani 4, Ká-pura chinai 4.* Mix and make a powder.
Dose : *grs. x.*
Used in piles.
- 553 *℞. Kīramāni ajamo dr. i, Vávadiṅga dr. i, Sákara drs. iii.* Reduce the ingredients to a fine powder and mix.
Dose : *drs. ii to drs. iii* for adults; *grs. v to grs. x* for children.
Used in worms.
- 554 *℞. Kīramāni ajamo 5, Kátaphala 4.* Mix and make a powder. Dose : *gr. i to grs. ii.*
Used in flatulence, colic, and spasmodic affections.
- 555 *℞. Kīramāni ajamo dr. i, Ajamuda dr. i, Variáli dr. i, Rána tulasi dr. ½, Jáyapatri dr. ½.* Mix and reduce the whole to a fine powder.
Dose : *dr. ½ to dr. 1.*
Used in flatulence and colic.

GRANGEA MADRASPATANA.

THE PLANT.

Mashi patri మిశి పాత్రీ *Máshi pátri* (Mah.)

Characters : The leaves are pinnate, sinuous, and obtusely lobed with terminal peduncles. The flower heads are solitary, yellow, and sub-globose.

Preparations : Infusion.

Actions and Uses : The leaves are used as stomachic, anti-spasmodic, and deobstruent.

ARTEMISIA INDICA.

THE HERB.

Nagadovna नागदोवना *Nagadamaná* (Mah.) *Surapana* (Bom.) *Nagadavano* (Guz.) *Nágadoná*, *Mastáru*, *Majatáru* (Hind.) *Mastaru* (Beng.) *Aphasántin-e-hīndī* (Arab.) *Baliñja siphe kōhi*, *Bariñja siphe kōhi* (Pers.) *Nagadamani*, *Grāñthi pārani* (Sans.) Indian worm wood (Eng.)

Characters : The drug is of a brownish white or ash colour. The leaves are trifid or simple. It has an agreeable aromatic smell, and a bitter taste. The odour is due to the volatile oil it contains. The flowering branches are numerous. The flowers are small and in racemes. They are ashy and tomentose, especially on their under surface.

Preparations : Infusion, and decoction.

Actions and Uses : As a local sedative the drug is used in combination with other sedatives as a fomentation to the head in cephalalgia, to the joints in rheumatism, and over painful ulcers. Its other properties are stomachic tonic, antispasmodic, anthelmintic, and febrifuge. An infusion of leaves and flower tops is useful in obstructed menses, hysteria, epilepsy, and other nervous and spasmodic affections. It is also useful in debility, dropsy, and jaundice. It is an inferior substitute for *Vañjái* in intermittent fevers. It is also employed as a stomachic tonic in dyspepsia and liver diseases.

Remarks : The name *Nagadamaná* (Mah.) is also applied to *Crinum Asiaticum* with which it should not be confounded. The Arabic word *Aphasántina* is the true name for *A. Sieversiana*. It differs from *Artemisia Indica* by its odour which is more aromatic and camphoraceous, and its flowers, which are more ashy and tomentose. The fresh herb is obtainable with herbalists.

- 556 B. *Nágadovaná* 4, *Mastaki* 1, *Koshte tulkha* $\frac{1}{2}$, *Azakhara* 1, *Káli chuda* $\frac{1}{2}$. Mix, add *Movará ásava* 10, and keep for 7 days. Dose : dr. i to drs. iii. Used in melancholia, chronic diseases of the liver and spleen, old standing fevers, and atony of the stomach.

- 557 **℞.** *Nágadovaná* 5, *Anisuñ* 6, *Karaphasa* 4, *Chañdana* 4, *Asáruna* 4, *Azakhara* 5. Prepare a decoction in the usual way. Dose: oz. i to ozs. ii.

Used in melancholia, cachexia, and chronic diseases of the brain.

ARTEMISIA STERNUTATORIA.

THE PLANT.

Naka-chhikani নাকা চ্ছিকানী *Náka chhikani* (Mah.) *Chhikani* (Guz.)
Náka chhikani (Hind. and Beng.)

Characters : The drug is of a light or darkish ash brown colour. It consists of broken up pieces of stems or stalks which are furrowed and woody, of pieces of leaves which are cottony, and of flower heads which are small, roundish, of a yellow colour, and surrounded by oval bracts. The odour is pungent. The taste is acrid and bitterish.

Preparations : Powder.

Actions and Uses : Its powder is used as a sternutatory in headaches.

NAKA CHHIKANI.

- 558 **℞.** Take of *Náka chhikani* 2, *Arithá chhála* 2, *Navaságara*, *Tambákhu*, *Sapheda miri*, *Kadavi turái*, and *Kali chuno*, each one part. Mix and make a powder.

Used as an errhine in headache, hemicrania, giddiness, &c.

GUIZOTIA OLEIFERA.

THE SEEDS.

Ramatila, Kalatila রামতীলা, কালতীলা *Rámatila, Kálátila* (Beng., Hind. and Bom.) Niger seeds (Eng.)

Characters : The seeds are of a greyish black colour. In shape they are somewhat angular. They are compressed laterally and tapering at the base. Their surface is smooth. The taste is oily and nutty. The expressed oil from the seeds is sweet in taste and of a pale colour.

Preparations : Oil.

Actions and Uses : The oil is rubbed over the painful parts in rheumatism.

Remarks : The oil is a good substitute for *Mithun tela*. It is much used for culinary purposes and for making sweet-meats. *Rámatila* is also called *Kákitila* owing to the colour of the seeds resembling those of *Tila*, *Sessamum Indicum* (black variety.)

ACHILLÆA MILLEFOLIUM.

THE FLOWERS.

Roja mari रोज मारी *Roja mári* (Bom.) Tarrow (Eng.)

Characters : It is a perennial herb, with hairy, furrowed stems. The leaves are soft, hairy, linear, dentate, nine to twelve inches long, and of a dark green colour. The flowers are white and corymbose. It has a feeble aromatic odour, and a bitterish saline taste.

Preparations : Infusion and volatile oil.

Actions and Uses : The drug is a bitter aromatic, also tonic, astringent, and general stimulant. It possesses a peculiar action on the pelvic organs. As a bitter tonic it is used in atonic dyspepsia to promote appetite. In atony of the reproductive organs, as relaxation of the sphincter ani, discharge of mucous from the male urinary organ during defæcation, leucorrhœa and dysmenorrhœa, it is most efficiently useful. The lotion of it is applied to sore nipples with benefit. Its infusion is used as a gargle in relaxed sore throat. As a medicated vapour bath, it is used with *Cháha*, *Lavañdara-ná-phula* and *Dudha* in nasal catarrh and fevers.

Dose : Of the juice, oz. i ; of the oil, 20 drops.

Remarks : It can be had at herbalists.

VERNONIA CINEREA.

THE LEAVES AND FLOWER HEADS.

Sahadevi सहदेवी *Sadadi* (Mah.) *Sadeori* (Guz.)

Characters : The leaves are oblong, oval, roundish or ovate, slightly toothed, and of a darkish green colour. The flower heads are of a pale blue colour.

Preparations : Infusion, and decoction.

Actions and Uses : The plant is an alterative, bitter tonic, also anthelmintic, and used in leprosy and chronic skin diseases. A poultice of its leaves is a useful application in guinea worms. As a diaphoretic the plant is given in fevers.

Remarks : Fresh can be had at herbalists.

CENTAUREA BEHEN.

THE ROOT.

Sapheda bahamena सफेद बाहमना *Sapheda báhamena* (Hind. and Bom.) *Báhamana abida* (Arab.) *Báhaman-i-supheda* (Pers.)

Characters : The roots are of a light brown colour, and 1 or 2 inches in length. They are rather twisted, shrivelled, and two or three branched at their lower portion. The upper end of the root is blunt, where it is marked with blackish rings which are the remnants of sheath-leaves. In some roots the remains of leaf buds are seen resembling in shape to a bunch of grass. On section, it is white, homogeneous, and starchy. The odour is rather aromatic. The taste is mucilaginous and sweetish.

Preparations : Decoction, powder, and confection.

Actions and Uses : The root is a bitter tonic, powerful aphrodisiac, resolvent, and diuretic. It is prescribed in calculous affections and jaundice. As a mild aperient, it is similar in actions to rhubarb. It is a good substitute for *Sapheda musali*, and used for seminal debility, &c.

HRYSANTHEMUM ROXBURGHII.

THE FLOWER HEADS.

Sevati guladaudi सेवती गुलादी *Sevati* (Guz.) *Guladāudi* (Hind.) *Gule dāudi* (Pers.) *Gula chini*, *Gula chini-ke-phula*, *Shevañtika pusapama* (Sans., Hind. and Duk.) *Gula dāudi* (Beng.) *Sevañti-chá-phula* (Mah.)

Characters : The dried flower heads are of a pale brown colour. The corollas in some of the heads are detached ; in others they

are found to overlap the whole flower heads. On removing the corollas the bracts are seen. The bracts are silky. The flower heads are large or small, and of a white or yellow colour. When fresh, the odour is very sweet and agreeable. The taste is bitterish and rather mucilaginous. When chewed for a long time, a tingling sensation is produced on the tongue.

Preparations : Infusion, and syrup.

Actions and Uses : Combined with *Kálá miri* it is used as a demulcent in gonorrhœa. An infusion of it is used for the same purposes as chamomile flowers. A syrup of it is used as a stimulant.

Remarks : The flowers should be obtained fresh from herbalists.

559 *B. Sevati-ná-phula, Gulába kali, Nilota phara, Gul-i-banaphashá, Gáo zabána, Amalá, and Sákara.* Mix and make a powder.

Dose : *grs. v to grs. x.*

Used in congestion of the head.

APLOTAXIS AURICULATA.

THE ROOT.

Kutha कुथ Kushta (Mah.) *Upaleta* (Guz. and Bom.) *Kuta* (Hind.) *Kushta* (Sans.) *Patchaka* (Beng.) *Pokara mula* (Guz.)

Characters : The root is of a brown colour and very light. It occurs in crooked twisted pieces, which are brown externally, and marked with longitudinal ridges. The texture is very firm. On section, it is lightish brown, and here and there sprinkled with resinous, shining granules. The odour is somewhat aromatic, resembling that of *Jatlmánasi*. The taste is bitterish at first, but it soon becomes hot, pungent, and biting on account of the resin it contains.

Preparations : Paste, confection, and smoke.

Actions and Uses : *Upaleta* is a powerful aphrodisiac, aromatic, and stimulant. It is used in spasmodic diseases, cough, asthma, and deranged digestion. As an alterative it is also useful in chronic skin diseases. It is a diuretic, emmanagogue, lithontriptic, and vermifuge. As a vermifuge it never acts alone. Locally the powder is applied to wounds and ulcers with benefit. The dried root is an excellent and agreeable ingredient in pastiles used for

fumigations. It is smoked like *Glñjá*. It is used as a cooling application to sprains, contusions, and to the head in headache.

Remarks : It is used as an incense and a perfume. Its chief use is to protect clothes from the ravages of insects as moths. Other drugs similar in action to *Upaleta* and used to protect clothes are *Kapura*, *Miri*, *Pátacholi*, *Kapura káchari*, &c.

560 B. *Pokaramula* 5, *Sonachala* 4, *Triphalá* 3, *Siñdhava* 4, *Chitraka chhála* 2. Mix and make a powder.

Dose : grs. v.

Used in dyspepsia.

DHUPELA TELA.

561 B. *Upaleta* 1, *Kapura káchari* 2, *Agara* 1, *Chañdana* 1, *Golába kali* 1, *Válo* 1, *Pátcha páñdri* 1, *Nákhalá* 1, *Gahulá* 1, *Motha* 1, *Lobána kodiuñ* 5, *Mithuñ tela* or *Koparela tela* 40, *Sisama-ná-chhodáñ* 1. Mix and boil together over a gentle fire.

With the exception of *Lobána* and *Válo*, all the other ingredients are reduced to a coarse powder and mixed. The mass is put into a small earthen pot and then intimately mixed with *Koparela tela*. To this *Lobána* is subsequently added. The remaining space in the pot is now filled with *Válo*, and the whole wrapped up with a piece of cloth. This vessel is next inverted over another earthen vessel containing *Koparela tela*, and the two cemented together with clay. Thus prepared the whole is put into a fire made of fire wood for several hours, when the contents of both the vessels are intimately mixed together.

Uses : Itch, Baldness, &c. Ladies use it as a hair oil to relieve headache, kill lice, and remove scurf from the hair.

562 B. *Upaleta*, *Bábunáh*, *Godávaja*, equal parts. Mix and make a paste in rose water and apply.

Used as an application to the forehead in headache, hemicrania, &c.

ECHINOPS ECHINATUS.

THE PLANT.

Utakatara ઉતકતારા *Utakatara*, *Utakañto* (Guz.) *Utakatara* (Hind.)
Utakañtaka (Sans.)

Characters : The plant is one to two feet high. It is erect and much branched. The leaves are pinnatifid, their upper surface viscid, hoary, and tomentose. They are cottony beneath. The flowers are spiny and toothed. The flower heads are terminal, solitary, and globose. The root is tapering and of a whitish brown colour.

Preparations : Decoction, and expressed juice of leaves.

Actions and Uses : It is a bitter tonic, alterative, and diuretic. It is a chief ingredient in various diuretic and alterative tonic decoctions. It is used in coughs.

Remarks : It can generally be had at herbalists, but in a dry state. The plant is likely to be mistaken for *Bhuirīngani*. Both have similar spiny leaves. In *Utakatárá* the leaves are tomentose and cottony.

563 *B. Utakatárá* 5, *Khasakhasa* 5, *Gokharu* 6, *Sámbara phula* 4, *Kavacha* 4, *Khubakalána* 5, *Khorásáni ajamoda* 5, *Musáli kañda* 4, *Sákara* 10. Mix and make a confection.

Used in seminal weakness.

LOBELIACEÆ—The Dhavala order.

These are herbs or shrubs with a milky juice. The leaves are alternate and exstipulate. The fruit is capsular and dehiscent. The seeds are numerous and albuminous.

Properties : The milky juice is very acrid. Some of the species are narcotics.

LABELIA NICOTIANÆFOLIA.

THE PLANT.

Dhavala धावा *Dhavala, Bokenala, Deonala, Dhevala* (Mah.) Indian tobacco (Eng.)

Characters : The whole drug is studded with granules of resinous exudation. The leaves are large, finely serrated, and covered with simple hairs. The dried stalks are hollow in the centre. The flowers are in spikes and supported on a tubular stem. The fruit is globular. The capsules are about the size of a pea and two celled. The seeds are many and very small. They are oval, flattened, and marked with delicate lines. The colour is light brown. The plant is hot and acrid to the taste.

Preparations : Infusion.

Actions and Uses : An infusion of the leaves is used as an antispasmodic in asthma, either spasmodic or associated with pulmonary emphysema, chronic bronchitis or heart disease. As an emetic it is used in whooping cough, and in dyspnoea due to spasm in the bronchi. The seeds are very acrid, and when held before the nose or eyes, irritate them like tobacco snuff.

Dose : As an emetic, *grs. x* to *grs. xx*; as an expectorant, *gr. i* to *grs. v*.

Remarks: The word *Deonala* is derived from *Deva*, which means *Devá* or incantations, and *Nala* means a *Nali*, reed, or a tube. It is in allusion to their tubular reeds used for incantations. *Bokenala* literally means a poison (*Boka*) and tubular (*nala*). It means a tubular poisonous plant.

MYRSINACEÆ—The Vavadinga order.

These are trees or shrubs with coriaceous, exstipulate leaves. The flowers are small, perfect, or unisexual, followed by fleshy fruits.

The fruits of some of the species are considered to be anthelmintic, aromatic, and astringent; some are pungent.

EMBELIA RIBES.

THE BERRIES.

Vavadinga वावडींग *Vāvadiṅga* (Bom.) *Bāberaṅga* (Hind. and Beng.) *Baberaṅga* (Duk.) *Babiāṅga* (Beng.) *Vāealaṅga* (Guz.) *Bāva-diṅga* (Mah.) *Vidaṅga* (Sans.) *Birañj-i-kābali* (Arab. and Pers.)

Characters : The berries are slightly aromatic. They have an astringent and pleasant taste. They are globular. When fresh, they are in large bunches, and of a reddish dark colour. In old berries the colour is deep dark. Each berry is of the size of a *Miri* or *Chinikabálá*. At the base of it is a five-toothed calyx, with a small adherent stalk. Where the calyx is absent a hole is apparent. At the apex there is a short micro, from the bottom of which five prominent ridges run downwards and outwards, and converge towards the base. Between the ridges the surface of the berry is marked with several longitudinal ribs or nerves. On section the pericarp is brittle. Within it is a seed, which is hard, oily, of a pale brown colour, and covered with a thin membranous reddish testa.

Preparations : Powder, decoction, and paste.

Actions and Uses : This drug is an alterative tonic, and given in chronic skin diseases. As an anthelmintic, carminative, and stomachic, it is useful in dyspepsia, tape worms, and to prevent flatulence. An infusion of it is useful in every sickness to prevent the bad effects of cold water drinking. A paste of it is used locally in ring worm and other skin diseases. When taken for a long time, it is found to turn the urine red. Under its use the worm is expelled dead, and hence in cases of worms castor oil should be given at night and the drug to follow the next morning.

Remarks : The berries are used to prevent the effects of old age. They are often adulterated with *Kálá miri*. *Kálá miri* are much larger than *Vāvadiṅga*, and highly wrinkled, while the *Vāvadiṅga* berries are smooth. *Kálá miri* have no peduncle or stalk, the berries of *Vāvadiṅga* have a peduncle attached by a persistent calyx. *Kálá miri* are pungent, whereas the *Vāvadiṅga* berries are not so. *Vāvadiṅga* berries form a chief ingredient in the composition of several prescriptions for skin diseases. *Miri* is used in carminative prescriptions.

- 564 B. *Vávadiṅga* drs. $1\frac{1}{2}$, *Nishota* dr. $\frac{1}{2}$, *Kapilo* grs. xl, *Máluṅgá-ni-chhála* drs. ii. Prepare a decoction in the usual way. Dose : for an adult, oz. i to ozs. ii ; for a child, one or two tea spoonfuls two or three times till the bowels are freely moved.

Used as an anthelmintic.

- 565 B. *Vávadiṅga*, *Seṇdhálona*, *Harade*, *Bákuchi*, *Rái*, *Halada*, *Karaṅja-ná-bija*, equal parts. Make a paste in cow's urine.

Used in ring-worm and other chronic skin diseases.

SANJIVANI GOTIKA.

- 566 B. *Vávadiṅga*, *Suñṭha*, *Pipali*, *Bála harade*, *Ámalá*, *Behedāñ*, *Vekhañda*, *Galo*, *Bhilámo*, each 5 parts, *Bachanága* 1 part. Triturate, add *Madha*, and make a pill mass. Dose : grs. v.

Anupána : To be given in the juice of *Adraka*.

Used in indigestion, diarrhœa, and apoplexy.

OLEACEÆ.

These are trees or shrubs with opposite, simple, sometimes pinatifid leaves. The flowers are terminal, axillary, and in racemes or panicles. The pedicels are opposite, and with single bracts. The fruit is a drupe or berry. The capsule is one or two celled. The seeds are with a dense fleshy albumen.

Properties : The plants of this order are generally astringent, demulcent, and emollient.

FRAXINUS ROTUNDIFOLIA.

THE MANNA.

Sirakhista शिरखिस्ता *Sirakhista máu* (Guz.)

Characters : The manna oozes out of the leaves, the bark of the trunk, and large branches. It bursts through large pores sponta-

neously. *Sirakhista* occurs in flat pieces. The fragments are viscid. Each piece varies in size. It is from 2 to 4 inches in length, and 1 to 1½ inches in breadth. The colour is yellowish white. In appearance it resembles country *Kapura*. It is sweet in taste and of a sugary odour.

Preparations : Substance or paste.

Actions and Uses : It is a mild aperient given to new born infants if the meconium do not come away freely. It is a good laxative for delicate persons, females, and children.

Dose : *drs.* ii for children, *oz.* i for adults.

Remarks : *Khorásáni sirakhista* is another species of *Fraxinus*.

JASMINACEÆ—The Chambeli order.

These are shrubs, often twining, with opposite leaves, very fragrant flowers, and capsular or berried fruits.

The leaves of some of the species are astringent bitter, and tonic. The flowers are fragrant, and abound in a volatile oil.

JASMINUM GRANDIFLORUM.

THE LEAVES AND FLOWERS.

Chambeli चम्बेली *Chambeli* (Hind. and Bom.) *Jate* (Beng.)

Characters : It is a twining shrub. The leaves are opposite and pinnatifid. The leaflets are pointed, and entire. The flowers are large, white and very fragrant. The drug has a bitter and astringent taste.

Preparations : Juice of the leaves and scented oil.

Actions and Uses : The leaves are used medicinally in skin diseases. The juice of the leaves and oil is dropped into the ear in otorrhœa. The leaves are chewed by those who suffer from aphthœ or from ulcers in the mouth. The whole plant is anthelmintic, deobstruent, diuretic, and emmanagogue. As an aphrodisiac a poultice of the leaves is recommended as an application over the genitals, pubes, and loins. Fresh juice of the leaves is applied to soft corns with relief.

NYCTANTHES ARBORTRISTIS.

THE FLOWERS, LEAVES, AND SEEDS.

Harasingara हरसिंगारा *Hárasinghára* (Hind.) *Pára játaka*, *Rajani kasá*, *Sephalika* (Sans.) *Párataka* (Bom.) *Siuli* (Beng.)

Characters : The flowers are tubular, and of a dull whitish yellow colour. Their tube is orange red. They are very fragrant and have a strong agreeable perfume. They open at sunset and wither before morning. The leaves are opposite, short petioled, oblong, pointed, and coarsely serrated. The fruit when dry is flat, oblong, and divided into two cells, each containing a seed which is of a dark brown colour. The seed is bitter and very astringent. The leaves when chewed stain the saliva yellow.

Preparations : Decoction of seeds, infusion of leaves, and paste of seeds.

Actions and Uses : Fresh leaves are bruised and given with brown sugar or ginger (fresh) in obstinate intermittent fever. The seeds are used locally to remove scurf from the scalp. A decoction of the leaves is also useful as a specific in obstinate cases of sciatica and rheumatism.

Remarks : Fresh can be had at herbalists. The flowers are used as a dye, the white portion of the flowers as a purple dye, which the Indians call *Gulakamah*, and the orange portion as a yellow dye.

JASMINUM SAMBAC.

THE FLOWERS.

Mogara मोगरा *Sumana*, *Samana*, *Yásamana*, *Varde abyaza* (Arab.) *Gule supeda* (Pers.) *Mogará-nu-phula* (Guz.) *Mogará*, *Mogareká phula* (Hind. and Duk.) *Mogará*, *Mogará phula* (Beng.) *Mogaráchá phula* (Mah.) *Varashiki* (Sans.) *Mogari* (Bom.)

Characters : The flowers are white and large, and have a delicious fragrance. The corolla is double. The calyx is greenish yellow with many slender teeth.

Preparations : Oil.

Actions and Uses: The flowers are said to be a powerful lactifuge. A poultice of them applied to the breasts arrests the secretion of milk in the puerperal state and prevents formation of mammary abscesses. The oil is cooling.

Remarks: Both can be had fresh from herbalists. A variety of the above plant is a double flowered *Mogaro*, known as *Bata Mogarā* (Hind.) or *Bata Mogaro* (Guz.)

SAPOTACEÆ—Mohora order.

It consists of trees or shrubs, often with a milky juice, with simple, entire, coriaceous, exstipulate leaves, and white, pale yellow, or pinkish flowers, also fleshy fruits containing large seeds. The seeds of several species contain a fatty oil. The bark is a bitter astringent, and febrifuge.

MIMUSOPS ELENGI.

THE BARK AND FLOWERS.

Bakuli बाकुली The tree: *Bolasari* (Guz.) *Bakuli oli*, *Teñdu* (Bom.) *Vakula* (Sans.) *Gholasari*, *Bholasari* (Duk.) *Bakala* (Beng.) *Maulasari*, *Bolasari* (Hind.) *Pomme d' Adami* (Port.) *Voula* (Mah.) The flowers: *Bakuli phula* (Bom.) *Bakula phula* (Mah.) The bark: *Bukuli chhāla* (Bom.) *Bakāla chhāla* (Mah.)

Characters: It is a highly ornamental tree. The epidermis of the fresh bark is of a darkish brown colour. The bark is tough, fibrous, rather scabrous, and marked with short, irregular fissures. Internally it is of a reddish brown colour. The whole bark is brittle and breaks transversely. The smell is rather disagreeable. The taste is slightly bitter and astringent. The dried bark is thin and occurs in quills. The flowers are small, white, and fragrant. The berry is oval, and smooth. The unripe fruit is astringent and full of milk. The ripe fruit contains no milk, but a yellow pulp.

Preparations: Decoction, and infusion.

Actions and Uses: The bark is a tonic and astringent, and useful in catarrh of the bladder and urethra, also as a gargle in salivation, sore mouth, looseness of the teeth, and in spongy

gums. Water distilled from the flowers is a useful stimulant. The unripe fruit when chewed is said to strengthen loose teeth. The powdered flowers produce copious discharge from the nose and relieve headache.

Remarks : The ripe fruits are sweet and astringent, and are largely used as edible fruits. The flowers are used as garlands or wreaths to wear round the neck on account of their perfume which they contain and retain when dry. The juice of the bark and unripe fruits is used by silk dyers to fix colours.

BASSIA LATIFOLIA.

THE FLOWER, BARK, AND SEEDS.

Mahuda महुडा *Mohová-nu-jháda*, *Mahudo* (Guz.) *Mohará*, *Mohá*, *Mová* (Hind.) *Mohavá*, *Mohá* (Duk.) *Mohuvá* (Beng.) *Madhuka vriksha* (Sans.) *Drakht-i-gula chakana* (Pers.) *Mohechá jháda*, *Ippichá jháda* (Mah.) The bark : *Mová chhála* (Mah.) The flowers : *Mová phula* (Mah.)

Characters : The ripe flowers have a smell like that of *Jaradálu*. They have a sickly acid and sweet taste. When dry they resemble in appearance and colour to *Drákhsha*. They are fleshy, and sticky when compressed. They are hollow bodies with an aperture at both ends. The upper end is much larger and many toothed. Within the hollow there are several light brownish or pink coloured, hairy anthers. The flowers are deciduous. They soon wither, and are found in large quantities under the tree every morning. The bark is reddish and cracked somewhat.

Preparations : Flowers, and concrete oil of the seeds.

Actions and Uses : The bark is bitter and astringent. The fresh juice of the bark is used in rheumatic affections. The fermented juice of the sugary flowers is heating, astringent, tonic, and appetizing. The flowers are nutritive tonic, cooling and also intoxicating. They form a vehicle in many cooling and demulcent mixtures. Many tribes use dried flowers as a staple article of food. An infusion of flowers is given with sugar for the relief of thirst, burning of the body, and giddiness. They are also used in coughs. The concrete oil is used as an application to the head in headache.

Remarks : The oil is used in the manufacture of soap. A kind of spirit is distilled from the flowers. The spirit resembles Irish

whisky. Its flavour is strong and smoky. The spirit is very extensively used in the preparation of native plaster known as *Lepa*.

Jaṅgali Mohá or *Bána Mohavá* is another species known as *Bassia longifolia*.

567 *B. Movará* 5, *Shevana chhála* 4, *Ratáñjali* 5, *Válo* 4, *Dháná* 6, *Drákhsha* 10. Prepare an infusion.

Dose : *dr.* $\frac{1}{2}$ to *dr.* i.

Used as a cooling drink in burning heat of the body.

568 *B. Movará* 5, *Saresha* 4, *Medá lákadi* 5, *Eliyo* 4, *Sonachala* 3, *Erañdi* 3, *Sájikhára* 4, *Haláda* 5. Make a paste and apply.

Used in anasarca over ædematous swellings.

MIMUSOPS HEXANDRA.

THE BARK AND SEEDS.

Ranajana chhala रानजना के छाला *Kerani*, *Rána*, *Ránajana chhála* (Guz.) *Rájana*, *Rájani* (Mah.) *Kshiri* (Hind.) *Khiraakhejura* (Beng.) *Rájdani*, *Kshiri* (Sans.)

Characters : It is a pretty tree. The leaves are broad and wedge shaped. The fresh bark consists of several layers. The most external layer is smooth and of an ash colour. Next to it is a green layer; within it or the innermost is red. This layer contains the milky juice. The wood is very tough. The seeds are of a darkish brown colour, smooth, and shining. The testa is brittle, and breaks with a crackling noise. The kernel is reddish brown and oily. The taste of the bark is bitterish and pungent, that of the seeds oily and acrid.

Preparations : Decoction, and paste.

Actions and Uses : The bark is used for the same purposes as that of *Mohará* and *Bakuli*. A paste of the seeds is useful to procure abortion.

Remarks : The ripe yollow fruits are deliciously sweet, and highly restorative, also aphrodisiac. They are largely eaten by the natives in Guzerat. They are called *Rána kákari*. In Bombay the dried fruits are generally sold by hawkers who call them *Amadávádi mevo*. The word *Kheri* is derived from *Khshiri* (Sans.) which

means milky or deliciously juicy. The word *Rājádani* is a corruption of *Rājani* (Mah.) *Rājádani* is derived from *Rāja*, King, and *Adani*, an edible substance or fruit. It means an edible fruit which is highly prized by the Rajas.

STYRACEÆ—The Lobana order.

These are trees or shrubs, with simple, alternate, and exstipulate leaves. The flowers are axillary, followed by drupaceous fruits which are more or less fleshy.

This order is remarkable for yielding stimulant balsams, and resin. The bark of some plants is highly antringent.

STYRAX BENZOIN.

THE GUM RESIN, AND THE ACID.

Lobana लोबना *Lobána* (Arab. and Beng.) Benzoin or Gum Benjamin (Eng.) The benzenic acid : *Lobána-ká-ala*, *Lobána-ká-phula* (Hind.) *Lobána phula* (Bom.) *Auda-ká-sata* (Duk.) *Lubána*, *Huse lubána* (Arab.) *Hasulubah* (Pers.) *Lobána* (Hind.) *Auda* (Duk.) *Devá dhupaha* (Sans.) *Sáma brani* (Mah.) *Lobána sámabrani* (Guz.)

Characters : The gum is a fragrant balsamic resin. It is an exudation obtained by longitudinal or somewhat oblique incisions made into the bark of the stem. The liquid on exposure to the air becomes concrete. *Lobána* occurs in separate tears or in masses often mixed with a pitch like dark exudation. It has a very little taste. *Lobána-ná-phula* are light feathery plates, nearly white, and have a strong odour of *Lobána*. The taste is sour and warm. It burns with a bright yellow flame. There are several varieties : some are highly fragrant and occur in masses of a dark brown colour mottled with white. Another variety occurs in tears of a greyish colour but is of an inferior quality. The superior quality is called *Korio lobána* from the fact of its containing tears, which are similar in size and somewhat in shape and colour to *Kauris*.

Preparations : Gum resin, and acid.

Actions and Uses: The gum has the general effects of balsams. It is used extensively as an incense. Its fumes are often inhaled

in sore throat. As an incense it is used in fever owing to its containing resin and volatile oil. *Lobána* is often used internally in phthisis and asthma. It is useful in pulmonary catarrh, chronic bronchitis, chronic diarrhoea, and dysentery. It should never be used in acute inflammatory diseases or in cases of gastric irritability. As a good healing and local stimulant a paste of *Lobána* made in *Movará-nodáru* is a useful application to foul and indolent ulcers, over cut surfaces where it acts as a cement, and over contused wounds. *Lobána-ná-phula* is useful in diseases of the air passages and coughs. Its use is highly beneficial in cases of alkaline urine and urinary diseases with copious deposit in the urine. In the form of a suppository it is used in uterine discharges.

SYMPLOCOS RACEMOSA.

THE BARK.

Lodhra *लुधरा* *Lodhra* (Mah.) *Lodara* (Guz.) *Lodhra* (Bom., Hind. and Beng.) *Lodhra tilaka* (Sans.)

Characters : It occurs in pieces or in quills. The colour is light or brick brown. The external surface is rugous. It is very soft and friable. It can easily be powdered. On section the marginal portion is reddish and very soft; that about the middle is yellowish and fibrous looking, the fibres being very soft. The taste is sweetish and astringent. The odour is agreeable and aromatic.

Preparations : Powder and decoction.

Actions and Uses : The bark is a cooling, astringent, also aperient and useful in diarrhoea and other discharges. The decoction is used as a gargle in relaxed and bleeding gums. The bark has a specific action in menorrhagia due to relaxed state of the uterine vessels, and also in cases of profuse discharges due to a relaxed condition of other mucous membranes. In bowel complaints, it is given with nuxvomica and *Bela*. It is one of the ingredients used in the preparation of a plaster known as *Lepa*. It promotes maturation and resolution of malignant growths. As an astringent it is used as a wash for eye diseases and ulcers.

Remarks : The bark is used as a mordant by dyers of red cloth.

- 569 B. *Lodhra*, *Jethimadha*, *Phataki*, *Rusata*, *Āmalā*, *Upaleta*, equal parts. Mix, make a paste in water or *Mohavā āsava* and apply.

Used in contusions and bruises, and as a collyrium for the eyes.

- 570 B. *Lodhra* 2, *Rusata* 1, *Nágara mothā* 2, and honey 3. Mix, and make a paste.

Used as a gargle for bleeding gums.

APOCYNACEÆ—The Satavari order.

This order is composed of trees or shrubs usually with acrid, milky juice. The leaves are entire, commonly opposite, sometimes whorled or scattered, generally smooth, and with parallel veins. The flowers are of a rose white or yellow colour.

Many of them are intensely poisonous, although the fruits of some species are edible. Some are drastic purgatives. In others the bark and the seeds are tonic, febrifuge, and astringent.

OPHIOXYLON SERPENTINUM.

THE ROOT.

Chandra चन्द्र *Chhotā chānda* (Hind.) *Chāndrá* (Beng.) *Harakāi* (Bom.) *Sarpagōndha* (Sans.)

Characters : The root occurs in pieces. Each piece is from 3 to 5 lines in diameter, crooked, and somewhat tapering. The bark is soft, corky, of a light brown colour, and marked with longitudinal fissures. On section the cut portion presents the appearance of a honey comb. The wood is brittle. The odour is acrid and the taste very bitter.

Preparations : Powder, and decoction.

Actions and Uses : The root is used as a febrifuge. It acts as an antidote to bites of venomous reptiles. It is also useful in dysentery and other painful intestinal diseases. It is said to procure abortion if given to pregnant women.

HOLARRHENA ANTIDYSENTERICA.

THE BARK AND SEEDS.

Indrajava इन्द्रजा The tree : *Doulá kudá* (Bom.) *Pāṇḍhrá kudá* (Mah.) *Kureya*, *Kaureya* (Hind.) *Kurachi* (Beng.) The bark : *Kudá-~~chhá~~lá*, *Kureya chhála* (Bom. and Hind.) *Kutaja* (Sans.) Conessi bark (Eng.) The seeds: *Kadavá indrajava*, *Kudá bija* (Hind. and Bom.) *Indrayava*, *Kaliṅga* (Sans.) *Lisán-ula-asaphira-ala-mura*, *Zabán-i-jaṅgishk-i-talka* (Arab.) *Kháo kurro* (Goa.)

Characters : The stem bark is thick and often twisted or quilled. The colour is dirty white or snuff like. The surface is rugous. It is brittle. It is soft internally and of a pale brown colour. The taste is slightly bitter at first, which soon becomes intensely increased, and resembles that of *Ránajáti* leaves. The root bark is of a reddish brown colour. It is less thick than the stem, and studded with prominent, small, warty growths. The taste is very bitter. The seeds are whitish, and resemble in colour to those of *Taja*. In size they are about $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, linear, oblong, compressed, and channelled on one side. In shape they resemble *Java*. The taste is bitter.

Preparations : Decoction and powder.

Actions and Uses : The bark is a tonic and febrifuge. It is highly useful in dysentery. The seeds are astringent, febrifuge, and anthelmintic, and used in fever, dysentery, worms, and diarrhoea. They are carminative, and useful in chronic chest diseases as asthma. They are also useful in colic, and to allay the vomiting in cholera. As a lithontriptic and aphrodisiac, they are highly prized. Pessaries of the bark and seeds are supposed to favour conception. They are used after delivery to give tone to the soft parts.

Remarks : *Indrajava* is seldom given alone. It is generally prescribed in combination with a number of aromatics and astringents. The word *Indrajava* is derived from the Sanscrit *Indrayava*. It is the name of a small hand instrument used by their God *Indrava*. The instrument resembles in shape a *Juva* which means a grain seed. The Guzarati name *Indrajava* means the seeds resembling *Java* grains. *Zabán-i-jaṅgishk-i-talkha* means a bitter sparrow's tongue.

- 571 *B.* *Indrajava* 5, *Nagara motha* 4, *Lodhra* 5, *Bela* 5, *Mocharasa* 3, *Dháuri phula* 4. Mix and make a powder. Dose : *dr.* $\frac{1}{2}$.

Used in bowel complaints, and dysentery.

- 572 *B.* *Indrajava* 5, *Kákachio* 4, *Vávadiṅga* 5, *Seṇdhálona* 4, *Jáepatri* 3. Mix and make a paste in *Madha*. Dose : *grs.* x to *grs.* xv.

Used in diarrhœa in children.

- 573 *B.* *Indrajava* 5, *Pipali* 4, *Pipalimula* 4, *Bhúraṅgi* 3, *Ajamuda* 4. Mix and make a powder. Dose : *grs.* x to *grs.* xv.

Used to check vomiting, and in dyspepsia.

- 574 *B.* *Indrajava* 5, *Lodhra* 4, *Venivela* 4, *Bela* 5, *Lála chitraka* 2, *Trikatu* 4, *Jámbula chhála* 3, *Dálimba chhála* 5, *Dháuri phula* 4, *Kutaki* 5, *Ativisha* 5, *Jiruṇ* 5, *Nagara motha* 5, *Dáru halada* 4, *Kariátu* 5, *Kutajá chhála*, equal in weight to all the above ingredients. Mix and make a powder. Dose : *dr.* i to *drs.* ii.

Used in dysentery and intestinal worms.

- 575 *B.* *Indrajava* 5, *Eliyo* 2, *Morathuthu* 1, *Gaṇdhaka* 2, *Palása pápado* 4, *Himaja* 5, *Ámalá* 3, *Phataki* 2, *Variáli* 2. Mix and make a powder. Dose : *grs.* x to *grs.* xv.

Used in indigestion, colic, and constipation.

KUTEJA VALEHA.

- 576 *B.* *Kudá chhála*. Make a decoction *ozs.* xx. To this add *Jaggary drs.* v, *Rasavaṇti drs.* ii, *Mocharasa drs.* ii, *Trikatu drs.* ii, *Triphalá drs.* ii, *Chitraka dr.* i, *Venivela drs.* ii, *Bela phala drs.* iii, *Indrajava drs.* v, *Vekhaṇda drs.* iii, *Bhilámo dr.* i, *Ativisha drs.* v, *Vávadiṅga drs.* iv, *Válo drs.* iv, *Madha drs.* xi. Mix well. Dose : *oz.* $\frac{1}{2}$ to *oz.* i.

Anupána : To be given in milk or *Chhása*.

Used in dysentery, piles, diarrhœa, &c.

- 577 B. *Kudá chhála* 5, *Mocharasa* 3, *Mañjitha* 2, *Venivela* 3, *Bela* 5, *Motha* 6, *Dháuri phula* 6, *Abraka* 2, *Lahuna sára* 4. Mix and make a powder.

Dose : grs. x to grs. xv.

Used in menorrhagia, and other uterine discharges.

- 578 B. *Kudá chhála* 5, *Sákara* 5. Mix and boil with water till reduced to a syrupy consistence ; then add *Java khára* 2, *Pañcha lavana* 2, *Pipalimula* 3, *Dháuri phula* 4, *Indrajava* 4, *Jiruñ* 4, and make a fine powder. Dose : dr. i.

Anupána : *Madha páñi*.

Used in acute and chronic dysentery.

- 579 B. *Kudá chhála* drs. ii, *Bela* drs. ii, *Dálimba-ni-chhála* (dried) dr. i. Rub them together into a fine powder.

Dose : grs. xx to grs. xl.

Anupána : *Madha* or *Sákara-no-siro*.

Used in diarrhoea and advanced stages of dysentery.

ALLAMANDA CATHARTICA.

THE LEAVES.

Jheri Sonataka जेरी सानताका *Jheri sonataká* (Mah.) *Jheri sañtaka* (Bom.) Chimney glass (Eng.)

Characters : It is a climbing shrub. The leaves are elliptical, lanceolate, and on a short petiole. They are arranged in fours round each stem. The flowers are large and funnel or chimney shaped.

Preparations : Powder, and infusion.

Actions and Uses : In small doses the leaves act as a cathartic. In large doses they are emetic and purgative. The powder is used in lead colic, biliousness, and constipation.

Remarks : The fresh leaves should be obtained from herbalists. The flowers resemble in shape to glass chimneys and hence the name chimney glass given to the plant.

WRIGHTIA TINCTORIA.

THE SEEDS, AND BARK.

Kala kuda काला कुडा *Kālā kuda* (Mah.) *Kālā kudā* (Hind.) *Kālā kura* (Bom.) *Mithā indrajava* (Guz.) *Gods indrajava* (Mah.) Sweet Indarjao (Eng.)

Characters : The bark over the stem is of a reddish brown colour and smooth. The root bark is dark brown or black, and here and there marked with warty growths. It is slightly bitter, and tinges the saliva red. The seeds are greyish brown. They are more pointed at the ends than those of *Karavá indrajava*. They are marked with irregularly longitudinal fissures, some of which have a tendency to become channelled. On section the interior is homogeneous, and of a darkish red or brick red colour.

Preparations : Decoction.

Actions and Uses : The root bark is used as a tonic and febrifuge. In combination with other vegetable bitters, it is given in bowel complaints and during convalescence from fever and other acute diseases.

NERIUM ODORUM.

THE ROOT.

Kanera कानरा The plant : *Kanera* (Mah.) *Kaniyera* (Guz.) *Kanera*, *Kanela*, *Karabera* (Hind.) *Karabi* (Beng.) *Ashvamāraka*, *Kāravira* (Sans.) *Sum-ula-himara*, *Kharazahrah* (Arab.) *Diphali* (Pers.) Sweet scented Oleander (Eng.) The root : *Kanera-mula* (Bom., Mah. and Hind.) *Sapheda kanera-ni-jada* (Guz.)

Characters : The root is crooked. The bark is of a pale white colour. Externally it is thick and corky. The surface is marked with very small longitudinal fissures. The odour is acrid. On section the internal portion is of a very white colour. The wood is pale yellow and porous. The taste of the root is acrid and bitter.

Preparations : Paste and medicated oil.

Actions and Uses : The root is a cardiac poison when taken internally. Under its use the heart beats fall from 75 or 80 to 10 or 12.

If continued for some time the heart ceases to beat, and with it the respirations. A paste of it is applied to chancres and ulcers on the genitals. A decoction of the root is a useful application to various inflammatory swellings. The root is often used to procure abortion and for the purposes of self destruction. Villagers use it as a remedy for colic. The oil is used as a local application in skin diseases such as eczema, impetigo, &c.

Remarks : There are two varieties of *Kanera* : with pure white flowers, and with white red flowers. The former is preferred for medicinal use.

The Sanscrit synonym *Ashva māraka* is derived from *Ashva*, a horse, and *Māraka*, a killer. The root if given to a horse will kill the beast. The fresh root can be obtained from herbalists.

580 B. *Kanera mula* 5, *Tila tela* 10, *Chitraka mula* 1, *Vāva-diṅga* 1. Mix, and prepare an oil in the usual way. Used in eczema, impetigo, &c.

CARISSA CORUNDAS.

THE FRUITS.

Karonda कर्ण्डा *Karamadā* (Guz.) *Karavaṇḍa* (Mah.) *Kariṇḍā* (Bom.) *Karoṇḍā* (Hind.) *Karamachā* (Beng.) *Karamaradaka* (Sans.)

Characters : The fruits are oval and resemble in size to *Phālasāṇ*. The unripe fruits are milky and of a greenish colour. Their surface is shining and smooth. In taste they are astringent and acid. When ripe their colour changes to pale purple, dark purple, or black, and the milk is changed to a delicious sweet pulp.

Preparations : Syrup and juice of fruits.

Actions and Uses : The fruits are stomachic, and used in biliousness. The unripe fruit is astringent, and used in preparing preserves and pickles. The ripe fruit is cooling and refrigerant. The juice of ripe fruits mixed with *Sākara* and *Elachi* is used as a cooling drink during the hot weather.

Remarks : The fresh fruits can be obtained from herbalists. They ripen in May.

PLUMERIA ACUMINTA.

THE BLUNT BRANCHES, LEAVES AND MILK.

Kherachampa धर चंपा *Dholo-champo* (Guz.) *Sapheda chāmpā* (Hind. and Bom.) *Kishirā champaka* (Sans.)

Characters : The plant is milky. It has several blunt truncated branches. The leaves are long, lanceolate, acuminate, smooth and with parallel veins.

Preparations : Poultice.

Actions and Uses : The leaves are used as a poultice to reduce indolent swellings. The juice is a counter irritant and applied to relieve rheumatic pains. The root is a violent cathartic. Its branches are used like those of *Chitraka* to procure abortion.

Remarks : The name *Khera chāmpā* is derived from the Sanscrit synonym *Kshira* which means milk. The plant is very milky. The fresh plant can be obtained from herbalists.

CERBERA THEVETIA.

THE BARK.

Pila kanera पिला कंर Pivalā kanera (Mah.) *Kolka phula* (Beng.)

Characters : All parts of this plant abound in milky juice. The juice is poisonous, and has an acrid smell. The oil expressed from the kernel of the nuts is of a yellow colour and has an agreeable mild taste resembling that of *Badāma-nu-tela*. Externally the fresh bark of the wood is of an ash colour, soft, corky, and brittle. Internally it is white, also soft and full of milky juice. The odour is disagreeable.

Preparations : Infusion and powder.

Actions and Uses : The bark is bitter and said to possess antiperiodic properties. It is given in remittent and intermittent fevers. In large doses it acts as an emetic and purgative. The oil is used externally in skin diseases.

Remarks : Fresh can be obtained from herbalists. The word *Pivalā kanera* is derived from the colour of its flowers which is yellow and saffron-like. The colour of the foliage resembles that of oleander and hence the name.

ALSTONIA SCHOLARIS.

THE BARK.

Satavina मल्लिका Satavina (Mah.) Chhatiana (Hind.) Chhátina (Beng.) Sátavana (Bom.) Sapta párná, Vishála-tvāka, Vrihata-tvaka (Sans.)

Characters : It occurs in flat pieces of from 2 to 4 inches long, one to two inches broad, and about $\frac{1}{4}$ of an inch in thickness. It is very light and soft. The external surface is of a darkish brown colour and deeply longitudinally fissured. On section the bark is of a pale or yellowish brown colour. The interior is soft, spongy, and resinous looking. The smell is disagreeable, and acrid. The taste is bitter. It is highly fragile and readily yields a yellowish powder.

Preparations : Decoction and injection.

Actions and Uses : The bark is said to be a powerful tonic, antiperiodic, and alterative, and useful in fever, bowel complaints, and skin diseases. It is also an astringent and anthelmintic. As an antiperiodic it can safely be used in fever in very large doses without causing deafness of quinine. It is one of the ingredients of alterative decoctions used for gout, rheumatism, &c. As an astringent it is useful to check diarrhœa.

Doses : Decoction of the bark, oz. i.

Remarks : The bark contains an active principle supposed to be equal in efficacy to quinine. It is given internally and used as an injection into the rectum in remittent and intermittent fevers. The specific term Scholaris is in allusion to the planks prepared of the bark of this species covered with sand and used as school boards. In old days children used to trace letters upon these planks. *Satavina* is a corruption of the Sanscrit name *Sapta párná* which is derived from *Sapta*, which means seven, and *parná*, leaves. This is in allusion to the plant having verticels each bearing from 5 or 7 leaves. The word *Vishála-tvaka* or *Vriha-tvaka* is derived from *Vishála* or *Vriha*, which means broad or large, and *tvaka*, dark, the *Satavina* bark being large or broad and of a dark colour.

581 B. *Chhatiana*, *Giloe*, *Nimadá-ni-chhála*, *Bhojapátra*, equal parts. Prepare a decoction. Dose: oz. $\frac{1}{2}$ to 1 $\frac{1}{2}$.
Used in catarrhal fever.

ASCLEPIADEÆ—The Upalasari or milk weed order.

In this order there are shrubs or herbs, which are generally milky and frequently of a twining habit. The leaves are opposite, entire, and exstipulate. The flowers are of a pink, greenish yellow, white, or purple colour. The fruits are with two follicles which, when the fruit is ripe, run at an acute angle or diverticate, and thus resemble the two horns of a calf. The seeds are woody, and frequently comose. Other characters and properties are allied very nearly to those of Apocynaceæ. The plants of this order contain chiefly a bitter acrid juice, which renders them stimulant, emetic, purgative, and diaphoretic. Some species are antidotes to poisoning by snake bites. The roots of some are aromatic and alterative. The root bark of *Mudúra* is a good substitute for Ipecacuanha, that of *Upalasari*, for Sarsaparilla.

GYMNEMA SYLVESTRE.

THE ROOT AND LEAVES.

Kavali కవల *Kávali* (Mah.) *Meshasiṅgi* (Hind. and Bom.) *Meshashrīṅgi* (Sans.) *Parapatraha* (Duk.) *Merasiṅgi*, *Chhotá-dudhilata* (Beng.)

Characters : It is a milky shrub of a twining habit. The leaves are from 4 to 5 inches long, ovate, lanceolate, and of a dark green colour. They are shining above, and pale beneath. The root is about the size of the little finger, and resembles in appearance to that of *Anāntamula*. The wood is tough. The bark is spongy and of a reddish brown colour. It becomes loose on drying. The taste is acrid and saltish.

Preparations : Powder, and decoction.

Actions and Uses : The powder of the root is applied as a soothing agent to the parts bitten by insects or a snake. The decoction is a refrigerant and administered internally in fevers. The root is said to have properties similar to those of Ipecacuanha. The leaves triturated and mixed with castor oil are applied externally to swollen glands and enlarged internal viceras, as the liver and spleen.

Remarks : The Sanscrit synonym *Meshashringi* is derived from *Mesha* which means a sheep, and *Shringi*, having horns. This is in allusion to the follicles resembling the horns of a sheep. The leaves when chewed for a time benumb the sense of taste, and hence *Sákara*, *Lavaṅga*, or *Miri* put on the tip of the tongue after the leaves are chewed is rendered tasteless.

CALOTROPIS GIGENTEA ET C. PROCERA.

THE ROOT BARK, LEAVES, AND FLOWERS.

Ankado अङ्कडो *Ákaro*, *Rui* (Bom.) *Ákado* (Guz.) *Rui*, *Mánadára* (Mah.) *Ákadá*, *Mudára*, *Áka* (Hind.) *Ákaṇḍa* (Beng.) *Ushara* (Arab.) *Kharka* (Pers.) *Alarka*, *Arka* (Sans.)

Characters : The plant abounds in an acrid milky juice. It is a shrub of an ash colour, and of a peculiarly fœtid odour. The root is tapering and thick. The root bark is of a pale white colour, corky, soft, and fissured longitudinally. The taste of the bark is corky and bitter. The odour is peculiar. It is the most acrid of all *asclepias*. The wood is porous, yellowish, and light. The leaves are thick, oblong, rather acuminate, and stem-clasping at the base. Their upper surface is smooth, the under surface pale. The flowers are star-shaped, of a pink or dark purple colour, rather large, and showy.

Preparations : Infusion, *Lepa*, powder, and pills.

Actions and Uses : All parts of the plant are used in medicine. They are alterative when given in small doses. The root bark is a chologogue, alterative, anthelmintic, and diuretic. It is useful in enlargement of the liver and spleen, skin diseases, intestinal worms, ascites, and anasarca. As an alterative it is useful in dysentery, secondary syphilis, spasmodic diseases, leucoderma, &c. The powdered root bark made into bougies is smoked as an inhalation in coughs. A paste of it is a useful application to elephantiasis of the legs and scrotum. The milky juice is believed to procure abortion. It is a caustic, also an emetic, and a purgative. As an alterative and diaphoretic, it is a very good substitute for *Ipecacuanha*. As a caustic it is used in combination with the juice of *Netario thuvara* for closing sinuses and fistulæ in ano. The juice mixed with *Rasota*, made into tents, and introduced into the rectum relieves tenesmus. The juice dropped on a piece of cotton and applied to a painful tooth

relieves the pain of toothache. As a depilatory it is used by tanners, and also by women for removing hair from the pubes and other parts. It is a useful local application for the relief of painful joints and swellings, and for the cure of ring worm of the scalp. Locally the leaves are used as fomentations to relieve the pain in the chest or to cure tympanitis. As a poultice they give relief to inflammatory swellings. The leaves roasted with rock salt and then powdered, are given in ascites and enlargement of the liver and spleen. The flowers are tonic, stomachic, and digestive, and used in cough, asthma, &c. The rind or bark of the root is preferable to the root itself.

Dose : The powdered bark of the root, as an emetic, *dr.* $\frac{1}{2}$ to *dr.* i; as a diaphoretic and alterative, *grs.* x to *grs.* xx.

Remarks : There are two varieties of *Ākadā* : the white and red. In Sanscrit works both are mentioned as *Alarka* (white), and *Arka* (red.) Each is distinguished by the colour of its flowers. Fresh should be obtained from herbalists.

582 **B.** *Ākadā* juice 12, *Halāda* 1, *Mithuñ tela*, 6. Mix and make an oil.

Used in eczema of the scalp, and other eruptive diseases of the skin.

CEROPEGIA ACUMINATA ET BULBOSA.

THE BULBOUS ROOT.

Patala tumbodi पातल तुम्बोदी *Pātālatumbadi* (Mah.) *Khappara kadu* (Bom.)

Characters : The roots are bulbous. The tubers are of a dark colour and smooth externally. The apex is slightly depressed, with a constriction at the other end. On section they are white, pith like, and starchy. In size they resemble small eggs. When chewed they are mucilaginous and somewhat bitter.

Preparations : Powder.

Actions and Uses : The tubers are edible, and used as a nutritive tonic and digestive in bowel complaints of children.

PEUTATROPIS MICROPHYLLA.

THE ROOT.

Shingroti शिंग्रोती *Shiṅgroti* (Guz.)

Characters : It is a creeper with thick, smooth, and fleshy leaves. The leaves are from 1 to 2 inches long and from 1 to 1½ inches broad. They are cordate, ovate, and with a very small sharp point at the apex. The stem is very slender. The root is as thick as the little finger. It is of a pale brown colour externally, and white within. The smell of the root is camphoraceous, and the taste acrid.

Preparations : Decoction.

Actions and Uses : As an alterative and purifier of blood, the root is used in rheumatism and chronic diseases.

Remarks : It is a constant ingredient in alterative decoctions.

HEMIDESMUS INDICUS.

THE ROOT.

Upalasari ઉપલાસારી *Upalasari* (Guz.) *Zaiyāna*, *Ausabātunnāra* (Arab.) *Yasamine-barri* (Pers.) *Anāntamula*, *Jaṅgali chaubeli* (Hind. and Beng.) *Sugaṇḍhi pālā* (Duk.) *Anāntā mula*, *Gopimulama sugaṇḍhi* (Sans.) *Uperasāra* (Bom.) *Ulapala sārivā* (Sans.) *Indian sarsaparilla* (Eng.)

Characters : The root is cylindrical and tortuous. The bark of the root is fissured longitudinally, and cracked or broken transversely. Within the bark is the wood which is hard and of a yellow colour. The colour of the bark is light. The odour is aromatic and camphoraceous. The taste is sweet but somewhat acrid.

Preparations : Infusion.

Actions and Uses : The root is considered to be a sweet demulcent, alterative, and tonic. It is given in dyspepsia, skin diseases, and syphilis. As a diuretic, an infusion of it is highly useful in scanty and high coloured urine. It is also a good diaphoretic. In fevers with loss of appetite and disinclination for food, it is very useful. As an alterative it is given in skin diseases, scrofula, syphilis, &c.

Remarks: It is never given alone. It is generally given in combination with vegetable bitters and aromatics. *Uparasari* is a corruption of the Goanese term *Uperakao*. It is an efficient substitute for sarsaparilla.

Karañta (Hind.) *Barleria preonitis* is frequently given by druggists under the name of *Upalasári*. Fresh should be obtained.

583 *B. Upalasari* 5, *Válo* 4, *Motha* 5, *Kutaki* 6, *Suñtha* 4.

Mix and make a powder. Dose : *dr.* $\frac{1}{2}$.

Used in chronic diseases of the skin, syphilis, &c.

DCEMIA EXTENSA.

THE ROOT AND LEAVES.

Uterani ઉતરની *Utarani mula* (Mah.) *Nágali dudheli* (Guz.) *Dhodhavela*, *Dudhavela* (Sind.) *Utrana jutuka* (Hind.) *Chhá-gula-bati* (Beng.)

Characters : It is a twining plant. The leaves are roundish, cordate, acuminate, and pubescent. They are auricled at the base. The odour is mousy and peculiar. The taste is faintly bitter and nauseous. The root is long, slender, and of a dirty white colour. The root bark is wrinkled and longitudinally fissured. It is marked with scars of fallen rootlets. The wood is whitish and porous, and arranged in wedges.

Preparations : Decoction and juice of leaves.

Actions and Uses : The plant is extremely irritant. Its actions are similar to those of Scammony. A decoction of leaves is said to be useful as an emetic and expectorant. It is given to children in asthma. The juice of leaves is an anthelmintic. Locally the juice of the leaves mixed with *Chuno* is applied to rheumatic swellings with relief. The root is supposed to be an expectorant.

Dose : *grs.* x of the powdered root ; *oz.* i of the decoction.

Remarks : Fresh can be obtained.

Haranadori (Mah.) and *Titta kuñga* (Beng.) *Hoya viridi ficra* is a large shrub with green flowers which are in drooping umbels. Its properties are similar to those of *Uterani*. The roots and tender stalks are intensely bitter and nauseant. The leaves are employed as poultices to boils and abscesses.

LOGANIACEÆ—Niramali or Kuchala order.

This order is composed of shrubs, herbs, or trees. The leaves are opposite, entire, and stipulate. The fruits are capsular or drupaceous. The seeds are generally peltate, sometimes winged and albuminous. All plants are almost poisonous. They act on the nervous system and produce frightful convulsions. Some are used in torpid or paralytic conditions of the muscular system; others are tonic and anthelmintic, but their use requires much caution. They can generally be given in very small doses.

Niramali: These seeds are known from a long time and are useful in removing impurities from water.

STRYCHNOS COLUBRINA.

THE WOOD.

Goagari-lakari ગોગારી લાકરી *Kuchila-lata* (Hind.)

Characters: The wood is of a light brown colour and sometimes covered with a scabrous soft bark which is of a dark brown colour. It is porous and hard. The smell is acrid. The taste is very bitter.

Preparations: Infusion, and paste.

Actions and Uses: It is said to be a febrifuge, tonic, anthelmintic, and local sedative. In cutaneous diseases its application alleviates pain and removes swellings. As a febrifuge it is useful in obstinate quartan agues. As a tonic it is given in dyspepsia and malarious cachexia.

STRYCHNOS NUX VOMICA.

THE SEEDS AND WOOD.

Jhera kochala જર કેચલા *Kachula*, *Kuchali*, *Kájará* (Guz.) *Kuchalá* (Mah.) *Kuchilá* (Hind. and Beng.) *Izáráki* (Arab.) *Kacholáh* (Pers.) *Kupilu*, *Kulaka*, *Vishatīnduka*, *Vishamusati* (Sans.) *Nux vomica*, Poison nut, Quaker's button (Eng.)

Characters: The fruit is of the shape, size, and colour of Mozambique or an orange. The rind is smooth, polished, and shining.

It is an indehiscent berry. On section large quantities of bitter, sticky, gummy fluid escape. Within the pulp are from 1 to 5 seeds. The seeds are disc-like or roundish, of the size of a quarter to half a rupee piece, and about an inch in diameter. Each seed is about 3 or 4 lines in thickness. It is slightly concave on the dorsal, and convex on the ventral surface, with a depression in the centre. The outside edge is bevelled. It has a small protuberance from which a raphe projects to the hilum. In structure it is hard and horn like. It is of a light grey or greenish colour. The surface is shining and silky. On section the cotyledon is homogeneous and of a pale white colour. It is very difficult to powder. The taste is very bitter. The wood occurs in slices about an inch in length and covered with a light brown bark which is rough and warty in some parts.

Preparations : Powder, paste, and confection.

Actions and Uses : The powder of the seeds when given in small doses is a tonic, astringent, and aphrodisiac. It is useful in paralysis, relaxation of muscles and tendons, general debility, and chronic rheumatism. In dyspepsia it is also given with benefit. It should not be given in paralysis dependent upon a recent central-lesion. It is useful in chronic cases and where the cerebral symptoms are stationary. In functional paralysis due to anæmia of the chord, general exhaustion, excessive venery, hysteria, mental emotion, gout, and rheumatism its effects are well marked. In cases of alcoholic, opium, or lead poisoning; in diphtheritic paralysis, paralysis of the rectum and of the bladder leading to retention or nocturnal incontinence of urine as occurs in children; in sexual impotence, spasmodic diseases as vomiting of pregnancy, chorea, and epilepsy *Kuchalá* acts like a charm. In neuralgia of the face and gastralgia it is of signal benefit. As a bitter tonic it is given in combination with antacids and carminatives in dyspepsia with eructations, vomiting of food, and habitual constipation. In tympanitis it is given with antifermentives as salysilic acid. It is given with success in diarrhoea and dysentery (chronic). It is a nice vermifuge. It cures diabetes if given for a long time. Its efficacy is much increased by giving it with *Daríá nárala*. The wood is used as an application to the head in headache.

584 B. *Kuchalá* 2, *Miri* 4, *Suñtha* 5, *Sámbara siṅga* 3. Mix, make a paste and apply.

Used over swollen glands in odema of the hands, feet, and abdomen.

- 585 B. *Kuchalá* 2, *Málakágani* 10, *Khorásáni ajamoda* 10, *Dhaturá-ná-bija* 2, *Sonágeru* 3, *Kaloñji* 8, *Afima* 1. Mix and make a powder. Dose : grs. x

to grs. xv.

Used in cough and restlessness at night.

CHANDRA PRABHA GUTIKA.

- 586 B. *Kuchalá*, *Vekhañda*, *Motha*, *Kariátu*, *Gulavela*, *Devadáru*, *Haláda*, *Ativisha*, *Dáruhaláda*, *Pipalimula*, *Chitraka*, *Dháná*, *Triphalá*, *Chavaka*, *Vávadiñga*, *Trikatu*, *Soná mukhi* (*Dagadi*) *bhashma*, *Javakhára*, *Sájikhára*, *Pañcha lavana*, each 1. To this add *Nishotara*, *Dáñtimula*, *Tamálapatra*, *Dálachini*, *Elachi*, *Vañsalochana*, each $\frac{1}{2}$, also *Loha bhashma* and *Sákara*, each 4 parts, *Silájita* 8, and *Gugala* 16. Mix and make a pill mass. Dose : grs. viii to

grs. xv.

Used in gonorrhœa, scanty urine, gravel, constipation, flatulence, colic, anœmia, lumbago, rheumatism, piles, chronic skin diseases, fistula in ano, &c.

STRYCHNOS POTATORUM.

THE SEEDS.

Niramali निरमली *Niramali* (Mah., Bom., Hind. and Beng.) *Ambuprasáda*, *Kataka* (Sans.) Clearing nuts (Eng.)

Characters : The seeds are button shaped, and smaller in size than those of *Kuchalá*. Each seed has on its border a projecting ridge. The bulk of the seed is made up of albumen which is horny. It is not so hard as that of *nux vomica*. The seed is tasteless.

Preparations : Infusion and paste.

Actions and Uses: *Niramali* is devoid of poisonous properties. It is an alterative tonic, stomachic, and demulcent. Mixed with *Madha* and *Kapura* it is applied to the eye to strengthen the sight, to prevent lachrymation, and to remove opacities. When applied to the

abdomen it relieves colic. Its infusion is recommended in irritation of the urinary organs, gonorrhœa, diabetes, and also as an emetic in coughs.

Doses : Of the powder as an emetic, *dr.* $\frac{1}{2}$; as a demulcent, *grs.* x to *grs.* xv.

Remarks : The word *Niramali* is derived from *Nira*, not, and *Mala* or *Mela*, dirt or mud. The seeds are used for clearing muddy water. This property is supposed to be due to their containing albumen and caseine. The Sanscrit synonym *Ambuprasāda* has also a similar meaning. *Ambu* or *Amba* means water, and *Prasāda*, to do good or purify. It purifies evil deeds, also removes impurities from water.

STRYCHNOS IGNATI.

THE SEEDS.

Papita *٧٧٢١* *Papitā* (Arab.) *Papetān* (Bom. and Hind.)

Characters : The seeds are about an inch in length. In form they are irregular, ovoid, flat, or bluntly angular, and covered with silvery hairs. The epidermis is brown or of a dull grey colour. They contain horny albumen. They are intensely bitter and have an earthy smell.

Preparations : Powder.

Actions and Uses : They are highly poisonous. They are used in doses of from grain one or two in cholera, and also in asthma, dropsy, and piles. A paste of them is useful to reduce swellings.

GENTIANACEÆ—The Kariatu order.

These are herbs or shrubs. The leaves are generally smooth, opposite, simple, entire, sessile, and strong nerved. The flowers are showy, of a yellow, rose, blue, or white colour, and followed by capsular fruits.

Properties : The properties of this order are tonic, febrifuge, and stomachic. A bitter principle pervades in them universally.

GENTIANA Sp.

THE WHOLE PLANT.

Gul-i-ghaphitha ગુલે ઘાફિથ Gul-i-ghaphitha (Hind. and Bom.)
Ghaphitha (Pers. and Arab.)

Characters : The drug is of a pale reddish or brownish colour. It consists of stems and pieces of flowers mixed with some portions of grass, and spines of *Sukāi*. The stem is furrowed, smooth, and tubular. The flowers are violet or purple coloured, and arranged in cymes. The corollas are gamopetalous, long, and 5 toothed. The pistils and stamens are of a darkish colour. It has a rather disagreeable smell. The taste is bitter, slight at first then it becomes most powerful.

Preparations : Decoction, and poultice.

Actions and Uses : It is a febrifuge, bitter tonic, stomachic, aperient, antiseptic, anthelmintic, and emmanagogue. As a bitter and stomachic, it is given in dyspepsia. It excites appetite, and strengthens digestion, but does not constipate. As a febrifuge it is used in low fevers. As an emmanagogue it promotes menstrual discharge. As a deobstruent it is used in hepatic and splenic obstructions. Locally it acts as an antiseptic poultice over chronic ulcers. A decoction of it is given to children to expel worms.

OPHELIA MULTIFLORA.

THE PLANT.

Kadavi nai-no-palo કડાવી નાઈનો પાલો Kadavi nāi (Mah.) Kadavi nāi-no-pālo (Guz.) *Silājita* (Duk.)

Characters : The plant is from 6 to 20 inches long. The stem is quadrangular. The leaves are opposite, three nerved, and stem-clasping. They are smooth and rather thick. From the axils of these leaves, several small white sessile flowers are given off. The whole plant is very bitter.

Preparations : Decoction and paste.

Actions and Uses : The plant is a bitter tonic and febrifuge, also a stomachic and laxative. It is useful for all the purposes for

which chiretta is used. With neem bark it is given in fevers. As an antiperiodic, its decoction is given with black pepper.

Remarks : It is a good substitute for gentian.

OPHELIA CHIRATA.

THE PLANT.

Kariatun किरातुन *Kirāta* (Mah.) *Chirayata* (Bom. and Hind.) *Chiretā* (Beng.) *Kirāta tikta*, *Bhu-nimba* (Sans.) *Chiretta* (Eng.)

Characters : The drug consists of the whole plant except the leaves. The root is woody and knotty. It irregularly gives off several small rootlets. The bark of the root is of a pale brown colour. The wood is pale yellow. The stems vary in thickness from 2 to 5 lines. They are of an orange brown or dark purple colour. They are about 2 or 3 feet high, cylindrical in the lower, and quadrangular in the middle and upper part. They are jointed and pithy. The surface is smooth. The flowering portion is sometimes present in the drug. The flowers are in cymes. They are of a dark brown colour. The whole plant is intensely bitter. The intensity is most marked in the flowers.

Preparations : Infusion, paste, and *Churana*.

Actions and Uses : It is a valuable bitter tonic, laxative, anthelmintic, and antiperiodic. An infusion of it excites appetite, strengthens digestion, but does not constipate. It is highly useful in atonic dyspepsia, marked intermittent and other agues. It is given in combination with aromatics. It is also useful in bilious affections and burning heat of the body. A paste of *Kariātu-ni-pāndri*, *Harade*, with *Miri* and *Kutaki* is a popular remedy for chronic fevers.

Remarks : The Sanscrit synonym *Kirāta tikta* is derived from *Kiratta*, which means an out-caste race of mountaineers in India, and *Tiktā*, a bitter. The plant is very bitter, and common over the mountains, hence the name. The word *Bhunimba* is derived from *Bhu*, earth, and *Nimba*, Neem. This is in allusion to its growth being diminutive or close to the earth, and to its bitter qualities resembling those of *Nimado*. An inferior variety of *Kariātu* is known as *Mithu Kariātuñ*. *Mithu Kariātuñ* is distinguished from the *Kirāta tikta*, by the absence of the central pith and by the want of bitterness. The active principle of the drug is intensely bitter to taste.

LAGHU SUDARASANA CHURANA.

- 587 B. *Kariātuñ* 5, *Pipali* 1, *Pipalimula* 1, *Galo* 1, *Suñṭha* 1, *Limbadā-ni-chhāla* 1, *Kutaki* 1, *Haradāñ* 1, *Lavañga* 1, *Taja* 1. Mix and make a powder.

Dose : dr. $\frac{1}{4}$ to dr. i.

Used in fever, loss of appetite, &c.

- 588 B. *Kariātuñ* 5, *Kadu* 5, *Galo* 4, *Motha* 4, *Devadāra* 4, *Nishotara* 3, *Vāvadiñga* 4, *Ajamo* 5, *Suvā* 5, *Vālo* 5, *Kāsani* 4, *Shājirā* 6, *Sonāmukhi* 6. Mix and make a decoction.

Dose : ozs. $1\frac{1}{2}$ to ozs. iii.

Used in fever with constipation.

- 589 B. *Kariātuñ* 5, *Dasamula* (the ten drugs) 4, *Devadāra* 3, *Suñṭha* 4, *Motha* 3, *Indrajava* 4, *Suvā* 5, *Kutaki* 5, and *Gajā pipali* 4. Mix and make a decoction in the usual way.

Dose : oz. $\frac{1}{2}$ to oz. i.

Used in fever with typhoid symptoms. In some cases *Bachanāga* is added.

- 590 B. *Kariātuñ* 4, *Gulañcha* 3, *Drākshā* 5, *Āmalā* 4, *Jadavāra* 3. Mix and make a decoction.

Dose : oz. $\frac{1}{2}$ to oz. i.

Used in chronic fever.

- 591 B. *Kariātuñ* 5, *Limado* 5, *Pipali* 3, *Kachorā* 3, *Suñṭha* 4, *Satāvārī* 3, *Gulavela* 5, *Bhāriñgani* 3. Mix and make a decoction in the usual way.

Dose : oz. i.

Used in pulmonary diseases, dry cough, biliousness, and fever.

- 592 B. *Kariātuñ* 5, *Devadāra* 4, *Suñṭha* 4, *Nagara motha* 6, *Kutaki* 5, *Indrajava* 6, *Dhānā* 5, *Ativisha* 5, *Bachanāga* 2, *Somala bhashma* 1. Mix and make a powder.

Dose : grs. xv to grs. xx.

Anupāna : *Dasa mulā dikvātha*.

Used in fever with drowsiness, delirium, picking of bed clothes, and difficulty of breathing.

SUDARASHANA CHURANA.

- 593 B. *Kariātuñ* 5, *Triphalá* 6, *Lavañga* 5, *Harade* 4, *Dáru-halada* 3, *Riñgani* 2, *Kuchalá* 3, *Suñṭha* 4, *Miri* 5, *Pipali* 5, *Pipali mula* 4, *Maravela* 4, *Gulavela* 3, *Dhamáso* 4, *Kutaki* 6, *Pita pápada* 4, *Motha* 4, *Tráyamána* 3, *Limado* 3, *Kutha* 3, *Jethi madha* 5, *Kudá chhála* 4, *Ajamoda* 4, *Indrajava* 6, *Bháriñgani mula* 3, *Shegata bija* 3, *Phaṭaki* 4, *Vekhañda* 5, *Taja* 5, *Padma káshatá* 3, *Válo* 4, *Rakta chañdana* 4, *Ativisha* 6, *Chikaná páta mula* 3, *Sálavana* 3, *Pitavana* 3, *Vávadiñga* 4, *Tagara* 3, *Chitraka* 2, *Devadára* 2, *Chavaka* 3, *Pátcha* 3, *Vaṇsalochana* 4, *Kamala phula* 4, *Tamálapatra* 3, *Jávañtri* 4, *Talisapatra* 4. Mix and make a powder.

Dose : grs. xv to grs. xx.

Used in chronic fevers.

The Sanscrit word *Sudarashana* is the name of the principal implement of war used by the Hindu God Vishnu. The shape of the weapon is like that of a carriage wheel (*Chakra*) and is mythologically supposed to be the only most powerful instrument to cut off or remove Devils' heads. The similarity is traced to the *Sudarashana Churana*, a powder which is supposed to be so efficacious as to suppress, dispose of, or cure any or every, bad or virulent fever.

- 594 B. *Kariātuñ* 10, *Gulavela* 8, *Gáozaána* 6, *Dháná* 8, *Kháraka* 6, *Sákara* 10, *Khákashira* 8. Mix and make a decoction. Dose : oz. i to ozs. 1½.

Used in fever and biliousness.

HIPPION ORIENTALE.

THE PLANT.

Mamejavo ममेजवो *Chhotá kirayata* (Bom.)

Characters : It is a small plant, growing in damp places. It is about a foot or more in height. The leaves are opposite, lanceolate, or oblong. The flowers are small, white, and sessile.

Preparations : Infusion, powder, and paste of leaves.

Actions and Uses : It is a good substitute for *Kadavi nli*. It is a bitter stomachic and laxative, and used like other vegetable bitters.

BIGNONIACEÆ—The Tetu order.

These are trees, or twining or climbing shrubs. The leaves are exstipulate, usually opposite, simple, conjugate, compound, or supra de compound. The supra de compound leaves are very large as found in *Tetu*. The flowers are irregular and often beautiful. They are of a yellow, brown, red, pink, or purple colour. The capsules are compressed. The seeds are many and winged.

Properties : This order is very little used in medicine. The bark of some of the species is anthelmintic and astringent.

CALOSANTHES INDICA.

THE ROOT BARK.

Tetu द३ *Tetu mula*, *Kharasiṅga*, *Bahmanajatu* (Mah.) *Tetu* (Guz.) *Aralu*, *Saunā* (Hind.) *Nāsonā* (Beng.) *Tetu*, *Phalaphura* (Bom.) *Syonāka* (Sans.) The bark: *Tetu chhāla* (Hind.)

Characters : The root bark is of a light yellow colour. It has an offensive smell and an acrid taste. The bark of the stem is rough, and marked with large scars of fallen leaves. It is also thickly studded with wart-like protuberances. The internal surface is very yellow.

Preparations : Powder, infusion, decoction, and medicated oil.

MEDICATED OIL : It is prepared by boiling *Tile tela* in the decoction of *Tetu chhāla* over a fire till the watery portion is evaporated.

Actions and Uses : The root bark is a bitter tonic and stomachic. It is useful in diarrhœa and dysentery. It is given in combination with *Mocharasa*. The oil is a good application in otorrhœa. The powder and infusion of the bark is a most powerful diaphoretic. The drug is slightly anodyne. A bath prepared with the bark is frequently employed in rheumatism.

Doses : Of the powder from *grs. x* to *grs. xv*.

Remarks : The root bark is an ingredient in *Vrahada Pañcha mula* of the *Dashmula dikvātha*. Fresh should be obtained.

Tetu powder when combined with opium is a much more powerful sodorific than the compound powder of *Ipecacuanha*.

Mersingee is a species of *Bignoniaceæ*. It has the reputation of being used to procure abortion.

SESAMEÆ—The Tila or Jingili order.

These are glandular and often glutinous herbs, with entire, dentate or lobed, and exstipulate leaves. The flowers are axillary, large, tubular, irregular, and of a pink white, or variegated, beautiful colours. The fruits are bony or capsular.

The plants are remarkable for their oily seeds. The leaves are demulcent, and mucilaginous. The capsules of some species, are diuretic, and demulcent.

PEDALIUM MUREX.

THE FRUIT AND LEAVES.

Ubha gokharu ઉભા ગોકઘર *Kadavá gokharu* (Guz.) *Bará-gokharu* (Hind. and Bom.)

Characters : The plant is low spreading, and succulent. The leaves are oval, dentate, and obtusely pointed. The fruit is pendulous and four angled. It has a straight spine at the base of each angular ridge. When fresh the fruit is green and succulent. The dry fruit is corky. The seeds are elongated and narrow. They are 4 in number. The fresh plant has a peculiar, disagreeable, musk-like odour.

Preparations : Confection, infusion, and decoction.

Actions and Uses : A watery infusion is a favourite and excellent demulcent in dysuria and gonorrhœa. It is also used as a diuretic, lithontriptic, antispasmodic, and aphrodisiac. A decoction of it is used in irritation of the urinary organs and colic. The fresh leaves and young shoots dipped in boiling milk and kept for a few minutes give the milk a bitter and mucilaginous taste. The milk so prepared is used as an aphrodisiac, in seminal debility.

Remarks : The dried fruits are the *Ubhá* or *Kadavá gokharu*. Those of *Tribulus terrestris* are known as *Beththá* or *Mithá gokharu*. The fresh plant can be obtained during the rains.

SESAMUM INDICUM.

THE SEEDS AND EXPRESSED OIL.

Tila दल The plant : *Simasina*, *Julajulāna* (Arab.) *Jingili* (Eng.)
The seeds : *Tala*, *Tila* (Guz. and Bom.) *Tila* (Hind. and Beng.)
Kinjāda (Pers.) The oil : *Tila tela*, *Mithuñ tela* (Beng.) *Goda tela*
(Bom.) *Julagishama*, *Duhu-ula-hala* (Arab.) *Jinjili tela*, *Suchaphala*
(Sans.) *Jingili oil* (Eng.)

Characters : There are 3 varieties of *Tila* seeds: black, white, and red. Of these the black and white are used in medicine and yield the largest quantity of oil. The red is inferior. The seeds are ovoid and flat. The taste is oily and sweet. The oil has no strong taste nor any odour. It is less liable to become rancid or thick.

Preparations : Oil, decoction, confection, and paste.

Actions and Uses : The seeds are used as an article of diet, as an ingredient in confectionary and as a meal. Medicinally they are demulcent, emollient, laxative, nourishing, fattening, diuretic, and lactagogue. As a laxative they are useful in removing constipation and to regulate the bowels, and hence useful in curing piles. As a demulcent the seeds and the oil are useful in dysentery. As a diuretic they are given in urinary diseases. As an emollient their decoction is prescribed with linseed in cough. As an aphrodisiac they are given with aphrodisiac confections. A poultice of the seeds is a useful application to promote healthy action of ulcers. The oil is useful in preparing plasters, ointments, and other medicated oils. *Tila tela* forms an ingredient of several fragrant oils used as inunction before bathing.

Remarks : The word *Tela*, Sanscrit for oil, is derived from *Tila*, the seeds of which were one of the first used to extract *Tela*, oil. The oil extracted from *Sarasuñ*, *Rái*, *Mohará*, *Badáma*, &c. was also called *Tela*, but with this difference that their specific names were prefixed to the word *Tela*.

- 595 *B.* *Tila tela* 40 parts. To this add a paste made of *Mañjitha* 5, *Halada* 6, *Lodhra* 5, *Triphalā* 6, *Kevadā-nu-mula* 4. Boil the mixture till the whole of the water has evaporated and strain.

Used as an application in cases of paralysis, stiff joints, lumbago, &c.

- 596 *B.* *Tila tela* ozs. iv, *Mañjitha* dr. i, *Trikatu* dr. i, *Halada* dr. i, *Lákha* drs. ii, *Haritāla*, *Manasila*, each grs. xx, *Gaṇdhaka*, *Ākadā-nu-dudha*, each drs. ii. Mix and apply.

Used in eczema, scabies, lichen, &c.

- 597 *B.* *Tila tela* 100 parts, *Bachanāga* 8 parts, *Karañja-mu-tela*, *Halada*, *Dáruhalada*, *Ākadā-nu-mula*, *Kanera*, *Tagara*, *Vácha*, *Rakta chaṇdana*, *Majitha*, *Nirguṇḍī*, *Sátavina*, each 4 parts. Mix all the ingredients except *Tila tela* and make a powder. To this add cow's urine and Jingili oil, and boil.

Used in proriasis, prurigo, leucoderma, &c.

MARTYNIA DIANDRA.

THE NUTS.

Vichhida चिहडा *Vichhidá* (Guz.) *Viñchhu* (Mah.)

Characters : The fruit is a fleshy capsule and contains a hard, black, woody, wrinkled nut with two hooks which are sharp and curved, thus resembling a beetle.

Preparations : Paste.

Actions and Uses : Its action is local. When applied it is said to have a curative effect upon the bites of venomous reptiles such as scorpions, &c.

Remarks : The natives call it *Viñchhu* because of its resemblance to a beetle.

EHRETIACEÆ—The Bhurundi or Hathisundha order.

The plants of this order are shrubs or generally weeds. They much resemble those of Boraginaceæ, but differ from them in bearing drupaceous fruits which are on terminal styles.

TIARIDIUM INDICUM.

THE LEAVES.

Bhurundi भुरुन्दी *Bhuruṇḍi* (Mah.) *Háthi suṇdhána* (Guz.) *Háthi-shurá* (Hind.) *Shri-hastuna* (Sans.)

Characters : It is an herbaceous, erect, or rather procumbent plant, generally hairy all over. The leaves are cordate, ovato-oblong. The surface is much wrinkled and rugous. The colour is green or darkish green. The flowering spikes are scorpioid and longer than the leaves. They are densely flowered at one side. The flowers are very small and tubular. The tubes are 4 sided and hairy. Their colour is pink or pale blue.

Preparations : Juice.

Actions and Uses : The plant is said to be an astringent. The juice is useful locally to allay and reduce the pain from the sting of insects. It is also applied to gum boils and pimples on the face with benefit.

Remarks : The word *Háthi suṇdhána* is derived from *Háthi*, which means an elephant, and *Suṇḍha*, a trunk. This is in allusion to the spikes of the flowers being curved like the trunk of an elephant, or like a scorpion.

Fresh can be obtained from herbalists.

CUSCUTACEÆ—The Amaravela or Kasusa order.

This very small order is generally allied to Convolvulaceæ. The plants in this order have a parasitic habit. The leaves are absent, the stems are generally yellow coloured, wiry, and succulent. The flowers have scales alternating with the corolline lobes. The seeds are small, resembling those of Convolvulus plants.

The property of the order is said to be purgative.

CUSCUTA SP.?

THE STEM.

Aphatimuna अफातिमुना *Aphatimuna* (Hind.) Dodder (Eng.)

Characters : The drug consists of pieces of stems which are of a light brown colour. Each piece is wiry, compressed, and striated. It has a somewhat aromatic smell and an astringent bitter taste.

Preparations : Powder and decoction.

Actions and Uses : The stem is used as a purgative. It is given in combination with other purgative decoctions.

598 R. *Aphatimuna* 3, *Ghārekhuna* 2, *Bisaphāeza* 2, *Lavaṅga* 2, *Gāozabāna* 2, *Soṇpha* 2. Prepare a decoction in the usual way. Dose : oz. i to ozs. ii.

Used in melancholia and chronic organic diseases of the brain.

599 R. *Aphatimuna* 5, *Āmalā* 4, *Shāterāh* 5, *Bisaphāeza* 3, *Ustekhudusa* 2, *Gulāba kali* 5, *Anisuṇ* 4, *Madha* 10. Prepare a confection in the usual way.

Dose : drs. ii to drs. iv.

Used in melancholia and chronic organic diseases of the brain.

600 R. *Aphatimuna* 5, *Gāozabāna* 4, *Pharaṇja mushka* 4, *Sarako aṅguri* 10, *Sākara* 6. Macerate the drugs in vinegar for 10 hours; then boil for half an hour, and strain. Add *Sākara* to the liquid, and dissolve by heat to the proper consistence of an oxymel.

Dose : drs. $1\frac{1}{2}$ to drs. iii.

Used in chronic diseases of the brain and cord.

CUSCUTA REFLEXA.

THE PLANT.

Tukhm-i-kasusa گزرا کسوسا *Ākāsavela* (Guz.) *Amaravela* (Hind.)

Tukhm-i-kasusa (Pers.) Dodder (Eng.)

Characters: The drug is mixed with pieces of stems; small, oblong leaves; broken up flowers; seeds, &c. It is of a brownish yellow colour, of an aromatic odour, and a bitterish taste. The pieces of stems are slender, wiry, and longitudinally furrowed. The flowers are pedicelled and cupped. Each cup has several teeth. Within the cup there is a scarious corolla. The seeds are small, light brown, and enclosed in a round capsule. In shape they resemble *Kálá dānāh*.

Preparations : Decoction and powder.

Actions and Uses : The plant is an alterative, purgative, and anthelmintic, and useful in constipation, liver diseases, and bilious affections. *Varāliāñs* of the dodder are highly useful in piles.

Remarks : *Ākāsavela* is also the name of *Cassytha filiformis* of the Natural Order Lauraceæ. Both are parasitic plants of a yellow colour. The word *Ākāsavela* is derived from *Ākāsa*, sky, and *Vela*, a twiner. The plant is parasitic and grows on other plants, *viz*: the *Amaranthus*, *Euphorbia*, *Erythema*, *Acacia*, &c. It has no root under the ground, but only grows as a dodder and hence the natives call it sky-twiner or *Ākāsavela*.

The word *Amaravela* is derived from *Amara*, immortal, and *Vela*, a twiner. It is an immortal twiner. It grows during the rains and every year the growth is afresh on the same plant, hence it is called *Amaravela*.

CONVOLVULACEÆ—The Nishotara order.

These are herbs or shrubs, generally milky, and of a twining or trailing habit. The leaves are exstipulate, alternate, simple, or lobed. The flowers are generally large, bell shaped, and of a beautiful pink, purple, blue, red, yellow, or white colour. The fruits are often globular. The seeds are generally hairy. This order is remarkable for the presence of an acrid, milky, resinous, purgative juice which is contained in the roots of many of its species. The seeds of some are purgative. This property is due to a kind of resin they contain. In some of the roots the resin is entirely absent or in very small quantities. In them starch and sugar predominate and thus render them edible.

BATATAS PANICULATA.

THE TUBEROUS ROOT.

Bhui koholu ಭುಕೊಳು *Bhui koholu* (Guz.) *Bilai kaṇḍa* (Hind.) *Bhui kumarā* (Beng.) *Bhui kohalā* (Bom.) *Phala-modekkā* (Mah.) *Kshirā vidari*, *Bhumi kushamaṇḍa* (Sans.)

Characters : It is a climber. The root is milky when fresh. The tubers are simple or forked, watery, and rather wrinkled. When dry they are of a greyish white or dark brown colour externally, and white within. The taste is astringent and somewhat acrid, not unlike that of raw potatoes.

Preparations : Powder and decoction.

Actions and Uses : Large tuberous roots are considered to be tonic, alterative, aphrodisiac, demulcent, and lactagogue. They enter into the preparation of several diuretic and demulcent mixtures. The powder is given to promote obesity, and moderate excessive menstrual discharge. It is also given with wine to promote the secretion of milk in women after delivery. A confection of it is recommended in emaciated children suffering from debility and want of digestion.

Remarks : The bulk of the tuber consists of starch. The dried pieces of the root are met with in the shops. Fresh ones can also be had at herbalists. In Singapore hunters deceive Hindus and other rich but credulous people by passing off pieces of *Bhui kohalā* for lioness' milk. The price paid for these tubers is the same as that for an equivalent weight of opium.

601 **B.** *Bhui kohalā* 4, *Gokharu* 2, *Jethi madha* 4, *Nāga kesara* 1. Mix and make a decoction in the usual way. To this add *Siṇḍura* 1. Dose: oz. $\frac{1}{2}$ to 1. Used in scanty and acid urine.

PHARBITIS NIL.

THE SEEDS.

Kala danah কলা দানা *Kālā dānāh*, *Mirachai* (Hind.) *Nilakolomi* (Beng.) *Hab-ula-nila* (Arab.) *Tukhm-i-nila* (Pers.) *Zaraki-ke-biñja* (Duk.)

Characters : The fruit is globular. Each fruit is made up of four distinct seeds which are naturally arranged in a spherical form.

Each seed is thus of the form of a $\frac{1}{4}$ th segment of a sphere. Its two sides are flat and compressed so as to adapt themselves to the flat surfaces of other seeds. The junction of the two surfaces is marked by a scar which is near the hilum and by a thin edge resembling the border of a wedge. Its convex surface is marked by a flat or broad groove. The kernel is of a yellowish brown colour and oily. The taste is oily and somewhat acrid. The odour is earthy.

Preparations : Compound powder, and paste.

Actions and Uses : The seeds are a drastic purgative, and an anthelmintic, and used in constipation. The paste of the seeds, made hot and applied over the abdomen, gives relief to tympanitis.

Dose : Of the powder, *grs.* x to *grs.* xv.

Remarks : It is a good substitute for Jalap. Its active principle is a resin which can be obtained on removing the testa. The resin is a light yellowish, friable mass resembling purified Jalap resin. It has a nauseous, acrid taste, and an unpleasant odour. The seeds are often mistaken for those of *Garani bija*, *Gokarani bija*, or *Kaloñji*. *Garani bija* are similar in colour and properties. *Kaloñji* seeds are dark brown and similar in shape. Under the name of *Kálá dánáh* the seeds of *Ipomœa muricata* are sold in the bazaar. They are reddish brown, glabrous, spiny, smooth, larger than those of *Kálá dánáh*, and not grooved on their convex surface.

602 \mathfrak{B} . *Kálá dánáh* dr. $\frac{1}{2}$, *Señdháloná* dr. i, *Suñṭha* dr. $\frac{1}{2}$.
Reduce the ingredients to a fine powder and mix.

Dose : from *grs.* xxx to *grs.* lx.

Used as a mild cathartic and excellent substitute for Jalap in constipation, fever, &c.

CRESSA CRETICA.

THE PLANT.

Kharadi 𑂔𑂗𑂢𑂰 *Una* (Sind.)

Characters : It is a very small, diffused plant of an ashy colour. The leaves are ovate, sessile, very small, and acute. The flowers are numerous, small, and of a white or pink colour.

Preparations : Decoction.

Actions and Uses : The herb is used as a tonic. It is said to possess expectorant properties. It is given in bilious affections and for the relief of coughs.

Remarks : Fresh plant should be procured. It commonly grows in fields or places which abound in saline earths. In Cutch it is used as food for cattle during the time of famine.

IPOMŒA PESCAPRÆ.

Marajada vela मराजा वेला *Ravarapatri* (Guz.) *Marajāda vela* (Bom.) *Dopātilata* (Hind.) *Chhāgala kuri* (Beng.) *Maryāda vela* (Mah.)

Characters : The plant has a number of creeping stems. The leaves are thick, smooth, long petioled, and deeply bifid at the apex. The flowers are large and of a rose colour.

Preparations : *Varāliāns* and paste.

Actions and Uses : The whole plant is very mucilaginous. The leaves boiled in water are locally applied as *Varāliāns* to painful joints in rheumatism, and to the abdomen in colic. The paste of the leaves is applied to boils and carbuncles with benefit.

Remarks : Fresh can be had at herbalists.

IPOMŒA TURPETHUM.

THE ROOTS AND STEMS.

Nishotara निशोतरा *Nasotara* (Guz.) *Pitohri*, *Naka patara*, *Turabeda*, *Nisota* (Hind.) *Nishotara*, *Phutakari* (Bom.) *Teori* (Beng.) *Trivrita*, *Tripita* (Sans.)

Characters : The drug occurs in pieces of roots and stems. Each piece varies in length from 2 to 4 inches or more. The pieces are rather twisted, rope-like, or columnar. The surface of the bark is of a dark brown or pale colour. It is rough, longitudinally fissured, and also here and there deeply furrowed. The transverse section shows a porous surface of a dirty white colour, and here and there a pale yellowish white resin. It has a disagreeable smell and a nauseous taste, which is only perceptible after it has been kept for some time in the mouth.

Preparations : Decoction, powder, and paste.

Actions and Uses : The white variety is a most common, moderate, and mild cathartic. It is given either alone or in various combinations. It is particularly beneficial in rheumatic and paralytic affections. As a strong and resinous cathartic it is combined with *Harade* and recommended in melancholia, gout, dropsy, and leprosy. It is a more powerful drastic than jalap.

Dose : Of the root, *dr. i.*

Remarks : There are two varieties of *Nisotara* : the white and the black. The black should never be used in medicine. It is a powerful drastic and causes vomiting, faintness, and giddiness. It is said to be poisonous. The name *Nasotara* is derived from *Nasa*, a nerve, and *tara* or *trana*, three. This is in allusion to the stem of the plant being 3 nerved or three winged. The Sanscrit name *Trivrita* is derived from *Tri*, three, and *Vrita*, spiral or circular, the stem being provided with three spiral wings. The Hindi synonym *Tarabuda* is a corruption of the Sanscrit word *Trivrita*.

- 603 *B. Nishotara* 3, *Pañcha lavana* 2, *Javakhára* 2, *Himaja* 3, *Hinga* 1, *Ajavána* 3, *Vávasiṅga* seeds 2, *Teja bala* 3, *Chiraphala* 2, *Kapilo* 2, *Palása bija* 2. Mix and make a powder. Dose : *grs. x* to *grs. xv.*

Anupána : To be taken in *Chhása*.

Used in costiveness, painful dyspepsia, flatulence, worms, colic, &c.

- 604 *B. Nishotara* 6, *Gulavela* 5, *Garamáro* 4, *Kadu* 5, *Indrayáni* 2, *Triphalá* 4, *Sákara* 5. Make a decoction in the usual way. Dose : *oz. ½* to *ozs. 1½*.
Used in anasarca.

- 605 *B. Nishotara* 4, *Sakamuniá* 5, *Elachi* 5, *Taja* 5, *Suñtha* 5, *Kulpha* 5, *Lavaṅga* 5, *Kálá miri* 5, *Madha* 150. Prepare a confection. Dose : *dr. i* to *drs. iii.*

Used in colic, chronic gout, rheumatism, lumbago, and sluggish liver and intestines.

606 R. *Nishotara* 2, *Aphatimuna* 2, *Eliyo* $\frac{1}{2}$, *Suriñjana* 1, *Harade* 4, *Banaphashá* 4, *Suñtha* 3, *Sakamuniá* 1.

Mix and make a powder.

Dose : grs. x to grs. xv.

Used in paralytic diseases with constipation.

CONVOLVULUS SCAMMONIA.

THE RESIN.

Sakamuniya ಸಕಮುನಿಯಾ *Isakeramoni* (Guz.) *Sakamuniyá* (Hind. and Bom.) *Mahamudaha* (Arab. and Pers.)

Characters : The resin occurs in irregular fragments of a bright green colour. It is somewhat translucent at the edges and breaks with a conchoidal fracture. In odour and taste it resembles *Rájama*.

Preparations : Powder and decoction.

Actions and Uses : It is a valuable aperient. When baked, it is said to lose its aperient properties, and acts as a powerful diuretic. It is twice as strong as the English scammony. It occasions colic and watery stools. The taste being insipid, it can be given to children in constipation, abdominal dropsy, and as a vermifuge in lumbrici.

Doses : Of the resin, grs. iii.

Remarks : Spurious or artificial preparations are made of the juice of *Mudará* mixed with flour, and sold as true *Sakamuniá*.

607 R. *Sakamuniá* 1, *Mustaki* 1, *Suñtha* 1, *Kálá miri* 1, *Pipali* 1, *Kulpha* 1, *Elachi* 1, *Madha* 20. Prepare a confection. Dose : dr. i to drs. ii.

Used in colicky pains and intestinal worms.

ARGYREIA SPECIOSA.

THE LEAVES AND ROOT.

Samudarasosha ಸಮುದರಾಸೋಷಾ *Samudrasosha* (Guz.) *Vridhdháraka* (Sans.) *Samañdara-sokha* (Hind.) *Bijataraká* (Beng.) *Samudra shokha* (Bom.) Elephant creeper (Eng.)

Characters : The leaves are large, heart shaped, and ovate. The under surface is covered by a thick layer of silky hairs; the upper

surface is dark green and smooth. The roots are long, woody, and tough. The bark is dark brown. The stems are marked with furrows. On section of the root, the middle portion is porous; the marginal one is resinous.

Preparations : Decoction and application of leaves.

Actions and Uses : The root is an alterative and tonic. It is useful in rheumatic affections, and in diseases of the nervous system. The blistering properties of the upper surface of the leaf, are known amongst the *Hakimas*. The under surface is supposed to possess healing properties.

Doses : About a drachm.

Remarks : The stem of *Samudra sosha* is often substituted for *Varadhíro* (Guz.) in Bombay and in other parts of the Presidency.

608 *B. Samudara sosha* 5, *Satávári* 5. Mix and make a powder. Dose : grs. xvi to grs. xxx.

Used in rheumatism and syphilis. It improves the intellect, strengthens the body, and prevents the effects of age.

IPOMCEA RENIFORMIS.

THE PLANT.

Underakani ઉંદરકાની *Uñderakáni* (Bom.) *Musákáni* (Hind.) *Mushaka karani* (Sans.)

Characters : *Uñderakáni* is a creeper, and sends out many roots from the joints. The stem is hairy, slender, and wiry. It is furrowed longitudinally. The leaves are kidney shaped, dentate towards their margins, and obtuse. The flowers are small. The taste of the plant is mucilaginous.

Preparations : Decoction.

Actions and Uses : The plant is said to be an alterative, deobstruent, and diuretic, and used in rheumatism, headache, &c.

Remarks : This plant is often mistaken for *Bhráhami*. The leaves of both are of the same shape, and generally used for the same purposes.

Fresh should be obtained. The word *Uñderakáni* is derived from *Uñdara*, a rat, and *Káni*, like a ear. The leaves of this plant resemble in form rat's ears.

IPOMŒA Sp. ?

THE ROOTS.

Varadharo वरधरो *Varadháro* (Guz.) *Vradha dárúka* (Sans.)

Characters : The root is in pieces of from 4 to 5 or 6 inches long. The root bark is longitudinally furrowed and slightly twisted. The colour is brownish. On section the wood is porous and whitish, between it and the bark a resinous matter exudes. The smell is disagreeable. The taste is somewhat acrid.

Preparations : Decoction and powder.

Actions and Uses : The root is an alterative and tonic, and useful in chronic nervous diseases and rheumatic affections.

Remarks : Sanscrit writers attribute high medicinal virtues to this drug. In Bombay, Calcutta, and other places, the root of *Samudra sosha* is substituted for *Varadháro*. In Surat the *Roserea Santaloides* of the Natural Order Cannaraceæ is sold under the name of *Varadháro*. The true *Varadháro* of Sanscrit writers is a species of *Ipomœa*.

BORAGINACEÆ—The Gaozabana order.

These are herbs, shrubs, or trees, with more or less rounded stems. The leaves are alternate, entire, or toothed; usually thick and rough; and generally covered on both sides with white glands. The flowers are regular, and of a red, blue, or whitish colour. The fruits are from 2 to 4 seeded.

Properties : The plants are mucilaginous; some are alteratives and demulcents.

ONOSMA BRACTEATUM.

THE PLANT AND FLOWERS.

Gaozabana گاوزبان *Gáo zabána* (Pers., Hind., Beng. and Bom.)

The flowers : *Gul-i-gáo zabána* (Pers.)

Characters : The drug as obtained in the bazaar consists of broken pieces of stems and leaves. The colour of the drug is greyish brown. The pieces of stems are of a pale brown colour. The stems are channelled, compressed, longitudinally furrowed, and fissured. They are here and there marked with broad based, tubercled, white hairs. Generally the hairs have fallen off, leaving white, scale

like tubercles. The pieces of the leaves are thick and covered on both sides with similar white tubercles. The surface is much wrinkled. They are brittle and of a greyish green colour. The odour is disagreeable, sometimes resembling that of tea. The taste is mucilaginous. The flowers are of a brownish pink or blue colour. They are wide mouthed, about 1 to 1½ inches long, hairy, and tubular. The taste is sweetish and mucilaginous.

Preparations : Decoction.

Actions and Uses : The drug is an alterative, tonic, diuretic, and demulcent. It is used in rheumatism, syphilis, leprosy, hypochondriasis, and diseases of the kidneys.

Remarks : It is a good substitute for sarsaparilla. The word *Gáo zabána* is of Persian origin. It is derived from *Gáo*, a cow, and *Zábána*, tongue. This is in allusion to the leaves being covered with tubercles and tapering points, which resemble the enlarged papillæ on the tongue of a cow.

609 *℞. Gáo zabána 4, Abrashama 4, Bisapháeza ½, Usatekhudusa 1, Rájahañsa 4, Rájiáma 4, Suvá 4, Dárunaja akrabi 1, Himaja 4, Harade 4, Drákhsha káli 20, Suriñjana 1. Mix and make a confection.*

Dose : *dr. i.*

Used in piles.

YOGAVAHI : If the urine is turbid or with sediment, add *Kharabuja bija 1, Kosamba bija 1*; if frequent purging, add *Dháná*; and if retention of urine, *Kharabuja 1, Gokharu 1, Variáli ½*.

610 *℞. Gáo zabána 5, Gulavela 4, Kariátu 5, Jethimadha 4, Nilotaphala 4, Unába 10, Gul-i-khitami 6, Tukhme-khabáji 8, Kharabuja bija 6, Golába kali 6, Variáli 8. Mix and make a decoction.*

Dose : *oz. i to ozs. 1½*.

Anupána : *Kháakashira*.

Used in fever with biliousness, headache, scanty urine, dry skin, &c.

YOGAVAHI : If the fever is due to cold, omit *Nilotaphala*; if to biliousness, add *Kásani 1, Ajamoda 1, and Sákara ½*.

CORDIA LATIFOLIA.

THE FRUITS AND BARK.

Sopisatana सेपिसतान *Gudān* (Guz.) *Lasorá* (Hind.) *Bahubara* (Beng.) *Bhokara* (Mah.) *Sapisatána* (Bom.) *Slesha māntaka*, *Sagapisatána* (Pers.) *Selu*, *Bahuvára* (Sans.) *Dibaka* and *Mukhitaha* (Arab.)
The bark : *Bhokarasála* (Bom.) *Gudá-ni-chhála* (Guz.)

Characters : The dry fruit is of an irregular, oblong shape, and a darkish brown colour. The surface is rugous and highly wrinkled. In size it resembles *Jáephala*. The rind is tough and sticky. The pulp is not easily separable from the seed. In odour it resembles *Garamáro* or decayed *Khajura*. The taste is mucilaginous, rather aciduous, and disagreeable.

Preparations : Decoction.

Actions and Uses : The dried fruit is mucilaginous and demulcent. It is much used in coughs and chest affections, also in irritation of the urinary passages, and as a laxative in bilious affections. The bark is a mild astringent and tonic. Its decoction is used as a gargle in sore mouth.

Remarks : The word *Sapisatána* is an abbreviation of *Sagapisatána*, a Persian word which is derived from *Saga*, a dog, and *Pisatána*, dugs. The fruit resembles bitches' dugs in shape. Fresh bark should be obtained from herbalists.

SCROFULARIACEÆ—The Bama order.

These are herbs or rarely shrubs. The leaves are generally opposite, entire, or toothed. The flowers are beautiful, and of a blue, yellow, or pink colour. The fruits are usually capsular. They abound in numerous seeds.

Properties : The plants are bitter, astringent, and diuretic. Some are narcotic.

HERPESTIS MONNIERA.

THE HERB.

Bama ^{भामा} *Jala-nima*, *Sveta-chamani* (Hind.) *Adha birani* (Beng.)
Báma (Bom.)

Characters : The stems are several and creeping. The leaves are linear or obovate, also entire, wedge shaped or oblong, smooth, succulent, opposite, sessile, and dotted with minute spots. The taste is saline.

Preparations :

Actions and Uses : Internally the herb is a febrifuge and nervine tonic, and useful in stoppage of urine accompanied with obstinate costiveness. Locally the weed is made hot and applied to the chest of children in acute bronchitis and other kinds of cough.

Remarks : Fresh can always be had from herbalists.

ACANTHACEÆ—The Adusa order.

These are herbs or shrubs, with opposite, simple, rarely lobed, exstipulate leaves, and white, purple, red, or yellow, irregular flowers. The fruits are capsular, and 1 or 2 celled. The seeds are one or more. In each cell they are suspended by hard, cup shaped, or hooked projections. There is no albumen. The cotyledons are large and fleshy.

Properties : Some of the species have tonic, mucilaginous properties; others are bitter and stomachic. The leaves of *Barleria* are considered highly astringent. Those of the *Rhinacanthus* are used in ring worm.

ADHATODA VASICA.

THE LEAVES.

Araduso ^{अरदुसो} *Araduso* (Guz.) *Arushá* (Hind.) *Adulasá* (Bom.)
Bákasa (Beng.) *Vásaka*, *Atarushá* (Sans.)

Characters : It is a bushy shrub. The leaves are opposite, short petioled, broad, lanceolate, long tapering or pointed, smooth on both surfaces, and of a yellowish green or dark green colour. The taste is bitter and aromatic.

Preparations : Infusion, electuary, paste, and decoction.

Actions and Uses : The leaves are reputed as a most powerful expectorant and antispasmodic, and largely prescribed in consumption and other chest affections attended with cough and hectic fever. They are also useful in gonorrhœa. Owing to their antispasmodic qualities they are prescribed in certain cases of asthma. As antiperiodics they prevent the return of ague in intermittent fevers.

Doses : The leaves are given in the quantity of about a teaspoonful twice a day.

Remarks : The dried leaves can be had at druggists. The fresh ones can be had at herbalists. *Kálá adusá* (Bom.) is a common plant in gardens and may be seen to grow luxuriantly. It is used instead of *Aduso*, but is inferior and less bitter.

- 611 *℞. Aduso, Bhuruñ koholuñ* (pulp), each oz. i, *Sákara* ozs. x. Mix and make a syrupy mass. To this add *Motha, Amalá, Tabáshira, Bhárañgi-nu-mula, Taja, Elachi, Tejapatra, Lavañga, Trikatu, Dháná*, each drs. ii. Stir well over a fire. To the confection when ready add *Madha* oz. i.

Dose : dr. i to drs. iii.

Used in internal hæmorrhages, hæmoptysis, cough, &c.

- 612 *℞. Aduso* drs. vi, *Gulavela* drs. vi, *Bhuiriñgani* drs. v. *Himaja* drs. iv, *Kisamisa* drs. iii, *Pipali* drs. iv, *Madha* drs. v. Prepare a decoction in the usual way.

Dose : oz. i three times a day.

Used in bronchitis, catarrhal fever, asthma, and also as an expectorant in phthisis.

RHINACANTHUS COMMUNIS.

THE LEAVES.

Gachakarani গাচাকারানী *Palaka juhi, Juhi-pána* (Hind. and Beng.)
Gachakarana (Bom.)

Characters : It is a thin shrub. The leaves are opposite petioled, narrow, lanceolate, obtusely pointed, smooth above and a little downy below. The leaves when chewed have a pungent taste somewhat resembling that of *Taja*.

Preparations : Paste.

Actions and Uses : A paste of the leaves with lime juice or *Gāndhaka* is applied for several successive days to affected parts in ring worm and Dhobies' itch with relief.

Remarks : Fresh can be had at herbalists.

BARLERIA PRIONITIS.

THE LEAVES AND ROOTS.

Kanta shelio கிண்டி கிண்டி *Karañtá*, *Pivalá korañto* (Mah.)
Piro káñtá sherio (Guz.) *Pita karuñtaka* (Sans.) *Katasariya* (Hind.)
Káñta jati (Beng.) *Vajra dañti* (Bom.)

Characters : The root is of a brownish colour, smooth, and rather knotty. The stem is short and erect, with numerous, opposite, erect, round, and smooth branches. The leaves are of a yellowish green or dark green colour. They are decussate, opposite, short petioled, oblong, rather waved, glabrous, and smooth. From the axils of the leaves spring up 2 or 3 sharp spines. The flowers are axillary, generally solitary, sessile, large, and yellow.

Preparations : Paste, decoction, and medicated oil.

MEDICATED OIL : The leaves are boiled with *Mithuñ tela* and strained.

Actions and Uses : The juice of the leaves or paste is slightly bitter and astringent. It is useful in catarrhal affections of children accompanied with fever. Locally it is applied to the feet to prevent the cracking of the soles. It is also used with *Mithuñ* as an application to caried teeth in toothache, and to strengthen the gums. The paste of the root is applied to boils and glandular swellings with benefit. The medicated oil is used as an application to unhealthy wounds with good effects.

Doses : Of the paste two table-spoonfuls twice a day.

Remarks : The dried ashy stems and thorns of this plant are sold under the fictitious name of *Upalasari*. Fresh plant can be had at herbalists.

ANDROGRAPHIS PANICULATA.

THE PLANT.

Lilu kariatu ଶୁଣ୍ଠି କରୀୟାତୁ *Oleñ kirayata* (Mah.) *Keraylita* (Hind.) *Kálamega* (Beng.) *Vizra* (Arab.)

Characters : The plant is annual. The stem is quadrangular. The leaves are opposite, smooth, and on short petioles. They are lanceolate; the upper surface is dark green and shining; the under surface pale. The flowers are panniced and rose coloured. The capsules are erect. The root is fusiform, simple, and woody. The taste of the herb is intensely bitter.

Preparations : Compound infusion and paste.

Actions and Uses : It is a bitter tonic and febrifuge. The expressed juice is given with *Elachi*, *Lavaṅga*, and *Taja* to infants for the relief of griping, irregularity of the bowels, and loss of appetite. This domestic medicine is called *Álui*. It is a good remedy for fever in combination with aromatics.

Remarks : The word *Oleñ kiriáta* is derived from *Oleñ*, which means moist or fresh, and *Kiriáta*, chiretta. The true *Kariáta* is a species of gentian known as *Nepáli kariátu*. Fresh can be had at herbalists.

HYGROPHILA SPINOSA.

THE PLANT AND SEEDS.

Ekharo ଶୁଣ୍ଠି *Tálamakháná* (Mah.) *Ekharo* (Guz.) *Tálamakháná* (Hind.) *Talimakháná* (Bom.) *Kuliákhárá* (Beng.) *Kokiláksha*, *Ikashugañdhá* (Sans.)

Characters : The plant is very common about Bombay, and found in watery places and ditches. It is an herb, erect, and from 3 to 4 feet high. The stems and branches are jointed, flattened, hairy, and often coloured. The branches are opposite. The leaves are of two kinds, the outer and inner. The outer leaves are sessile, opposite, long, rather wavy, and inserted in pairs at the joints of the stems. The inner leaves are small, (arranged in verticels,) linear, lanceolate, and inserted between the outer leaves; the smaller ones alternate with the spines. The spines are six, inserted between the leaves and flowers, awl-shaped, and spreading. The

flowers are numerous, sessile, and of a bright blue or rose colour. The seeds are small and compressed. They are of an irregular form, pointed at the apex, and broad at the base where they are oblique. In colour they are brownish red. When placed in the mouth they immediately become coated with a large quantity of extremely tenacious mucilage which adheres to the tongue and palate. They are of an agreeable flavour.

Preparations : Paste of seeds, and ashes of the root and leaves.

Actions and Uses : The leaves are cooling, and useful in jaundice and anasarca. The root is cooling, mucilaginous, bitter tonic, and diuretic. It is useful in hepatic obstructions with anasarca, rheumatism, gonorrhœa, and other urinary affections. A paste of the seeds is a nice external application to rheumatic joints. The seeds are aphrodisiac. The ashes of the plant is used as a diuretic in dropsy.

Dose : Of the seeds about half a tea cupful twice a day.

Remarks : Fresh plant can always be had at herbalists. The Sanscrit name *Ikashu gaṇḍhā* is derived from *Ikashu*, sugarcane, and *Gaṇḍha*, flavour or odour. The fresh stem when cut smells like sugarcane.

The word *Kokiláksha* is derived from *Kokila* or *Koela*, a bird of prey, and *Áksha*, eyes. The flowers resemble *Koela's* eyes in appearance.

The Bombay name *Tálíma kháná* is a corruption of *Tála-me-kháná*. The word *Tála* means a tank or water hole, and *Kháná*, the house. The plant grows generally near the water holes and on the banks of tanks, ditches, &c.

613 B. *Ekharo* 5, *Pilu* 2, *Suñṭha* 4, *Asana* 5, *Segata chhála* 4, *Karañja tela* 14, and *Sarasuñ tela* 10. Boil gently over a fire.

Used as an application to the joints in rheumatism.

614 B. *Tálamakháná* 5, *Bijabañda* 4, *Golkharu* 6, *Mocharasa* 3, *Nága kesara* 1, *Khasakhasa* 4, *Jethi madha* 5, *Utakátará chhála* 2, *Asana* 3, *Kavacha* 2, *Satávári* 2, *Musali* 4, *Jávañtri* 3, *Mustaki* 3, *Salápa* 5. Mix, add *Sákara*, and make a confection.

Dose : dr. i to drs iii.

Used in seminal debility.

ACANTHODIUM HIRTUM.

THE SEEDS.

Utingana عاڻڻا *Utigana* (Guz.) *Añjurapa* (Pers.) *Utañjana* (Hind.) *Utañgana* (Bom.) *Kariza* (Arab.)

Characters : The drug is of a pale brown colour. It consists of pieces of broken capsules and seeds. The pieces of capsules are glabrous and shining. They are rather hard and woody. Their colour is mahogany like. The seeds are compressed, obtusely pointed at the apex, and broad at the base where they are oblique. The surface of the seed is covered with bristles. Their colour is pale brown. On removing the bristles the cotyledons are black and homogeneous. The taste of the seed is mucilaginous. This is due to the presence of the bristles.

Preparations : Decoction and mucilage.

Actions and Uses : The seeds are said to be resolvent, aphrodisiac, diuretic, expectorant, and deobstruent. They are used in the preparation of numerous aphrodisiac confections.

VERBENACEÆ—The Niragundi order.

This order is composed of large trees, shrubs, or herbs, with generally opposite, or rarely alternate, exstipulate leaves. The flowers are of a red, white, or blue colour, generally irregular, and followed by dry or drupaceous fruits.

Properties : The plants of this order are bitter, aromatic, febrifuge, and alterative.

CLERODENDRON PHLOMOIDES.

THE ROOT.

Arani अरुणि *Agetha*, *Arani* (Hind.) *Tákali* (Mah.) *Aganimañtha*, *Gani káriká* (Sans.) *Arani* (Guz.) The root : *Airana mula* (Bom.)

Characters : The root is thick and of a lightish brown colour. It is slightly aromatic. The taste is astringent and somewhat bitter.

Preparations : Decoction.

Actions and Uses : The root is said to be useful as an alterative and also as a bitter tonic. It is given to children during convalescence from measles. As a demulcent it is given in gonorrhœa.

Remarks : This is one of the five roots *Vrahata pañchamuli*. Fresh can be had from herbalists.

CLERODENDRON SERRATIFOLIUM.

THE ROOTS AND LEAVES.

Bharangi भारंगी *Bhāraṅgi* (Bom. and Hind.) *Bhāragi*, *Brahmayashatika* (Sans.) *Bamana hati* (Beng.)

Characters : The root occurs in pieces. Each piece is from $\frac{1}{2}$ to 1 inch in thickness. It is of a whitish brown colour. The root bark is scabrous and brittle. The taste is peculiarly bitter and pungent. The wood is hard, tough, arranged in concentric rings, and of a whitish colour. The taste is corky. The leaves are cuneate, ovate, and dentate at their margins. When fresh they are of a darkish green colour.

Preparations : Decoction and compound powder.

Actions and Uses : The root is a bitter tonic, and useful in asthma, cough, fever, and scrofulous diseases. The leaves are alterative, and useful in fever, cough, &c. As a poultice, the leaves are useful in promoting the suppuration of boils.

615 *B. Bhāraṅgi mula* 5, *Aduso* 6, *Devadāra* 4, *Jethi madha* 6, *Motha* 4. Mix and make a decoction.

Dose : oz. i.

Used in fever, catarrh, cough, &c.

CLERODENDRON INFORTUNATUM.

THE LEAVES.

Kari करी *Kari* (Bom.) *Bhaṇḍira* (Sans.) *Bhaṇṭa* (Hind.)

Characters : It is an under shrub from 3 to 4 feet high. The leaves are from 8 to 10 inches long, and 6 to 8 inches broad at their base. They are of a dark green colour, round or ovate, and

with long petioles. The edges are dentate. They are covered on both surfaces with white and jointed hairs. The odour is very disagreeable. The taste is bitter.

Preparations : Infusion.

Actions and Uses : The leaves are used as a bitter tonic, antiperiodic, and vermifuge.

VIBURNUM FÆTIDUM.

THE LEAVES.

Naravela नरवेल *Naravela* (Bom.)

Characters : It is a large shrub. The leaves are of a variable shape, usually ovate, lanceolate, and serrated. Their colour is darkish green. They emit a peculiarly foetid odour.

Preparations : Juice of leaves.

Actions and Uses : As an emmenagogue, a wine-glassful of the juice is administered internally in menorrhagia, post partum hæmorrhage, and threatened abortion with good effects.

Remarks : Fresh can always be obtained from herbalists.

Naravela is also the name of *Premna serratifolia* which has the same kind of foetid smell.

Hindu women during their confinement hang a branch of *Naravela* over the door of the room in which they lie.

VITEX NEGUNDO.

THE PLANT AND LEAVES.

Nagora नागोरा *Niraguñdi* (Mah.) *Nagoda* (Guz.) *Pani-ki-sambhālu* (Hind.) *Nisinda* (Beng.) *Niraguñdi*, *Sindhuyāra* (Sans.) *Athalaka* (Arab.) *Pañjañgushta* (Pers.) *Katari Liñgura* (Bom.)

Characters : It is a shrub generally of an ash colour. The leaves are from 3 to 5 foliolate, and on long slender petioles. The leaflets are lanceolate. The under surface of the leaves is white and tomentose. The upper surface is greenish, smooth, and shining. The flowers are minute and of a light blue colour. The taste is bitter and nauseous. The odour is feebly nauseous.

Preparations : Fomentations and medicated baths.

Actions and Uses : The leaves are aromatic, and used as tonic and vermifuge. Locally they are generally used as a discutient and as *Varáliāns* over sprained limbs and rheumatic painful joints, also over swollen testicles, contusions, leech-bites, &c.

Remarks : Another variety of *Nágora* with leaves with serrated margins is known by the name of *Kátari nágora*, and generally used in medicine. A medicated bath prepared with this shrub is useful for puerperal women. The dried leaves are often used as a smoke in nasal catarrh and headaches. Fresh can always be had from herbalists.

616 B. *Niraguñdi-ná-pána* 5, *Bakáyana pána* 5, *Bhui-rīngani* 4, *Erañda mula* 5, *Akará-ná-mula* 5, *Afima* 3, *Dhaturá-ná-pána* 4. Mix and make a powder. Add *Sarasuñ tela* 20, and apply to the limbs.

Used in hemiplegia, motor paralysis, &c.

VITEX SP. ?

THE SEEDS.

Ranukabija रणुकबीजा *Hab-ula-phakada* (Arab.) *Tukhm-e-pāñ-jāngushta* (Pers.)

Characters : The drug consists of very small and extremely hard fruits. In shape the fruits resemble fresh figs. They are obovate or globular. Their lower half is covered with a tomentose calyx. The apex of the calyx is dentate; its base presents a small stalk. The berry is wrinkled, smooth, and of a brownish colour. On section it consists of small, 4 celled cavities, each containing one yellowish brown, small seed. The taste of the seed is oily and pungent.

Preparations : Powder and decoction.

Actions and Uses : The seeds are considered to be astringent, deobstruent, resolvent, and said to be useful for the relief of enlargement of the liver and spleen. They are given with *Pipali* in hiccough.

Remarks : The word *Ranuka* is derived from *Ranuka*, a grain of sand; the seeds being very small resemble in size a grain of sand. What is sold in the bazaar under the name of *Ranuka bija* is the berries or fruits, but not the real seeds.

LIPPIA NODIFLORA.

THE PLANT.

Ratavalio रतवलीया *Rataliyo* (Mah.) *Vashira* (Sans.) *Bhui-okra* (Hind.) *Rataliyo* (Bom.)

Characters : It is a small herbaceous plant. The stem is creeping and somewhat coloured. The leaves are opposite, small, cuneate at the base, and dentate towards the apex. They are somewhat hairy. The flowers are axillary, very small, whitish or rose coloured, and arranged on a cylindrical spike. The spikes are from 1 or 2 inches long. When the flowers have withered away the spikes with fruits look like long *Pipali*. The plant is slightly bitter.

Preparations : Paste, decoction, and infusion.

Actions and Uses : The plant is a demulcent and resolvent. An infusion of it is given to children in indigestion and dysuria. It is commonly given in combination with *Jiruñ* or *Suvá* in gonorrhœa with scalding in the urine. A poultice of it is useful in erysipelas and over swollen cervical glands. Chronic indolent ulcers heal readily under its use.

Doses : Of the infusion *ozs.* ii.

Remarks : Fresh can be had from herbalists.

TECTONA GRANDIS.

THE FRUITS AND SEEDS.

Saga सग *Ságavána* (Mah.) *Ságuna* (Hind.) *Seguna* (Beng.) *Saka* (Sans.) *Saja* (Arab.) Teak tree (Eng.)

Characters : The wood is hard, of a light yellowish colour, and somewhat aromatic. The bark of the wood is scabrous, and of an ash or light brown colour. The flowers are small and white. The panicles are large and terminal. The fruit is drupaceous and covered with enlarged membranous calices.

Preparations : Paste, plaster, powder, poultice of fruits, and oil.

Actions and Uses : A paste of the powdered wood is useful as a local application for the relief of toothache, and to subdue inflammation and irritation set up by the use of marking nuts. It is

also useful for dispersing inflammatory swellings. The powder is given internally in dyspepsia and heart burn. It is also useful as a vermifuge. The bark is said to be a powerful astringent. The fruits, and oil from the nuts, are said to be useful to promote the growth of hair, and also to cure itchiness of the skin. The seeds are a good diuretic and with *Palāsa pāpado* used as an epithem over the pubes in partial suppression of urine.

GMELINA ARBOREA.

THE ROOT BARK AND FRUITS.

Shevana শেবানা *Shripārani*, *Kāsamari*, *Gāmabhāri* (Sans.) *Gāmāri* (Beng.) *Gāmabhāra* (Hind.) *Shivana* (Mah.) The bark : *Shivana chhāla* (Mah.) The fruit : *Shevana-nā-didavān* (Guz.)

Characters : The bark is thick and rather brittle. The colour is lightish brown. The taste is astringent. The fruits are sweetish, bitter, and cooling.

Preparations : Decoction and powder.

Actions and Uses : The root is a bitter tonic, stomachic, lactagogue, and used in fever, indigestion, and anasarca. With *Jethi madha* it is used in scanty secretion of milk in women. As a demulcent it is given in gonorrhœa. Other properties are similar to those of *Arani*. The fruits are useful in fever and burning heat of the body.

Remarks : It is one of the ingredients of the *Vrahata pañcha mula* of *Dashamula-di-kvātha*.

617 B. *Shevana-nā-didavān* 10, *Drākhsha* 10, *Upalasāri* 6, *Trāyamāna* 5, *Gulavela* 8. Mix and make a decoction. When ready add Jaggary 2.

Dose : oz. i to ozs. 1½.

Used in remittent fever.

CLERODENDRON INERME.

THE SHRUB.

Dariai jai दारिजय वैश *Vāñ-jāi* (Bom.) *Bānājāi* (Mah.)

Characters : It is a slender zigzag shrub, with white, fragrant, irregular flowers bearing beautiful, long, purple stamens. It is

growing near the sea shore chiefly on the Nepean sea road, (Bombay) and common in large gardens. Natives use it as quinine in cases of chronic fevers. The leaves are small, one or two inches long, smooth, shining, oval, and often fleshy. The margins are reflex. Numerous dark green dots are seen studding both the surfaces. The odour is agreeable and acid. When squeezed they yield a thick mucilage. On chewing, they are intensely bitter.

Preparations : Infusion and decoction.

Actions and Uses : The leaves have a reputation both as a tonic and febrifuge in intermittent and remittent fevers.

Remarks : Fresh can be obtained from herbalists. Owing to its intense bitterness it is known to the Bombay mallees by the name of garden quinine.

LABIATÆ—The Tulasi order.

These are herbs or shrubs, usually with square stems. The leaves are opposite, exstipulate, and generally serrated. They have a strong aromatic odour. The taste is bitter and pungent. The flowers are in verticels, generally irregular. The fruits contain from 1 to 4 seeds. The seeds are oblong and generally angular. Each seed has a small scar at its attachment.

Properties : They contain volatile oil and are therefore carminative, aromatic, and stimulant, also tonic and stomachic. They contain an extractive matter which is very bitter and astringent. Several species have an agreeable odour and are used as perfumes. Patchouli is used by the natives to give perfume to clothes.

COLEUS CARNOSUS.

THE LEAVES.

Ajamana pana अजमना पान *Ováchá pána* (Mah.) *Pathara chura* (Hind. and Beng.) *Páshána bhedi* (Sans.)

Characters : The leaves are broadly ovate, very thick, and crenate at their margins. They are from 2 to 3 inches in length. The surfaces are sprinkled with minute glandular bodies, which

resemble dew drops, and hairs. The under surface is highly reticulated. The odour and taste are aromatic and pungent, and resemble those of *Ová*.

Preparations : Juice of leaves.

Actions and Uses : The natives use the leaves as a useful remedy in colic and dyspepsia; also as a local application to the head in headache. As a stimulant, diaphoretic, and expectorant, they are given in cough, fever, asthma, &c.

Remarks : Fresh plant should be obtained. The true *Ová* is *Ptychotis ajowan*. This is called *Ová pána* from the taste and odour of its leaves resembling those of *Ová*.

MELISSA UMBROSA.

THE WHOLE PLANT.

Badaranja boya *बादरान्जा बोया* *Badarañja* (Pers., Hind. and Bom.)
Lemon Balm (Eng.)

Characters : The drug consists of pieces of stems, leaves, flowers, seeds, &c. The stems are square and hairy. The leaves are two inches long, petiolate, ovate, heart shaped, and crenate at the base. The margins are serrated. The upper surface is marked with scattered hairs; the under surface has glands on the axils of the nerves. The calyces are five toothed, each having a strong nerve. The corolla are not so hairy as the calyces. They are rose colored or brownish purple, and rugous. The seeds are four, and attached to the bottom of the calyces. They are erect, angular, and of a darkish brown colour. In size they resemble *Málungá*. The whole drug has a light brown colour, and a peculiar aromatic smell resembling that of *Banaphashá*. The taste is similar to that of *Nimbádá*.

Preparations : Infusion and decoction.

Actions and Uses : The plant is used to favour the action of diaphoretics, for which purpose it is chiefly given along with other diaphoretic decoctions.

- 618 *B. Badarañja boya* 1, *Usatekhrudusa* 1, *Babunáha* 1,
Bádiána 2, *Ajamuda* 3, *Zaph-i-yábisha* 4, *Sháteráh* 5.
 Mix and make a powder. Dose : *grs. xv.*
 Used in flatulence and ague.

SALVIA HÆMATODES.

THE ROOT.

Lal behaman लाल बेहुमन *Bahaman-i-surkha* (Pers.) *Lāla bahamana* (Hind. and Bom.)

Characters : The drug occurs in pieces of roots. The roots are shrivelled and of the shape of quills. Each piece is from 2 to 3 inches long, about the size of a little finger, and of a reddish brown colour. The bark is soft, and can easily be scratched. When dry the surface is marked with scars of fallen rootlets. On section the substance is very compact and of a brownish red colour. The smell resembles that of *Sálama*. The taste is slightly bitter and resembles that of *Musali*.

Preparations : Powder, compound decoction, and confection.

Actions and Uses : The root is used as a tonic, astringent, and aphrodisiac. It is one of the ingredients of various compound astringent decoctions and aphrodisiac confections.

ORIGANUM MARJORANA.

THE PLANT.

Murava मुरवा *Kāmo phatusa* (Bom.) Sweet Marjoran (Eng.)

Characters : The drug consists of broken stems and leaves. The stems are slender, slightly quadrangular, and covered with stellate whitish hairs. The leaves are small, thick, obovate or cuneate at the base, and covered all over with starry hairs. The whole drug resembles in appearance to *Sáthará*. The odour is very agreeable. The taste is bitter at first, after a time it becomes camphoraceous.

Preparations : Infusion.

Actions and Uses : The plant is pungent and aromatic, and used as an excitant. A fomentation of the fresh herb assuages local pain. Internally it is a remedy for colic and dysmenorrhœa. The oil is useful as a perfume.

LEUCAS STELLIGERA.

THE FLOWERING PLANT.

Mishk-i-taramashi मीशके तरामशी *Phahalui, Raṅga* (Pers.)

Characters : The drug consists of pieces of stems, leaves, fruits, &c. The pieces of stems are quadrangular, slightly furrowed, of a

greenish brown colour, and covered with very small hairs. They are about 1 to 3 or 4 inches long. The leaves are thick, of a brown colour, thickly studded with hairs, and marked with numerous pits. They have a rather aromatic smell. The taste resembles that of dried *Phudino*. The fruits are very curiously formed. They consist of 4 distinct ovaries. The lobes are erect, attached to one another at their base, and separated a little below the middle. Owing to this peculiar attachment, the lobes appear as if 4 distinct fruits are placed around one another. The lobes are of a lightish brown colour, tapering below, and marked with from 8 to 12 strong nerves. Between the nerves, they are covered with pale white hairs. At the margin of the apex of each lobe, there are from 8 to 12 teeth lying horizontally and within which there is a circle of long hairs. In the middle of the hairs there is a hole from which the seeds escape. The seeds are angular and of a darkish brown colour.

Preparations : Paste and juice of leaves.

Actions and Uses : These are similar to those of *Phudini* and *Badarañja boyā*. The drug is used as a stimulant, carminative, and also as an emmanagogue.

POGOSTEMON PATCHOULI.

THE LEAVES AND STEMS.

Patcha पत्त पॅचा, *Nadadā* (Guz.)

Characters : The drug consists of broken stems and leaves. The stem is quadrangular, hairy, and of a dark brown or reddish colour. It is slender and pithy. The leaves are thick, hairy, ovate cordate, serrated, and of a dark brown colour. The aroma is fragrant and agreeable. The taste is camphoraceous.

Preparations : Infusion.

Actions and Uses : It is used with *Tulasi bija* as a diuretic and carminative.

Remarks : It is a well known and agreeable perfume used by native women in their wardrobe. Other drugs similarly used are *Kupura*, *Vālo*, *Kapura kīchali*, *Chāñdana*, *Motha*, &c.

Phangla Pangra : It is a tall plant about 6 feet high. The stem is smooth and of a purple colour. The leaves are 6 inches long, broad, ovate, and acuminate. The seeds are very small, black, and shining. It has a strong black current odour, and a slightly pungent taste. It is used as an epithem to clean wounds and stimulate granulations.

MENTHA INCANA.

THE PLANT.

Peparaminta पेपरमिन्ट *Peparamiñta* (Hind. and Bom.) Peppermint (Eng.) *Peparamiñta-ná-phula* (Guz.)

Characters : The odour of the plant is very powerful, but refreshing. When put upon the tongue it produces a pungent and cooling sensation in the mouth followed by numbness. When swallowed, it gives diffusible warmth in the abdomen. The oil is a colourless or yellowish green liquid. On exposure it becomes brown viscid. It or has a peculiar pungent odour, and a hot, camphoraceous, and bitterish taste, followed after a time by a sensation of coldness.

Preparations : Tea, infusion of leaves, oil, and *Peparamiñta-ná-phula*.

Actions and Uses : The plant is used as a carminative and stomachic, also as an anodyne to relieve colic. The infusion of the leaves is used to check diarrhœa and as a remedy for flatulence and vomiting, also in dysmenorrhœa. When given with tea in difficult digestion and hiccough, it gives great relief. *Peparamiñta-ná-phula* is a good application to the temples for the relief of headache, to the joints in rheumatism, and to the hollow of the teeth in dental caries.

Dose : Of the oil, *m. i.*

Remarks : The word peppermint signifies a sharp biting taste. It has the taste of pepper *Miri*, and mint *Phudiná*, combined.

MENTHA Sp. ?

THE LEAVES AND OIL.

Phudino फुदिनो *Phudino* (Guz.) *Hibbuka* (Arab.) *Pudiná* (Hind. and Bom.) Mint (Eng.) The oil : Menthol (Eng.)

Characters : There are three varieties of *Phudiná* known as 1. *Basarai*, 2. *Gámathi*, and 3. *Páhádi*. *Basarai phudino* is of a pale brown colour. It consists of broken pieces of leaves, stems, calyces, &c. Some of the pieces of stems are quadrangular; others cylindrical. They are slender, hairy, and longitudinally furrowed. The leaves are hairy, and dotted, most markedly so on their under surface. The odour is

slightly aromatic. The taste is mild and somewhat pungent. *Gámathi phudino* is a pot herb. The plant is creeping and slender. The stem is reddish in colour and four angled. It is sprinkled with white hooked hairs. The branches and leaves are opposite and decussate. The leaves are oblong, ovate, slightly cuneate at the base, and hairy on their under surface, especially on the nerves. Their margins are serrated. *Páhádi phudino* resembles *Gámathi phudino* in shape, but the leaves are larger and the stems thicker. The oil is of a pale green colour. When exposed to cold it deposits peppermint camphor or Menthol which exists in hexagonal crystals. The taste is highly smarting. The odour resembles that of peppermint.

Preparations: Essential oil or menthol, decoction, vapour, and oil.

Actions and Uses: It is a nice carminative. A decoction or vapour of its tea is largely used with *Oleñ cháha* as a febrifuge in fevers. As an expectorant it is given in hiccough.

Remarks: *Gámathi phudiná* is *Mentha Incana*; *Páhádi phudiná* is *Mentha Viridis* (the spear mint); and *Basarai phudiná* is *Mentha Sativa*.

619 B. *Phudino* 10, *Agara* 5, *Mastaki* 4, *Lavaṅga* 6. Reduce these to a powder. Dose: *dr.* $\frac{1}{2}$ to *dr.* i. Used in flatulence, nausea, hiccough, and spasmodic diseases.

OCIMUM GRATISSIMUM.

THE SEEDS.

Rana tulasi रातुल Rámatulasi (Hind. and Sans.) *Rámatulashi* (Beng.) The seeds: *Pharañja mishka* (Pers.) *Palaṅga mishka* (Pers.)

Characters: The plant is from 4 to 6 feet high. The leaves are drooping, opposite, oblong, serrated, smooth on both surfaces, and have a long petiole. The flowers are terminal, in racemes with the verticels of six pretty closely arranged flowers. The seeds are dark brown, larger than those of *Tukhameria*, somewhat pitted, and three angled. The taste is mucilaginous.

Preparations: Juice of seeds.

Actions and Uses : As a demulcent the seeds are used in urinary complaints and renal disorders, and as a remedy for gonorrhœa. Locally the juice mixed with *Gul-i-aramáni* is used as an application to swollen hands or feet.

Remarks : The word *Ránatulasi* is derived from *Rána*, which means *Jaṅgali* or of a wild growth, and *Tulasi*, the ocimum. It is a common plant of a wild growth. The Sanscrit word *Rámatulasi* is derived from *Ráma* [which means God. This is in allusion to the leaves being used for worship by the Hindus.

Kamarakasa कामरकसा *Mosachosamá*, *Bijabaṇḍa* (Guz.) The seeds are dark brown. In size they are smaller than *Tukhamariá*. In shape they are oblong, and angular at their attachment to the umbilicus. They have a very small white scar. The surface is rugous. The taste is oily and mucilaginous. The seeds are demulcent and nutritive. They are used to give strength to the loins, and hence useful in leucorrhœa and seminal weakness. It is a constant ingredient in various aphrodisiac confections. The name *Kamarakasa* is derived from *Kamara*, the loins, and *Kasa*, the strengthener. It is eaten on fast days and in seminal weakness.

ORIGANUM VULGARE.

THE WHOLE DRUG.

Sathara सथरा *Sáthara* (Bom. and Hind.) *Satara* (Arab.)

Characters : The drug consists of pieces of stems, whole leaves, and flowers. The stems are very slender. The bark is whitish and covered with hairs. The leaves are thick, oblong, ovato rounded, and studded with numerous pits on both their surfaces. The colour is light brown. The flowers are very small, of a light brown colour, and studded with hairs. The calyces are marked with numerous pits. The whole drug has a lightish brown colour and an agreeable odour. The taste is lemon like. It is pungent at first, but after a time it gives a kind of burning sensation to the tongue resembling the taste of *Ajamo*.

Preparations : Decoction and infusion.

Actions and Uses : The drug is a nice stimulant, tonic, and diaphoretic, and also an emmanagogue. It is used mixed with other stimulant drugs.

OCIMUM PILOSUM.

THE SEEDS.

Tukhamaria तुकमरीया *Tukhm-i-rihána* (Pers.) *Takamerián* (Bom.)
Varavara (Sans.) *Bábutula* (Beng.)

Characters : The seeds are small, black, oblong, and somewhat angular. Each seed is marked with a small white scar at one end. The surface is very minutely pitted. The taste is mucilaginous and slightly pungent.

Preparations : Mucilage.

Actions and Uses : The seeds are demulcent and nourishing. When steeped in water they form a mucilaginous jelly which is used as a demulcent in gonorrhœa, stranguary, and kidney diseases; also in dysentery and cough. The jelly is also useful in spermatorrhœa.

Remarks : The word *Takamerián* is a corruption of the Persian term *Tukhm-i-rihána*, which means the seeds of *Rihána* or ocimum. The specific name *pilosum* is derived from the condition of their inflorescence which is very pilose.

DRACOCEPHALUM ROYLEANUM.

THE SEEDS.

Tukhm-i-balungo तुकमि बालुंगु *Tukhm-i-bálaṅgo* (Pers.) *Balaṅga* (Hind.) *Bazarula-bálaṅko* (Arab.) *Balaṅká* (Duk.)

Characters : The seeds are black in colour and resemble *Shá jirá*. In size they are larger than those of *Faraṅja mushka*. Their shape is oblong, rugous, and 3 angled. The angles are rather sharp. Each seed is arched on one side, and tapering towards the umbilicus where it is marked with a white scar. The surface is slightly pitted and marked with three nerves on its back. The taste is rather acrid and mucilaginous.

Preparations : Mucilage.

Actions and Uses : The seeds are demulcent. The mucilage is tenacious and opaque, and useful in the preparation of mucilaginous drinks for cough, irritation of the throat, &c. It is highly recommended in gonorrhœa.

Remarks : The seeds are sold for those of *Mishk-i-tarámasi*.

OCIMUM SANCTUM.

THE LEAVES AND SEEDS.

Tulasi तुलसी *Tulasi* (Guz., Hind., Beng. and Bom.) *Tulasi*, *Paranisa*, *Vraṇḍā* (Sans.)

Characters : There are two varieties : *Sveta* (white) *Tulasi* and *Krishna* (black) *Tulasi*, each depending upon the different colour of its stems and leaves. In the black variety the stems, leaves, &c. are dark purple, in the white they are somewhat green. In both the leaves are opposite, oblong or oval, serrated, but slightly entire at the base. They are minutely dotted and hairy near the nerves. The flowers are verticelled. They are small, irregular, and of a pink or purple colour. The corolla are inserted into a hairy toothed calyx. The calyx is five partite. The upper segment of the calyx is curiously revoluted and is reniform in shape. The ovary is four seeded. The seeds when fresh are white, but become black on ripening. They are oblong, blunt pointed, and somewhat arched. The smell of the leaves is peculiarly aromatic, the aroma is chiefly due to the presence of oil cells on their surface. The smell of the flowers and seeds is highly fragrant, sweet, and aromatic. The taste of the plant is pungent.

Preparations : Juice of leaves, decoction of seeds, and powder.

Actions and Uses : The leaves are said to be expectorant. With *Kālā miri* they are prescribed in catarrhal affections, cough, and pain in the sides. The powder of dry leaves is used as a snuff in ozæna. The paste of the leaves with *Suñṭha* and *Sapheda miri* is useful in intermittent and remittent fevers. The juice of the leaves is useful as a drop into the ears in earache. With lime juice the leaves are mixed and the paste applied for the cure of ring worm. The seeds are mucilaginous demulcent, and used as a diuretic in scanty urine.

620 B. *Tulasi bija*, *Gulañcha*, *Suñṭha*, *Bhuiriṅgani*, *Bhāraṅga mula*, equal parts. Mix and make a powder. Dose : dr. $\frac{1}{2}$.

Used in cough and other affections of the chest.

621 B. *Tulasi bija* 5, *Posta* 4, *Gokharu* 5, *Kavacha bija* 3, *Musali kaṇḍa* 4, *Sākara* 6. Mix and make a powder.

Dose : grs. xx.

Used in seminal debility.

622 B. *Tulasi pána*, *Bhuirīṅgani*, *Dāñti mula*, *Vāja*, *Segata chhála*, *Trikatu*, equal parts. Make a paste. Add *Gora tela* and boil.

Used as drops into the nose in ozæna.

LEUCAS CEPHALOTES.

THE PLANT.

Tumbo तुम्बु *Kubo*, *Goma*, *Madhá páti* (Hind.) *Kubo* (Guz. and Sind.) *Drona pushpi* (Sans.)

Characters : It is an herbaceous hairy plant. The leaves are ovato oblong and serrated. The plant contains large, globose verticels of numerous white flowers.

Preparations : Vapour and inhalation.

Actions and Uses : It acts as a diaphoretic and also as a mild stimulant.

Remarks : The dried plant is sometimes sold by druggists. Fresh can be obtained from herbalists. The Sanscrit word *Drona pushpi* is derived from *Drona*, a cup, and *pushpi*, containing flowers. The calyces of flowers of *Tumbá* are cup-shaped, and hence the name.

LAVANDULA STÆCHAS.

THE FLOWERS.

UsatekHUDUSA उसातेकुदुसा *Usatukhudusa* (Arab. and Bom.) *Alaphajana*, *Dharu* (Hind.) *Lavañdara-ná-phula* (Guz.)

Characters : The drug consists of stalks and flowering spikes. The stalks are slender and covered all over with white hairs. The spikes of the flowers are elongated and hairy. The bracts are of a bluish colour and reticulated with distinct nerves. They are broad towards the apex and cuneate towards the base. The flowers are irregular, and longer than the calyx. The calyx is tubular, dentate, and inserted within the bracts. The whole drug has a bluish brown colour. It has an agreeable odour resembling that of lavender. The taste is bitterish and aromatic.

Preparations : Oil and spirit.

Actions and Uses : *UsatekHUDUSA* is a good stimulant, aromatic, resolvent, deobstruent, general carminative, diaphoretic, and emma-

nagogue; also an expectorant, and antispasmodic. It is used in colic and chest affections, and to relieve biliousness. Fomentation of its flowers relieves local rheumatic or neuralgic pains. The oil is used locally to relieve nervous headache.

Remarks: The word *Alaphajana* is a corruption of the Portuguese word *Alfazema* used for Lavender.

HYSSOPUS OFFICINALES.

THE FLOWERING PLANT.

Zupho जुफु *Juphá* (Hind. and Bom.) *Zuph-i-yabisa* (Pers.)

Characters: The plant when entire is from 6 to 10 inches in height. The whole drug is of a reddish or brownish purple colour. The odour is aromatic. The taste is bitter and somewhat acrid. It consists of pieces of stems and roots, broken flowering spikes, seeds, and leaves. The stem is very slender and thin. It is obtusely 4 angled, smooth, and mottled with a purplish tint. The young parts are covered with small whitish hairs. The root is woody, of a brownish colour, and white within. The flowers are numerous and disposed in oblong spikes which are of a brownish purple colour. The seeds are oblong, three angled, and of a dark brown or grey colour, mottled with a red tint. The leaves are opposite, linear, half-folded, and hairy. The whole drug contains an essential oil and a bitter principle.

Preparations: Decoction.

Actions and Uses: The drug is an anthelmintic, stimulant, diuretic, and deobstruent. It is also given as a cathartic. Mixed with *Anjira* or *Madha* it improves digestion and hence is useful in dyspepsia and flatulence. It is also useful in chronic bronchitis in old people and amenorrhœa.

623 **℞.** *Zupho* drs. ii, *Tukhm-i-khitami* drs. iv, *Khubázi* drs. iv, *Jethi madha* drs. 1½, *Anjira* No. 5, *Khasakhasa* drs. vi, *Anisuñ* drs. vi, *Sopisatána* No. 40, *Unába* No. 40, Boiling water ozs. 80. Macerate the whole for 12 hours, then boil down to half the quantity of water and strain. Add 2 lbs. of *Sákara* and prepare a syrup. Dose: drs. iv to oz. i, to be diluted with water.

Used in catarrh, bronchitis, pneumonia, and phthisis. It is also a valuable diaphoretic.

PLUMBAGINACEÆ—The Chitraka order.

These are herbs or undershrubs. The leaves are entire, exstipulate, and generally covered with white or brownish, powdery blooms. The flowers are rose, white, or blue coloured. The fruits are utricles or dehiscing by valves at the apex.

Properties : In this order the plants are acrid and astringent. In some species the roots, applied to the skin when fresh, cause blistering.

PLUMBAGO ZEYLANICA AND P. ROSEA.

THE ROOT.

Chitra chhala ചിത്ര ചുള The white: *Pāṇḍhrā chitraka* (Mah.) *Chitraka* (Hind.) *Chitā hīṇḍa* (Beng.) *Chitro* (Bom.) *Chitraka* (Sans.) The red: *Lāla chitraka*, *Rakta chitraka* (Sans.) *Māla chita* (Beng.) *Lāla chitra* (Guz.)

Characters : *Sapheda chitraka* : The root when fresh exudes a yellow juice. It occurs in pieces. Each is from 2 to 4 inches long, cylindrical, and as thick as the little finger. The bark is thick, brittle, smooth, of a darkish brown colour, and marked with small scars of fallen root lets. The surface is marked with irregular fissures. The wood when cut is hard, tough, and of a brownish colour. The odour is acrid and disagreeable. *Lāla chitraka* : The characters are similar. The flowers are of a red colour, and hence the name.

Preparations : Paste, decoction, powder, and root.

Actions and Uses : The root is an abortifacient, vesicant, acrid, and stimulant. The paste is used as a local stimulating application to rheumatic joints, paralytic limbs, and to abscesses to promote their suppuration. As an alterative, with *Vāvadiṅga* and *Motha*, its powder is given in small doses in rheumatism, piles, skin diseases, &c. As a tonic it improves digestion and promotes appetite, and hence given in dyspepsia, anasarca, diarrhœa, and intermittent fever with good results. The root if introduced into the os uteri leads to abortion. As an adjunct to other stimulant preparations it is highly useful. *Lāla chitraka* is a more powerful vesicant than *Chitraka*, and is used in the preparation of caustics used as applications. It has a specific action on the uterus. Taken internally it expels the foetus whether dead or alive.

- 624 B. *Chitraka chhāla* 5, *Kāephala* 4, *Amabara* 3, *Kasaturi* 2, *Vaja* 3, *Behaman-e-surkha* 3, *Suñṭha* 4, *Pipali* 5, *Jethi madha* 4, *Darunaj-i-akrabi* 3, *Ajamo* 4, *Jatámánasi* 3, *Jāephala* 2, *Rásaná* 4. Mix and make a powder. Dose : grs. xv to grs. xxv.

Used in paralysis, hemiplegia, general debility, &c.

- 625 B. *Chitraka chhāla*, *Pipalimula*, *Harade*, *Ajovāna*, *Kalonaji*, *Ajamoda*, *Vāvadiṅga*, *Jiruñ sapheda*, *Devadāra*, *Elachi*, *Limbodi*, *Pipali*, *Siñdhava*, *Rásaná*, *Gokharu*, *Dháná*, *Lavaṅga*, *Motha*, *Triphalá*, *Kálá miri*, *Suñṭha*, *Taja*, *Javakhāra*, *Válo*, *Talisapatra*, *Teja patra*, each one part. Make a fine powder. Dose : dr. i to drs. ii.

Used in flatulence, colic, worms, rheumatic affections of joints ; as a blood purifier in syphilis, chronic diseases, scrofula, &c.; also as a stimulant in fainting, and giddiness.

- 626 B. *Chitraka chhāla* 2, *Iñdrajava* 5, *Venivela mula* 3, *Katuki* 4, *Ativisha* 5, *Himaja* 4. Mix and make a powder. Dose : grs. xl to grs. l.

Anupána : To be given in *Madha*.

Used in flatulence, chronic dysentery, &c.

- 627 B. *Chitraka chhāla* 3, *Aphatimuna* 4, *Gharikhuna* 3, *Naosádara* 3, *Anisuñ* 2, *Lavaṅga* 2, *Madha* 20. Prepare a confection in the usual way. Dose : drs. ii to drs. iv.

Used in chronic skin diseases and secondary syphilis.

- 628 B. *Chitraka mula*, *Dānti mula*, *Thuvara-nu-dudha*, *Akadá-nu-dudha*, *Bhilámo*, *Hirákashisha*, *Señdhá-lona*, *Jaggary*, equal parts. Mix and make a paste. Used as an application over abscesses for opening them.

SALVADORACEÆ—The Khakhana order.

It is a very small order, composed of shrubs or small trees, with opposite, entire, and leathery leaves. The flowers are small, greenish yellow, or white, and followed by fleshy fruits which are of a white, black, or red colour.

The order is remarkable for acrid and stimulant properties.

SALVADORA PERSICA AND S. OLEOIDES.

THE ROOT BARK, LEAVES, OIL, FRUITS, AND SEEDS.

Khakhana *طوطا* *Pilu* (Guz.) *Khārijāra* (Sind.) *Kāṅgani* (Marw.) *Darakhte misavaka* (Pers.) *Jhāla* (Hind.) *Khākhana* (Bom.)
The fruits : *Pilu* (Bom.) *Jhāla*, *Mithi jāra* (Hind.) *Arāka* (Arab.)
The oil : *Khakhanela*, *Khākhana tela* (Bom.)

Characters : The stem bark is brown, cracked, and covered with numerous whitish brown scars. The root bark is smooth. The odour is pungent and heating. The taste is warm. The leaves of *Salvadora persica* are petioled, shining on both surfaces, oval or oblong, and fleshy. In length they are 1 to 2 inches, in breadth about one inch. Those of *S. Oleoides* are longer and narrower. The fruits of *S. Persica* are small, red or pink, globular, and juicy. They are of a sweet taste. The seeds are erect. When chewed they are acrid and pungent. Those of *S. Oleoides* are larger. The oil is a greenish yellow coloured fat. It is of an acrid pungent smell and taste.

Preparations : Decoction and paste of bark, oil, and poultice of leaves.

Actions and Uses : The fruit is edible. The bark and leaves are deobstruent, carminative, and diuretic. A decoction of the leaves is used in asthma, cough, &c. A poultice of the leaves is a useful application to painful tumours, rheumatic joints, piles, &c. The bark is used as a tooth brush to strengthen the gums. A decoction of the bark is used as a tonic and stimulant in low fevers, and as an emmenagogue in amenorrhœa. The fresh bark is said to be a vesicant. The oil is a stimulant. It is locally applied in painful

rheumatic affections, and as an inunction to the body after child birth. The leaves made into a decoction are used in asthma, cough, &c.

Remarks : Dry fruits known as *Klāṅgani* are used as edible fruits by the Marwadees. They eat the fruit but reject the seeds as the latter are very acrid.

SOLANACEÆ—The Bhuiringani order.

This order is composed of herbs or shrubs. The leaves are alternate, simple, or lobed, and generally spiny. The flowers of some of the species are very showy. They are white, yellow, or of a blue colour, and followed by capsular or baccate fruits.

The plants of this order possess narcotic properties. Some are pungent and stimulant owing to the presence of an acrid resin; others are bitter tonic. The roots of some of the species are used as febrifuge, astringent, and alterative.

WITHANIA SOMNIFERA.

THE ROOT.

Asagandha अशगंधा *Asuṇḍha*, *Asana* (Guz.) *Asagaṇḍī* (Hind.) *Asvagaṇḍhā* (Beng. and Bom.) *Ashvagaṇḍhā* (Sans.) *Fatar fodā* (Goa.)

Characters : The fresh plant is from 2 to 4 feet high. The branches are very slender. The leaves are alternate petioled, obtuse, ovato oblong, and sometimes oblique at the base. The young parts and nerves of the leaves are covered with whitish starry tomentum. The root is tapering and branched below. It is of a whitish brown colour and woody. It is as thick as the little finger. The root bark is round, thick, smooth, and gives off irregularly branched fibrils. The wood is hard and of a white colour. It cannot easily be broken. On section the cut portion with its bark resembles *Asana* of the bazaar. The smell and taste of the root are acrid.

What is sold in the bazaar as *Asana* is a dry root of *Briedelia montana*. The root is hard, tapering, and giving off here and there root fibrils. It is of a brownish or dirty white colour, and readily breaks under the fingers. On section it presents an outer thin ring, within which is the homogeneous, starchy, crystalline, white substance. In taste it is intensely bitter. The odour resembles that of *Bhuikoholā*.

Preparations : Powder, decoction, confection, and paste.

Actions and Uses : It is given as a tonic, alterative, and aphrodisiac. As a tonic a paste of the root taken with milk and clarified butter helps the nutrition of weakly children. As an aphrodisiac and alterative, its confection is given in consumption, debility from old age, and rheumatism. It is also useful as a diuretic and deobstruent. Native women combine it with various restoratives in nervous debility, leucorrhœa, &c. It often relieves habitual constipation.

Remarks : The Sanscrit word *Ashvagañdhá* is derived from *Ashva*, a horse, and *Gañdha*, smell. It is said that the root smells like the skin of a horse.

NARAYANA TELA.

629 B. *Askagañdha*, *Chikaná-páta mula*, *Bela*, *Venivela*, *Bhui-riñgani*, *Ubhá gokharu*, *Limado*, *Tetu mula*, *Puneranavá*, *Arani*, each 2 parts. Make a decoction. To this add *Tila tela* 40 parts, and a paste of *Dudha* 10 parts, *Kátho*, *Elachi*, *Jatámánasi*, *Vekhañda*, *Moravela*, *Rakta chañdana*, *Siñdhava*, *Asana*, *Rásaná*, *Variáli*, *Devadára*, *Sálavana*, *Pitavana*, *Tagara*, each 2 parts. Boil the whole for one hour.

Used as drops into the nose in deafness ; as an inunction over the body in hemiplegia, tetanus, rheumatism, and lumbago. It is given internally in consumption, emaciation of children, debility from old age, leprosy, nervous diseases, and rheumatism ; as an enema in dysentery and anal fistulæ.

Remarks : A fanciful price is given for this oil. It is supposed to cure all chronic diseases.

630 B. *Ashagañdha* 3, *Varadháro* 2, *Pipali* 4, *Madha* 5. Mix and make a decoction in the usual way. Dose : oz. $\frac{1}{2}$ to oz. i.

Anupána : Given with milk.

Used in consumption, seminal debility, and to help the nutrition of weakly children.

SOLANUM JACQUINI.

THE PLANT.

Bhūiringani భురింగని *Pathariṅgani* (Guz.) *Bhatakatya*, *Kāṭhā Rīṅgani* (Hind.) *Bhui-rīṅgani* (Bom.) *Kāṇtakari* (Beng.) *Hadaka* (Arab.) *Badiṅjan-i-barri* (Pers.) *Nidigadhika*, *Kāṇtakari*, *Vrahalī* (Sans.) Wild eggs plant ; Bitter sweet woody nightshade (Eng.)

Characters : The root is biennial, long, and of a light brown colour. The stem is prostrate or diffuse, branched, and covered with long, broad based, tapering spines. The leaves are frequently oblong, pinnatifid, lanceolate, smooth, and armed on both sides with long strong spines. The flowers are in racemes. They are pedicelled, large, and of a beautiful light or bright blue colour. The berries are spherical, very smooth, drooping, and marked with variegated stripes of colours generally greenish yellow or yellow. The seeds are reniform, compressed, and of a light brown colour. The taste is acrid and pungent.

Preparations : Paste, powder, decoction, medicated oil, and fumigation.

The medicated oil is prepared by taking the juice of leaves and boiling it in *Mithuṇ tela*. A paste of pounded seeds is often substituted for the leaves in preparing the medicated oil.

Actions and Uses : The root is used as an expectorant, diuretic, bitter, and carminative. As an expectorant, it is recommended in asthma, cough, catarrhal fever, and pain in the chest; as a diuretic, in dysuria, stone in the bladder, and costiveness. It is seldom given alone, generally combined with other expectorant, demulcent, and aromatic medicines. A paste of the seeds is locally applied to promote the suppuration of boils, buboes, and other indolent chronic abscesses. The oil is given internally for the relief of cough and asthma. Locally it is applied to the chest to relieve the pain and to the skin in chronic skin diseases. A fumigation of the fruits is highly recommended for the relief of pain in caried teeth.

Remarks : *Bhui rīṅgani* is one of the ingredients of *Laghu Pañcha mula* of *Dasamula di-kvātha*. The whole dried plant with fruits is sold by druggists. The fresh one can be had from herbalists.

- 631 B. *Bhuiṛiṅgani* 4, *Aduso* 4, *Kulitha* 3, *Suñṭha* 2, *Pipali* 3, *Madha* 5, *Pachaka mula* 2, *Devadāra* 3, *Mohti riṅgani* 3. Make a decoction.

Dose : oz. i to ozs. 1½.

Anupāna : Fried *Hīṅga*.

Used in spasmodic cough, catarrh, bronchitis, asthma, and chronic lung diseases with difficulty of breathing.

- 632 B. *Bhuiṛiṅgani*, *Gulañcha*, *Chavaka*, *Chitraka*, *Kákará sriṅgi*, *Trikatu*, *Motha*, *Turañjabina Rásaná*, and *Jadavāra-nu-mula*, each drs. viii, *Sákara* oz. i, *Ghee* oz. i. Boil the whole and reduce it to the consistence of an extract. To this add *Madha* 4, and *Tabáshira* 5, to make an electuary. Dose : oz. i.

Used in cough, chronic bronchitis, and constipation.

DATURA ALBA AND D. FASTUOSA OR NIGRA.

THE WHOLE PLANT.

Dhatura दधुर *Sapheda* and *Kálá Dhaturá* (Hind., Bom. and Beng.) *Dhasatura*, *Sveta anomattá*, *Kanaka onamattá*, *Krishna unamattá* (Sans.) *Jouz-ula-mathila* (Arab.) *Tatulah* (Pers.) The fruit: *Dhotará phala* (Mah.) *Dhaturá-ná-didān* (Bom.) The seeds: *Dhaturá bīja* (Bom.)

Characters : There are two species of *Dhaturá Sapheda* and *Kálidāndi-no-dhaturó*. The latter is used locally in medicine. The fruit is about the size of a walnut and nearly globular. It is covered with sharp tubercles or short spines. The capsule splits in an irregular manner into numerous fragments. Within the fruit are the pulp and seeds. The pulp is white and soft. The seeds are ear shaped, of a light yellowish brown colour, and compressed on both surfaces. Each seed has a groove on its wall and edges. Near the hilum the pulp is adherent, but it can easily be removed by even slight scratching. The leaves are ovate, acuminate, unequal at the base, and very coarsely dentate. The root is light brown, tapering, and giving off root fibrils. The whole plant has a very agreeably foetid odour. The taste is nauseous.

Preparations : Juice of leaves, paste, poultice, decoction, confection, and medicated oil.

MEDICATED OIL : This is prepared by boiling the juice of leaves or a paste of seeds in *Mithuñ tela*.

Actions and Uses : All parts of the plant are powerfully intoxicating and narcotic. The seeds are highly astringent, antispasmodic, and intoxicating. They are useful in bowel complaints, tetanus, mental derangements, ague and other fevers with catarrhal and cerebral complications, skin diseases as lice, &c. When given for a long time they lead to insanity, mania, and melancholia. In large doses they lead to intoxication and cause dilatation of the pupils. As an antispasmodic they are recommended in spasmodic asthma, whooping cough, dysmenorrhœa, and retention of urine due to spasm of the neck of the bladder. A paste of the seeds is useful in urticaria and other skin diseases due to the presence of lice or other animal parasites. It is applied to decayed teeth to relieve toothache. *Dhaturá* seeds are frequently used in India for criminal purposes. They are used as a substitute for *Afima*. Toddy which is a country drink for most of the Hindus and Parsees is made more intoxicating by placing some of the seeds upon red hot charcoal and inverting earthen vessels (*Gharidān*) over them. The vessel is now full of *Dhaturá* smoke, and when filled with toddy, imparts some of the qualities of *Dhaturá* to it. The seeds are added to *Bhāṅga* for increasing its intoxicating effects. They are added to *Ládu*, *Baraphi*, *Peñdā*, and similar sweetments for the purpose of stupifying and then robbing children of their ornaments and also the adults of their gold and silver. The leaves are smoked along with tobacco in asthma. As a local application they relieve the pain of tumours and nodes. When roasted they are beneficially applied to the head in headache, to enlarged testicles, and boils. A paste of the leaves is a good substitute for *Rasavañti*. The fresh juice of the leaves, alone or mixed with *Afima*, is a useful application to inflamed parts. In inflammation of the breasts, a paste made of *Dhaturá-ná-didān* with *Halāda* is applied with benefit. Very often the root is substituted for the leaves. Medicated oil is used in skin diseases as peduculi, lice, and psoriasis. *Dhaturá-no-rasa*, with *Sátodi* and *Afima* is a good application for the relief of rheumatic pains, and swelling over the hands and feet. In hæmorrhoids, anal fissures, and other diseases of the rectum leading to tenesmus, its application as a local anodyne gives relief. It is superior to *Rasavañti*.

Dose : Of the leaves *grs.* ii.

Remarks : The dried plant is sold by druggists ; fresh can be obtained from herbalists. *Gharabhulo* is another species of *Dhaturá*. These are immature capsules with peduncles attached. Each capsule

resembles in size to a large *Akharota*. The surface is dark brown and studded with spiny thorns. The word *Gharabhulo* is derived from *Ghara*, which means a house, and *Bhulo*, to forget. It is in allusion to the persons taking it forgetting the knowledge of their own home.

633 R. *Dhaturá-ná-bija* 2, *Pára kajali* 1, *Trikatu* 1, *Bachá-nága* 1. Mix, rub the whole together with *Limbu-norosa*, and make a pill mass.

Dose : grs. v to grs. viii.

Used in fever, catarrhal bronchitis, and cough.

WITHANIA COAGULANS.

THE FRUIT.

Kakanaja ककनजा *Habbula Kákanage* (Hind. and Arab.) *Kákanaja*, *Arusaka-pas-i-paradah* (Pers.) *Panira-japhota*, *Panira bānda* (Hind.)

Characters : The fruit is rather larger in size than, but similar in shape to, *Makoya*. It is of a brownish yellow or reddish brown colour, and much shrivelled. The epidermis is rugous and rather shining. It contains a large number of flattened, reniform, and pitted seeds which are of a light reddish brown colour. The seeds are compressed, sticky, and resemble *Bhuiriṅgani bija*. They have a fruity odour, and an aciduous and acrid taste.

Preparations : Decoction and confection.

Actions and Uses: The fruit is an expectorant, alterative, carminative, and stomachic. It is useful in chronic liver diseases. As a diuretic it is used for the same purposes as *Asagaṇḍha*. Other uses are similar to those of *Makoya*.

Remarks : The word *Panira bānda* is derived from *Panira*, which means cheese, and *Bānda*, to bind or coagulate. It is applied to this fruit as it coagulates milk into cheese. One ounce of the decoction of the fruit, if added, will coagulate a gallon of warm milk in about half an hour.

The Persian word *Arusaka-pas-i-paradah* means a bride with a curtain. It relates to the custom of keeping the bride under a *Paradáh* or *Burakhá*. This is in allusion to the fruits being enclosed in a curtain (*Paradáh*) of closely fitting calyx.

HYOSCIAMUS ALBUS.

THE SEEDS.

Khorasani ajavana ખોરાસાની અજવાના *Khorásáni ajamo* (Guz.) *Khorásáni yamáma* (Sans.) *Khorásáni ajavína* (Hind.) *Khorásáni ovli* (Bom.) *Bañja* (Pers.) *Bazr-ula-bañja abiada* (Arab.) *Honbane* (Eng.)

Characters : The seeds are small, reniform, laterally compressed, and of a dirty brown or grey colour. In shape and appearance they resemble those of *Kákanaja*. The surface is beautifully pitted. The taste is acrid. The odour resembles that of Dammar.

Preparations : Paste, powder, decoction, poultice, and pessaries.

Actions and Uses : The seeds are heating, stimulant, intoxicating, anodyne, digestive, and astringent. Made into a poultice with barley, they are applied to inflammatory swellings. A paste of them made with brandy is locally applied to swollen testicles, inflamed breasts, and enlarged and gouty joints. With *Khasakhasa* the seeds are given internally in cough, asthma, hiccough, &c. As a narcotic their pessaries are used in painful uterine complaints. They are also useful in controlling violent outbreaks of mania, some forms of hypochondriasis, nervous agitations, functional palpitations of the heart, cordiac and pulmonary asthma, chorea, tetanus, locomotor ataxy, and mercurial palsy. They often check vomiting of pregnancy. When added to cathartics they prevent griping. As a stomachic they are given with carminatives and aromatics in worm complaints, colic, and dyspepsia.

Dose : Of the powder, *grs.* v to *grs.* x.

Remarks : The Arabic word *Bazr-ula-bañja* means a little basket with a cover. The capsules resemble a little basket and hence the name.

SOLANUM NIGRUM.

THE FLOWERING PLANT WITH FRUITS.

Makoya મકોયા *Piludu* (Guz.) *Makoi* (Hind.) *Kámuni Gháti* (Bom.) *Kakamáchi* (Beng.) *Anabusa-thaliba* (Arab.) *Kakamachi* (Sans.)

Characters : It is a small shrub with an erect stem. The stem has many irregular spreading branches which are glabrous or pubescent. The angles of the branches are sometimes swollen. The leaves are ova to oblong, attenuated at both ends, entire, or slightly toothed, and of a dark green colour. The flowers are dirty white, small, and generally attached to the swollen parts of the branches. The berries are small, globular, and of a greenish yellow, brown, or black colour. They contain seeds which are numerous, compressed, and reniform. The smell is acrid. The taste is biting and pungent.

Preparations : Juice, syrup, infusion, and *Varáhiñs*.

Actions and Uses : The plant is said to be useful as an expectorant. The juice is an alterative tonic, hydragogue cathartic, and diuretic. It is given in anasarca, heart disease, and chronic enlargement of the liver and spleen. A syrup of it is useful as a cooling drink in fevers, and to promote perspiration. The leaves made hot are applied to painful and swollen testicles.

Remarks : The dried fruits are sold by druggists. Fresh plant can be had at herbalists.

634 B. *Kámuni* 5, *Kuchalá* 6, *Rakta chañdana* 7, *Medá lákadi* 8, *Afima* 2, *Káchagá* 4. Mix, make a paste in *Movará-no-dáru* and apply.

Used in rheumatic or gouty painful joints and over the painful muscles.

CAPSICUM ANNUUM.

THE SEEDS AND FRUITS.

Marachan मरचि Fresh fruits: *Lilāñ marachāñ* (Hind. and Bom.) Dried fruits: *Lála marachāñ*, *Rátāñ marachāñ* (Guz.) *Lála mirachi* (Hind., Bom. and Beng.) *Philaphila-ahmara* (Arab.) *Philaphil-i-surkha* (Pers.) Chillies (Eng.)

Characters : The stalk is thickened towards its attachment to the fruit. The fruits are conical and seated on a slightly curved stalk. They are from 1 to 4 inches long, and from $\frac{1}{2}$ inch to an inch at the base. Their colour varies from green or greenish yellow to orange red. When fresh the colour is generally green which changes

to red on ripening. Their surface is smooth and gibbous. The skin of the fruit is thin, about 2 or 3 lines in thickness. It tears very readily. On section it contains numerous seeds. The seeds are flattened, somewhat roundish or reniform, and of a yellowish white colour. The whole fruit has an acrid smell and a highly pungent burning taste.

Preparations : Poultrice, powder, paste, decoction, or tea.

Actions and Uses: The fruit is a stomachic and stimulant. As a stimulant a decoction of it is given in snake bites and cholera. In atonic dyspepsia it acts both as a stomachic and as a digestive agent. When freely taken it cures hæmorrhoids. As a good stimulant it is given in intermittent fever and against sea sickness. Externally a paste of it is used as a rubefacient, and as a local stimulant for the tonsils in tonsillitis. In diphtheria its application hastens the separation of false membranes. In chronic lumbago a plaster of *Mirachāñ* with *Lasana*, *Miri*, and *Silārasa* is an efficient stimulant and rubefacient application.

Dose : gr. i to grs. x.

Remarks : There are three principal varieties known as 1. *Deshi* or *Gámathi marachāñ*, (country chillies) ; 2. *Malabári* or *Ghāti marachāñ*; and 3. *Lavañgiāñ* or *Nepali marachāñ*. *Deshi marachāñs* are not very biting or very acrid. They are mostly used as a condiment.

Malabári marachāñ : In this fruit the seeds are numerous. The taste is more pungent than that of *Deshi marachāñ*. They are also used as a condiment chiefly by the people from Ghauts.

Lavañgiāñ marachāñs are diminutive in size and highly pungent. The fruits are as a rule very highly esteemed. They are also known as Cayenne pepper. They have a peculiar flavour.

NICOTIANA TABACUM.

THE LEAVES AND STALKS.

Tambaku तंबाकू *Tanabāka* (Arab.) *Tambāku* (Pers.) *Tamāku* (Duk.) *Tambāku* (Hindi., Beng. and Bom.) *Dhuma pataram*, *Tamarākuta* (Sans.) *Tambākuchā pālā* (Mah.) Tobacco (Eng.)

Characters : The leaves are very large, oblong, acuminate, and narrowing at the base. The petioles run down into the stem. The colour of the leaves when fresh is darkish green. They are viscous to the touch, and of a fœtid odour. The stalks are irregular-

ly angled, brittle, light, and of a brown colour. The taste is heating and acrid. When dry the leaves and stalks are of a yellowish light or dark brown colour.

Preparations : Powder, poultice, paste, smoke, *Guráko*, and *Tambáku-ni-goli*.

Actions and Uses : Tobacco is a relaxing, nauseating, and purgative medicine, and used in obstruction of the bowels due to faecal accumulation. A coarse powder or thin slices made of the leaves is used by natives as a smoke in *Hukká*, or to chew it in the mouth. It relieves indigestion, chronic asthma, and persistent headache. A very fine powder of the leaves known as *Tamakhira* is used as a tooth powder. A paste of it made with *Erañdi tela* is applied to the navel to relieve colic. It is also useful as a snuff in nasal polypi, nasal catarrh, headache, chronic giddiness, and fainting. The leaves are made hot and applied to the abdomen in colic and gripes. A poultice of tobacco leaves is applied to the spine in tetanus. The upper surface of the leaf painted with *Silárasa* is a useful application to the painful swelling of the testes in orchitis. Tobacco smoking is a calmative and cardiac sedative. It is highly useful to relieve nervous cough, asthma, and other chest affections; also in spasmodic laryngites, whooping cough, and obstinate hiccough. It also promotes digestion. Fresh leaves when bruised are locally applied as a palliative in urticaria, gouty and rheumatic painful joints, and in lead colic. A leaf stalk is introduced into the rectum of children to relieve constipation. Its ashes mixed with *Gora tela* is a useful application to bleeding sores. The oil collected from *Hukká* pipe is used to heal up sinuses, and as drops into the eyes to improve vision.

Remarks : *Guráko* is a preparation used by the natives as *Tambáku*. It is essentially a mixture of tobacco and *Gora*, (Jaggary) in equal proportions to which aromatics as *Elachi*, *Jáephala*, &c. are added. The Mahomedans and Hindus use *Guráko* to prepare cigarettes with *Bidi-ná-pátaráñ* or *Timbori pána* (*Gába*).

TAMBAKU-NI-GOLI.

- 635 B. Take of *Tambáku* powder, *Kátho*, *Taja*, *Elachi*, and *Trilatu*. Mix and make a pill mass in *Madha*. Dose: *grs. ii*. To be taken as a carminative and digestive along with *Pána*, *Sopári*, spices, aromatics, &c.

SOLANUM INDICUM.

THE PLANT.

Ubhi ringani उबि रिंगनि *Ubhi riṅgani* (Guz.) *Birahatta* (Hind.) *Dorali*, *Mohti riṅgani* (Bom.) *Byákura* (Beng.) *Vrihati*, *Bhañtaki* (Sans.)

Characters : The root is of a lightish yellow colour. The stem has numerous branches. Its young parts are downy and armed with very acute, somewhat curved spines. The leaves are solitary or in pairs, petioled, and ovate on both sides. They are downy, and armed with a few straight spines. The berries are round, smooth, of the size of a *Makoi*, and of a yellow colour. The plant has an acrid odour and a pungent taste.

Preparations : Decoction, powder, and paste.

Actions and Uses : The plant is a cardiaca, aphrodisiac, astringent, and resolvent. It is useful in asthma, dry cough, chronic febrile affections, colic with flatulence, and worms. It is also recommended in dysuria.

Remarks : It is one of the ingredients of *Laghu Pañcha mula* of *Dasamula-di-kvātha*.

PLANTAGINACEÆ—The Isapoghula order.

In this order the herbs are generally without aërial stems. The leaves are radical and ribbed. The flowers are usually small and in spikes. The fruits are capsular. The seeds are mucilaginous.

PLANTAGO PSYLLIUM.

THE SEEDS.

Baratanga बारतंग *Báratuṅga* (Bom.) *Tukhm-i-bárataṅga*, *Tukhm-e-bárhaṅga* (Pers.) *Lásina-ul-hamala* (Arab.)

Characters : The seeds are small, oblong or irregularly angled, of a darkish brown colour, and marked with longitudinal convolute lines. In size they resemble *Asálio*, but are somewhat smaller. Like

Isapoghula, the seeds are insipid and mucilaginous in taste. They have an oily smell when crushed. Soaked in water, they become coated with mucilage.

Preparations : Mucilage and paste.

Actions and Uses : The seeds are mucilaginous, cooling, and demulcent. Other properties resemble those of *Isapoghula*. With *Elachi* and *Sákara*, they are used in urinary disorders and dysentery.

PLANTAGO ISPAGHULA.

THE SEEDS.

Isapaghola उथामु *Uthamu jirun* (Guz.) *Ispaghola* (Hind.) *Isapaghola* (Bom.) *Eshopaghola* (Beng.) *Ispaghula*, *Baze-i-Katuná* (Pers.) Spogel seeds (Eng.)

Characters : The seeds are boat shaped, translucent, and of a pale brown colour with a pinkish tinge. In size they resemble *Alasi bija*. On their convex side there is a ridge which commences at one end of the seed and generally disappears about its middle in an oblong scar. The scar is brownish or of a reddish brown colour. On the concave surface is a deep channel which is widest in the middle, and becomes narrower as it approaches the end. In the centre is a scar of a brown colour, and somewhat bifid. It resembles in appearance the foot mark of a calf's hoof on a soft clay. The seeds are mucilaginous to taste and free from odour.

Preparations : Mucilage, poultice, and paste.

Actions and Uses : The seeds are cooling, demulcent, and useful in inflammatory and bilious derangements of the digestive organs. Made into a poultice with vinegar and *Gora tela*, they are applied to rheumatic and gouty swellings with benefit. As an astringent they are given in dysentery and irritation of the intestinal canal with relief. They are also useful in cough. When roasted they are useful in irritation of the bowels in children, and chronic diarrhœa.

Dose : $2\frac{1}{2}$ drachms.

636 B. *Ispaghula*, *Tukhm-i-rohána*, *Tukhm-i-maró*, *Tukhm-i-báratañga*, each dr. i. Heat the whole over a fire; when cool make a powder.

Dose : oz. i to ozs. ii.

Anupána : To be taken with a little *Sákara*.

Used in dysentery and chronic diarrhœa.

AMARANTACEÆ—Cholai bhaji and Aghada order.

In this order there are herbs or shrubs. The stems are striated and of a green or red colour. The leaves are wrinkled, simple, exstipulate, opposite, or alternate. They are generally oval, oblong, rhomboid shaped, and green or variously coloured. The flowers are spiked or capitate, occasionally unisexual. The fruit is an utricle, caryopsis, or berry. The seeds are one or more, and pendulous. The albumen is mealy. The seeds when dry are generally black.

Properties : Several species are mucilaginous, diuretic, and astringent. Some of them contain a large quantity of *Khára*.

ACHYRANTHES ASPERA.

THE SEEDS AND THE PLANT.

Aghada अगडा *Aghádo* (Guz.) *Chirachirá*, *Latajirá* (Hind.) *Apaṅga* (Beng.) *Agháda* (Bom.) *Apámarga*, *Kharamañjari* (Sans.)

Characters : It is an herbaceous erect plant. The stem is angular and longitudinally furrowed. It is of a greenish or reddish colour. The leaves are opposite and obovate. The margins are wavy. The surface is covered with whitish hairs. The spikes are terminal, long, and generally curved about the middle. The flowers are small and of a reddish colour. The bracts are of a green colour. When old the bracts become tough, rigid, prick like, and adhere to the clothes. The fruits are conical in shape, covered with sharp pointed bracts, and contain numerous seeds. The seeds are oblong and of a shining pale brown colour. On chewing the taste resembles that of *Bájar* grains. The drug sold in bazaar under the name of *Aghádá bija* is the whole fruit.

Preparations : Decoction, infusion of leaves, medicated oil, paste, ashes and *Khára* of the plant.

KHARA : Reduce the plant, to a coarse powder. Burn it over a fire and to the ash add four times its weight of water. Keep this for 24 hours. Separate the supernatant liquid and allow it to evaporate. The residue left after evaporation is the *Aghádá khára*.

MEDICATED OIL : *Aghádá Khára* 1, *Aghádá Kshára* 15, *Gora tela* 12. Mix and boil together.

Actions and Uses : The plant is considered as an astringent and given in diarrhoea, menorrhagia, &c. As a good diuretic, it is used in ascites and anasarca. The juice of the flowering spikes applied to bites of venomous reptiles relieves the pain. It is also applied to caried or painful teeth in toothache. The *Kshára*, either alone or mixed with *Haratála*, is a caustic and cures warts on the penis or other parts of the body. The fruit spikes with seeds are often used as an expectorant, aphrodisiac, and nutritive. Native women use them with *Gájara bija* to procure abortion. *Aghádá Khára* is given with honey in colic, cough, asthma, &c. with good effects. The oil is dropped into the meatus in cases of noises in the ears and deafness.

Dose : gr. i to grs. ii.

Anupana : To be taken with betel leaf (*Pána*.)

Remarks : The word *Apámargá* is derived from *Apá* or *Ába*, which means water, and *Marga*, a washerman. It is in allusion to a large quantity of alkaline ashes it contains and for which it is used by washermen along with their water for cleaning clothes. The fruits are used in the preparation of alkaline ashes and caustic paste. The fruit (seeds) can be had at druggists. The plant should be obtained from herbalists.

AMARANTHUS SPINOSUS.

THE LEAVES AND THE ROOTS.

Kanteri-mata கிண்டி *Kāntálo dāmbho* (Guz.) *Kāntánatia* (Beng.) *Cholá* (Hind.) *Tanaduliya* (Sans.)

Characters : The plant is erect, and from 1 to 3 feet in height. The root is tapering and here and there giving off a few fibres. The colour is pinkish. The taste is somewhat sweetish and astringent. The stem is striated, and of a green or reddish colour. Its surface is rugous. The leaves are long petioled, rhombo ovate or lanceolate, oblong, and with two sharp spines which are channelled. The flowers are axillary and terminal. The males are above and females beneath.

Preparations : Poultice of leaves, infusion and decoction of root, and ashes.

Actions and Uses : The plant possesses mucilaginous properties. A poultice of the leaves is a useful application over unhealthy

sores. The root is an astringent and diuretic. It is prescribed in combination with other astringent drugs in menorrhagia. Locally its paste is applied in eczema with benefit. It is given internally in gonorrhœa to lessen the muco purulent discharge, and to relieve heat, scalding, and general urithral irritation. Its ashes is useful for the same purposes as the ashes of *Aghádá*.

Remarks : Fresh can be obtained from herbalists. The word *Kānteri máta* (Mah.) is derived from *Kānteri*, which means full of prickles, and *Máta*, a kind of *Bhájí*, belonging to *Amaranthus* *triestris*. This plant resembles very closely to *Amaranthus* *triestris*, but it bears prickles and hence the name *Kānteri*.

AMARANTHUS POLYGAMOUS.

THE SEEDS, ROOTS, AND LEAVES.

Saravali सरवली *Bhájí bija* (Mah.) *Lajá-ná-bija* (Guz.) *Saraválí* (Bom.)

Characters : The seeds are roundish, and convex on both surfaces. Their form resembles that of a curry dish. They are smooth, shining, and of a black colour. The testa is hard. The taste is slightly bitter and pea like. The root is of a pinkish red colour. The leaves are roundish or variously shaped. Their margin is red.

Preparations : Poultice of leaves, decoction or infusion of roots, and confection and powder of seeds.

Actions and Uses : The seeds are a cooling demulcent. They are powerful aphrodisiac, and recommended in impotency, seminal debility, and leucorrhœa. The leaves are light, cooling, and promote alvine and urinary discharges. A poultice of them is highly valued as a cooling application to inflamed and painful parts. A decoction of the root is given in menorrhagia. It is generally mixed with *Madha* and *Rasavānti*.

Remarks : This *Bhájí* is a favourite pot herb, and always cultivated. The word *Bhájí* is a generic name applied to those pot herbs of which the leaves and young parts are used as vegetable. *Bhájí* is recognised by a specific name affixed to each of these species. Among the Hindus the vegetable or *Sáka* used as *Bhájí* is especially the leaves of *Amaranthus* *polygamus* (*Lajá-ni-bhájí*), *Amaranthus* *jigantius* (*Dámbo*), *Amaranthus* *triestris* (*Máta*), *Amaranthus* *spinosus* (*Kānteri máta*) &c. *Gola-ni-bhájí* or *Lu-ni-bhájí* (*Portulaca* *oleraceæ*), *Methi-ni-bhájí*

(*Trigonella Fœnum Græcum*), *Suvā-ni-bhāji* (*Anethum sova*) &c. are also pot herbs and their leaves are similarly used as vegetable or *Sāka*.

CHENOPODIACEÆ—The Palaka order.

These are herbs or undershrubs with alternate or rarely opposite, exstipulate leaves. The flowers are minute, greenish, without bracts, and followed by the fruits which are utricle, achæmium, or sometimes baccate.

Preperities : Many plants of this order are esculent, such as the beet root; some of them are used as pot herbs, as spinach. The seeds of some are nutritious. Several contain volalite oil which renders them anthelmintic, antispasmodic, aromatic, carminative, and stimulant.

SPINACEA OLERACEA.

THE SEEDS.

Palaka पालक *Pālaka* (Bom.) The seeds: *Pālaka-bija* (Bom.) *Tukhm-i-pālaka* (Pers.)

Characters : The drug consists of fruits of a brown colour, each containing one seed. The fruit is triangular, each angle terminating in two or more channelled tapering points or spines. The seeds are darkish red, ovate, flat, and slightly pointed at the apex. Their surface is rugous and wrinkled. The taste is acidulous.

Preparations : Infusion and decoction.

Actions and Uses : The seeds are supposed to possess laxative properties. They are highly useful in allaying hurried breathing, biliary derangements, and as a lithontriptic in urinary calculi.

NYCTAGINACEÆ—Gulabasa or Gula-abasa order.

In this order there are herbs, shrubs, or trees, with stems generally turned at the joints. The leaves are generally opposite. The flowers are showy and with an involucre. The fruit is a utricle.

Properties : The roots are purgative ; some of the species are expectorant, alterative, and astringent.

PISONIA MORINDIFOLIA.

THE LEAVES.

Chinai Salita ചിനൈ സാലിത *Chinai Sálita* (Bom.)

Characters : The leaves are long, oblong, acuminate, and with entire or wavy margins. The colour is whitish when very young, but it gradually changes to yellow green, and lastly to dark green. The belief that the leaves become darker in the shade and bleach again when exposed to the strong rays of the sun is not fully convincing.

Preparations : *Varálidāns* of leaves.

Actions and Uses : Native *Hakimas* and native women generally use the leaves as *Varálidāns* on elephantiasis of the scrotum, legs, and other parts.

MIRABILIS JALAPA.

THE LEAVES.

Gula-abbasa गुल अब्बासा *Gul-i-Abbása* (Pers.) *Krishnakali* (Sans.) *Gulabása* (Mah.) Marvel of Peru (Eng.) The tuber: *Gulabása-nokañda* (Guz.)

Characters : It is a perennial, herbaceous, dichotomous plant. The leaves are thick, ovate, acuminate, smooth, and of a dark green colour. The flowers are red, white, or yellow. They only open at sunset, and hence called four o'clock plant. The seeds are black, muricated, and of the size of *Miri*. The tuber is starchy.

Preparations : Poultice, juice of leaves, and infusion of root.

Actions and Uses : The juice of leaves is applied to cure wounds and bruises. The leaves act as a stimulating poultice to boils and buboes, and are used to hasten suppuration. The tuber is used as a poultice on carbuncles. It is said to possess purgative properties similar to those of Jalap.

Remarks : Fresh leaves can be obtained from herbalists. The generic name *Mirabilis* means wonderful. It is in allusion to the flowers being of variegated or wonderful colours. The root was formerly supposed to be the true Jalap plant and hence the specific name *M. Jalapa*. The seeds are used to adulterate black pepper.

BOERHAVIA DIFFUSA.

THE ROOT.

Vakha-khapara वाक्खपरा *Sátodi mula*, *Punanaravá* (Bom.)
Vakha kháparo (Guz.) *Sveta puneranabá* (Beng.) *Vasu* (Mah.) *Bisha*
khápará, *Sáñta* (Hind.) *Visha kharapara*, *Sothaghni*, *Punaranava* (Sans.)

Characters : It is a diffuse plant. The root is of a light brown colour, as thick as a man's finger, and from 6 to 18 inches long. When dry the root bark is longitudinally furrowed and marked with knotty scars of fallen rootlets. On section the root is tough, white, and starchy. The smell is somewhat aromatic. The taste is corky and somewhat acrid.

Preparations : Decoction.

Actions and Uses : These are similar to those of *Sátodo* (*Trianthema obcordata*). The root is a stomachic, laxative, and diuretic. A decoction of it with *Suñtha* and *Kariátuñ* is given in dropsy, jaundice, enlargement of the liver and spleen, ascites, anasarca, scanty urine, and internal inflammations. As a remedy for scorpion bites it is applied externally and given internally with benefit. As an external application over œdematous swellings it is very useful. With honey it is dropped into the eyes in chronic ophthalmia.

Remarks : The plant can be obtained both fresh and dry. There are two varieties, the red and the white. The white is preferred for use. The Sanscrit synonym *Sothaghni* is derived from *Sotha*, a general swelling, and *Ghni*, to kill. It means a killer or curer of swellings (dropsy). The word *Punaranava* is derived from *Punaha*, again, and *Nava*, new or fresh. The plant develops afresh or becomes new again every year. It grows during the rains from the old and the same root.

TUTIHARANI : The root sold under this name belongs to *B. Repens*. It is one of the ingredients used in the preparation of *Suramá*, an application to the eyelids. Its characters resemble those of *B. Diffusa*.

637 *B. Sátodi-nu-mula* 5, *Himaja* 4, *Limado* 4, *Dáruhalada* 4, *Kutaki* 6, *Kadu padavala* 3, *Patola* 4, *Gulavelá* 6, *Kariátuñ* 6, *Suñtha* 4. Mix and make a decoction.

Dose : oz. $\frac{1}{2}$ to ozs. $1\frac{1}{2}$.

Used in anæmia, cough, dropsy, anasarca, jaundice, and difficulty of breathing.

- 638 B. *Sátodi*, *Surinajana*, *Kámuni*, *Káchagá*, *Sámbara siṅganu*, and *Suntha*, equal parts. Mix and make a paste.

Used as an application to rheumatic and gouty painful joints.

POLYGONACEÆ—The Gul-i-hamaza order.

It is composed of herbs or rarely shrubs. The leaves are alternate, with a long petiole, attached to the stem by a sheath or vagina, and are stipulate, or rarely exstipulate. The flowers are sometimes unisexual, generally perfect. The fruit is a nut usually triangular. The seeds are solitary and erect, with starchy albumen.

Properties : These are astringent and purgative. The fruits are acid and more or less nutritious.

RUMEX VESICARIUS.

THE FRUITS.

Gul-i-hamaza गुल ई हमडा *Chuká* (Hind.) *Chukárasáka* (Beng.) *Chukra* (Sans.) *Turashah* (Pers.) *Tukhm-i-hamáza* (Bom.) *Chuká bija* (Mah.)

Characters : The fruits are of a reddish brown colour. They are conical in shape, 3 lobed, and have a slender thick stalk at the bottom. At the top, from each of these lobes a wing like triangular portion projects and extends upwards terminating in a point. The margin of each of these projections is fringed with bristles. Between the projections but nearer their posterior border are oblong glandular lobes attached at the base by a short thick pedicel. Each fruit encloses a triangular, acute pointed, smooth, dark brown seed. The taste of the fruit is acid and somewhat astringent.

Preparations : Infusion and decoction.

Actions and Uses : The fruit is a cooling and astringent. It is given to check nausea, to promote appetite, and to allay the morbid craving for unwholesome substances. A decoction of it is given to allay heat of the stomach. Externally it is used as an epithem to allay pain, especially that caused by the bites or stings of reptiles and insects. The seeds are prescribed in dysentery, and as an antidote to scorpion stings.

EMEX Sp.?

THE PLANT.

Shukai शुक्र *Shukayi* (Hind.) *Shaukata-ula-baida*, *Kathira-ula-rakaba* (Arab.) *Charachah*, *Kāṅgara khāra* (Pers.)

Characters : The drug is of a light brown or yellowish colour. It consists of pieces of the stems and branch-lets, portions of the roots, spiny toothed lobes of the leaves, and fruits. The pieces of the stems are round or angular, furrowed, and channelled. They are rugous externally. The epidermis is thin. On section the interior is full of soft pith. The branch-lets and spines are channelled. The spines are broad at the base and needle pointed at the apex. The root is knotty, and here and there marked with scars of leaf sheaths. The leaves are lobed, thick, and leathery, each lobe ending in a spine. The fruits are small, erect, and supported on a short stalk. From the top of the stalk or the base of the fruit, project from 6 to 7 very small segments of the calyx, within which is the ovary surrounded by 7 or 8 erect tooth-like processes. The seed is oblong, of a brownish colour, and tough. In odour it is rather pungent and oily. The whole drug has rather an aromatic smell and a gummy or corky taste.

Preparations : Decoction.

Actions and Uses : The whole plant is astringent, mucilaginous, and deobstruent. It is used in coughs. *Hakimas* generally use it for the same purposes as *Bādāvarda* (*Fagonia Arabica*). *Shukāyi* is also a Marathi name for *Tricholepis procumbens* of the N. O. Compositæ. Its spiny fruits resemble those of *Emex* Sp. ?

MYRISTICACEÆ—The Jaephala order.

This order is aromatic. In it there are trees with alternate, entire, exstipulate, thick leaves. The flowers are declinate. The fruits are succulent. The seeds are arillode.

Properties : The plants of this order are remarkable for their aromatic properties contained generally in their seeds and arillus.

MYRISTICA OFFICINALIS.

THE SEED, ARILLUS, AND WOOD.

Jaephala जाँफला The seed : *Jáephala* (Hind.) *Jouza-borah* (Arab.) *Jouza-burá* (Pers.) *Jáji*, *Jatiphala* (Sans.) *Jhephala* (Beng.) Nutmeg (Eng.) The arillus : *Jávitri* (Hind.) *Jávipatri* (Sans.) *Jotri* (Beng.) *Jávañtri*, *Jápatri* (Guz.) *Basabásaha* (Arab.) *Bazabáza* (Pers.) Mace (Eng.) The oil : *Jávañtri-ká-tela* (Hind.) Oil of mace (Eng.)

Characters : The fruit is a pendulous drupe. It resembles in size to a small *Akharota*. It is of a pale brown colour, roundish or oblong, and resembles in shape to a small hen's egg. Its surface is wrinkled or rather smooth, and marked with a furrow which passes round its whole circumference. On section it is fleshy, and when mature it splits into two separate pieces. It consists of 4 layers. (1.) The pericarp (2.) within the pericarp is the mantle (arillus) of a yellow or a yellowish red colour. The arillus (mace) is foliaceous, fleshy, thick, here and there lobed and very aromatic. On removing it there is (3.) a single seed or nut of a chestnut or dark brown colour. The surface of the nut is shining. In shape it is ovate, and marked with impressions corresponding to the lobes of the arillus. One side of the seed is of a paler colour than the other. The paler side is flattened and marked with a line or raphe. The nut has a bony testa, on breaking which its interior contains (4.) a kernel or nucleus of the seed known as nutmeg. The kernel is of a pale brown colour, oblong in shape, and obliquely compressed at both ends. The surface is wrinkled and marked with impressions similar to those seen on the surface of the nut. At one end of the seed is a small depression. On section the cut surface is reticulated. It consists of a white albumen and a reddish brown substance which can readily be scratched with the nail. The kernel is extremely oily. On pricking it with a pin, the oil floats on its surface. The odour is agreeably aromatic, and the taste is acrid and spicy.

The wood is met with in thin slices. It is of a brownish red colour, extremely light, and soft. The substance of the wood is porous, and here and there sprinkled with a granular matter which on scratching emits an aroma similar to that of the seed.

Preparations : Paste, powder, pill, confection and expressed oil of kernel, and decoction of wood.

Actions and Uses : *Jáephala* and *Jáepatri* are prescribed as a stimulant in low fevers, lung diseases, and bowel complaints. In large doses they are intoxicating, digestive tonic, and aphrodisiac. As an astringent tonic, a powder of *Jáephala* with *Afima* is used in choleric diarrhœa and dysentery. *Jáephala* is also useful in obstructions of the liver and spleen. A paste of it is used as an external application to the head in headache, palsy, &c. A poultice of it applied round the eyes is said to strengthen the sight. The wood is used as an astringent to check diarrhœa.

Remarks : *Jáephala* contains starch, albumen, fat, and an essential oil. The fat constitutes one-fourth of their weight, and the essential oil is from three to eight percent. Those kernels which are largest, heaviest, and readily emit oil on pricking by a pin, fetch the highest price.

Kaephala *كزبرة* *Azuri* (Arab.) *Darashisháhana* (Pers.) *Káephala* (Mah.) *Jaṅgali jáephala* (Bom.) The arillus : *Káepatri* (Guz.) *Masále-chi-jáepatri*, *Rámapatri* (Hind.) *Myristica Malabarica* (Eng.)

The seed is larger and longer than that of *Jáephala*. It is of a *Taja* colour. On section the interior is of a deeper colour and resembles *Jáephala* in structure. It is lighter, softer, and much inferior in oiliness to *Jáephala*. The odour is fruity and somewhat less acrid. The cut portion sticks to the fingers when touched. The arillus is thick and of a darkish brown colour. It is twisted, as if folded into a cone, and is adherent to the seed. It has a very faint aroma. A paste of the seeds along with other stimulant balsams is used as a *Lepa* for bruises, sprains, and fractures. With *Kátho*, *Hĩnga*, and *Kapura*, a paste of it is applied over piles with relief. The arillus is used as an ingredient in numerous carminative mixtures. The oil is a useful application to indolent ulcers, in allaying pain and setting up a healthy action.

639 B. *Jáephala*, *Lavaṅga*, *Taja*, *Elachi*, *Tejapátra*, *Nága kesara*, *Kapura*, *Chaṇḍana*, *Tila bija*, *Tabáshira*, *Tagara*, *Himaja*, *Ámalá*, *Trikatu*, *Talisapátra*, *Jiruṇ sapheda*, *Chitraka chhála*, *Vávadiṅga*, equal parts, *Bháṅga* equal in weight to all the ingredients, *Sákara* double in weight of *Bháṅga*. Mix and make a powder.
Dose : grs. xx to grs. xxx.

Used in diarrhœa, dyspepsia, general debility, phthisis, cough, and catarrh of the air passages.

- 640 B. *Jáephala*, *Jáepatri*, *Isapañda*, *Taja*, *Akalakaro*, *Kabába chini*, equal parts, *Asana*, *Musali kañda*, each 4, *Tákalá* 5, *Kasaturi* 1/40, *Madha* 5. Make a pill mass. Dose : grs. iii.

Anupána : *Pána-no-rasa*.

Used in seminal weakness.

LAURACEÆ—The Taja or Dalachini order.

This order is composed of trees and shrubs with exstipulate, usually alternate leaves which are generally smooth above and glaucous beneath. The flowers are perfect or imperfectly unisexual, followed by a berry or drupe.

Properties : The plants are almost universally remarkable for their aroma which is due to the presence of a volatile oil they contain. Many of the species are aromatic, stimulant, tonic, febrifuge, diuretic, and mucilaginous.

LAURUS NOBILIS.

THE BERRIES AND LEAVES.

Hab-ula-ghara હાબુલા ગરાર *Háb-ula-ghára* (Pers.) The sweet bay laurels, Victor's laurels (Eng.)

Characters : The oil is of a green colour and butteraceous consistence.

Preparations : Oil. It is obtained by expression of seeds after they are boiled in water.

Actions and Uses : The leaves and berries are reputed to be astringent, stomachic, aromatic, stimulant, and narcotic. The leaves are used for flavouring medicines. A decoction of them is used in leucorrhœa, diseases of the urinary organs, and dropsy. It is also a powerful emmanagogue. The oil is used locally in relieving rheumatic pains.

Remarks : It is called the classic or Victor's laurel because it was used by the ancients to make crowns for their heroes.

TETRANTHERA ROXBURGHII.

THE BARK AND WOOD.

Maeda lakari मज्झि लकरी *Maeda lakari* (Hind. and Bom.) *Maghath-i-Hindi* (Arab.) *Kilza* (Pers.) *Meda lakadi* (Mah.) *Kukara chitá* (Beng.)

Characters : The bark is hard, thick, and of a brown colour. It is sometimes soft and smooth. The external surface is rugous and can easily be scratched. It is very fragile and can readily be powdered. On section, it is corky and composed of several layers which are made up of a soft granular matter. The taste is feebly balsamic, also bitter and mucilaginous.

Preparations : Paste, decoction, and infusion.

Actions and Uses : The bark is a demulcent. Its decoction is given in diarrhoea and dysentery. Externally a paste of it is used as an emollient application to sprains, bruises, and rheumatic and gouty joints. The bark is generally given in combination with other alterative drugs.

BALANOPHORA INDICA.

THE PLANT.

Gajapimpali ગાજ પીમપલી *Gaja pimpali* (Mah.)

Characters : It is a fungoid looking plant, gall like in appearance, and of a dark brown or brown colour. It is parasitic in its nature, and selecting plants of the Natural Order Vitaceæ for its growth. The largest plant is about 5 inches in length and irregularly wrinkled. The surface is highly tubercled. Better specimens are triangular in shape, and appear as if made up of several plants (more or less injured) growing in clusters from one common root. The root is divided above into three distinct lobes. At the apex of each lobe there is a broad cup shaped cavity, within which is a hard, black looking, scaly substance surmounted by a glandular shaped mass of imperfect flowers. This substance is probably the remains of the axis of fructification or spadix. On section, *Gajapimpali* is brittle and highly resinous. The smell is acrid and disagreeable. The taste is acrid.

Preparations : Powder, paste, and decoction.

Actions and Uses : The drug is mucilaginous and astringent. It is an ingredient of various alterative and astringent preparations used for fevers and chronic diseases.

Remarks : It is supposed to secrete a kind of wax which can be obtained by heating *Gajápipali* into an iron pan. If a stick wrapped up with cotton is dipped into the melted mass a substance adheres on the cotton which when lighted burns like a candle. *Fañduka* burns in the same way but is less oily than *Gajápipali*. The term *Gajápipali* is derived from *Gajā*, an elephant, and *Pipali*, long pepper. The fructification resembles in appearance to *Pipali*. *Gajápipli* is of a huge size like an elephant, and hence the name.

CINNAMOMUM CASSIA.

THE BARK.

Taja ^{दर} *Moti dárachini* (Duk.) *Dárachini*, *Taja* (Hind.) *Dálachini*, *Taja* (Beng. and Bom.) *Kirapháh-uda-dárasini* (Arab.) *Salákhá* (Pers.) *Kalpháh*, *Kirapháh*, *Gañdatvaka* (Sans.) Malabar cassia bark (Eng.)

Characters : *Taja* as sold in bazaar is in bundles. Each piece resembles in shape to a tube, and is of the size of a lady's finger. It is of a light brown colour. It is generally mixed with broad pieces of an ash colour which are the remains of the external bark. It is very brittle and breaks with a crackling noise. It has an agreeable aromatic odour, and a sweetish aromatic pungent taste. The aroma is due to its containing large quantities of essential oil.

Preparations : Infusion, powder, paste, and essential oil.

Actions and Uses : *Taja* is used as an aromatic adjunct to other medicines. Its oil like other aromatic oils, is at first a stimulant and then depressant of the nervous system. Locally it acts as a rubefacient and stimulant. It is given with other uterine stimulants to promote parturition and to check uterine hæmorrhages. It is also given with astringent medicines to check diarrhœa. *Dárachini* is a carminative and used as a spice.

Doses : Of the powder *grs.* x to *grs.* xxx.

Tamala patra तमल पत्र *Tejapáta* or *Tujapata* (Hind. and Beng.) *Tejapatra* (Sans.) *Sadaj-i-Hĩndi* (Pers.) *Zeranaba* (Arab.) *Cinnamomum Tamala* or *C. Eucalyptoides*. (Eng.)

The leaves are of a brownish colour, from 4 to 6 inches long, and $1\frac{1}{2}$ to 2 inches broad. Their upper surface is shining and smooth. Their under surface is glaucous. They are oblong, ovate, and obtusely pointed. They have from three to five longitudinal nerves extending from the base to the apex. The nerves are most marked on their under surface. When chewed they have a pleasant odour and an aromatic taste. *Tejapáta* is considered to be a carminative stimulant, diuretic, diaphoretic, lactagogue, and deobstruent. The powder is used in many compound preparations recommended chiefly in fevers, dyspepsia, and urinary diseases.

Kálá Nágakesara : This is the name given to flower buds or immature fruits of C. Cassia. It is known in Europe as Cassia buds. It consists of small berries of a dark brown colour. The berries are mucronate and resemble in size to millet seeds. They have a strong aromatic odour and taste. They form an ingredient of numerous aromatic and carminative compounds.

Remarks : The word *Kirapháh-uda-dárasini* is derived from *Kirapháh*, the bark, *Uda*, the wood, and *Dárachini* or *Dárasini*, from China. The wood-bark was first introduced from China and hence the name. *Kirapháh* or *Sálikháh* is the Bombay name for Malabar *Taja*. It occurs in flat or slightly quilled pieces much thicker than the Chinese bark, and is of a deeper colour. It has a strong odour and taste, but is deficient in sweetness. *Masálá-ni-taja*, also known as *Kágadi Dálachini*, is of an inferior variety, and occurs in rather broad, thick, and flat pieces. The odour is less aromatic and also less pungent. The taste is mucilaginous and less pungent.

The word *Tejapáta* is derived from *Teja* or *Taja*, cinnamon, and *Páta*, the leaves. It means cinnamon leaves. They were once considered to be the leaves of the plant which produced the *Taja*, but this is erroneous. *Trijátaka* is a compound preparation which contains three aromatics, viz: *Taja*, *Elachi*, and *Tamúlapatra*. *Chatura játaka* contains four aromatics, viz: *Taja*, *Elachi*, *Tamúlapatra*, and *Nága kesara*.

TRIJATAKADI GOLI.

641 B. *Trijátaka* 1, *Pipali* 4, *Sákara*, *Drákhsha*, *Jethi madha*, *Khajura*, each 8. Make a pill mass.

Dose: grs. v.

Used in cough, flatulence, and dyspepsia. The pill to be kept into the mouth till it is completely dissolved.

ACTINODAPHNE LANCEOLATA.

THE LEAVES AND OIL.

Pisa पिसा *Pisá* (Bom.) The leaves : *Pishá pána* (Bom.) The oil from the seeds : *Pishá tela* (Bom.)

Characters : The leaves are ovato-lanceolate, long pointed, coriaceous, and smooth. They are shining above, and glaucous beneath. They are finely reticulated on both surfaces, and also minutely pellucid dotted. They have a slightly aromatic smell, and a bitterish, pungent, mucilaginous taste.

Preparations : Infusion, paste, and oil.

Actions and Uses : A cold infusion of the leaves is demulcent and mucilaginous. It is useful in urinary disorders and diabetes. The oil is used as an external application to sprains and bruises.

Remarks : The leaves are generally collected by the hill people of Mahableshwar and Matheran and sold by herbalists.

Gino : This is another variety of *Pisá* leaves, generally met with at Goa where they are known by the name of *Gino*. The leaves are oblong, and lanceolate or acute at both ends. They are longer and larger than *Pisá* leaves. They are also thicker ; their upper surface is smooth and shining, the veins and midribs are covered with brownish hairs. Their under surface is hairy. The leaves are like *Pisá* reticulated and pellucid dotted. Their taste is faintly aromatic, and they are used in gonorrhœa, leucorrhœa, &c.

THYMELACEÆ—The Mazeriyun order.

This order is made up of shrubs or rarely herbs. The leaves are entire and exstipulate. The flowers are perfect. The fruits are unisexual, dry, and nut-like.

The plants are chiefly remarkable for the toughness and acridity of their bark. The fruits of some are dangerously poisonous. The bark of some is used as a vesicatory, also as an alterative, diaphoretic, diuretic, and stimulant. It contains an acrid resin and an acrid volatile oil.

MAZERIYUN SP. †

THE BARK.

Mazeriyuna मजरीयुन *Mazeriyuna* (Hind.) Mazereon (Eng.)

Characters : The drug consists of pieces of bark with wood attached. Each piece is of various length and of the thickness of a black lead-pencil. The bark is smooth or scabrous, and of a darkish brown colour. It is very tough and thin. Its internal surface is of a light white colour and soft. The taste of the whole drug is acrid. The smell is somewhat aromatic like that of *Taggara gānthodā*, &c. There are two varieties, the white and the brown.

Preparations : Infusion.

Actions and Uses : The white is to be preferred as it is the least acrid. It is given in dropsy and in cases which are benefited by hydrogogue or drastic cathartics. As an alterative it is given in syphilis, chronic rheumatism, and chronic skin diseases. It is seldom used alone. As a local irritant, its ointment is used to excite vesication and to promote suppuration caused by cantharides.

Doses : grs. xxiv.

LASIOSIPHON SPECIOSUS.

THE BARK.

Rametha रामेथा *Ramethā* (Bom. and Mah.)

Characters : It is a shrub from 5 to 6 feet high. It has many branches. The bark is of a brownish colour and very tough, also very acrid. The leaves are linear, oblong, and of a whitish colour. The flower heads are horny.

Preparations : Powder and stem.

Actions and Uses : It is used as a vesicatory and also as a masticatory. As a masticatory it should be used with caution. The bark if freely chewed causes looseness of the teeth and sponginess of the gums. Natives use the stem to procure abortion.

ARISTOLOCHIACEÆ—The Sapasana or Kidamara order.

This order is composed of herbs or shrubby climbers. The wood of the stem is arranged in separate wedges. The leaves are alternate; and of a brown or greenish colour. The flowers are followed by 3 to 6 celled capsular or succulent fruits.

Properties: The plants contain a bitter principle and a volatile oil. They are generally tonic, stimulant, and acrid; some species are regarded as useful in curing the ill effects of snake bites.

ARISTOLOCHIA BRACTEATA.

THE PLANT.

Kidamara कडमरा *Kidámári* (Guz.) *Kidámára* (Hind.) *Gāndhātī kirámára* (Bom.) *Katrabuñghá* (Sans.)

Characters: The plant is a nauseating bitter. It occurs as broken pieces of stems, leaves, fruits, &c. The stems are striated, slender, and of a pale brown colour. The leaves are very obtuse, heart shaped, and of a pale, glaucous green, or darkish brown colour. Their surface is wrinkled or tubercled. The fruit is oblong, about an inch long, depressed at the top, and has a rather curved stalk at the base. From the apex 12 prominent ridges spread out longitudinally and run down into the stalk where they gradually disappear. The surface of the fruit is smooth and of a brownish colour. The fruit contains many seeds. The seeds are small, deltoid or triangular in shape, of a dark colour on one side, and brown on the other. The dark coloured surface of the seed is minutely tubercled and rough. The other side has two brown, smooth, lobular projections.

Preparations: *Varáliāns* of leaves, paste, juice, and powder of plant.

Actions and Uses: It is a bitter, purgative, and anthelmintic. *Varáliāns* of the leaves are applied to the navel to move the bowels of children. A paste of the leaves is given with castor oil as a remedy for colic. The juice of fresh leaves or the powder of dried leaves is applied to sores to destroy maggots. It is given internally as an emmanagogue to stimulate the uterine contractions in tedious labour, and also as an anteperiodic in intermittent fevers.

ARISTOLOCHIA INDICA.

THE ROOT AND STEM.

Sapasana शपसना *Isharamula* (Hind. and Beng.) *Sápasona* (Bom.) *Sápusa* (Goa.) *Zaravañd-i-hiñdi* (Pers.) *Arka mula*, *Sunañda* (Sans.) *Sápasañda* (Mah.)

Characters : The drug is sold in bundles. Each bundle contains roots and stems alternately arranged in concentric rings. It is often obtained in separate pieces. The root bark is of a brownish dark colour. The epidermis is smooth, and here and there marked with scars of rootlets and numerous small warty projections. The root bark is brittle, fibrous, tough, marked with longitudinal furrows, and breaks with a transverse fracture. On removing the epidermis, is another layer of a greyish brown colour. Within the bark is the wood of a white colour and composed of longitudinal bundles. On section the wood is porous. The taste is bitter and camphoraceous. The odour is aromatic and agreeable.

Preparations : Decoction.

Actions and Uses : The drug is a nauseating bitter, alterative, deobstruent, stimulant, tonic, and emmenagogue. It is a valuable medicine in fevers, and bowel affections of children due to teething. With *Agara* it is applied externally to the abdomen in colic, and to the chest in bronchitis in children.

Remarks : This plant enjoys the reputation as a remedy for snake bites. The popular name *Sápasana* or *Sápasuna* is derived from *Sápa*, a serpent, and *Sana* or *Suna*, senseless. This is in allusion to the action of the root to make the part where the snake has bitten senseless to the ill effects of its poison.

ARISTOLOCHIA ROTUNDA.

THE PLANT.

Zaravand-i-girda زارآوند گردا *Zarávañd-i-girda* (Bom.) *Nukhuñd-i-alavañdi* (Arab.) *Madahraja* (Pers.)

Characters : Under the name of *Zirávañd-i-girda*, druggists sell the starchy inert tuberous roots of *Surana*. The true roots are

tuberous. In size they vary from a large pea to a big *Sopári*. Externally they are of a brownish or grey colour, and slightly conical or roundish in shape. Their base is compressed and broad. The top is narrow. Their surface is rugous and ringed; also slightly wrinkled, and here and there marked with pit-like scars, the remains of fallen stems. On section they are hard, starchy, and heavy. They have a ring-like brim, in the middle of which a scaly mass is seen. The colour is pale white. The taste is somewhat acrid. The odour is acrid or *Kapura* like.

Preparations : Paste and decoction.

Actions and Uses : These are similar to those of *Surinajana*. The whole plant is aromatic, bitter, and acrid, and used as a resolvent, emmanagogue, diuretic, vermifuge, and pectoral. It is highly recommended in gout and jaundice.

Remarks : Under the name of *Zirávañd-i-girda* the stem of *Aristolochia Indica* or the tubers of *Pinelli tuberifera* are sold in the bazaar. *Zarávañdi-i-girda* is considered to be the female of *Zirávañd-i-Tavila* which is the true stem of *Aristolochia longa*. It differs from *A. Rotunda* in having petioled leaves, yellowish brown flowers, and cylindrical roots.

EUPHORBIACEÆ—The Erandi or Thuvara order.

These are trees, shrubs, or herbs, with an acrid milky juice. The leaves are alternate, opposite, simple or compound, and stipulate or exstipulate. The flowers are unisexual; sometimes the males and females are on the same plant, and sometimes on separate plants. The fruit is dry or succulent, indehiscent or dehiscent, and with one or many cells.

Properties : Acrid and poisonous properties are common in most of the plants. Some are deadly poisonous. In proper doses many are emetic, purgative, diuretic, and rubefacient. Pure starch is obtained from some edible roots. The wood of some species is very fragrant.

JUGLANS REGIA.

THE OIL.

Akharota अखरोट *Akharota* (Hind.) *Japhala* (Bom.) Candleberry tree, Indian walnut (Eng.) The oil : *Akharota-nu-tela* (Guz.) Artist's oil (Eng.)

Characters: The fruit is fleshy, rounded in form, and of an olive colour. In size it resembles a small apple. On opening the cell an ovoid and somewhat flattened nut is seen. The shell of which is hard and thick. The kernel is white and oily. It tastes like a walnut. The oil is palatable.

Preparations: Oil expressed from the nut.

Actions and Uses: The oil is a sure and mild laxative, and given to produce bilious evacuations. It does not cause nausea, nor any other distressing symptoms. The kernel is supposed to possess aphrodisiac properties. It is also used as an article of food. When dried and stuck on a reed, it is a good substitute for candles like *Fañduka*. The oil is used as a drying agent for paints.

Remarks: The nut has no resemblance to *Fañduka*.

PHYLLANTHUS EMBLICA.

THE DRIED FRUIT WITHOUT NUT.

Amala अमला *Avalakati*, *Āvalā* (Bom.) *Anavulā*, *Amalā* (Hind.) *Āmalaki* (Beng.) *Āmalaki*, *Dhatri* (Sans.) *Amalaja* (Arab.) *Amala* (Pers.) *Āvulakathi* (Mah.) Emblic myrobalan (Eng.)

Characters: The fresh fruits are globular, rather compressed, succulent, smooth, and of a greenish yellow colour. Sometimes they are as large as an *Akharota*. They contain a thick pulp, within which is a triangular nut. The taste is sweetish astringent and somewhat acrid. Dried *Āmalā* are of two kinds, true and false. The true ones are generally without nuts, in fragments, of a darkish colour, wrinkled, and generally curved in at both ends. The false *Āvalā* are the fruits of *Cicca disticha*. These are smaller than the true *Āmalā*, and of a pale brown colour.

Preparations: Decoction, preserve, powder, and confection.

Actions and Uses: The fresh fruit is considered to be a refrigerant, diuretic, and laxative. The dried one is cooling, stomachic, astringent, and a purifier of blood. A powder of the fruit with *Nilotaphara*, *Kesara*, and rosewater is used as a paste to the forehead in cephalalgia. It is also applied to the pubes in irritability of the bladder and retention of urine. With *Drākhsha* and honey it is a favourite cooling drink for sick people. In menorrhagia its powder

is applied to the os, &c. with benefit. It is useful in fevers, bilious fluxes, and diarrhœa.

Remarks : Emblic myrobalans contain a notable quantity of sugar. An extract prepared from the wood is astringent and useful as *Kátho*. Its branches put into muddy water render the latter clear. It is one of the ingredients in the preparation known as *Triphalá*.

642 *B. Ámalá* (dried) 4 parts, *Kapura* 1, *Jheri kachuro* 4, parts, *Gaṇdhaka* 4 parts, *Morathuthu* 1 part, *Sipichaṇḍa* 2 parts. Make an ointment in *Ghee*.

Used as an application in itch, prurigo, &c.

PHYLLANTHUS NIRURI & P. URINARIA.

THE PLANT.

Bhui amali ভুই আমলী *Bhui ámalá* (Beng.) *Bhuiáunalá* (Bom.)
Jara amala (Hind.) *Bhumy ámalaki* (Sans.)

Characters : The plant is from 6 to 10 inches long. The stem is angular and smooth. In size it is wiry. The leaves resemble those of *Ámali*. They are about 3 inches long and one inch broad. Each leaf is divided into 6 to 7 leaflets. The leaflets are oblong and very short petioled. They are arranged alternately. The flowers and fruits are very small, and can be seen behind the leaves. The capsules are globose. There are two smooth trangular seeds in each cell. The smell is rather disagreeable. The taste is astringent and acidulous.

Preparations : Powder, infusion and decoction of plant, poultice of leaves, &c.

Actions and Uses : The plant is a deobstruent, diuretic, bitter tonic, and heating. A decoction of the plant is given in jaundice. A poultice of the leaves mixed with salt cures itch and scaly affections of the skin. An infusion of the plant mixed with *Methi* is an alterative and astringent, and used as a valuable remedy in chronic dysentery. As a stomachic bitter, it is also useful in dyspepsia. As a diuretic, it is given in gonorrhœa and acidity of the urine. The plant is useful in diabetes.

Doses : Of the powder, a tea-spoonful.

Remarks : The dried plant is sometimes met with in the bazaar. Fresh can be had at herbalists. *P. Urinaria* is distinguished from *P. Niruri* by its sessile flowers and scabrous capsules.

BALIOSPERMUM MONTANUM.

THE ROOT AND SEEDS.

Dantimula दन्ति *Dañti* (Sans., Hind., Beng. and Bom.)

Characters : The dry root is nearly straight, seldom branched. It is in pieces of about 2 or 3 inches in length, and as thick as the little finger. The bark is smooth, of a light yellow or brown colour, and tubercled or scabrous. It has a bitter pungent taste and little aroma. The wood is very light, of a yellowish white colour, soft, less fibrous than the bark, somewhat coarsely tough, and loaded with starch. The smell is disagreeable. The seeds resemble those of *Erañda*, but are smaller.

Preparations : Decoction and powder.

Actions and Uses : The root is often used with aromatics in flatulence and retained secretions, also in anasarca and jaundice. The seeds are a drastic purgative, and given in combination with other purgative drugs to which *Trikatu* and *Taṅkaṇa khāra* may be added.

EUPHORBIA HIRTA E. THYMIFOLIA AND E. PARVIFLORA.

THE LEAVES.

Dudhi दुध्नी *E. Hirta* : *Nayeti*, *Dudhi* (Bom.) *Rakta viñduchada* (Sans.) *E. Thymifolia* : *Mohti dudhi* (Bom.) *E. Parviflora* : *Dhākatē dudhi* (Bom.)

Characters : These are weeds, very commonly growing all round the year on gravel rocks and waste grounds in Bombay, generally seen in and after the rains. *E. Hirta* is a hairy weed, obliquely erect and with apices recurved. *E. Thymifolia* occurs in branches, coloured and hairy, and pressing flat on the earth.

Preparations : Paste.

Actions and Uses : All the three species are known to be vermifuge, demulcent, and diuretic. They are chiefly used in bowel complaints in children, cough, &c. A paste of the leaves is used with *Sákara* by natives in gonorrhœa.

Remarks : They are called *Dudhi* because they chiefly abound in milky juice or *Dudha* (milk.)

RICINUS COMMUNIS.

THE WHOLE PLANT AND OIL.

Erandi एरंडी The plant : *Erañdo* (Guz.) *Erañda* (Hind.) *Bherañda* (Beng.) *Vátári*, *Erañda* (Sans.) *Khiravá* (Arab.) *Bedánajira* (Pers.) Castor oil plant (Eng.) The seeds : *Erañdi* (Mah.) *Erañdo* (Guz.) *Erañdabija* (Hind.) The oil : *Erañdela*, *Erañda tela* (Mah.) *Erañdela*, *Divela*, *Erañdiuñ* (Guz.) *Erañdi-ká-tela*, *Reñdela* (Hind.) *Ruvuka* (Sans.) Castor oil (Eng.) The root : *Erañdi-nu-mula* (Guz.)

Characters : The shrub is of two kinds, red and white. The roots are long and tapering. They are light, soft, and of an acrid taste. The stem is coloured, and generally marked with transverse rings. The leaves are large, smooth, green or glaucous, and from 7 to 10 lobed. Each lobe is lanceolate, acute pointed, and dentate. There are two jointed small glands at the attachment of the petiole to the blade. Another and hooded gland is seen a little above the insertion of the petiole to the stem. The fruits are obtusely triangular, six striated, and marked with bristles. When fresh they are of a glaucous green colour. Dry ones are dark brown. On section each fruit contains 3 seeds. The seeds are larger than those of *Jañgali erañdi*. They are oblong or ovate and compressed. Their dorsal surface is more arched than the ventral. The apex is carunculated. The caruncle is of a brownish colour. The whole surface of the seeds is mottled with white, brown, or dark patches. On the convex side the blotches spread in a fan-like manner from the base of the caruncle. The kernel is white and oily. It abounds in fixed oil, about 50 per cent. albumen, and granular matter. The oil separates if water be brought in intimate contact with the powdered kernel. The taste of the kernel is oily and nauseous. The oil is drawn in two ways : by heat (decoction), and without heat (expression). The cold drawn oil contains very little of the drastic properties of the other constituents of the seeds. It is less violent in its effects than the seeds or the oil otherwise extracted. The

oil is of a pale colour, slightly viscid in consistence, of an acrid and mawkish taste, and nauseating odour.

Preparations : Paste, poultice of leaves, fixed oil, and decoction of seeds or root.

Actions and Uses : The oil is a purgative. In diarrhoea due to the presence of irritating substances, intestinal congestion, or to excessive secretions, it acts as a cure, without exhausting the strength. It overcomes constipation during pregnancy, and before labour. In intestinal or renal colic given with *Adu-norasa* it gives prompt relief. It expels lumbrici. In inflammatory affections of the alimentary canal, in enteritis, peritonitis, and dysentery, it is highly useful. In bronchitis and in laryngitis it is useful in promoting the secretions and to relieve inflammation. In milk fever and in chronic mammary abscesses it is given with benefit. It relieves obstructions and spasmodic affections of the bowels. It is useful in inflammatory diseases of the urino-genital organs in gonorrhoea and in stricture of the urethra, also in tympanitis, rheumatic affections, palsy, asthma, cold in the head, dropsy, and amenorrhoea. A poultice of the crushed seeds is useful to promote suppuration in boils and to reduce gouty and rheumatic swellings. *Varāhāñs* of the leaves are applied to inflamed breasts in women during lactation. When applied to the abdomen they increase the flow of menses. Besmeared with oil the leaves are cooling applications to the head for the relief of headache. The fresh juice of its leaves is used as an emetic in poisoning by opium and other narcotics. The leaves made into a poultice with barley meal are applied to inflammatory affections of the eyes. The root bark is used as a purgative and alterative in chronic visceral enlargements and in chronic skin diseases.

Dose : Of the seeds, ten seeds ; of the oil, *drs.* iv to *oz.* i.

Remarks : The Sanskrit synonym for *Erañdi* is *Vátari*. The word *Vátari* is derived from *Váta*, which means wind, and *Ari*, an enemy. It means a remedy for rheumatism. Another or small seeded variety of *Erañdi* with red seeds and big leaves is known as *Erañdo* or *Eddo*. Its long tubular petiole is used as a medium to inhale watery medicated vapours in cough and chest diseases. *Erañdi* is also known as *Diveli*. Its oil is called *Divela* because in Guzerat the oil is used for burning in *Divé* (lamps). The dried roots, seeds, and oil can be had at druggists ; the fresh root and leaves from herbalists. Concentrated castor oil as obtained in capsules is an admixture of castor oil with croton oil.

- 643 B. *Erañdi-nu-mula* 5, *Maluṅgá-ni-chhála* 4, *Gokharu* 7, *Riṅgani* 4, *Pákhaṇabheda lakari* 4, *Bela* 5. Mix, make a decoction and strain; to the strained liquid add *Erañdi-nu-tela* 5, and a compound solution of *Hiṅga* 3, *Javakhára* 4, *Siṅdhava* 4, and *Water* 15.

Dose : oz. i.

Used in acute rheumatism, scanty urine, &c.

MEDICATED ERANDI TELA.

- 644 B. Take *Erañdi tela* 10, to this add a watery paste made of *Majitha* 5, *Triphalá* 5, *Haláda* 4, *Suñtha* 4, *Dáru halada* 3, and boil. When the whole of the water has evaporated strain the remainder.

Used as an application to the abdomen in colic, as an embrocation in lumbago, sciatica, &c. and as an inunction to the whole body in fevers.

ALEURITES TRILOBA.

THE NUTS.

Fanduka फण्डुका *Jaṅgali Akharota* (Hind.) Filberts, Candle nut (Eng.)

Characters : The oil expressed from the nuts is used as artists' oil and resembles castor oil. The shells are known as *Fañduka*. The nuts vary in size from a small *Sopári* to a big *Sopári*. They are very hard, ovate, and slightly acuminate. At the base there is a large brownish scar like that found in *Arithá*. The apex is pointed. Except at the scar, the surface is smooth, somewhat shining, and of a darkish red or brownish red colour. On section the shell is thick and contains a thin reddish testa within which are oily, resinous looking, whitish seeds. The smell of the seeds is very rancid. The kernel on being lighted burns like a wax candle.

Preparations : Oil and shells.

Actions and Uses : The shells are eaten raw, the oil is used as *Erañdi-nu-tela* and for burning in lamps. The kernels are supposed to possess aphrodisiac properties.

Remarks : *Juglans regia*, *Akharota* (Walnut) is edible. *Fañduka* yields a fixed oil of a drying nature like linseed. The wood is used for making furniture.

EUPHORBIA RESINIFERA.

THE GUM OR RESINOUS EXUDATION.

Pharaphiyuna फ़रफ़ियुना *Pharaphiyuna* (Hind. and Bom.) *Euphorbium* (Eng.)

Characters : It resembles rich *Hinga*. It is of a yellow or brown colour. Each piece is of an irregular shape and appears as if excavated or scooped out. Within the cavity are the seeds. The taste is bitterish acrid and rather burning. The odour is peculiar and resembles that of wax.

Preparations : Paste.

Actions and Uses : It is a powerful irritant and a violent drastic. A paste of it made into pessaries for the os is used to procure abortion.

645 B. *Pharaphiyuna* 1, *Ghārikhuna* 4, *Gugula* 5, *Akalakaro* 7, *Sumabul-ula-tiba* 7, *Kesara* 7, *Afima* 20, *Bazarul-i-bañja* 20.

Dose : gr. i to grs. ii. To be given in general debility, dyspepsia, flatulence, and seminal weakness.

CROTON OBLONGIFOLIUM.

THE ROOT BARK.

Ganasura গনাসুর *Ganasura* (Bom.) *Gonasuroṅga* (Goa.) *Baragacha* (Beng.)

Characters : The root is twisted, often flattened. The bark is thick, scaly, pretty smooth, and ash coloured externally. Internally it is yellowish and mottled with brown. The substance is compact and resinous. The odour is highly aromatic. The taste is like that of *Miri*.

Preparations : Infusion and decoction.

Actions and Uses : The root is a cholagogue and purgative. It is useful in reducing chronic enlargement of the liver and in remittent fever. It is applied externally to the hepatic region and is also recommended as an application to sprains, bruises, and rheumatic swellings.

CROTON TIGLIUM.

THE SEEDS AND OIL.

Jamalagota नमल जगु *Nipálo* (Guz.) *Nipálá-chá-bi* (Mah.) *Jamálagotá*, *Jepálagotá* (Hind. and Bom.) *Jayapala* (Beng.) *Dátuna*, *Hab-usa-salátina* (Arab.) *Bed-anjir-e-khatti* (Pers.) *Jayapála*, *Kanakaphala* (Sans.) Cathay Castor seeds, Croton seeds (Eng.)

Characters : Croton seeds are oblong, and about half an inch in length. Their upper surface is convex, the dorsal and ventral surfaces are arched. The testa is brownish red and shining. On scratching, the scurf is easily removed and the surface then presents a black appearance. The old seeds are generally deprived of the scurf and are black. The surface is marked with four ridges. It contains a kernel which consists of an abundant oily albumen of a lightish yellow colour. The kernel is enclosed in a delicate white membrane which is adherent to the testa. *Jamá agotá tela* (the oil) is transparent, of a pale yellow colour, viscid in consistence, of a slightly rancid smell, and of an acrid taste.

Preparations : Oil obtained by expression of the seeds and seeds. The envelope of the seeds should always be rejected.

Actions and Uses : The seeds are never used until the testa and embryo are removed, and the kernel boiled in milk. The seeds thus prepared are heating, drastic, cathartic, and vermifuge. They are especially useful in constipation, intestinal worms, anaemia, ascites, dropsy, enlargement of the abdominal viscera, tympanitis, colic, calculus affections, and gout. In small doses with fresh ginger tea, they are given to children, in whooping cough. As an irritant upon the skin, they are used as an external application to tumours. The oil is useful where bulky doses cannot be taken. It is a fine purgative in obstinate constipation without any co-existing inflammation or structural lesion, intestinal obstructions, diseases of the nervous centres, and lead poisoning. In the case of persons who refuse to take medicines, the oil is dropped upon the tongue with benefit. It is useful in expelling worms. As a revulsive it is given in apoplexy. Locally it acts as a counter irritant. As a blister it is applied to the scalp in acute cerebral diseases, to the cord in spinal meningitis, to the chest in chronic bronchitis, and to the throat in laryngitis; as a liniment in neuralgia, sciatica, chronic articular rheumatism, and tinea tonsurans of the scalp.

Doses : One seed is a sufficient dose ; of the oil, *m.* ½ to *ms.* ii.

Remarks : It is an important ingredient in various purgative compounds used by the natives. The seeds sold in the bazaar are generally old. They are sometimes quite black and rough. This is owing to their having lost their mottled epidermis which covers the testa when the seeds are fresh.

MAHA NARACHA RASA.

646 **B.** *Jamálagotá-ná-bija* 8, *Suñṭha* 4, *Miri* 3, *Tañkaṇa-khára* 4, *Pára kajali* 2, *Himaja*, *Geramálo*, *Ámalá*, *Katuki*, *Dáñtimula*, *Nishota*, *Motha* each 2. Mix and reduce the whole to a coarse powder.

Dose : grs. ii.

Anupána : Decoction of *Nishota* or *Dáñtimula*.

Used as a drastic purgative in tympanitis, ascites, obstinate constipation, acute diseases of the brain, &c.

TRAGIA CANNABINA.

THE ROOT.

Kancha kuri कंचा कुरी *Kāñcha kuri* (Bom.) *Kásághni* (Sans.)

Characters : It is a twining shrub commonly growing in hedges. It is perennial, from 3 to 4 feet high, and common in dry barren grounds. It stings like a nettle. The leaves are hairy, three lobed, alternate petioled, and serrated. The stem is erect. The branches are numerous, smooth, and woody. The small ones are hairy and twining. The root is succulent and of a pleasant odour.

Preparations : Decoction and infusion of root.

Actions and Uses : The root is a diaphoretic and alterative. An infusion of it is given in fever, cachaxia, and secondary syphilis.

PHYLLANTHUS MADRASPATENSIS.

THE SEEDS.

Kanocha कानोचा *Kanochhá* (Hind. and Bom.)

Characters : The seeds are smaller than those of *Bhánga* which they resemble in appearance. They are triangular, highly polished, and of a grey colour. The surface is reticulated or marked with fan-like, delicate, dark lines. One side of the seed is arched, the other presents

two sloping surfaces united so as to form a longitudinal ridge. At the pointed end is a small scar. The kernel is oily, and has a sweet nutty taste.

Preparations : Mucilage and decoction.

Actions and Uses : The seeds are demulcent. With other decoctions, they are used in urinary affections, gonorrhœa, and internal inflammations on account of the mucilage they contain.

Remarks : The word *Kanochhá* is similar to the English word Concha which means the pendant part of the ear. *Kanochhá* seeds resemble in appearance concha and hence the name.

ROTLERA TINCTORIA.

THE GLANDS.

Kapilo कपिल *Kapilo* (Guz.) *Kamála*, *Kampillá* (Hind. and Bom.) *Kamila* (Beng.) *Kinabila* (Arab.) *Kampila* (Pers.) *Kampilla*, *Rechanaka* (Sans.) *Kamala* (Eng.)

Characters : *Kampila* is a red powder chiefly obtained from the ripe capsules or glands. It is generally mixed with pieces of capsules, stalk, and hairs. Other parts of the plant contain it in small quantities where it is of a lighter colour. It is a fine, granular, mobile powder, resinous in appearance, and shining. It is nearly tasteless. The smell is rather acrid. It is inflammable.

Preparations : Powder and paste.

Actions and Uses : *Kapilo* is a cathartic and an anthelmintic. Given with *Gora* it kills and expels intestinal worms such as lumbrici and ascarides. It acts as a purgative but does not cause nausea. It relieves colic, and also acts as an aphrodisiac and lithontriptic. Taken internally it removes leprous eruptions. It is a local remedy for ring-worm, pityriasis, and freckles.

Dose : *dr.* i to *drs.* ii.

Remarks : *Kapilo* is used as a rich yellow dye for silk by the Hindus. It is rarely used for cotton. The Arabic word *Kinabila* is a corruption of the Persian *Kampila* or the Hindi *Kampillá*.

647 *B.* *Kapilo* 5, *Váyavaruna* 4, *Golába kali* 5, *Harade* 6, *Señdhálona* 4. Mix and make a powder.

Dose : *grs.* xxx to *grs.* xl.

Anupána : *Gora*.

Used in worms.

CICCA DISTICHA.

THE FRUIT AND LEAVES.

Kantha avala कंधा आवली *Haraphálevadi* (Hind.) *Kákadana* (Sind.)
Harapara nevadi (Bom.) *Káñtha-ávalá* (Mah.)

Characters : The leaves are long, with many small leaflets which are alternate, and with short small petioles. They are oblong or rather acute, smooth, entire, from 1 to 3 inches in length, and from 1 to 1½ inch broad. The fruits when fresh are yellow, fleshy, and marked with from 6 to 8 deep grooves. In size they resemble small *Fañduka*. The dried fruits are of a greyish or dark brown colour. Their surface is highly wrinkled. They contain the pulp which is thick, brittle, and rather fibrous. Within the pulp is the nut which is very hard, of a pale brown colour, and contains 6 seeds. The nut is 3 celled and marked with 6 striæ. The seeds are reddish brown and resemble *Káldáná* in shape.

Preparations : Decoction of leaves, and syrup of fruits.

Actions and Uses : A decoction of the leaves is a good diaphoretic. The leaves are mucilaginous and demulcent, and given in gonorrhœa. The ripe fruits are used as adjuncts to cough mixtures. They are also pickled and preserved as *Ámalá*.

Remarks : The word *Kátha ávalá* is derived from *Kátha*, trunk or stem, and *Ávalá*, the tree (emblic myrobalans). The fruits of *Cicca Disticha* are apparently seen to grow on the *Kátha* or stem of *Ávalá*, and hence the name. *Ávalá* is another name for *Phyllanthus Emblica*.

ACALYPHA INDICA.

THE ROOT, LEAVES, AND TENDER STEMS.

Khokali খোকালী *Khokali* (Hind.) *Kuppi* (Bom.) *Dádaro* (Guz.)
Arita māñjeri (Sans.) *Shveta busuñta* (Beng.)

Characters : The plant is from 2 to 3 feet high and many branched. The leaves are on long petioles, ovate, serrated, of a green or dark green colour above, and pale beneath. They are minutely dotted. The spikes of the flowers are axillary and hairy. The flowers

are many. The fruits are small, three lobed, and covered with bristly hairs. They are seated on a finely dentate calyx. The smell of the plant is disagreeable.

Preparations: Powder, decoction of plant, and juice of leaves.

Actions and Uses: The powder or a decoction with a little garlic is said to be useful for worms in children. The juice is said to be a safe, speedy, and sure emetic. It increases the pulmonary secretions, but does not cause any depression of the vital powers. It does not act on the bowels.

Dose: Of the juice, *dr. i.*

Remarks: The word *Khokali* means cough. The plant has a reputation for being an expectorant and laxative. Fresh should be obtained from herbalists. It grows as a weed during and after the rains.

JATROPHA CURCAS.

THE SEEDS, JUICE, LEAVES, AND OIL.

Mogalai eranda मोगलई अरंडी *Bágabheraṇḍá* (Hind.) *Kānana eraṇḍa* (Sans.) *Bana-bheraṇḍa* (Beng.) *Ratanajota* (Beng.) *Meghali-eraṇḍi* (Bom.) *Daṇḍe-nahri* (Arab.) Physic nut, Purging nut (Eng.)

Characters: It is a large shrub. The young branches and leaves are quite smooth and green. The stem is round. The leaves are on long, and round petioles. Each leaf is from 3 to 5 angled or lobed. The middle lobe is rather large and more acute. The fruits resemble *Amalá* in appearance, and are of the same size as *Akharota*. They are of a greenish glaucous colour, obtusely 3 angled, and marked with 6 striæ. On section the fruit is 3 seeded and 3 celled. The seeds resemble in shape to, but are larger than *Eraṇḍi*. The testa is dark. The whole plant abounds in a viscid pus-like juice. The oil is of a paler colour than the linseed oil.

Preparations: Powder of seeds, juice, and poultice of leaves.

Actions and Uses: The seeds are sometimes used as a purgative and alterative. They are often mistaken by children for almond seeds, and prove poisonous if taken in large quantities. The juice of the plant and the oil are used as insecticide in chronic skin diseases such as itch, herpes, &c., also as a stimulant application in rheumatism. Internally the oil is a laxative and vermifuge, and is useful in constipation, dropsy, worms, &c. Like croton oil it is given in paralysis. The leaves are rubefacient; a poultice of them is said to excite secre-

tions of milk in women. The viscid juice acts like collodion. It forms a thin film and thus checks hæmorrhage from bleeding surfaces and wounds. If injected into a varicose aneurism, it coagulates the blood with good results.

Remarks: The word *Jatropha* is derived from *Jatru*, *Jatrona*, a remedy, and *Phago*, to eat. Some of the species are used as food. Fresh branches with leaves and fruits can be had at herbalists. The plant is an exotic, and supposed to have been imported by the Moguls, and hence the name.

648 *B. Ratanajota, Umaro, Pipalo, Segato*, equal parts.

Make *Varáliāns* of leaves and apply.

Used in rheumatic pains, angina, &c.

EUPHORBIA TIRUCALLI.

THE MILKY JUICE.

Ranashira रानशिरा *Khurásāni thora, Thora dīnaddīlio* (Guz.)
Netario thora (Bom.)

Characters: It is a smooth, green, milky bush, with very slender, jointed, long, blunt, green or greenish dark branchlets. The leaves are very small. The juice is acrid.

Preparations: Milky juice.

Actions and Uses: In small doses the juice is used as a purgative. It is applied as a vesicant to painful joints in rheumatism. The young branches are used with carminatives and alteratives in colic, dyspepsia, jaundice, and cough. The milky juice is a specific in syphilis.

Remarks: Fresh can be obtained from herbalists.

EUPHORBIA NERIIFOLIA.

THE JUICE AND ROOT.

Thohara தோறா *Thora kāntāro* (Guz.) *Sehūnda thohara* (Hind.)
Manasasija (Beng.) *Neveraṅga, Miṅguta* (Bom.) *Sunahi* (Sans.) *Dihu*
(Arab.) The common milk hedge (Eng.)

Characters: It is a prickly milky shrub. The stem is ash coloured. The branches are twisted, and consist of 5 sharp angles. The

leaves are tongue shaped, entire, smooth, and thick. They have stipular thorns. The flowers are greenish yellow. The root is thick and woody. The root bark is of a pale white colour. Every part of the shrub when cut exudes a pure white milky juice. The juice is acrid, very sticky, and becomes thick on drying.

Preparations : Milky juice.

Actions and Uses : The juice is a popular application to warts and other cutaneous affections. It is a purgative, and rubefacient. It acts as a blistering agent. By mixing other purgatives with it, their purgative properties become increased. It is given in syphilis mixed with *Ghee*, also in visceral obstructions, and in dropsical affections consequent on long continued intermittent fever. Externally it is mixed with margosa oil and applied to the limbs which have become contracted from rheumatism. The juice is used in killing maggots in wounds. The root is used for the cure of snake bites. With *Pharaphiyuna* the milky juice is heated and dropped into the ear for the cure of earache. Heated with *Nimaka* it is used as a remedy for whooping cough, asthma, dropsy, leprosy, enlarged liver and spleen, dyspepsia, jaundice, colic, flatulence, &c.

Dose : *grs.* xx.

Remarks : Fresh can be obtained from herbalists. All Indian species are known under a common name of *Zakuma* (Arab.)

NARASEJA, E. ANTIQUORUM : Its milky juice mixed with *Chaná-no-áto* (flour) is roasted, made into pills, and used as a remedy for gonorrhœa. It also acts as a purgative.

The word *Manasásija* is derived from *Manasá*, the goddess of serpents. The natives approach this tree with offerings, praying to be delivered from snake-bites.

JATROPHA GOSSIPIFOLIA OR J. GLANDULIFERA.

THE SEEDS AND JUICE.

Velati eranda वेलाती ऐरंडी *Jaṅgali eraṇḍi* (Bom.) *Nikumba* (Sans.)

Characters : It is a small shrub. The young branches and leaves are studded with glandular or capitate hairs. The glands are succulent and of a green colour. The branches and leaves are red. The leaves are 3 lobed, and on long petioles. The petioles on their upper side are also covered with glands; their lower side is smooth.

The surface of the lobes is smooth and shining. Their margins are finely ciliated with small glandular hairs. The fruits are six striated, smooth, shining, of a greenish colour, and here and there sprinkled with simple white hairs. In form they resemble the fruits of *Erañdi*. There are 3 seeds in each fruit. Each seed is of a brown colour. Its surface is marked with 4 ridges. The back is rather flat and marked with two broad, black, longitudinal stripes. Between these a brown coloured ridge passes lengthwise. At the hilum there is a caruncle of a brownish yellow colour. On both sides of the caruncle two black lines extend downwards and outwards forming side ridges. From the bottom of the hilum another central ridge extends and occupies the middle of the front surface. On section the cotyledon is albuminous, white, and oily, thus resembling *Kapura*. The whole plant abounds in an acrid juice which is greenish and viscid. The oil is yellow.

Preparations : Juice and oil from seeds.

Actions and Uses : The juice is used as a counter irritant to remove opacities of the cornea or thickening of the conjunctivæ. The oil is applied to joints in chronic rheumatism.

Remarks : Fresh shrub can be had at herbalists. The plant is exotic, and very common in localities adjoining the Malabar Hill reservoir (Bombay), and also at Mahim.

KIRAKUNDI is a species of *J. Nana*. It is found in waste stony places. Its juice is employed as a counter irritant.

PIPERACEÆ—The Pana or Pipali order.

These are herbs or shrubs. The stems are jointed, creeping, and trailing. They give off small rootlets from the joints. The woody matter in the stem is arranged in wedges. The leaves are usually opposite or verticelled, and are marked with strong nerves. The flowers are arranged in spikes and are followed by very small globular berries which contain fleshy seeds.

Properties : The plants of this order are remarkably acrid, pungent, aromatic, and stimulant. These qualities are principally found in their fruits, and are essentially due to the presence of an acrid volatile oil and resin which they contain.

CUBEBA OFFICINALIS.

THE FRUITS.

Kababa chini कबआ चिनी *Chini kabába* (Guz.) *Kaṅkola* (Mah.) *Kabába chini*, *Sitala chini* (Hind., Bom. and Beng.) *Sugaṇḍha maricha* (Sans.) *Kababah* (Arab.) Tail pepper (Eng.)

Characters : These are a collection of dried, unripe, pedicelled, and abortive fruits, and of ripe fruits from which the pedicels are detached. In form and colour the fruits resemble *Kálá miri*. *Kálá miri* have no pedicels, are smaller in size, and have a strong biting taste. On section *Kabába chini* consists of a highly wrinkled and brownish red coloured pericarp containing a nut, within which is a pale brown coloured, oily, homogeneous, and highly aromatic albumen. The smell is aromatic, and resembles that of *Jáephala*. The taste is spicy, aromatic, and camphoraceous. The oil is a greenish, yellowish, or often colourless, thick fluid, of a faint aromatic odour, and of a camphoraceous and aromatic taste.

Preparations : Powder, paste, and infusion of fruits, and oil.

Actions and Uses : The fruits and also the oil are stimulant, carminative, resolvent, stomachic, and diuretic. Both are prescribed in recent cases of gonorrhœa, affections of the genito-urinary organs, and in relieving inflammation of the urinary passages. With rosewater a paste of it is applied to the head in headache.

Dose : Of the powder, *grs.* xx ; of the oil, *ms.* x.

Remarks : The word tail pepper is in allusion to the dried fruits having a short stalk (tail) attached to them.

649 B. *Chini kabába* 5, *Mastaki* 4, *Saṅg-i-yáhuda* 3, *Barása kapura* 3, *Elachi* 4, *Sonámukhi dagadi* $\frac{1}{2}$, *Ambá Halada* 4, *Pákhābheda lakari* 3, *Suro khára* 4. Reduce the whole to a fine powder.

Dose: *dr.* i to *drs.* ii.

Used in gonorrhœa, gleet, leucorrhœa, and chronic diseases of the genito-urinary organs.

PIPER NIGRUM.

THE BLACK AND WHITE FRUITS.

Miri मीरि *Miricha* (Hind.) *Miri* (Mah.) The black pepper: *Ushna marisha* (Sans.) *Philaphila asavada* (Arab.) *Pilapila-girda* (Pers.) *Gola maricha* (Beng.) *Kálān mari* (Bom.) *Kāli mircha* (Hind.) White pepper: *Sapheda mircha* (Hind.) *Sapheda miri*, *Pāṇḍharā miri* (Bom.)

Characters: *Kálā miri* are the dried unripe fruits with black pericarps. *Sapheda miri* are the dried ripened fruits from which the pericarps are removed. *Kálā miri* are globular in shape, of a dark black colour, and highly wrinkled on the surface. Their epidermis is thin and can easily be scratched. On section the interior is hard and contains a whitish yellow coloured oily albumen, the innermost portion of which is soft and starchy. On bruising, the smell is very acrid and heating. The taste is highly pungent. *Sapheda miri* are rather larger than *Kálā miri*. They resemble in size to *Vāvadiṅga*, and are also striped like *Vāvadiṅga*. These are less acrid and less pungent owing to their properties being lost to some extent in the process of ripening.

Preparations: Powder, paste, confection, tea, and infusion.

Actions and Uses: *Miri* powder is a powerful local stimulant. When applied to the skin it causes intense burning, and hence useful in paralytic affections. In toothache a paste of it is applied with benefit. With vinegar the powder is usefully applied over the bites of venomous reptiles. Mixed with onions and salt it is rubbed over bald head to cure alopecia. Its application gives relief to muscular rheumatic pains, headache, and pain of hæmorrhoids. Internally *Miri* are pungently hot, acrid, carminative, digestive, deobstruent, resolvent, tonic, and antiperiodic. They are recommended in intermittent fever and dyspepsia. With *Pipali*, *Javakhāra*, *Dālimba chhāla*, and *Madha*, they form a favourite pill known as *Marichādi goli*. This pill is useful in coughs, cold in the head, sore-throat, &c. The pills are allowed to dissolve in the mouth and not to be swallowed at once.

Doses: grs. v to grs. xx.

Remarks: *Kálā miri* with *Pipali* and *Suñṭha* form a compound known as *Trikatu*. The word *Trikatu* means the three acrids, or the three burning and pungent fruits. *Trikatu* is a common ingredient

in many native carminative prescriptions. *Miri* contains a resin and an essential oil, to the former of which its sharp pungent taste is due.

Pokala mari पोकला मरी *Pokali miri* (Hind.) Canarese Pepper (Eng.)

These are abortive pepper corns. They resemble in characters, actions, and uses to *Kálá miri*. They are locally used to relieve toothache and as an internal remedy for cholera.

Chavaka चावक *Chavaka* (Bom.)

The name *Chavaka* is given to the dried unripe spikes of *Kálá miri*. The stems or spikes are jointed, and are as thick as the ring finger. The bark covering them is brittle, smooth, slightly rugous, and of a dirty brown colour. It can easily be removed from the wood. The wood is arranged in numerous wedges. The colour of the wood is the same as that of the bark. It has a slightly pungent and acrid taste, and a somewhat aromatic smell. A decoction of it is given as a carminative and stimulant in colic, tympanitis, &c.

MARICHADI TELA.

650 B. *Kálá miri* 10, *Bachanága* 6, *Haratála* 5, *Manasila* 4, *Ákadá-nu-dudha* 5, *Kanera-nu-mula* 5, *Nishota-nu-mula* 4, *Indrayáni-nu-mula* 6, *Upaleta* 6, *Haláda* 8, *Dáruhaláda* 6, *Devadára-nu-lákaduñ* 5, *Rakta chañdana* 4, *Rái tela* 100, Cow's urine 400. Boil and prepare an oil.

Used in chronic skin diseases, and over paralytic limbs.

651 B. *Miri* 5, *Azakhara* 4, *Surinajana* 3, *Ajamoda* 5, *Pána-ni-jara* 4, *Vaja* 6, *Káli chhuda* 5, *Kachulá* 4.

Mix and make a powder. Dose : grs. x to grs. xxx.

Anupána : To be taken with sugar.

Used in facial paralysis.

CHAVICA BETEL.

THE LEAVES.

Pana पाना *Nágaravela-ná-pána* (Guz.) *Támabula* (Sans.) *Pána* (Hind., Beng. and Bom.) *Nágavela* (Mah.) Betel pepper. (Eng.)

Characters : The fresh leaves are pungent. They vary from 3 to 5 inches in length, and from 2 to 4 inches in breadth. They are cordate, petioled, acuminate, and from 5 to 7 nerved. The nerves are prominent on their under surface. They are smooth on both the surfaces. They are green, darkish green, or of a faint yellow colour.

Preparations : Juice, paste, and *Varáliñs*.

Actions and Uses : The leaves are a gentle stimulant and exhilarant, also aromatic, carminative, aphrodisiac, and astringent. They sweeten the breath, improve the voice, and remove all foetor from the mouth. Smeared with oil they are introduced into the rectum for the relief of tympanitis in children. They are also applied over the belly in colic, and over the temples to relieve headache. When applied to painful and swollen glands they promote absorption. Applied to the breasts they check the secretion of milk. The leaves mixed with *Chuno*, *Kátho*, *Sopári*, *Elachi*, *Lavañga*, *Jáephala*, and other aromatics are masticated by the natives of India.

Remarks : Custom aided by luxury has become a habit, and seldom does a foreigner find the house of a native of India where on parting a *Bidi* (a packet of *Pána*, *Sopári*, and spices) is not made an offer of to him. On many important occasions such as marriage festivities, large gatherings, and nautch parties, *Bidáñ* offering is essentially looked upon as a necessary requirement of leave taking. The word *Bidi* means sealed or folded in a cover. It is in allusion to the betel nut and various spices given as a token of affection and regard covered in a betel leaf (*Pána*.)

PIPER LONGUM.

THE BERRIES AND ROOT.

Pipali पपली The dried catkins: *Pipara* (Guz.) *Dára philaphila* (Arab.) *Philaphil-e-daróza* (Pers.) *Pipali* (Hind.) *Pipaliána* (Duk.) *Pipali* (Beng.) *Pippali*, *Kandá*, *Krishna* (Sans.) Long pepper (Eng.) Dried slices of the root: *Pipali mula* (Guz.) *Pipalá mula* (Bom.) *Philaphil-e-majáh* (Arab. and Pers.) *Pippali mula* (Sans.) *Pipalá mora* (Hind.) *Pipalá mola* (Duk.)

Characters : *Pipali mula* are the roots and joints of stems cut into small pieces and dried. A portion of the stem is cylindrical. The joints are swollen and irregularly knotty. Each piece is from $\frac{1}{4}$ to 1 or 2 inches long, irregularly thick, hard, and of a brownish colour. The interior is starchy. The smell is heating; the taste is pungent

and biting. *Pipali* or the dry catkins are made up of a number of small berries crowded together round a common axil. The spikes vary in length. They are generally cylindrical, and taper slightly towards the apex. The colour is brownish dark. The smell resembles that of *Miri*. The taste is more pungent than that of *Pipali mula*.

Preparations: Snuff, liniment, decoction, infusion, paste, confection, *Asava*, electuary, &c.

TRIKATU (The three acrids): It is a compound preparation of equal parts of *Pipali*, *Miri*, and *Suñtha*, used in indigestion and cold.

CHATUROSHANA: (The four heating or biting.) It is a compound preparation of equal parts of *Pipali*, *Miri*, *Suñtha*, and *Pipalimula*, used in colic and flatulence.

PANCHA KELA (The five pungents): This preparation contains equal parts of *Pipali*, *Pipalimula*, *Suñtha*, *Chavaka*, and *Chitraka*, and is used in dyspepsia, cough, and flatulence.

SADUSHANA (The six acrids): These are *Pañcha kela* and *Miri* used as an appetizing agent in flatulence.

Actions and Uses: Both are used as a stimulant, carminative, and laxative. As an alterative tonic, they are prescribed in chest affections, dyspepsia, paraplegia, chronic cough, enlargement of the spleen and other abdominal viscera, gout, lumbago, &c. As a resolvent they are useful in relieving the symptoms due to obstructions of the liver and spleen. Their liniment is applied to the bites of venomous reptiles. The snuff is used to arouse people from coma or drowsiness. With *Pákhanabheda* a paste of them if applied to the breasts acts as a lactagogue.

LENDI PIPALI: The catkins are oblong, thin, cylindrical, and very small in size. They resemble *Pipali* in colour and consistence. They are somewhat sticky when cut. In taste they are very highly pungent. It is so called because its catkins resemble rat's dung (*Leñdi*).

SUVALI PIPALI: The catkins are of a miniature size. The taste is slightly pungent. The colour is dark. *Suváli* is derived from the word *Savála*, the name of a place in Zanzibar.

652 B. *Pipali mula* 2, *Chitraka chhála* 1, *Sájikhára* 2, *Java khára* 2, *Suñtha* 2, *Kálá miri* 2, *Leñdi pipali* 2, *Ajamuda* 2, *Kákadá siñgi* 3, *Ativisha* 6, *Motha* 4, *Hinga* 2. Mix and make a pill mass with *Madha* q.s.
Dose: grs. v to grs. x.

Anupána: *Dálimba-no-rasa*.

Used in dyspepsia, loss of appetite, flatulence, and chronic diarrhœa.

- 653 B. *Trikatu*, *Triphalá*, *Taja*, *Hĩnga*, *Chitraka*, *Vávadińga*, *Ziráh sapheda*, *Kalonaji*, *Ajována*, *Kariátuñ*, *Dáñtĩ mula*, *Nimadá-ni-chhála*, *Señdháloná*, each 2 parts, *Mañdura* 16 parts, *Sákara* 20 parts, Water 100 parts. Make a decoction. Dose : oz. $\frac{1}{2}$

Used in anasarca, anœmia, and enlargement of the liver and spleen.

PIPALI ASAVA.

- 654 B. *Pipali*, *Miri*, *Chavaka*, *Halada*, *Chitraka*, *Motha*, *Vávadińga*, *Sopári*, *Lodhra*, *Venivela-nu-mula*, *Amalá Patola*, *Válo*, *Ratáñjali*, *Kutha*, *Lavańga*, *Tagara*, *Jatámánasi*, *Taja*, *Elachi*, *Tamálapatra*, *Nága kesara*, each 1. Make a paste with water. Then add Jag-gary 10, *Dháuri phula* 10, *Drákhsha* 60, and subject the whole to fermentation. Dose : dr. i to drs. ii.

Used in dyspepsia, consumption, enlarged liver and spleen, general debility, dysentery, anorexia, &c.

CASTANEÆ—The Majuphala order.

These are trees or shrubs. The leaves are alternate, usually simple, and stipulate. The flowers are unisexual. The fruit is a gland or a nut.

Properties: The bark is highly astringent. In some species it is a tonic and febrifuge. The gall is astringent.

SALIX CAPREA.

THE FLOWERS AND DISTILLED WATER.

Beda-mushka بیدہ مرکس *Beda mushka* (Pers.) *Khiláph-ula-Balakhi* (Arab.) The water: *Ma-ula-khilapha* (Arab.)

Characters : The flowers belong to a species of willow. They are unisexual, naked, or with a membranous calyx.

Preparations : Infusion and distilled water.

Actions and Uses : The flowers are cephalic, deobstruent, and tonic, also cardiacal.

Bed-i-sodah, Bed-i-bari (Pers.) *Sapha-sápha* (Arab.) is another species of the *Salix*. The characters, actions, and uses are similar.

BETULA BHOJPATTRA.

THE BARK.

Bhojapatra ଭୌଜ ପତ୍ର *Bhurja patra* (Sans.) *Bhuja patra* (Hind., Beng. and Bom.) The birch bark (Eng.)

Characters : The bark is thin, tough, and papery. It is rugous on both the surfaces. The upper surface is of cinnamon colour, and here and there marked with longitudinal narrow stripes or scars which penetrate through the whole breadth of the bark. The under surface is of a pale white colour and also marked with scars. The bark is in layers. Each layer is very thin and adherent to one another like thin parchments.

Preparations : The leaves.

Actions and Uses : They are used to write charms upon. The birch bark is used for writing instead of paper, and for lining the roofs of houses to make them water tight.

Remarks : The word *Bhurjapatra* is derived from *Bhruja* or *Bhurja* (Sans.), the name of a tree, and *Pátra*, which means a very thin bark or letter paper. The word *Pátra, Pátruñ* means a leaf. It is applied to any vessel prepared of a very thin metallic leaf.

QUERCUS INFECTORIA.

THE GALLS.

Majuphala ମାୟାଫଳା *Máyaphala* (Guz.) *Mázuphala, Maphala* (Hind.) *Majuphala* (Beng.) *Máephala, Májú* (Bom.) *Mázu* (Pers.) Gall nut, The dyers' oak (Eng.)

Characters : There are two kinds of galls, black and white. Both are globular or pyriform bodies studded with numerous tuberosities. In some the tubercles are scattered over their whole surface. In others the lower half is smooth and free from tubercles. At the base of each gall is a scar somewhat projecting and corresponding to the

attachment of the gall on the tree. The surface of the scar is rugous and of a grey brown colour. The gall is very brittle. On section the cut portion is whitish brown except in the centre where it is deep brown. It is resinous looking and sprinkled all over with sparkling white granules. In its interior there are 2 or 3 cavities. The taste is astringent and bitter.

Preparations : Powder, decoction, and paste.

Actions and Uses : It is highly astringent. Its bitter extractive principle gives it a tonic action. As an astringent, with *Dálimba chhála* and *Barása kapura*, it is useful in menorrhagia, chronic diarrhœa, and dysentery. It is an antidote to poisoning by vegetable alkaloid such as *Bisha*, *Dhaturá*, *Kachula*, *Afima*, &c. Locally its gargle is used in relaxed sore throat, and spongy gums, and its injection in leucorrhœa, and atony of the vagina and rectum.

Remarks : The galls are excrescences produced by a cynips on *Quercus infectoria*. It punctures the buds and deposits its ova. Those which still contain the insects are heavy, hard, and of a dark brown or bluish green colour; those from which the insects have escaped are light, soft, and of a yellowish white colour.

655 B. *Májuphala* 5, *Lazalu* 4, *Majitha* 3, *Bávala goñda* 4, *Padavása* 5, *Lavañga* 4, *Jávañtri* 4, *Jáephala* 3, *Sákara* 10. Mix and make a powder.

Dose : grs. xv to grs. xxv.

Used in leucorrhœa and chronic discharges.

656 B. *Májuphala* 10, *Kátho* 8, *Elachi* 10, *Kamara kákadi* 8, *Siñgodáñ* 8, *Masataki* 6, *Sapheda Musali* 6, *Chañdana tela* (oil) 10. Mix and make an emulsion with water.

Dose : drs. iv to drs. vi.

Used in gonorrhœa.

CANNABINACEÆ—The Bhangá order.

These are herbs with a watery juice. The leaves are stipulate, lobed, and alternate. The flowers are unisexual and small. The fruits are indehiscent and one seeded.

Properties : The plants of this order possess narcotic, stomachic, and tonic properties.

CANNABIS SATIVA.

THE PLANT AND RESIN.

Bhanga भङ्गा The plant: *Nabátula-Kinnába* (Arab.) *Drákhte-bānga*, *Gāñje-ke-pera* (Hind.) *Bhāngá-chá-jhāḍa* (Mah.) *Gāñjára-gáchha* (Beng.) *Gāñjá-nu-jhāḍa* (Guz.) *Vajayá*, *Vrijapátta*, *Unaṇḍa*, *Harasini*, *Chápola*, *Indrásana*, *Dnyána Vardhani* (Sans.) The hemp plant (Eng.) The leaves: *Bhānga* (Guz. and Mah.) *Bhānga*, *Siddhi*, *Sabazi* (Duk. and Hind.) *Hashisha* (Arab.) *Bānga* (Pers.) The dried flowering tops: *Kinnába* (Arab.) *Kinnába* (Pers.) *Gāñjá* (Hind., Beng. and Mah.) *Gāñjo* (Guz.) The resin: *Charasa* (Hind.) *Chorosa* (Beng.) *Charasa*, *Bhānga-no-rasa* (Guz.) The seeds: *Sadánaja*, *Bazrula-Kinnába* (Arab.) *Tukhme-Kinnába*, *Shádánáh* (Pers.) *Bhānga-ke-biñja* (Hind. and Duk.) *Bhāngá-chá-bi* (Mah.)

Characters: Different parts of the drug are known by separate names. 1. *Bhānga* is of a deep green colour and consists usually of broken leaves in coarse powder, and seeds. The seeds are grey coloured, shining, reticulated, also angular, and hard. The odour is peculiar. 2. *Gāñjá* consists of the flowering tops of female plants from which the resin is not removed. It occurs in erect, rather compressed spikes which are in thick clusters. The colour is brownish green. It has a powerful and a peculiar narcotic odour. 3. *Charasa* is a resinous exudation from the leaves and flowering tops. It is mixed with hairs and fragments of the leaf. Its colour is darkish green or brown. In consistence and appearance it resembles *Afima*. It has a peculiar odour of the whole plant.

Preparations: Paste, *Májama* (confection), *Sabazi*, *Garado*, and powder.

MAJAMA: Take of *Bhānga* and *Ghee* equal parts, add water 4 times the weight of both, boil the whole over a fire till the whole of the water has evaporated, and strain through a piece of calico. Next wash the strained liquid with water several times till the colour fades to a pale yellow. To this add *Tabáshira*, sugar, various ap-rodisiac drugs and spices.

SABAZI: Take of *Bhānga*, *Miri*, *Golába káli*, *Khasakhasa*, the five Cucurbitaceæ seeds, *Badáma magaja*, and *Elachi*. Mix and make

a powder; add water to the whole; triturate well and make a uniform paste. To this add sugar. If milk is added the intoxicating effects become more marked.

GARADO: Take of *Bhāṅga* and *Miri*, equal parts. Make a paste in water. To this add *Gāñjā*, and triturate well.

Actions and Uses: All parts of the plant are intoxicating, stimulant, aphrodisiac, and sedative. When taken in moderate doses the plant imparts at first a gentle reviving heat and then a refrigerant effect over the whole body. It exhilarates the spirits, improves the complexion, excites the imagination, increases the appetite, and promotes sexual desire. After a time the sedative effects are observed. If habitually taken, or its use persisted in, it leads to indigestion, wasting of the body, melancholia, and impotence. Taken in large doses and by those unaccustomed to its use, it leads to loss of memory, frequent desire to run away from the presence of relations and friends, gloominess, listlessness, and a sort of stiffness of the whole body resembling that of a corpse. By its use the appetite as a rule becomes most voracious. Those habituated to its influence cannot stand erect or keep their balance. *Bhāṅga* is useful in dyspepsia and gonorrhœa. A juice of the leaves is used for the same purposes as nepanthe. If dropped into the ear it allays pain. It is locally applied to fresh wounds and sores, and also to ulcers to promote their granulations. As an astringent and antispasmodic its vinous extract is useful in various nervous diseases where *Afima* is contra-indicated. The powdered leaves moderate the excessive flow of bile. They are also stomachic and useful in relieving flatulence. A poultice of the leaves is applied with benefit to local inflammations, erysipelas, and over neuralgic painful parts. Prepared in milk its application relieves hæmorrhoids. Its powder makes a good snuff for deterring the brain. A paste of it when applied to the head removes dandruff and vermins.

Gāñjā: As a smoke through the mouth with the aid of *Chillama*, it is used in cases of poisoning by orpiment, and its vapour through the rectum in strangulated hernia, tormina of dysentery, &c. *Gāñjā* is sometimes given internally in diarrhœa, tetanus, hydrophobia, convulsions of children, cholera in an advanced stage, and painful chronic diseases such as rheumatism, neuralgias, &c. It is the next best anodyne, hypnotic, and antispasmodic to *Afima*. It is a good soporific and produces sleep in persons suffering from hallucinations of sight and hearing. It is also useful in insanity and in delirium tremens of fevers. Locally as an anæsthetic it relieves the itching of eczema, prurites, &c.

Charasa: When taken for a long time it checks headache (migraine). It is a very useful remedy in anæmia of the brain and in nervous vomiting. It promotes uterine contractions, and hence is useful in checking uterine hæmorrhages. *Májama* is exciting and aphrodisiac. *Garado* is an intoxicating drink. *Sabaji* is cooling, intoxicating, and aphrodisiac. *Limbu*, *Chhása*, acid juices, milk, *Ghee*, sugar, &c. are useful antidotes in cases of high intoxication by cannabis.

Doses : Of the powder of *Bhánga* or *Glānjá*, gr. $\frac{1}{4}$ or $\frac{1}{2}$ to grs. ii; of *Charasa*, gr. $\frac{1}{6}$ to gr. $\frac{1}{4}$; of *Sabaji*, drs. ii; of *Garado*, dr. i.

Remarks : The chief constituents of *Bhánga* are resin and volatile oil. The resin is highly intoxicating. Natives use *Bhánga* as a luxury to produce intoxication, also as an aphrodisiac.

The word *Siddhu* is derived from *Siddha* which means perfect. Hindu mythology applies the term *Siddha* to *Jogis* or monks in allusion to their having gained a perfect knowledge of the way to one true God, they then spend the rest of their days in this one belief. The *Jogis* generally use *Bhánga* to concentrate their idea upon one God. This drug is therefore known as *Siddhu*, i. e. used by *Siddhas* (*Sáddhus*).

Dnyána Vardhani : This word is derived from *Dnyána*, knowledge, and *Vardhani*, promoter. *Bhánga* when taken is exhilarating and promotes knowledge of things. It is said of jewellers that they take *Bhánga* when testing the true value of jewels or to sharpen their intellect. *Vajayá* means giver of success. A favourite drink prepared from it when taken gives success in all undertakings. *Vrijapáta* means a strong nerved; *Chapola*, a giver of a reeling gait; *Unaṇḍa*, causing laughter or involuntary movements; and *Harasini*, the excitor of verile passions; *Indrásana*, a favourite drink of Indra, the king of gods.

657 B. *Bhánga* 1, *Dálimba phula* 2, *Dálimba chhála* 3, *Saphedo* 2, *Phataki* 2, *Akákio* 3, *Máiyuṇ* 4, *Chaṇḍana* 4. Mix, make a paste, and apply into the rectum.

Used in prolapsus ani and tornina.

MORACEÆ—The Shetura order.

These are trees or shrubs with milky juice, and leaves with large stipules. The flowers are very minute, unisexual, in heads, spikes, or catkins. The fruits are sorosis.

Properties : The milky juice of some species possesses acrid and poisonous properties; in others it is bland, and may be taken as a beverage. The inner bark of some species is considered stimulant, sudorific, tonic, and astringent. The fruits of some are highly valued as refrigerent, and are fleshy and agreeable in taste.

FICUS CARICA.

THE RECEPTACLES OR FRUITS.

Anjira अंजिर *Añjira* (Bom.) *Tina* (Arab.) *Dumura* (Beng.) **Figs** (Eng.)

Characters : The fruits or receptacles are funnel shaped, slightly gibbous at the top, and tapering at the bottom to which a small stalk is attached. Immature figs are green, or greenish yellow, and when cut a milky juice escapes. Mature figs are yellowish or brownish red externally, and deep red within. The pulp is very sweet and palatable. The dried figs are sold by druggists. These are generally jointed together by a thread and are much compressed. Each fig appears as a circular dish-like disc, gibbous at the top, and convex towards the bottom. On section it contains numerous seeds which are hard and of a whitish yellow colour. The taste is very sweet and mucilaginous.

Preparations : Confection, decoction, and paste.

Actions and Uses : The figs are used as an expectorant. The saccharine and mucilaginous constituents render them nutritive and laxative. The seeds and tough skin if taken internally cause indigestion and flatulence. Dried figs are useful in catarrh of the mucous passages. Their cataplasm is used as a poultice over gum boils, and abscesses on the anus and vulva.

Remarks : Ripe fruits of *Omará* are often mistaken for small *Añjira*, and hence called *Añjire ahmaka* (Arab.)

EPICARPURUS ORIENTALIS.

THE LEAVES AND BARK.

Kharote क़रिठ *Sariro* (Guz.) *Kharvate* (Bom.) *Shákhataka* (Sans.) *Sheodá* (Hind.)

Characters : The bark is wrinkled externally, and of a lightish brown colour. Internally it is fibrous, rather tough, and greenish brown or pale in colour. The taste is bitter, astringent, and also acrid. The leaves are from 2 to 4 inches long, oblong or oval, slightly dentate, scabrous, and hard. Their colour is greenish dark.

Preparations : Decoction, infusion, and milky juice of fresh bark.

Actions and Uses : The juice is astringent and antiseptic. It is applied to cracks and fissures on the palms of hands and soles of feet. The leaves are used to polish ivory. The bark is mildly acrid, and used as a tooth-brush to remove the tartar or to cleanse the teeth.

Remarks : Fresh should be obtained.

FICUS GLOMERATA.

THE BARK AND MILKY JUICE.

Umbro उम्ब्र *Umbdā* (Mah.) *Udumbara* (Sans.) The fruit : *Jammaiza*, *Tinula ahmaka* (Arab.) *Añjire ahmaka* (Pers.) *Gulara* (Hind.) *Gullera* (Duk. and Beng.) *Umbara* (Bom.) The bark : *Umbara sála* (Bom.)

Characters : Externally the bark is ash coloured and smooth to the touch. It is here and there studded with brownish scars. Internally it is tough, fibrous, and of a lightish brown or red colour. The smell of the fresh bark is somewhat aromatic, and the taste is sweet and astringent. The milky juice is sticky.

Preparations : Medicated oil, decoction of the bark, and milky juice.

Actions and Uses : The bark is considered to be astringent and stomachic. It is prescribed in hæmaturia, menorrhagia, and hæmoptysis. A decoction of the root bark with *Nimado* is used as a gargle in salivation, as a wash for ulcers, and as an injection in leucorrhœa. The milky juice is applied as a *Lepa* to the chest, abdomen, and to rheumatic joints, mumps, and other glandular enlargements. The application is covered with a pad of cotton.

Doses : Of the juice, 2 to 3 drops.

Vada वडा *Vada* (Mah.) *Bara* (Bom.) *Batera* (Beng.) *Vata* (Sans.) *Bara* (Hind.) The fruits: *Tine berry* (Arab.) *Añjire-dashti* (Pers.) *Jañgali gullera* (Duk.) *Kaku-dumara* (Beng.) *Ficus Indica*, *Banyan tree* (Eng.)

The bark is milky, of a lightish brown or ash colour, and scabrous. The external surface is generally smooth. The epidermis is broken, and here and there fissured. Internally it is very fibrous and tough. The fibres are white and cottony. Between the fibres and the epidermis are numerous, soft, greyish granules which give the bark a reddish colour. The taste is astringent and nauseous. The odour is nauseous. It is said to be an aphrodisiac and astringent, and given in dysentery and hæmorrhagic fluxes. The juice is given internally in gonorrhœa and seminal weakness. Locally it is applied as a remedy for tooth-ache, and to the soles of the feet and palms of the hands when cracked. The seeds are cooling and tonic.

GANDA UMBARA: The fruit belongs to *Ficus dæmona*. It is like a small fig, but very hairy, and used as an emetic.

VILAETI VADA: *Ficus Elastica*, Indian *Caoutchouc* tree.

Pipala पाला *Pipala*, *Munja* (Mah., Hind. and Bom.) *Pipali* (Guz.) *Ashvatha* (Sans.) *Ficus religiosa* (Eng.)

The bark is tough and of a lightish brown colour. Its outer surface is smooth or slightly scabrous. It is brittle and soft. The internal bark is fibrous, very tough, and studded here and there with soft granules. The odour is slightly nauseous. The taste is astringent but disagreeable.

The bark is astringent and antispasmodic. The powdered root mixed with *Madha* is locally applied to aphthæ in the mouth. The powder is given internally in asthma. The seeds possess cooling and alterative properties. Fresh should be obtained.

PANCHA VALAKALA OR THE FIVE BARKS.

658 B. *Pipala chhāla*, *Vada chhāla*, *Boedi chhāla*, *Nimadā chhāla*, and *Omarā chhāla*, equal parts. Break them into thin slices and boil in *Gora tela*.

Used as an astringent injection into the rectum in dysentery, and as an application to unhealthy ulcers.

MORUS NIGRA.

THE FRUITS.

Shetura शेटुर *Tuta*, *Shetuta* (Hind.) *Shetura* (Guz.) *Shetura* (Hind. and Bom.) *Tuta* (Arab. and Pers.) *Mulberry* (Eng.)

Characters: The fruits are sorosis, cylindrical in form, and of a dark purple colour. The smell is disagreeable. The taste is sweet. They are shining in appearance and moist when touched.

Preparations: *Sharabata*, and drink (juice.)

Actions and Uses: The fruits are refreshing and slightly laxative. The juice and jelly are used in fever, sore throat, and catarrhal inflammation of the air passages.

Remarks: Fresh fruit should be used.

MYRICEÆ—The Kataphala order.

In this order, there are shrubs with alternate, simple, resinous, and dotted leaves. The flowers are unisexual, amentaceous, and followed by one seeded drupaceous fruits.

The plants of this order are remarkable for aromatic and astringent properties.

MYRICA SAPIDA.

THE BARK.

Kataphala कटफला *Kataphala* (Hind. and Beng.) *Kata phala* (Sans.) *Kātaphala* (Bom.) *Kāṇḍula*, *Darashishāna*, *Aod-ula-barka* (Pers.) The oil: *Duhu-ula-kāṇḍula* (Pers.) *Wax myrtle* (Eng.)

Characters: It generally occurs in quills or thick pieces. Each piece is about 1 to 2 inches long, and from 2 to 4 inches in thickness. The epidermis is of a brownish colour and scaly. It is soft and can easily be separated from the true bark by scratching. The true bark is soft, of a reddish colour, and brittle. On section the cut surface is here and there studded with a red or dark red,

gummy or resin like substance. The smell resembles that of *Kapura*. The taste is astringent and somewhat pungent.

Preparations : Decoction, paste, and medicated oil.

Actions and Uses : The bark is a heating, aromatic, stimulant, and astringent. It is recommended in fevers, catarrh of the mucous membrane, and affections of the chest. Externally it is used as a rubefacient and stimulant application to the fore arms and calves during the collapse stage of cholera. It is also used as a resolvent, carminative, and tonic. With *Taja* it is given in chronic cough and piles. With vinegar it is locally applied to strengthen the gums. Its powder is used as a sternutatory. Its decoction is a valuable remedy in asthma, diarrhœa, typhoid dysentery, and diuresis. The powder or the lotion of the bark is applied to putrid sores. Pessaries made of it promote the menses. When chewed it acts as a sialogogue and thus relieves toothache. An oil prepared from it is dropped into the ear in earache.

Dose : Of the bark, *grs.* lx.

Remarks : *Kâtaphala* is the bark and not the fruit as the name implies. It should not be mistaken for *Kâephala* which is the name of the fruit of *Myristica Malabarica*, nor for *Kâkaphala* which is the name of the fruit of *Kâkamâri*.

SANTALACEÆ—The Chandana order.

This order contains herbs, shrubs, or trees. The leaves are entire, alternate or opposite, and with small flowers. The fruits are one seeded, and with fleshy albumen.

Properties : Some of the species are reputed for their wood which is highly fragrant and contains an essential oil.

SANTALUM ALBUM.

THE WOOD AND SEEDS.

Chandana चंदन *Chañdana* (Hind., Beng. and Bom.) *Chañdana*, *Sukhada* (Guz.) The heart wood : *Pita chañdana* (Sans.) The lighter wood : *Srikhañda* (Sans.) Sandal wood (Eng.)

Characters : The wood is in long pieces of various shapes and sizes. It is covered over with a brownish scabrous bark, which is firmly adherent to the wood. The wood deprived of its bark is highly fragrant. Its colour varies from pale white to pale yellow or dark red. The central portion or the heart wood, is of a deep dark brown colour. The fragrance depends on the presence of an essential oil, which is chiefly situated in the dark central wood. The fruits of *Chañdana* are sold under the name of *Chañdana bija*. Each is of the size of *Kákamúri*. It is of a dark brown colour, and spherical in form. It has a small stalk at the bottom. The apex is crowned by a circular brimmed rim, in the centre of which there is a conical protuberance. On removing the pericarp the interior of the fruit is occupied by one single seed. The seed is globular, and of a brownish red or *Taja* colour. The surface is tubercled. The apex is slightly projecting. From the centre of the apex four projecting ridges run divergently, and disappear about the middle. On section the testa is brittle and easily separable. The kernel is semi-opaque, oily, resinous, and of a brownish colour. The odour is balsamic. The taste is acrid and oily. The oil has a pale yellow colour, a balsamic odour, and a pungent taste. It readily escapes on squeezing the kernel, and from the wood by distillation.

Preparations : Paste, powder of wood, and essential oil.

Actions and Uses : The wood is said to be a bitter, cooling, and astringent. A paste of it is applied to the body in bilious fever with a heated state of the body. It is also applied as a resolvent to inflamed swellings &c. With rose water and camphor, or with sarcocolla, it is used in relieving headache, in reducing inflammatory swellings, or as a cure for skin affections. The oil given internally is a valuable remedy in gonorrhœa. In remittent fevers it acts as a diaphoretic. It diminishes the rapidity, rather than the violence, of the heart's action. The seeds are used as pessaries by native women to procure abortion.

Dose : Of the oil, *ms.* xx to *ms.* xxx.

Remarks : The oil *Chañdana tela* is generally extracted from the wood and not from the seeds. The Sanscrit word *Pita chañdana* means yellow sandal, and is applied to the darker heart wood. The word *Shrikhañda* means white *Chañdana*, the term applied to the lighter wood.

CONIFEREÆ—The Gandha biroja or Devadara order.

In this order there are very large trees or shrubs, with linear, needle shaped or lanceolate, fascicled leaves. The flowers are naked. The fruits are woody and cone like.

Several species contain an oleo-resinous juice like turpentine, or a volatile oil, and resin.

CALLITRIS QUADRIVALVIS.

THE RESIN.

Chandrusa चण्डरु *Chāṇdrasa* (Mah.) *Janaradhuniuda* (Bom.) *Chāṇdrusa* (Guz.)

Characters : It occurs in flat irregular pieces; each piece is from $\frac{1}{4}$ th to $\frac{3}{4}$ th of an inch thick. It is of a pale yellow colour, shining, and translucent. On section the cut surface is homogeneous, highly shining, and transparent. It is very hard, and can be powdered with difficulty. The powder is efflorescent and whitish.

Preparations : Powder and confection.

Actions and Uses : It is used as an incense chiefly for its perfume. As a confection it is given along with other aphrodisiac medicines.

PINUS GERARDINA.

THE SEEDS.

Chilagoza चिलाङ्ग *Chilagoza* (Mah.) *Tukhm-i-sanobara* (Pers.) *Hub-ula-sanobara* (Arab.)

Characters : The seeds are about an inch long. They are roundish at the base and tapering towards the apex. They are somewhat arched towards the upper part where the apex is drawn to one side like the beak of a bird. Their testa is brittle, rugous, brownish red, or yellow externally, and greyish white within. The kernel is covered over with a thin, lightish brown, membranous layer. Within the layer the kernel is albuminous and oily. It resembles the kernel of *Badāma*. The smell is somewhat acrid. The taste is heating, oily, and

slightly acrid. On separating the cotyledons the embryo is of a yellowish colour, and in the centre occupying the whole length of the seed. The radicle is seen towards the apex of the seed.

Preparations: Confection.

Actions and Uses: These are similar to those of *Badāma*, *Pisatān*, *Chārolī*, &c. They are also used as a nutritive tonic.

PINUS DEODARA.

THE WOOD AND TURPENTINE.

Devadara देवदार *Vāṇsio Devadāra* (Guz.) *Devadāru* (Sans.) *Davadara* (Hind. and Beng.) The turpentine: *Kilāuke tela* (Hind.)

Characters: The wood is heavy, and of a lightish yellow or brown colour. It consists of layers of resin arranged longitudinally. The resin is thick towards the middle, and becomes less so as it approaches the bark. The odour is balsamic and slightly aromatic. The taste is oily and resinous. Near the heart wood the oleo resin when touched feels sticky to the fingers.

Preparations: Decoction and pills.

Actions and Uses: The wood is considered as a carminative, diaphoretic, and diuretic. It is useful in fever, flatulence, dropsy, and urinary diseases. In ascites it is given in combination with *Shegata chhāla* and *Aghādo*. In gonorrhœa, syphilis, gout, and rheumatism, a decoction of *Devadāra* acts as a powerful alterative. With *Halāda* and *Gugala* its paste is applied to indolent swellings with relief. The resin is used as an alterative in chronic skin diseases, and leprosy.

Remarks: It is one of the ingredients of *Rāsanā-di-kvātha* and other alterative decoctions as *Chāndra Prabhā gotikā*.

DEVADARADI KVATHA.

659 B. *Devadāra*, *Vaja*, *Motha*, *Kariātuṇ*, *Dhamāso*, *Gokharu*, *Kālī jiri*, *Kutha*, *Kutaki*, *Ativisha*, *Dhānā*, *Gulavela*, *Suñṭha*, *Harade*, *Pipali*, *Riṅgani*, *Gajā pipali*, *Kākarā siṅgi*, all in equal parts. Mix and make a decoction in the usual way. Dose: oz. i to ozs. ii.

Used in general debility especially after delivery, rheumatism, syphilis, fever, vomiting, constipation, dry cough, and headache.

PINUS LONGIFOLIA.

THE WOOD AND TURPENTINE.

Gandhabiroza ગંધ ગૌરિયા *Gāndhabirozāh* (Hind. and Bom.) *Sarala drava* (Sans.) The wood : *Sarala* (Sans.) *Chira* (Hind.)

Characters : The turpentine is a dirty white, opaque, sticky mass of a paste-like consistence. It is often found mixed with pieces of broken leaves. The odour is strong and agreeable. It is more aromatic than that of commercial turpentine. The oil is a limpid, sherry-coloured fluid.

Preparations : Plaster, ointment, pastiles, and oil.

Actions and Uses : The turpentine is used for fumigations. As a plaster for painful chest it is highly recommended. The oil is useful internally in gleet and long standing gonorrhœa.

JUNIPERUS COMMUNIS.

THE BERRIES AND OIL.

Hab-ula-Ushara હાબ હુલા ઉશર *Hab-ula-ushara*, *Abbhala* (Pers.) *Hāu-bera* (Bom.) *Hapushā* (Sans.) *Hab-ula-arahara* (Bom.) Juniper (Eng.)

Characters : The fruits are of a darkish brown colour. In size they are somewhat bigger than *Kālā miri*. The surface is gibbous and wrinkled. At the base of each fruit there are small pointed bracts which are arranged in whirls of threes. On the top of the fruit there are three lines which diverge from a central point. They are broad at their point of attachment, and become narrow as they extend outwards. On section the pulp is reddish brown and sticky. Within the pulp are three seeds. The seeds are angular and of a reddish colour. The odour of the berries is aromatic and balsamic. The taste is slightly bitter and acrid. The oil is colourless or of pale greenish yellow colour. It rapidly thickens and is paste-like. On exposure to the air it becomes yellow. It has the odour of the fruit, and a warm, aromatic, and terebinthinate taste.

Preparations : Powder, decoction, and oil.

Actions and Uses : Juniper is a stimulant, aromatic, carminative, diuretic, and emmenagogue. Taken for some time, it gives a

terebinthenate odour to the urine. It is given in dropsy, chronic catarrh of the urinary passages, and seminal debility where sabulous matter is habitually voided. Locally the powder is rubbed on painful swellings. The oil is a stomachic, carminative, and diuretic, and given in scanty urine.

Dose: *ms.* v to *ms.* x.

PANITIS SUCCINIFER (SUCCINUM.)

THE FOSSIL GUM RESIN.

Kerabo क़रबो *Kerabo* (Guz.) *Kahrubá* (Pers.) *Mishá hararuma*, *Kvaranulabahara* (Arab.)

Characters: It is of a yellowish colour, hard, and brittle. It is polished externally, semi-transparent or opaque, and resembles Copal gum. It is lighter than water, and friable in cold weather. It has a waxy or resinous appearance. It is highly electrical. When forcibly rubbed with linen, it acquires the power of attracting pieces of paper from a distance of 2 or 3 inches, and the pieces remain stuck to it for a few seconds. Some suppose it to be a vegetable resin, or a fossilized product yielded by pine. When ground or heated it emits a pleasant odour. It is soluble in hot water, *Kapura*, or boiling *Alasi tela*. The oil known as *Oleum Succini* is obtained by destructive distillation. It is volatile, colorless when pure, and becomes darker by exposure to the air. It has a warm acrid taste.

Preparations: Oil and paste.

Actions and Uses: As an antispasmodic and stimulant, it is given in several spasmodic diseases as whooping cough, amenorrhœa, epilepsy, hysteria, &c. It has a specific action on the generative organs. It is used in low fevers. As an astringent it is recommended in internal hæmorrhages. The oil is locally applied to painful rheumatic joints. It is rubbed over the spine to relieve convulsions in children.

Remarks: It is made into necklaces and other ornaments. The inferior kind is distilled for the preparation of oil.

There are two forms: *Kerabo Manakáno* and *Kerabo chhodáno*. *Kerabo Manakáno* is in the form of beads and of a superior quality. *Kerabo chhodáno* is in irregular flat pieces resembling slices of wood (*Chhodán.*)

- 660 R. *Kerabo* 1, *Bábula goṇḍa* 3, *Nisásto* or *Gahuṇ satva* 3, *Dudhyá bija* 3, *Kákadi bija* 3, *Gule anára* 2, *Akákiá* 1½, *Isapoghula* 2. Mix and prepare lozenges.
Dose : *drs.* ii.

Used in bleeding piles, amenorrhœa, hæmoptysis, hæmaturia, and intestinal hæmorrhages.

PINUS LONGIFOLIA.

THE RESIN.

Rajana राजा *Birajo*, *Biraji goṇḍa* (Guz.) *Alakusa sanobara* (Arab.)
Samaghe sanobara (Pers.)

Characters : The resin is semi-transparent. It occurs in pieces of various shapes and sizes. It is hard, light, and somewhat sticky. The colour varies from light yellow to light brown or red. The surface is smooth and shining. It is very brittle and easily pulverizable. The powder is crystalline, and of a pale yellow colour. The odour is hardly perceptible except when powdered. The powder has a strong and peculiar balsamic odour.

Preparations : Plaster, ointment, and pills.

Actions and Uses : *Rajana* is a diaphoretic and stimulant. It is in much repute as a remedy internally for gleet or long standing gonorrhœa. Locally it is used in the preparation of pectoral plasters. Its paste is applied to buboes and abscesses for promoting absorption. It is also useful as a fumigatory for unhealthy ulcers. Other actions and uses are similar to those of *Gugala*.

ODINA WODIER.

THE BARK AND GUM.

Shimpti gonda शिम्पटी गोंड The bark : *Shimpti chhāla* (Bom.)
Muya chhāla (Hind.)

Characters : The gum is met with in tears. It has a yellowish tinge. It is found in angular pieces. Each piece is marked with fissures. The taste is disagreeable and mucilaginous. The bark is of

an ash colour, scabrous, and fissured externally ; and fibrous, soft, and reddish internally. The fibres are covered with a reddish powdery substance. The taste is slightly astringent.

Preparations : Decoction of bark.

Actions and Uses : The bark and the gum resin are said to be astringent. They are used as a gargle for the mouth, also as a lotion for skin eruptions.

The bark mixed with Morgosa oil (Neem oil) is said to be a very useful application for old ulcers. The gum beaten up with brandy is used as an application to sprains and bruises. The leaves mixed with black pepper are an excellent application to rheumatic painful joints.

TAXUS BACCATA.

THE LEAVES AND FLOWERING TOPS.

Talisa patra तालिस पत्र The leaves : *Talisa páttra* (Hind.) *Talisa páttra* (Sans.) The plant : *Mañdu parani*, *Baráhmi* (Sans.) *Talisa*, *Barambhi*, *Sapani* (Hind.) *Bárami* (Bom.) *Zaranába* (Arab.) *Tálisá* (Beng. and Hind.) Yew (Eng.)

Characters : The drug is of a brown colour, and of an aromatic and somewhat acrid odour. The taste is acrid and somewhat bitter. It consists of pieces of stems, bark, wood, and leaves. The pieces of stems are from one to three inches long, and about 2 to 3 lines in thickness. The bark is brittle, and marked here and there with cracks. The surface is shining as if varnished. The wood of the stem is of a lightish white colour. The leaves are from 1 to 2 inches long, and about 2 to 3 lines in breadth. They are linear, flat, mucronate, and rigid. The upper surface is shining as if varnished, and slightly rugous. The under surface is marked with a prominent midrib. The margins are curved towards the under surface, thus giving the upper-surface a convex appearance towards the edges. A concave channel-like depression is seen on their upper surface, situated between the margins and the midrib on each side.

Preparations : Powder.

Actions and Uses : The leaves are a good substitute for digitalis. The powder is a stimulant, narcotic, expectorant, tonic, and astringent. As an expectorant it is useful in phthisis, bron-

chial catarrh, and asthma. As an astringent it is highly recommended in vesical catarrh. With *Aduso* and *Madha* it is given in hæmoptysis.

Dose : Of the powder, *gr. i* to *grs. v.*

Remarks: *Tálisa pátra* of Sanscrit writers can hardly be *Bárami*. In North-West Provinces the druggists sell *Bárami* under the false name of *Tálisa pátra*. In Jubalpore the drug sold under the name of *Tálisa pátra* is *Tamála patra*, which consists of leaves about 2 or 3 inches long, and from one to two inches broad. They have a slight aromatic odour, and a pungent taste. *Tálisádi churana* is especially recommended to promote digestion and assimilation, and consists of digestive medicines and aromatics combined with true *Talisa pátra*, while the therapeutic action of *Bárami* or the fictitious *Tálisa pátra* of Bombay bazaar is of a narcotic and expectorant nature. Hence the *Tálisa pátra* of Sanscrit writers is different from *Tálisa pátra* of the present day. The word *Zarana báda* means a narrow leaf of a dusty colour externally, and yellow internally.

TALISADI CHURANA.

661 *℞. Talisa pátra 5, Trikatu 5, Tabáshira 4, Elachi 6, Taja 6, Báñga bhashma 2, Támra bhashma 2, and Sákara 10. Mix and make a confection.*

Dose : *grs. x* to *grs. xx.*

Used in cough, hæmoptysis, asthma, indigestion, chronic fever, &c.

ZINGIBERACEÆ—The Suntha or Halada order.

In this order there are herbs, with creeping aromatic rhizomes, and broad, simple, long stalked, sheathing leaves with parallel veins. The flowers are fragrant, and in spikes. The fruits are from 1 to 3 celled, capsular, or baccate.

The plants are chiefly remarkable for their stimulant, and aromatic properties which reside in their rhizomes and seeds. These properties are due to the presence of resin and volatile oil. Several species are used as stomachic; some of them contain starch in large quantities.

ZINGIBER OFFICINALE.

THE RHIZOME.

Adu अदु The fresh rhizome : *Zaṅgebilarataba* (Arab.) *Zaṅjabilarata* (Pers.) *Adra* (Hind.) *Ádu* (Guz.) *Alu* (Mah.) *Aleñ* (Bom.) *Acla*, *Adreka* (Beng.) *Ardrakama* (Sans.) Fresh or green Ginger (Eng.) The dry rhizome : *Soṇṭha*, *Siṇḍhi* (Hind.) *Suṇṭha* (Guz.) *Soṇṭa* (Beng.) *Soṇṭa* (Duk.) *Suṇṭheka*, *Maháushadha* (Sans.) *Zaṅjabila yábisa* (Arab.) *Zaṅjabila-khusṭika* (Pers.) Dry Ginger (Eng.)

Characters : The rhizomes are of two kinds : fresh and dry. Both are tuberous, branched, knotty, and somewhat compressed on both sides. They are covered with a wrinkled epidermis. The odour is penetrating. The taste is acrid and pungent. The pungency is due to their containing an essential oil and resin. The fresh rhizome is juicy and of a darker colour. The dried rhizome abounds in fecula and woody fibre. The colour is brownish white. The taste and odour are pungent and irritating.

Preparations : Powder, infusion, syrup, paste, and confection.

Actions and Uses : The rhizome is acrid, carminative, heating, stomachic, expectorant, and rubefacient. The dry rhizome powdered and made into a paste with warm water is used as a counter irritant to the forehead in headaches. It is given internally in dyspepsia, piles, biliousness, rheumatism, affections of the throat and chest, and dropsy. The dried root is given as an adjuvan with laxatives.

Remarks : The Sanscrit word *Maháushadha* is derived from *Mahá*, highly, and *Sadha*, an efficacious medicine. This is in allusion to the ginger being a very efficacious remedy in various diseases.

Bana-ada बाना-अदु *Nisana* (Bom.) *Bánḍa* (Hind.) *Vána adra* (Sans.) *Zingiber cassumunar* (Eng.)

The rhizomes when fresh are jointed. Each is from 1 to 2 inches in diameter, and compressed. The surface is wrinkled and marked with numerous fleshy radicles, to some of which white tubers are attached. Externally the epidermis is scaly and dark brown. On section the interior presents a golden yellow colour. The odour is fragrant and *Kapura* like. The taste is hot and *Kapura* like. It resembles *Ámbá halada*. A paste of it is used as a remedy in diarrhoea and colic.

- 662 B. *Suñṭha* 5, *Bela* 6, *Kudá chhála* 5, *Motha* 5, *Nishota* 4, *Ativisha* 6, *Indrajava* 5, *Lavañga* 4, *Muráda siñga* 3, *Kariátuñ* 3, *Suvá* 4, *Dháná* 4. Mix and make a powder. Dose : grs. xv to grs. xxv.

Used in dysentery and diarrhœa.

- 663 B. *Suñṭha* 10, *Harade* 6, *Ativisha* 8, *Sonachala* 4, *Kávali* 3, *Hiñga* 3, *Ajamo* 4, *Jiruñ* 4, *Indrajava* 5, *Motha* 5, *Chitraka* 3. Mix and make a powder.

Dose : grs. xv.

Used in dysentery and mucous diarrhœa.

- 664 B. *Suñṭha* 3, *Taja* 3, *Sháhterá* 3, *Masataki* 3, *Ajamoda* 3, *Nimaka* 4, *Naramushka* 3, *Hiñga* 3, *Jáephala* 3, *Sumbula-ula-tiba* 1, *Kulaphá bija* 2, *Miri* 4, *Jiruñ* 5, *Lavañga* 2, *Elachi* 2, *Kálá miri* 2, *Pipali* 2. Mix, bake the whole over a fire, and make a powder.

Dose : grs. xv to grs. xxx.

Anupána : *Amali-no-kshára* or *Aghádá-no-kshára*.

Used in colic, indigestion, flatulence, chronic cough, and hiccough.

- 665 B. *Suñṭha*, *Taja*, *Erañda mula*, *Lavañga*, equal parts. Mix, make a paste and apply.

Used as an application to the head in neuralgic headache.

ELETTARIA CARDAMOMUM.

THE SEEDS AND CAPSULES.

Elachi ऐलचि *Elachi* (Guz.) *Iláyachi*, *Láechi* (Hind.) *Iláchi* (Beng.) *Elachi*, *Veladode* (Bom.) *Elá* (Sans.) Cardamoms, Grains of Paradise (Eng.)

Characters : The capsules are three sided, oblong, or somewhat roundish. They are of a yellowish brown or dirty white colour. They have a small curved stalk at the base. The stalk is curved on the same side with the capsule. The surface of the capsule is rugous, slightly wrinkled, and marked with longitudinal striæ. The seeds are closely packed in three rows, each row being separated by a thin membrane of a rich brown colour. The membrane is about two lines in length

and transversely rugose. Each row has generally five seeds. Each seed is with a depressed hilum. The surface is deeply channelled. The seeds resemble in shape those of Convolvulaceæ. They have a pungent, camphoraceous, agreeable flavour. Their taste is pungent, and leaves a sensation of cold upon the tongue when chewed.

Preparations : Seeds, paste, powder, and decoction.

Actions and Uses : The seeds are constantly used as a stimulant and masticatory, also as a powerful aromatic and diuretic. They are used for the same purposes as other carminatives. *Elachi* is a constant ingredient of *Pána-ni-bidi*.

Remarks : *Elachi dání* : These are the seeds of a species of *Amomum xanthioides*. The seeds are deprived of their capsules. They are less aromatic than those of true *Elachi*.

Badá iláchi : It is also known under the name of *Nara Elachi*. This species is the fruit of *Amomum subulatum*. It is very large and of a dark colour. The capsule is coarsely striated. The taste is less aromatic and less camphoraceous than that of *Kágadi*, *Kághazi*, or *Malabári Elachi*.

666 ℞. *Elachi* 15, *Jáephala* 10, *Jávañtri* 8, *Taja* 10, *Suñtha* 12, *Vácha* 8, *Ushaná* 6, *Sumabula-ula-tiba* 6, *Nágara motha* 8, *Miri* 8, *Pipali* 6, *Kapura káchari* 6, *Koshte tulkha* 8, *Lavañga* 8, *Masataki* 1, *Kabába chini* 6, *Agara* 8, *Dárunaj-e-akrabi* 6, *Sakákula misari* 8, *Turañja bina* 6, *Nága kesara* 1. Mix and make a powder. Dose : dr. i.

Anupána : Sákara.

Used in dyspepsia, anorexia, sleeplessness, and seminal debility.

667 ℞. *Elachi*, *Kherasála*, *Kabába-chini*, *Hirádakhana*, *Tamakhira*, *Barása kapura*, equal parts.
Used as an application with honey in sore mouth.

ELADA CHURANA.

668 ℞. *Elachi* 5, *Rála* 2, *Motha* 4, *Pipali* 3, *Ratáñjali* 2, *Lavañga* 2, *Nága kesara* 1. Make a powder.
Dose : grs. x to grs. xx.
Used to check vomiting.

CURCUMA LONGA.

THE RHIZOMES.

Halada هالدة *Haladara* (Guz.) *Halada*, *Haladi* (Hind.) *Holodi* (Beng.) *Haridrā*, *Rajani Nishā* (Sans.) *Halade* (Mah.) *Haladi*, *Karakuma*, *Urukusasabāghina*, *Zarasuda* (Arab.) *Dāra-zarda*, *Zarda chobah* (Pers.) Turmeric Curcuma (Eng.)

Characters : The rhizome is hard, from 1 to 2 or 2½ inches long, and from 4 to 6 or 8 lines in breadth. It is more or less arched, ovoid in shape, elongated, and narrowed at both ends. From the body of the rhizome project laterally small knotty tubercles of a roundish form. The surface is wrinkled, rough, of a dark, brownish, or yellow colour, and marked with scars of rootlets and rings of fallen leaves. On section the cut portion is resinous, and presents a distinct ring separating the outer from the central portion. The interior is of a deep orange red colour. The outer portion is darker and of firmer consistence. The smell is peculiar and aromatic. The taste is resinous, acrid, and rather oily.

Preparations : Paste, powder, medicated oil, and *Kuṅkuṇ*.

KUNKUN : १३ : Dried rhizomes are soaked in water for a few minutes, when the outer layer gets loose and can be removed. The decorticated mass when dry is added to the paste made of *Taṅkaṇa khāra* and *Pāpaḍa khāra* in lime juice. The whole is dried in the sun. In this state it is known by the name of *Khāṇḍi* (Guz.), when reduced to a very fine powder it is called *Kanakhi* or *Kuṅkuṇ*. Hindus use it for *Tilā* on their forehead.

Actions and Uses : The rhizome is a cordial and stomachic. When mixed with *Gora tela* it is applied to the whole body to prevent skin eruptions. With *Kali chuno* the powder of it is applied to bruises, sprains, contused wounds, black eye, &c. with relief. A paste of it stops bleeding from leech bites &c. A decoction of it is used as a cooling lotion in conjunctivitis. Boiled in milk and sweetened with *Sūkara*, turmeric is a popular remedy for cold. The fumes of burning turmeric applied into the nostrils cure coryza. Internally *Halada* is given in affections of the liver and jaundice. On account of its yellow colour, cloth dipped in its paste is employed as an eye shade. It is used in urinary diseases, also with *Sāji khāra* as an external application to reduce indolent swellings. The powder mixed with *Ghee* and *Kumāra-no-rasa*, is given to relieve cough.

Remarks : The small tubercles growing from the body of the rhizome are, when detached, sold under the name of round turmeric. The rhizomes separated from the tubercles are sold as long turmeric.

Halada is one of the coloring or dyeing agents. The Sanscrit word *Rājani* is applied to this as to any other dyeing agent. It is derived from *Rāja*, colour. The word *Rājani* is also applied to night, to which Hindu mythology attributes a dark colour. The word *Nishā* another word for night, is also applicable to *Halada* which is yellow while according to mythology night has a dark colour.

Amba halada अम्बा हलदे *Haradala*, *Ámbá halada*, (Guz.) *Ambe haladi* (Duk.) *Rána halada* (Bom.) *Bána haladi*, *Jaṅgali haladi*, *Anabe haladi* (Hind. and Beng.) *Vána haridra*, *Shati* (Sans.) *Ambi haleda* (Mah.) *Curcuma aromatica*, Round Zedoary (Eng.)

It consists of a dry rhizome which is very hard, oblong, rather ovate, from 2 to 3 inches long, and from $1\frac{1}{2}$ to 2 inches in diameter. The surface is wrinkled and hairy. Near the surface there are circular rings which are marks of fallen leaflets, and scars of fallen rootlets with other slender rootlets attached. On section, the cut portion exhales a camphoraceous and *Jámbula* like fragrant odour. It consists of a homogeneous dark coloured resin. The colour becomes fainter as it approaches the surface. The cut surface presents a ring which separates the central from the marginal portion. In old rhizomes the starchy portion of a yellow colour predominates, while here and there a trace of resinous substance is seen. The taste is oily and balsamic. Its actions and uses are similar to those of *Halada*. A paste of it with *Revañchino siro* and *Bedání saphedi* is used as an external application for bruises, sprains, &c. As a carminative it is given internally in fever and skin diseases. Like *Halada* its chief use is as a dyeing agent.

Amba haladi अम्बा हलदी *Amba haladi* (Hind.) *Áma-ki-bo-ki-adraka* (Duk.) *Pholiya* (Beng.) Mango tree, *Curcuma amada* (Eng.)

It is often sold by herbalists under the name of *Asuñda*. It is smaller in size than the rhizome of *Ambá halada*. It is characterized by a peculiar smell resembling that of raw or green mango. On section it is pale yellow in colour. The taste is acrid and astringent.

Kali-halada काली हलदे *Nara-kachura* (Bomb.) *Sara-kachura*, *Káli haladi* (Hind.) *Nilakañtha* (Beng.) *Curcuma cæsia* (Eng.)

It consists of tubers which in size resemble those of *Haḷāda*. The colour is lightish brown externally, and greyish black within. The surface is wrinkled, hard, and marked with irregularly longitudinal furrows, and with traces of scars of rootlets and of fallen leaves. On section it is homogeneously greyish black, and marked with a circular ring. The odour is camphoraceous. The taste is peculiar and resembles that of *Āmbā haḷāda*. Its paste is applied externally to bruises, contusions, and rheumatic pains.

Kachura कचुरा *Kachura* (Hind.) *Kachora* (Mah.) *Kāchura* (Guz.) *Aurakula kāphura* (Arab.) *Zhuranabāda* (Pers.) *Shuthi*, *Kachora* (Beng.) *Gāṇḍha maoli*, *Karachura*, *Kachhuraka* (Sans.) *Curcuma Zerumbet*, *Long Zedoary* (Eng.)

The rhizome is oblong, pearl coloured, and solid. It occurs in circular slices of a greyish brown colour. On the margin each slice presents traces of rootlets and of the epidermis. The surface is concave and marked with a ring which is nearer the margin than towards the centre. It has a camphoraceous, bitter, tingling taste. The odour is highly camphoraceous. It is one of the ingredients of various alterative decoctions. It is used in preparing odoriferous incenses known as *Abira*. Mixed with powdered wood of *Putāṅga*, a red powder known as *Gulāla* (Hind.) *Phāga* (Beng.) is prepared.

Remarks: The word *Aurakula-kāphura* means the spirit or liquor of camphor. *Kachura* is so named in allusion to its *Kapura*-like smell.

669 B. *Haḷāda* 10, *Ghee* 10, *Milk* 20. Make a paste and boil; when ready add *Trikatu*, *Taja*, *Elachi*, *Teja-pātra*, *Vāvadiṅga*, *Nishotara*, *Triphalā*, *Motha*, *Nāga kesara*, *Maṇḍura*, each 6 parts. Make a confection. Dose: *drs. ii* to *drs. iii*.

Used as a blood purifier in urticaria, prurigo, boils, and chronic skin eruptions.

HEDYCHIUM SPICATUM.

THE RHIZOME.

Kapura kachari कचुरा कचुरी *Kāphura Kachari*, *Kapura-kachari* (Hind. and Beng.) *Vilāeti Kachura* (Duk.) *Kapura kāchali* (Sans.)

Characters : The rhizomes are in circular slices. Each piece is from $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter. The margin is rugous, wrinkled, of a brownish red colour, and marked with white rings and traces of rootlets, some of the rootlets are also present. It is slightly convex on both surfaces. The colour of the rhizome is white. On section it is homogeneous and full of starch. The starch is powdery, granular, and contains sparkling globules. The smell is peculiar, agreeable, and highly aromatic. The taste is mucilaginous, warm, and aromatic, but not peppery, leaving a tingling sensation behind. In smell, taste, and colour it resembles *Kachora*.

Preparations : Paste, powder, and decoction.

Actions and Uses : These are similar to those of *Kachurá*. The rhizome is used in the preparation of cosmetic powders. It is also useful to promote the growth of hair. It is a chief ingredient in the three kinds of *Abira* : 1. White *Abira* is made of *Kapura Káchari*, *Válo*, *Chañdana*, and *Tavakhira* or flour of *Soraghama*. This is kept by women as a perfume in their boudoir. It is also used as an ingredient of hair wash. 2. *Ghisi Abira* (Hind.) *Padi abira* (Guz.) It contains in addition to the above ingredients, the seeds of *Padma káshta*, *Devadára*, *Davaná*, *Jadavára*, *Elacki*, and *Lavañga*. 3. Black *Abira* or *Bukka* of Deccan. In addition to the ingredients used in the preparation of *Ghisi Abira*, it contains *Upaleta*, *Jatámánasi*, *Lobána*, and *Agara*. Another scented powder known as *Vása khepa* or *Vása kshepa*, consists of *Chañdana*, *Kesara*, *Kasaturi*, and *Barása kapura*.

Remarks : The word *Kapura kachari* is derived from *Kapura*, camphor, and *Kachari*, *Kachura*. The name is given in allusion to the camphoraceous smell of the Long Zedoary. The word *Abira* means a scented powder used by the Hindus in worship and as a perfume. *Viláeti Kachora* means Foreign Long Zedoary. It resembles Zedoary.

ALPINIA OFFICINARUM AND A. GALANGA.

THE RHIZOME.

Kulanjana $\frac{3}{4}$ *Chhotá kolañjana* (Hind.) *Kuñjara káthi* (Sind.) *Chini Kolañjana*, *Kulijana*, *Chhotá* or *Kálá Pána-ki-jara* (Hind., Beng. and Bom.) *Kulañjana* (Sans.) *Khulañjana* (Arab.) *Khusaro dāru* (Pers.) Lesser galangal, Chinese galangal (Eng.)

Khulañjāne-kabira (Arab.) *Khusarava dāruī kalāna* (Pers.) *Bará Kalañjana* (Beng.) *Bará Khulañjana* (Duk.) *Dumaparásatma* (Sans.)

Bari pána-ki-jara, *Bará kulanjána*, *Kostha kulanjana* (Hind.) *Bará* or *sapheda Pána-ki-jara Bará kaliñjana* (Bom.) *Alpinia galangal*, Greater galangal, Java galangal (Eng.)

Characters : The greater and less galangal are generally known in India as the roots of Betel leaf plant, although the root of *Pána* has no resemblance whatever to *Kolanjana*.

Chhoti Kolanjana : The dried rhizomes are as thick as the little finger. They are about two inches long. The colour resembles that of *Taja*. In shape they are long and irregularly bent, thus resembling *Suntha*. The surface is marked with circular rings, which are the remnants of radical leaves, and here and there presents traces of rootlets and branches. On section the interior is homogeneous, of a reddish brown colour, and contains fibres and fecula. Its odour is peculiar and aromatic. The taste is hot and spicy, resembling that of *Pipalimula*.

Bari Kolanjana : Its rhizome resembles in many respects the lesser galangal. In size *Bari* galangal is larger and irregularly knotty. Externally the surface is brownish black. Like lesser galangal, it is homogeneous and fibrous. On section the colour is dirty white. The odour and taste resemble those of *Kutha* and hence it is also known as *Kushta kaliñjana*.

Preparations : Powder, paste, and decoction.

Actions and Uses : *Kolanjana* is a tonic, aromatic, hot stomachic, and carminative, also a local and general stimulant. It relieves flatulence, allays vomiting of indigestible food, and checks fever. Given to young children it makes them talk early. It is also an aphrodisiac. A paste of the powdered drug made with oil or water and applied to the face removes freckles.

Dose : *grs.* xx to *grs.* xxx.

Remarks : The root of lesser galangal is called Java galangal because it is a native of Java. *Kaliñjana* is a corruption of the Arabic word *Khulanjana*. From its pungent and aromatic taste, it is supposed by the natives to be the rhizome of *Pána*. The druggists paint the rhizomes when old with clay (*Ráti máti*) to imitate their natural colour. It is one of the ingredients of Warburg's tincture.

CURCUMA AUGUSTIFOLIA.

THE TUBERS.

Tavakhira তবখিরা *Tavakhira*, *Tikora* (Hind.) *Tikhura* (Beng.)
East Indian Arrowroot, Curcuma Starch (Eng.)

Characters : The bulb is oblong, pendulous, and of a pale colour. From the root a kind of starch is prepared. When dried and powdered it is the chief source of arrowroot in India. Milk-men add this powder to milk in order to make it appear less watery.

Preparations : Arrowroot, confections, and *Cāñji*.

ARROW ROOT : The root is dug up, rubbed on a stone, or beaten in a mortar, and then rubbed in water with the hand or strained through a cloth, the fecula having subsided, the powder is poured off and the *Tikora* dried for use.

Actions and Uses : The powder is a nice nutritive and restorative. It is used for the same purposes as arrowroot. It is most palatable and digestible.

Remarks : *Tavakhira* is also a name given to powdered tobacco or to tobacco snuff. This should not be confounded with powdered arrowroot. *C. leucorrhiza* and *C. erubescens* are said to be the sources of E. I. Arrowroot or Maranta Starch. Arrowroot means bruised rhizomes employed by native Indians as an application to poisoned wounds inflicted by arrows.

ORCHIDACEÆ—The Salamamisari order.

The plants of this order are terrestrial or epiphytical, with fibrous or tuberculated roots. The leaves are entire, generally thick, and sheathing. The flowers are irregular, showy, and of various colours, followed by capsular fruits.

Properties : Some of the plants are aromatic and fragrant, others have nutritious roots.

TYLOPHORA ASTHMATICA.

THE ROOT.

Rasana रासा *Jaṅgali pikavāna* (Hind.) *Pitakāri* (Duk.) *Kharakī Rāsānī* (Bom.) *Gāndhana kuli* (Sans.)

Characters : *Kharakī rāsānī* is sold in bundles of about 20 or 30 roots, each root being 6 to 7 inches long and an inch thick. The roots are of a pale white or brown colour. They are slender and wiry. The thickest root is about two to three lines in width. The root bark is wrinkled, longitudinally fissured, and here and there marked with scars of fallen rootlets. In a few cases the slender

rootlets still exist. On section the root is brittle. The wood of the root is light and porous, and has a somewhat aromatic and acrid smell. The taste is slightly bitter.

Preparations : Infusion, and powder.

Actions and Uses : In large doses the root acts as an emetic. In small doses and often repeated it is a purgative. It is used with great success in dysentery. It is also an expectorant and diaphoretic. It is highly reputed as an alterative and as a purifier of blood, and is given in rheumatism. It is a bitter aromatic and stimulant. It is given to increase lochia in parturient women. It is also used in syphilitic rheumatism. Locally it is soothing, and applied to relieve gouty pains.

Doses : Of infusion, to children, as an emetic, *dr.* $\frac{1}{2}$.

Remarks : The root is a good substitute for Ipecacuanha and Indian Sarsaparilla. Under the name of *Rásaná* a brownish coloured fictitious root in size resembling the little finger is sold. The bark of this root is soft and brittle. The wood is porous and arranged in wedges. The root has a *Jatámánasi* like odour. The taste is acrid. This drug is described by some authors under the name of *Vanda Roxburghii*, but this is doubtful. It is called *Khadaki Rásaná* as it is found to grow in the crevices of rocks.

670 *B.* *Rásaná* 6, *Dhamáso* 4, *Chikaná páta* 5, *Erañda mula* 6, *Devadára* 6, *Vekhāñda* 5, *Aduso* 4, *Suñṭha* 6, *Himaja* 6, *Chavaka* 5, *Motha* 6, *Punaravárá* 4, *Gulevela* 4, *Veradháro* 4, *Variáli* 6, *Gokharu* 6, *Asana* 6, *Ativisha* 6, *Garamálo* 3, *Satávari* 4, *Pipali* 5, *Halada* 4, *Dháná* 6, *Riñgani* 4. Make a decoction.
Dose: oz. i.

Used in chronic rheumatism, gout, paralysis, lumbago, and chronic nervous diseases.

EULOPHIA COMPESTRIS.

THE ROOT.

Salama misari सलम मीसरी *Sálama misari* (Guz.) *Sálaba-misari* (Hind.) *Sálama misari* (Mah.) *Chhále michhai* (Beng.) *Sálaba misari* (Pers.) *Khusiu-utha-uthálaba* (Arab.) Oriental salep (Eng.)

Characters : The root is hard and horny. It is amber coloured, often whitish, opaque, and somewhat translucent. The taste is

mucilaginous or gumlike. It occurs in various forms, and is either from 3 to 5 branched or single bulbed. Externally it is rugous. On section it is smooth and homogeneous. The cut portion is sticky when touched. When boiled with milk it emits an odour resembling that of *Semen hominis*.

Preparations : Powder and confection.

Actions and Uses : It is a powerful aphrodisiac, also a nervine restorative and tonic. It is prescribed in seminal debility, paralytic affections, &c. It is very nutritive and astringent. It confines the bowels and hence is useful in diarrhœa in children.

Remarks : Three kinds of *Sálama* are generally met with : *Pañjābi-sálama* is Palmate or branched; *Bādashái* or *Basarai-sálama* with one bulb large and ovoid, and *Lasanio sálama*. The last is small or ovoid, and resembles in shape and size a bulb of *Lasana*. The smell is alliaceous when the tubers are allowed to swell in water. All these roots are decorticated before being dried. The most important constituent of *Sálama* is mucilage or starch. An imitation of these tubers made of wheat flour is sold under the name of *Banāvati Sálema*. The word *Khusiu-utha-uthalaba* means Fox's testicle.

KATTANA BATRISANA.

- 571 R. *Sálama* 5, *Dholi musali* 5, *Káli musali* 4, *Ekhará-ná-bija* 1, *Gokharu* 2, *Balabija* 2, *Kavacha* 1, *Satávati* 2, *Kamarakasa* 2, *Trikatu* 1, *Kulaphá-ná-bija* 1, *Niraguñdi* 1, *Vaṇsalochana* 1, *Asana* 2, *Sakákula misari* 2, *Behaman-i-sapheda* 1, *Behaman-i-surkha* 1, *Ajamo* 2, *Suvá* 2, *Taja* 3, *Elachi* 2, *Jáephala* 1, *Jávañtri* 1, *Vavadiṅga* 2, *Akalakaro* 1, *Asálio* 1, *Leñdi pipali* 2, *Pipali mula* 2, *Ispaghula* 4, *Khasakhasa* 4, *Bávalio-goñda* 4, *Siṅgodáñ* 2, *Kesara* 1, *Pobadi* 2, *Sákara* 15. Mix and make a confection.

Dose : *drs.* ii to *drs.* v.

Borah druggists omit from the confection *Ispaghula*, *Niraguñdi*, *Sakákula misari*, and *Behaman-e-surkha*, and add *Nága kesara*, *Tamálapatra*, *Mudanamasta*, *Mocharasa*, *Máephala*, *Methi*, *Kháraka*, *Lavaṅga*, *Sapheda Miri*, *Kapura*, *Pána-ni-jada*.

Used in seminal debility, chronic diarrhœa, and general weakness in debilitated women after delivery.

- 672 B. *Sálepa misari* 10, *Musali sapheda* 8, *Madana masta* 6, *Behaman-i-surkha* 6, *Suñṭha* 6, *Todadi sapheda* 4, *Todadi surkha* 4, *Gokharu* 8, *Siṅgodāñ* 10, *Ekharo* 6, *Balabija* 6, *Rumi mastaki* 4, *Kathira-goñda* 8. Mix and make a confection. Dose : oz. i to ozs. ii. Used in diabetes and seminal weakness.

IRIDACEÆ—The Kesara order.

This order is composed of herbaceous plants. Usually the plants are with bulbs, corms, or rhizomes. The leaves are with parallel and straight venation. The flowers are regular or irregular. The fruit is capsular and three celled. The seeds are numerous. The albumen is hard and horny.

Properties : The rhizomes are acrid, and hence used as a purgative, emetic, &c. Some tubers are carminatives and antispasmodics; others are used as colouring agents.

IRIS GERMANICA.

THE ROOT OR RHIZOMES.

Bikh-i-sostana *𑂔𑂗𑂢𑂰 𑂔𑂰𑂔𑂰𑂔𑂰* *Bekh-i-banaphasháh* (Pers.) *Irsa* (Arab.) *Kevará-nu-mula* (Guz.) *Bálvaekhañda* (Bom.) *Orris root* (Eng.)

Characters : The root occurs in pieces. Each piece is of a greyish brown colour. It is hard and compressed. The bark is wrinkled externally where it is marked with scars of rootlets. On section the cut surface resembles in appearance and colour *Dárunaj-e-akrabi*. The smell resembles that of *Tagara gañthodá*. The taste is acrid and slightly bitter. It is also starchy.

Preparations : Paste and powder.

Actions and Uses : The root is a deobstruent, aperient, and diuretic, and useful in removing bilious obstructions. It is also used externally as an application to sores and pimples.

Remarks : The word *Bekh-i-banaphasháh* means the violet root. The true drug in no way resembles *Banaphasháh* which is a species of *Viola*. It is also known to druggists by the name of *Bikh-i-sostana* or *Bekh-i-kevará*.

CROCUS SATIVUS.

THE STIGMATA.

Kesara कसरा *Kumakuma*, *Kesara* (Hind.) *Kesara* (Bom. and Beng.) *Kesara-ke-phula* (Duk.) *Kesare* (Mah.) *Kumakuma*, *Sanaraba* (Sans.) *Zápharína* (Arab. and Pers.) *The Saffron* (Eng.)

Characters : *Kesara* is of an orange red colour. It consists of styles and stigmas. The style is from $\frac{1}{2}$ to 1 inch long, and of a yellowish colour. Upon the style 3 long and rather twisted stigmas rest. The stigmas are thread like, narrow towards the base, and broad and partite or crenate at the apex. The colour of the stigma is deep orange red. The odour is highly aromatic, stimulating, and narcotic. The taste is mucilaginous, slightly bitterish, and pungent.

Preparations : Confection and pessaries.

Actions and Uses : *Kesara* is said to be invigorating and preservative of the body. It is used both externally and internally. Pessaries of saffron are used in painful affections of the uterus. It is an aromatic, anodyne, and antispasmodic, also a stimulant for the pelvic organs. As an emmenagogue and aphrodisiac it is given in anæmia, chlorosis, and seminal weakness. It gives the urine a yellow colour. As a carminative it is useful in relieving flatulent colic. It allays the pain of dysmenorrhœa. It is an efficient remedy in spasmodic cough and asthma. Owing to its containing volatile oil, it is useful in rheumatism and neuralgic pains. Externally a paste of it is useful in removing bruises and superficial sores. It is an excellent palliative for hæmorrhoids. It is given to children in *Ghee* in looseness of the bowels.

Dose : grs. v to grs. xx.

Remarks : Two kinds of *Kesara* are found in the bazaar, called *Khotti* and *Sáchchi Kesara*. *Khotti kesara* is in thin, lightish red, long threads mixed with very small portions of broad styles.

673 *Kesara* 2, *Afima* 2, *Lavañga* 4, *Miri sapheda* 10, *Khorásáni ajamoda* 10, *Akalakaro* 10, *Hab-ula-bálesána*, *Tukhm-i-karaphsa* 1, *Sunṭha* 2, *Kachulá* 10, *Pharaphiyuñ* 12, *Badáma-nu-tela* 20, *Madha* 20.

Dose : grs. xx.

Used in chronic diarrhœa, chronic discharges, and seminal weakness.

IRIS PSEUDOCORUS.

THE RHIZOME.

Pakhanabheda lakari *ਪਾਖਾਨਾਬੇਦਾ ਲਾਕਾਰੀ* *Pakhanabeda-lakari* (Guz.)

Characters: The drug is found in circular pieces. Each piece is about half an inch to an inch in length and of a dark brown colour. The bark is scaly, highly wrinkled, and here and there marked with scars of fallen rootlets. It is easily separable. The wood is hard. On section it is granular and resinous looking. In colour and appearance it resembles *Chobachini*. The taste is somewhat acrid and astringent. The odour is slightly aromatic.

Preparations: Decoction and powder.

Actions and Uses: It is useful as a diuretic in hepatic disorders. It is also used as an aromatic and stimulant. The drug is seldom used alone.

Remarks: It is called *Pakhanabeda lakari* to distinguish it from the mineral *Pakhanabeda*.

PALMÆ—The Sopari order.

These are trees or shrubs. The stem is straight, slender, and rarely branched. The leaves are large, with sheathing stalks (feather like), and terminal. The flowers are unisexual or perfect, arranged generally on a branched spadix which is enclosed in a large boat shaped spathe. The fruits are drupaceous, baccate, or nut like. The seeds are albuminous. The albumen is fleshy or horny, often ruminated.

Properties: This order is highly useful both for dietetic and economic purposes. Several species yield sugar, oil, starch, wax, resin, astringent matters, and wines. Some bear edible fruits and seeds. The leaves are used for matting, thatching, in the manufacture of hats, &c.

ARECA CATECHU.

THE KERNEL.

Supari *ਸੁਪਾਰੀ* *Sopari* (Guz.) *Suppári* (Hind.) *Suppári* (Mah.) *Sopári*, *Hopári* (Guz.) *Supári* (Duk.) *Shupári* (Beng.) *Puñgiphalama*, *Guvaka kramuka* (Sans.) *Phauphala* (Arab.) *Girdachoba*, *Pupala* (Pers.)
The Areca or betel nut (Eng.)

Characters : The nut has the shape of a very short rounded cone. It is depressed at the centre of the base. On section it presents white ruminated albumen traversed by a net work of veins.

Preparations : Powder, slices, and paste.

Actions and Uses : As an aphrodisiac and astringent, it is recommended in calculous affections. It is a masticatory of great antiquity. When masticated it sweetens the breath, strengthens the gums, prevents perspiration, and acts as a stimulant and astringent upon the whole body. The powder obtained by calcining the nut, is used as a tooth powder. Dried expanded leaf stalks are used as splints.

Remarks : *Sopári* is of various colours, shapes, and sizes. That known as *Severadháni sopári* is the largest, of a greyish white colour, and sweet in taste; and is reputed to be of a very superior quality.

Vasai-ni-sopári comes from Bassein. Its colour is red. In shape it is globular and somewhat depressed. In size it resembles the *Severadháni*. The taste is bitterish and astringent. When chewed it increases the flow of saliva. The nuts are marked with a lunar crevice. They are softer than other varieties.

Chikani sopári : The nut is of a brownish dark colour. The surface is seldom cracked. The nut is very small in size, tough, and depressed on both surfaces. The taste is glutinous. It is most frequently used by both Parsee and Dukhani Hindu young girls, with great relish.

Aradhi sopari अरधी सूपरी *Aradhi sopári* (Guz. and Bom.) *Bhirali máda* (Bom.) *Caryota urens* (Eng.)

It is a fruit which consists of two nuts jointed together so as to form one whole *Sopári*. When separated each nut resembles in shape half a *Sopári* cut into two pieces. The nut is of a chestnut colour, shining, and smooth. Externally it is marked with reticulations or ribs which proceed from an attachment at the base and join at the top. On section it resembles in appearance common *Sopári*. Natives use it as a paste to apply to the forehead in-hemicrania.

Remarks : *Khoti aradhi sopári* (fictitious) is nothing more than a common *Severadháni sopári* cleverly glazed so as to resemble *Bhirali máda*.

LODOICEA SEYCHELLARUM.

THE KERNEL.

Daryai-nariyela दरीयै नरीयै *Daryái-ká-nariyala* (Hind.) *Jaharínárialá* (Bom.) *Narajil-i-bahari* (Arab.) *Narajil-i-daryái* (Pers.) Marine cocoanut (Eng.)

Characters: It occurs in broken pieces. Each piece is hard and horny. Its external surface is of a brownish red colour. The albumen is white or yellowish white, homogeneous, and extremely tough, resembling ivory. In smell it resembles rancid *Koparun*.

Preparations: Paste.

Actions and Uses: The kernel is a tonic and stomachic. With rose water it is given in indigestion, diarrhœa, and for the relief of colic. A paste of it with *Sábarasīnga* and *Kuchalá* is a popular local application to swollen glands.

Dose: Internally, *grs.* ii to *grs.* iii.

Remarks: The shell is often used by *Jogis* as a vessel for holding water.

CALAMUS DRACO.

THE RESIN.

Hiradakhana हिरादखना *Hirádakhana* (Bom.) *Hiradukhi*, *Jaidárumi* (Hind.) *Katira-uda-dáma*, *Dama-ula-tinnina*, *Dama-ula-akhavena* (Arab.) *Khun-i-siyovashána* (Pers.) Dragon's blood (Eng.)

Characters: It occurs in irregular pieces of a dark red colour. The surface is shining and covered over with a reddish powdery substance. On section the cut surface resembles black varnish. It is very brittle, and can be easily reduced to a coarse powder when pressed between the fingers. The powder is red and rather sticky. The taste is sweetish and resinous, and resembles that of *Rájana*.

Preparations: Powder, and compound decoction.

Actions and Uses: As an astringent it is given in diarrhœa, dysentery, bleeding piles, and internal hæmorrhages as hæmaturia, hæmoptysis, &c. The powder is used in the preparation of tooth paste.

Remarks: The word *Dama-ula-akhavena* means blood of the two brothers; *Dama-ula-tinnina* means Dragon's blood; and *Katira-uda-dama*

means a gummy distillation of blood. *Khuna-i-siyavashāna* means blood of incestuous lovers. Syavasa the father of Cyrus is said to have been in love with his stepmother. The Liliaceous plant *Dracena draco* and the Leguminous one *Pterocarpus draco* both produce a similar substance.

674 *℞. Hirá dakhana drs. ii, Phataki dr. i, Dádama phula dr. i, Bábula goñda drs. ii, Tukhm-i-kulphá dr. i, Afima grs. x.* Rub all the ingredients into a fine powder. Dose : *grs. xx to grs. xl.*

Used in chronic dysentery, and hæmorrhages from the bladder, piles, lungs and kidneys, &c.

675 *℞. Hirá dakhana 1 part, Rumi mastaki ½ part, Hiñgalo ½ part, Rála ½ part.* Mix and boil all the ingredients in *Koparele tela*.

Used over suppurating buboes and other indolent swellings.

PHENIX DACTYLIFERA.

THE FRUITS.

Khajura ^{خاجرة} The tree : *Khajuri* (Guz.) *Señdi* (Mah.) Date palm (Eng.) The ripe fruit : *Khajura* (Bom.) *Khajura* (Guz.) *Khara-juraha* (Sans.) *Kejura* (Hind.) *Khuramá* (Beng.) *Khuramála yábisa* (Arab.) *Khuramála khushka* (Pers.) The Date (Eng.) The dried fruit : *Kháraka* (Bom.)

Characters : *Kháraka* is cylindrical, drupaceous, and covered with thin brown pedicels. Its external surface is much wrinkled. On section it contains a rich, succulent, sugary pulp. Within it is imbedded a bony seed. The taste is sweet and mucilaginous. It has no odour. *Khajura* is ripe, lumpy, and sticky. The pulp is more juicy than in *Kháraka*.

Preparations : Confection and poultice.

Actions and Uses : *Khajura* is a nutritive, and used as dessert. *Kháraka* is used as an ingredient in various aphrodisiac and tonic confections. Boiled with milk it is given especially during con-

valescence from fevers and small-pox. Toddy is obtained from the stem. It is a good diuretic. A spirit known as *Khajura-no-dáru* is obtained by distillation of the fruits.

ARACEÆ—The Madanamasta or Surana order.

In this order there are herbs or shrubs, with an acrid juice, and subterranean tubers, corms, or rhizomes. The leaves are sheathing, usually without veins, simple, or rarely compound. The flowers are small, either males or females, and arranged on a spadix within a spathe. The fruits are succulent. The seeds are pulpy.

The plants of this order are more or less acrid, often highly poisonous. The acrid principle is frequently volatile or decomposed by heat. The acrid matter is commonly soluble in boiling water. Starch is usually associated with the acrid principle, but when extracted, it may be used like other starchy substances.

AMORPHOPHALLUS SYLVATICUS.

THE CORM.

Madanamasta मदनमस्ता *Madana masta*, *Jaṅgali surana* (Bom.)
Arsaghna (Sans.)

Characters : The tubers when peeled and cut into segments are known under the name of *Madana masta*. They are of a reddish brown colour, wrinkled, and shrunken. Each segment is from 2 to 3 inches long and about an inch broad. It is hard and homogeneous, also brittle. It is entirely composed of starch. The taste is mucilaginous and acrid, resembling that of *Sálama*.

Preparations : Powder and confection.

Actions and Uses : The tuber is said to be useful in piles. It is supposed to have a restorative action.

Remarks : Pieces of the tubers are generally threaded upon a string and hung in shops. The word *Madana masta* is probably derived from the Sanscrit word *Madana*, which means intoxicated, and *Masta*, very powerful. It signifies that the drug when taken acts as a powerful aphrodisiac.

ACORACEÆ—The Vekhanda or Vaja order.

This order is a division of the Natural Order Araceæ. In this order there are herbs with broad or sometimes ensiform leaves and hermaphrodite flowers. The flowers are arranged on a spadix. They are with or without a spathe. The fruits are baccate. The properties of this order are similar to those of Araceæ. Both are acrid, but the acidity may usually be got rid of by drying or by heat. The rhizomes of some are aromatic and stimulant, of a few others, antispasmodic, expectorant, and diaphoretic.

ACORUS CALAMUS.

THE RHIZOME.

Vaja or *Bacha* (Hind.) *Sapheda bach* (Beng.) *Gaṇḍa-ki-lakari*, *Vacha* (Duk.) *Vekhaṇḍa* (Mah.) *Agre turki* (Pers.) *Vajaṇḍa*, *Ud-ul-vajja* (Arab.) *Vachá* (Sans.) *Vája* (Guz.) *Dudhyá vaja*, *Bálá vaja*, *Gora vaja* (Hind.) Varieties of sweet flag (Eng.)

Characters : The rhizomes occur in somewhat tortuous, sub-cylindrical, or flattened pieces of varying length, usually rough, and shrunken, the colour varying from dark brown to pale brown. One side is marked with numerous broad and transverse scars the remains of leaflets ; the other side is tubercled, or marked with remains of fallen rootlets. On section the interior is pale brown or of a pink colour, and very minutely porous. It breaks easily with a short corky fracture. It emits a very sweet, aromatic, and agreeable, but heating odour. The taste is bitterish and very pungent.

Preparations : Powder, infusion, and paste.

Actions and Uses : *Vekhaṇḍa* is an emetic in large doses. It is a carminative, stimulant, and tonic in small doses. As a stimulant it is usually combined with vegetable bitters and aromatics, and given in paralytic and nervous affections. As a deobstruent and depurative it is useful in parotitis, dropsy, and many other glandular diseases. It is an ingredient of various aphrodisiac confections. As a poultice it is applied to paralysed limbs and rheumatic swellings. *Bálávacha* is given to children to bite during teething. Its action is similar to that of a soothing syrup. Internally it is given in capillary bron-

chitis and cough. It acts by setting up emesis. *Gorá vaja* is used as a diuretic in calculous affections and as an anthelmintic in worms in children. As an astringent the drug is very useful in dysentery and diarrhœa.

Dose: Of the paste, $\frac{1}{2}$ dr. as an emetic for children.

Remarks: The word *Gorá vaja* is derived from *Gorá*, *Ghodá*, which means a horse, and *Vaja*, a corruption of the Sanscrit name *Vácha*, which is the name of the drug. It is called *Ghodá* in allusion to its fiery or biting properties when tasted. There is another variety known by the name of *Bálá vacha*. It is not so fiery and is used for *Bálá* or children.

HYPOXIDEÆ—The Kali musali order.

This small order contains herbaceous plants. The leaves are dry and harsh, with parallel, straight, generally linear, and ensiform veins. The order is allied to Amyridaceæ. Some of the plants are bitter and aromatic. The roots of some are mucilaginous.

CURCULIGO ORCHIDIOIDES.

THE TUBEROUS ROOT AND STALKS.

Kali musali কালি মুসালি *Káli musali* (Beng. and Bom.) *Shiá musali* (Hind.) *Musali kañda* (Bom.)

Characters: The dried root is translucent. It occurs in pieces. Each piece is about $\frac{1}{2}$ to 1 inch in length, and from 4 to 5 lines in thickness. It is cylindrical and of a brownish dark colour. The surface is highly wrinkled and here and there marked with scars of fallen rootlets. On section the cut portion is studded with soft fibrous bundles and granular matter. The taste is mucilaginous and slightly bitter. The smell is rather disagreeable.

Preparations: Powder and confection.

Actions and Uses: It is an alterative, tonic, restorative, stomachic, and is useful in debility, impotence, asthma, and piles. As a demulcent it is given in jaundice, diarrhœa, colic, and gonorrhœa. As a diuretic tonic it is generally mixed with aromatic bitters, and aphrodisiac medicines.

Doses: *dr. i drs. ii.*

Remarks: The Sanscrit word *Musali* means any tapering root. There are two kinds of *Musali kaṇḍa*. The white is the translucent dried root of *C. Orchidioides*, and the black the root of *C. Uncifolia*. *Sapheda musali* is not the white variety of this, but is the tuber of *Asparagus tomentosus*. The structure approaches that of an Iris.

LILIACEÆ—The Eliyo or Kanda order.

These are trees, shrubs, or herbs, with bulbs, rhizomes, and turberous or fibrous roots. The stem is generally simple, rarely branched. The leaves are sessile or sheathing, and with parallel veins. The flowers are regular. The fruit is capsular or succulent, and indehiscent. It is three celled. The seeds are numerous, with fleshy albumen. Many species are fibrous.

Properties: The properties vary. Some plants are purgatives, stimulants, acrids, &c. Several are astringents. The bulbs of *Kāṇḍā*, *Lasana*, and young shoots, roots, and seeds of many species are used as articles of food and condiments.

ALOE ABYSSINIA.

THE EXPRESSED DRIED JUICE.

Elio *ḥeliḥ* *Erio* (Guz.) *Elavá* (Hind.) *Mossábara* (Beng.) *Musána-bara*, *Eliá* (Bom.) *Musamabarabola* (Mah.) *Sibra* (Arab.) *Bole siyhá* (Pers.) *Aloes* (Eng.)

Characters: The leaves are thick, flat, and fleshy. They are broad at the base, tapering at the apex, and spiny at their margins. The colour is generally glaucous or greenish yellow. Their central part contains a thick, mucilaginous, transparent, insipid juice. A bitter yellow juice is found in ducts near the margins or on parallel brownish green vessels found beneath the epidermis of the leaves. The juice is obtained by cutting the leaves into thin slices to which *Nimaka* is added. The whole is boiled over a fire. The fluid is then collected and strained. When solidified it is known as *Eliyo*. *Eliyo* is in opaque brown masses, or in translucent thin slices. It

breaks with a smooth waxy or glassy fracture. The odour is peculiar and saffron like. The taste is very bitter and very persistent. Its powder is of a dull yellow colour. It emits a powerful aroma like that of cow's urine.

Preparations : Dried juice, powder, and enema.

Actions and Uses : In small doses the juice is used as a tonic. In large doses it is given as an emmenagogue and cathartic in fever, and enlarged glands as the liver and spleen. It is rubbed beneath the navel to open the bowels in young children. It is also a deobstruent, depurative, anthelmintic, and tonic. It is often applied for the dispersion of swellings. It is commonly given with honey to children (newly born) to hasten expulsion of the meconium. It has a slow and certain action in constipation due to old age, sedentary habits, and repeated pregnancies. In hæmorrhoids with mucous discharges it is very useful. It is useful to expel ascarides. Aloes and iron are useful in amenorrhœa.

Doses : As a laxative, *grs.* iii to *grs.* ix.

Remarks : Aloes is of five kinds. 1. The Indian, otherwise known as Jafrabad aloes, is found adulterated with *Akakiá* and *Bábula goñda*. It occurs as a dark brown powder, or in mass, or in black thin pieces of an opaque and yellowish brown colour. It has a glassy fracture. 2. The Socotrine aloes is of a reddish brown colour, hard internally, and soft within. The powder is brownish yellow. 3. Arabian aloes is of a blackish colour, shining on the surface, and translucent. When held before the sun light the colour changes to red. Aloes is also known as *Bāndhāno Eliyo* and *Petino Eliyo*. The former is mixed with stone, clay, &c. and is wrapped in up mats; the latter is clean, and is packed in boxes.

Kumara कुमर *Korakuñda* (Bom.) *Ghi kanavára*, *Kalābāñdā*, *Kanavára pátha* (Duk.) *Kuvára* (Guz.) *Nabātu sibra* (Arab.) *Darākhte sibra* (Pers.) *Ghrita kumári* (Beng.) *Ghi kumári*, *Kanavára* (Hind.) *Ghrita kumári* (Sans.) Aloes Indica (Eng.)

The leaves resemble in characters those of Aloes Abyssinia. The juice is cathartic, cooling, and tonic, and useful in fevers, enlargement of the liver, spleen, and other scrofulous glands. In glandular enlargements it is given in combination with *Halāda* powder. The pulp of the leaf is used as a poultice to boils. The juice as well as the thick epidermis of the leaf is given to children as a laxative and food.

- 676 *℞. Eliyo 4, Revañchi-no-siro 5, Afima 2, Suriñjana 5, Lodhra 4, Gugala 4, Sāji khāra 3, Medā lakāḍi 6, Ambā haḷada 4.* Mix, then add lime juice 10 parts, boil, and apply.

Used over glandular enlargements.

- 677 *℞. Eliyo 10, Turabeda 12, Masataki 2, Kesara 1, Sakamuniā 1, Indrayāna 1, Aphasanatina 2, Katirā guṇḍa 4, Golāba kali 2, Harade 2.* Mix and reduce these to a powder.

Dose : *grs. xxx to grs. xl.*

Used as a very good purgative in paralysis, apoplexy, biliousness, &c.

KUMARI ASAVA.

- 678 *℞. Kumāra Juice 100, Jaggary 20, Bhāṅga 5, Water 50.* Make a decoction. To this when ready add *Madha 1, Dhāuriphula 6, Jāephala, Lavaṅga, Kañkola, Kabāba-chini, Jatāmānasi, Chavaka, Chitraka, Jāvañtri, Kākadā siṅgi, Behedā, Pokara mula*, each 1, *Trāmbā bhashma, Lohā bhashma*, each $\frac{1}{2}$. Mix, keep for about a month, and allow it to ferment.

Used in general debility, cough, dyspnœa, asthma, consumption, piles, epilepsy, colic, and tympanitis.

ALLIUM CEPA.

THE BULB AND THE SEED.

Kanda कण्डा *Kāṇḍā* (Guz.) *Duṅgari* (Sind.) *Basla* (Arab.) *Piyāza* (Pers., Hind. and Beng.) *Kāṇḍā* (Mah.) *Palānaduhu* (Sans.) Onion (Eng.)

Characters: The bulb varies in size from an *Akharota* to a large *Nāraṅgi*. The colour varies between red and white. Other characters are similar to those of *Bāna kāṇḍā*. The taste is very acrid and pungent. The odour is very pungent. On cutting it into thin slices, the oil volatilizes and irritates the eyes, giving rise to secretion of tears.

Preparations: Poultice, juice, and *Najarani pudi*.

NAJARANI PUDI is a powder consisting of *Kāṇḍá*, *Badāma-ná-kotalān*, *Vāṇsa-ni-gāṇṭha*, &c.

Actions and Uses : The juice of the bulb and conserve of the white variety are used in colic. With *Mithuṇ*, *Kāṇḍá* is held to the nose in fainting. Its juice is dropped into the ear to relieve ear pain. When roasted its poultice is applied to inflamed and indolent boils. The seeds are demulcent and given in gonorrhœa. With *Navaságara* the juice is given in retention of urine. The scales of the bulb are used in *Dhupani* and in *Najarani pudi*. *Najarani pudi* is used as incense for fumigation to children to save them from the supposed ill effects of evil spirits.

Remarks: The word Allium is derived from *All*, signifying hot or burning. The word Onion is derived from the Latin word *Unio*, which means a bulb without any offshoots.

Jangali kanda জাঙ্গলি কঁদা *Rāṇḍāchā Kāṇḍá* (Mah.) *Bāna kāṇḍo* (Guz.) *Kāṇḍrá* (Duk.) *Jaṅgali piyāja* (Hind. and Beng.) *Jaṅgali kāṇḍá* (Bom.) *Basalula-anasala*, *Basalula-phāre-hiṇḍi* (Arab.) *Piyāj-i-dasht-i-hiṇḍi* (Pers.) *Urginea Indica*, Indian squill (Eng.)

The bulb resembles *Kāṇḍá* in size. It is conical and consists of many scale like leaves of a brownish white colour. Each leaf is separate from the other like flakes of *Abraka*. At the bottom of the bulb small fibre-like rootlets of a dirty brown colour are given off. The taste is bitter and acrid. This and other species of Allium as garlic, leek, &c. yield an acrid volatile oil. *Gāṇḍhaka* is one of its ingredients. In small doses it acts as an expectorant, digestive, diuretic, deobstruent, and emmenagogue. In large doses it is an emetic, and in excessive doses, a cathartic and an acrid poison. It is used in paralytic affections, asthma, dropsy, rheumatism, calculous affections, leprosy, and skin diseases. Mixed with *Añjira*, *Anisuṇ*, *Kālī dráksha*, and *Madha*, its syrup is of great value in acute bronchitis where the sputa are tenaceous and scanty, also in chronic bronchitis associated with emphysema, and in spasmodic croup. As a diuretic it is given in cardiac dropsy where the pulse is weak, the heart feeble, and there is no fever. A powder of it is locally used to remove warts.

Lahana kanda লাহানা কঁদা *Lāhāna kāṇḍá* (Mah.) *Pāhādi kāṇḍá* (Bom.) *Ledebouria hyacinthoides*.

It is a small bulb used as a substitute for squills. It consists of smooth and fleshy scales. The external ones are dry and brownish, the internal, fleshy and cream coloured. In size they resemble a

large *Jáephala*. The odour is nauseous. The taste is very bitter. It is used for the same purposes as *Jaṅgali káṇḍá*. It is very useful in relieving stranguary.

GLORIOSA SUPERBA.

THE BULBOUS ROOT.

Khadya naga मसूरि मूल *Nágakariá*, *Indai*, *Nágamodiá* (Bom.) *Lāṅguli*, *Karihári*, *Kulahári* (Hind.) *Bisha laṅguli* (Beng.) *Lāṅgalika*, *Agnishikhá*, *Kali kári*, *Garbhaghátini* (Sans.) *Náta-ká-bachanága* (Duk.)

Characters : The root is tuberous, oblong or flattened, and covered with a brown epidermis. On section it is white and starchy. The odour is faintly acrid. The taste is mucilaginous, slightly bitter, and acrid. The starch is pure white and of a bitter taste.

Preparations : The paste of the root and starch.

The starch is obtained from the root by repeated washings and grindings, throwing away the supernatant liquid and washing the residuum carefully for half a dozen times.

Actions and Uses : It is a tonic, alterative, and antiperiodic. A paste of it is applied to the navel or over the hypogastrium to promote labour pains or expulsion of the placenta. With *Chitraka chhála* and cow's urine it is applied to painful piles with relief. The starch is given internally with honey in gonorrhœa.

Doses : Of the starch, *grs.* x.

Remarks : It is one of the minor poisons in Hindu system of medicine. The word *Garbha ghátini* is derived from *Garbha*, foetus, and *Ghátini*, a destroyer. The word *Agnishikhá* is derived from *Agni*, fire, and *Shikhá*, a flame. This word is applied to the plant from its flowers being of a deep red colour, and in shape erect, tapering, and wave like, thus resembling the flame of a burning taper. Fresh can be obtained from herbalists.

ASPARAGOPSIS ADSCENDENS.

THE TUBEROUS ROOTLETS.

Sapheda musali सफेद मसाली *Sapheda musali*, *Dholi musali* (Hind. and Bom.) *Shaká-ke-ule-hiṇḍi* (Arab. and Pers.)

Characters : The tubers are from 2 to 3 inches long, and about 3 to 4 lines in thickness. They are of a brownish white colour,

rather pointed at both ends, brittle, hard, homogeneous and horny, also longitudinally shrivelled or fissured at their lower end. Some of the pieces are here and there covered with a brownish epidermis. They are highly mucilaginous. Their taste resembles that of *Sálema misari*.

Preparations : Paste and confection.

Actions and Uses : The tubers are a nutritive tonic. Boiled in milk and *Sákara* they are used in spermatorrhœa, gleet, and chronic leucorrhœa.

Remarks : It is a good substitute for *Sálepa*.

Halyun : These are the berries of *Asparagus Officinalis*, and used as a diuretic and tonic.

679 *B. Sapheda musali* 6, *Káli musali* 5, *Tálama kháná* 3, *Beja bañda* 3, *Gokharu* 5, *Kavacha* 2, *Mocharasa* 2, *Kikara-no-guñda* 5, *Samudra sosha* 5, *Dudheli* 3, *Satávári* 3, *Gilo* 5, *Kákadá siñgi* 5, *Bahuphali* 3, *Saṅkhahuli* 3, *Akalakaro* 3, *Medá lakadi* 5, *Sálepa* 5, *Nágakesara* 2, *Taja* 5, *Tamála pátra* 5, *Elachi* 5, *Nishota* 3, *Sákara* 10. Mix and make a powder.

Dose : grs. xx in milk.

Used in seminal weakness and impotence.

ALLIUM SATIVUM.

THE BULB.

Lasuna अलु *Lasana* (Guz.) *Lasuna* (Hind. and Bom.) *Mahoushadhi* *Lasuna* (Sans.) *Rásuna* (Beng.) *Soma* (Arab.) *Sira* (Pers.) Garlic (Eng.)

Characters : Generally the roots are bulbous and contain a volatile oil. They are sub-globular, surrounded by dry membranous scales, and contain from 5 to 8 small bulbs arranged in a circle round the stem, projecting from the base of the tuber. Each bulb is round externally, wedge-shaped towards the stem, and compressed at both sides. It has a peculiar, pungent, and disagreeable odour, and an acrid burning taste.

Preparations : Paste and confection.

Actions and Uses : It is a carminative, stimulant, expectorant, diuretic, stomachic, vermifuge, and tonic. Mixed with *Methi* it is used in flatulence, hysteria, rheumatism, lumbago, and convulsive affections. It is a local stimulant. Applied as a rubefacient it reddens the

skin and even dessicates it. With *Kāṇḍā* it is applied to the nose of hysterical girls when in a state of swooning. As a stimulant to the digestive organs it is given internally. In large doses it causes nausea, vomiting, and diarrhœa. As a vermifuge it expels round worms and also ascarides. Like an onion it causes copious diuresis, and is hence useful in dropsy or anasarca. In bronchitis in children bruised garlic and onions are used locally for the chest. Applied to the perinium it relieves stranguary. Given with common salt it relieves colic. A paste of it is rubbed over painful neuralgic parts, and over the palms and soles to relieve burning sensations. When added to mustard powder it promotes its rubefacient properties. It is rubbed over parts affected with ring worm with good effect. It is said to increase the menstrual flow in women. Garlic juice slightly warmed is dropped into the ear in otalgia. The bulb of garlic is boiled with salad oil, and the oil when cool is dropped into the ear for the relief of internal ear pain.

Doses : *grs.* xxx.

Remarks : *Ekalakali lasuna* or one bulbed *Lasana* is considered the best. It is fried in *Ghee*, and eaten as an aphrodisiac in winter. It is also preserved in honey. The confection known as *Lasanapāka* is much used by natives as a stimulant and aphrodisiac in cold seasons.

- 680 *B. Lasana, Sonachala, Ajamuda, Hīṅga, Siṇdhava, Trikatu, Jirūṇ saphed* equal parts. Mix and make a powder *Anupāna*: Decoction of *Eraṇḍi mūla*.
Used in rheumatism, paralysis, tetanus, epilepsy, &c.

ASPARAGOPSIS RACEMOSUS.

THE ROOT.

Satavari सतावरी *Satāvari* (Mah.) *Satamuli* (Beng.) *Satāveri mūli* (Mah.) *Shakākula misari* (Pers. and Arab.)

Characters : It consists of brownish, white coloured pieces of roots. Each piece is in length from 2 to 4 inches, and in breadth resembles a slender quill. It is deeply furrowed and rugous. On section it is tough, resinous or starchy, and sugary looking. In the centre a thin, slender, wiry wood exists which is also minutely furrowed and porous. The smell of the root is like that of burnt sugar. The taste is mucilaginous.

Preparations : Powder, confection, and decoction.

Actions and Uses : The root is a nutritive, tonic, cooling, demulcent, and aphrodisiac. It is used in a fresh state as a demulcent. In combination with other diuretics it is given in scanty urine. As a tonic it is used in seminal debility, pulmonary complaints, &c.

Remarks : *Satamuli* signifies a hundred roots. This is in allusion to the numerous fusiform tubers and hence the name.

CRINUM ASIATICUM.

THE LEAVES AND THE ROOTS.

Sukha darasana सुख दारसना *Sukha darasana*, *Bará kanavára* (Hind.) *Nágina-ká-pátá* (Duk.) *Nágadāuna*, *Nágadamana* (Bom.) *Gaerahonára-pátá* (Beng.) *Nágadavana* (Mah.)

Characters : The root is bulbous and of a brownish white colour. The odour of the root is narcotic, acrid, and disagreeable. The leaves are long, thick, fleshy, linear lanceolate, smooth, and striated. Their colour is green or greenish yellow.

Preparations : Poultice of leaves and powder of root.

Actions and Uses : The root is an emetic. It acts without causing griping, purging, or any other distressing symptoms. It is also a diaphoretic. The leaves are useful when locally applied. They are made warm, often bruised, besmeared with a little castor oil, and applied over the inflamed whitlows, and as fomentations to inflamed joints and sprains. The juice of the leaves is useful as a drop in earache. Its other uses are the same as of those *Ipecacuanha*.

Doses : *drs.* ii.

Remarks : *Naga-doná* is also the name of *Artimesia*. Fresh can be had at herbalists.

MELANTHACEÆ or COLCHICACEÆ—The Surinjana order.

These are herbs with bulbs, corms, and tuberous or fibrous roots. The flowers are regular, usually hermaphrodite, rarely unisexual. The fruit is three celled and three valved. The seeds are with a membranous septa. The albumen is fleshy.

Properties : The plants are usually poisonous. Some possess emetic, diuretic, acrid, and narcotic properties.

HERMODACTYLUS (COLCHICUM) SP. ?

THE TUBER.

Surinjana सुरिंजना The sweet variety : *Suriñjana*, *Shirina* (Arab.) *Shambalida* (Pers.) *Daffadila* (Eng.) The bitter variety : *Serijana talkha* (Arab.) *Meadow Saffron* (Eng.)

Characters : The tuber is of a white, yellow, or black colour. The white is not bitter. The yellow is bitter. Both are used in medicine. The black is poisonous. In the sweet variety the corm is starchy, dirty yellow externally, and white within. It is flattened, hollowed out on one side, and convex on the other. It breaks readily, and is generally found as if worm eaten. In the bitter variety the corm occurs in pieces from 1 to 1½ inches long, and 1 to 2 inches broad. The colour is dirty brown. Each piece resembles a shell. It presents two surfaces. The convex surface is scaly and reticulated. The concave surface is rugous. On section it is pale white or brownish white, and starchy. The starch is in silvery and shining granules. It is of an acrid odour.

Preparations : Powder and decoction.

Actions and Uses : *Suriñjana* is an alterative, deobstruent, aperient, diuretic, and sedative. It is useful in rheumatism. With *Eliyo* it is given in chronic gout, torpid liver, dropsy, and enlarged spleen. As an aphrodisiac it is given with *Trikatu* in seminal weakness. Locally a paste of it with *Kesara* and white of eggs is applied as a *Lepa* to rheumatic and other swellings. As a local stimulant its application excites the genitals. Like *Ipecacuanha* it is given to check intermittent fever, to relieve bronchial catarrh and congestion of the air tubes, and to cure dysentery. It is also useful in hysteria, chorea, whooping cough, and epilepsy.

Dose : Of the powder, *grs.* xv.

Remarks : The bitter one is a good substitute for *Colchicum* or *Meadow Saffron*. *Hermodactyl* means *Finger of Hermes*.

681 B. *Suriñjana* 4, *Sunámukhi* 3, *Nishotara* 5, *Hab-ula-nila* 3, *Halilejarda* 3, *Badáma* 2, *Golábakali* 3, *Sakamuniá* 2, *Kesara* 3, *Ajamuda* 2, *Dárunaj-e-akrabi* 2, *Shiájiruñ* 3, *Chitraka* 2, *Mheñdi* 1. Mix and make a confection.

Dose : *grs.* x to *grs.* xv.

Used in gout and rheumatism. It relieves constipation and congestion of the liver.

682 R. *Suriñjana* (Tulkha) 4, *Jerávañd-e-madrája* 3, *Mamáí* 1, *Asana* 4, *Kasaturi* 1, *Kesara* 2, *Dálachini* 4. Mix, add *Sarasuñ tela*, and boil.

Used as a stimulant application to the face in facial paralysis and to painful rheumatic joints.

SMILACEÆ—The Choba-chini order.

The plants of this order are herbs or shrubs, more or less climbing, with leaves net veined and articulated. The flowers are small, hermaphrodite or unisexual, and followed by baccate fruits which contain a few or many seeds.

The plants of this order generally possess alterative properties. The roots of some are nutritive tonic and diaphoretic.

SMILAX CHINA.

THE ROOT AND RHIZOME.

Choba chini ചൊചിനി *Chopa-chini* (Guz.) *Chob-i-chini* (Hind. and Beng.) *Khashab-us-sini* (Arab.) *Chuba-chini* (Pers.) *Chaba-chini* (Sans.) China wood (Eng.)

Characters: Large, knotty, irregular tubers are found upon the fibrous roots of the plant. They are somewhat flattened and covered with a dark brown or rusty coloured bark. On section the interior is homogeneous, rose coloured, starchy, and sprinkled with white, silvery, and shining granules. The tubers occur in slices or in masses. Each piece is heavy and often hard. It is from 2 to 4 or more inches in length, and from 1 to 2 inches in breadth. It is irregularly flat and resembles an elongated potato.

The slices are sold under the name of *Choba khatni*. The taste is mucilaginous. They have no odour. What is sold is usually peeled and trimmed, and hence presents a very irregular form.

Preparations: Decoction and confection.

Actions and Uses: It is said to be a diaphoretic and tonic. It is highly prized as an aphrodisiac and demulcent. It is given as an

alterative with *Anañta mula* in long-standing headache. It is boiled in milk to which *Masataki*, *Elachi*, and *Taja* are added, and taken internally in rheumatism, gout, epilepsy, chronic nervous diseases, cachexia, seminal weakness, and constitutional syphilis.

Remarks : The word *Choba chini* is derived from *Choba*, which means a stick, and *Chini*, from China. The rhizomes are in sticks or pieces imported from China.

Gutavela ગુટવેલ *Guti* (Bom.) *Guti*, *Jaṅgali ushabah* (Hind.) *Jaṅgali ushabo* (Guz.) *Smilax ovalifolia* (Eng.)

It is a climbing shrub. The roots are numerous. The bark is dry and of a brown colour. In the centre it is soft and starchy. It is the country sarsaparilla of the Portuguese, and used as a good alterative in syphilis, scrofula, &c.

TYPHACEÆ—The Ramabana order.

These are herbs growing in watery places. The leaves are long, rigid, linear, and parallel veined. The flowers are male and female, arranged on a spadix, or in heads with a spathe. The fruits are indehiscent, with mealy albuminous seeds.

Rhizomes of many species contain starch and pollen. The pollen is very abundant and is inflammable. It is also used for food. The down of some of the species is used as medicated cotton wool.

TYPHA ELEPHANTINA.

THE MALE SPADIX.

Rama-bana રામબાના *Rāma-bāna* (Mah.) *Eraká* (Sans.) Elephant grass (Eng.)

Characters : These are aquatics. Each spike is externally light and cylindrical. It is from 6 to 10 inches long, and in breadth resembling a finger. Owing to the presence of stamens the colour is brown. The whole is composed of very minute, woody, soft, hairy inflorescence supported on a common stalk. The stalk is striated.

Preparations : Dressing.

Actions and Uses : These are similar to those of cotton wool. The wooly soft inflorescence is used as a local application to wounds and ulcers. It acts in the same way as medicated cotton wool.

Remarks : The word *Rāma bāna* means arrow of *Rāma* the hero in Hindu mythology.

PANDANACEÆ—The Kevada order.

In this small order there are palm like trees or shrubs, with simple or pinnate, sheathing and imbricated leaves, which are spirally arranged in 3 rows. The flowers are unisexual or polygamous, numerous, and arranged on a spadix with numerous spathaceous bracts. The fruits consist of a number of one seeded fibrous drupes or many seeded berries.

From the male inflorescence of *P. Odoratissimus* a highly odorous *Aarka* is prepared and used as medicine.

PANDANUS ODORATISSIMUS.

THE WATER DISTILLED FROM THE BRACTS OF THE MALE PLANT.

Kevado केवडो The plant : *Kāzi*, *Kadaza* (Arab.) *Kādi* (Pers.) *Keyá* (Beng.) *Kevado* (Guz.) *Ketaki* (Sans.) *Ketagi*, *Kevaráh* (Hind. and Bom.) The perfumed water : *Kevadā-no-arka* (Bom.)

Characters : *Kevado* as sold in the bazaar is the male flowering spikes. The bracts on the spikes are of a whitish colour, oblong or linear oblong, concave, and pointed. In the axils of these bracts are highly odorous bunches of small whitish yellow anthers. The fruit of the *Kevadā* is oblong and as large as a *Náriela*. In appearance it generally resembles *Anánisa* (Pine apple.)

Preparations : Application.

Actions and Uses: The *Arka* is a stimulant and antispasmodic. Locally it is used for the relief of long-standing headache.

Remarks : The pieces of the fruit of *Kevadā* are sold under the false name of *Kevadā-nu-mula*. The true *Kevadā-nu-mula* is the Orris root (Iredaceæ). Brayed in milk, it is used internally in sterility and threatened abortion. The bracts are used by Hindu women as an ornament over their braided hair.

CYPERACEÆ—The Nagaramotha order.

These are grass like herbs. The stems are solid, without joints or partitions, and frequently angular. The leaves are with closed tubular sheaths surrounding the stems. The flowers are unisexual. The spikes are perfect and imbricated, each arising from the axil of from 1 to 3 bracts. The fruit is one seeded, and indehiscent. The seeds are with fleshy or mealy albumen.

Properties : Some of the plants are aromatic, stomachic, and diaphoretic ; others, demulcent and alterative.

CYPERUS HEXASTACHYUS (PERTENUIS.)

THE TUBERS.

Nagara motha नगर मोथ *Methá*, *Nágara motaha* (Duk.) *Musta* (Bom.) *Nágara mothá* (Hind.) *Soáda* (Arab.) *Mushke-zamina* (Pers.) *Mustaha* (Sans.) *Nágara motaha* (Mah.) *Nagora mothá* (Beng.)

Characters : The tubers are of a brown or dark brown colour. They are from 1 to 2 inches long, and resemble a finger in thickness. They are marked with transverse rings. Each root is blunt at the lower end with a projecting acute point. The rings on its lower half are distinctly marked with the remains of leaf sheaths. Between the rings the scars of fallen rootlets or the traces of febril-like rootlets are seen. The upper half is densely covered or imbricated with striated and scale like leaf sheaths. On section the whole is of a pale brown colour, and sprinkled with a red powdery substance. An irregular thread like ring is seen separating the central portion from the margin. The odour is strongly aromatic like that of *Kutha* or *Godávaja*, but somewhat terebinthinate.

Preparations : Decoction.

Actions and Uses : *Nágara motha* is used as a diaphoretic, diuretic, astringent, aromatic, tonic, and stomachic ; also as an emmenagogue and lithontriptic. It is an ingredient of several prescriptions for fever, dyspepsia, and derangements of the bowels. It appeases thirst and relieves the heat of the body. It is also useful in ascitis and leprosy, and as an anthelmintic in lumbrici.

Doses : Of the decoction, *dr. i.*

Remarks : Another variety known as *Motha* (*Cyprus rotundus*) consists of roots which are smaller and less aromatic.

- 683 *℞. Motha* 5, *Bhuiriṅgani* 4, *Gule gápheza* 4, *Gulavela* 4, *Suñṭha* 6, *Āmalā* 5, *Rakta chañdana* 4, *Khasakhasa* 6. Mix and make a decoction. To the decoction when ready add honey and *Pipali* powder.

Dose: oz. $\frac{1}{2}$ to ozs. $1\frac{1}{2}$.

Used in recurrent or relapsing fever.

- 684 *℞. Motha* 5, *Válo* 4, *Kásani* 3, *Dháuri phula* 4, *Tukhm-e-khitami* 5, *Khabázi* 6, *Káluñ jiruñ* 7, *Suñṭha* 6, *Anisuñ* 6, *Hab-ul-ása* 4, *Posta* 4, *Elachi* 6, *Phudino* 4, *Kolamba kátri* 6, *Gáozaána* 4, *Gule anára* 4, *Sákara* 10. Mix and make a decoction in the usual way.

Dose : oz. $\frac{1}{2}$ to ozs. $1\frac{1}{2}$.

Used in long standing fever, cachexia, anorexia, chronic diarrhoea, and dyspepsia.

GRAMINACEÆ—The Ghasa or Java, Ghaun &c. order.

This very large order consists of lance shaped herbs, shrubs, or arborescent plants, with round, commonly hollow jointed stems, marked with irregular knots, from each of which proceeds a sheathing leaf. The leaves are with parallel veins. The flowers are glumaceous, and followed by the fruits which are caryopsis. The leaves contain starch, mucilage, and sugar. The flowers bearing culms and stems contain sugar and starch. Some of the species yield sugar, and others yield a volatile oil. The seeds contain a farinaceous substance. A powder made of seeds and their envelope is known as flour. The pericarp when separately collected is known as chaff.

By incineration a kind of ash is produced which on analysis is found to contain iron, silica, alumina, lime, magnesia, &c. Silica is the most abundant of all. The existence of silica accounts for the slow decomposition of seeds under water, and for the use of their ashes for polishing wood and marble.

Properties : Most of them are used as food or nutritive agents. The pericarp of some grains as wheat grains is demulcent ; that of barley is astringent.

CYNODON DACTYLON.

THE PLANT AND ROOTS.

Durava दुराव *Duravá* (Mah.)

Characters : The roots are slender, wiry, and trailing or creeping, giving off fibres below and plants above. The plants are from $\frac{1}{2}$ to 1 foot in length. They are ascending. The leaves are small, linear, lanceolate, and sheathing. The mouth of the sheath is withered and studded with white hairs. A white variety which appears to be only a diseased state of the plant, is used in medicine. Other characters are similar to those of *Oleñ chá*. At the top of the plant digitate linear spikes are given off, on the lower surface of which several small pale yellow stamens (the rest being shaken off by the wind) and the purple serrated stigmas are seen. The taste is aciduous.

Preparations : Infusion.

Actions and Uses : The plant is acid and useful in checking vomiting. As a diuretic it is given in dysuria, and as an astringent in epistaxis and to stop bleeding from wounds.

Durbha : *Poa Cynosuroides*, *Kusa* (Sans.) *Dáda* (Bom.) is the holy grass of the Hindus. It is a blood tonic and a diuretic. It is a good substitute for *Tritienna repens*.

TRITICUM ÆSTIVUM.

THE GRAINS AND FECULA.

Ghaun গাউন *Gauna* (Beng.) *Gehuñ* (Duk. and Hind.) *Hĩntáh* (Arab.) *Gauduma* (Pers.) *Yavá* (Sans.) *Gehuñga* (Mah.) *Gadhuma* (Sans.) The wheat (Eng.) The fecula : *Ghaun satva*, *Ghaun-no-nishasto*, *Ghaun-nududha* (Guz.)

Characters : *Ghaun* is the staple food of the upper classes of people. The fecula occurs in powder or masses of a white colour. The taste is mucilaginous.

Preparations : *Cáñji*, confection, &c.

Actions and Uses : The fecula is a nutritive and restorative, also an aphrodisiac. It is given to women to check profuse menstruation and leucorrhœa.

Java জা Java (Beng.) Jau (Hind.) *Hordeum hexastichon*, Barley (Eng.)

The seeds are of straw or a greyish yellow colour; when decorticated they are of a dark brown or brown colour. Their interior is white and hard. The taste is very sweet. Java is extensively used as food by the poorer classes. Medicinally it is used as *Cāñji*. The seeds are demulcent in the same way as *Tukhm-i-bálañgo*. A decoction of the seeds is a bitter tonic and astringent. Pearl barley (deprived of pericarp) is used as a restorative. Malt (*Java* after previous germination) is useful in diseases of the lungs.

Chavala চাৱা *Chávala* (Beng. and Hind.) *Dhána*, *Chokhá* (Guz.) *Oriza sativa*, Rice (Eng.)

These are several well marked varieties. The grains are eaten boiled, or made into flour and cakes. They contain about 9 per cent. of nitrogenous ingredients. Medicinally they are used as a sick diet and for poultices.

Buththa বুথু *Makká buththá*, *Makká jazára*, (Beng.) *Makká buttáh* (Hind.) *Mukha-jovári* (Duk.) *Khañdarusa*, *Khálávana* (Arab.) *Khosháhe-makki* (Pers.) *Zea mays*, Indian corn (Eng.)

The seeds are roasted and used as an article of food by poor people or ground into flour and made into cakes. *Makkai* is more nutritious than *Chokhá*.

ANDROPOGON LANIGER.

THE PLANT AND THE ROOT.

Azakhara আজখা The plant: *Ashakhara* (Bom.) *Tib-ula-gháriba*, *Izakhara* (Arab.) *Jváránakusha* (Mah.) *Ashakhara*, *Gañdhisa* (Hind.) *Kazañeh-i-dashti* (Pers.) *Ushira* (Sans.) The root: *Bekh-i-azakhara* (Bom.)

Characters: The roots are of a brown colour and knotty, and like *Válo* give off many long fibrillæ. The surface is rugous and marked with traces or rings of fallen leaf sheaths. On section the cut portion is of a deep brown colour. The odour resembles that of *Surá* or *Limbu-nu-athánuñ* (Pickle). The leaves are linear lanceolate, and of a pale brown colour. They are smooth on both surfaces, striated, but not channelled at their insertion to the stem. Their sheath

is slightly hairy. The odour is like that of the root. The taste is aromatic, bitter, and acrid.

Preparations : Infusion.

Actions and Uses : The plant is a diuretic, diaphoretic, emmenagogue, and deobstruent. It is given in fever, enlarged glands, &c. It is also a stomachic, febrifuge, and antispasmodic, and given in dyspepsia, hysteria, cough, and fever. A paste of the roots is used as an inunction to the body in fevers.

Remarks : The Arabic name *Izakhira* is derived from its use as a forage for camels.

Khasakhasa খসখস *Válo*, *Khasa* (Hind.) *Shaṇḍalera jara*, *Bálá* (Beng.) *Válo* (Guz.) *Bekh-i-vála*, *Izakhir-i-jami* (Pers.) *Ushira* (Arab.) *Ushirama*, *Virana* (Sans.) *Válá* (Mah.) *Andropogon muricatus* (Eng.)

The roots are fibrous and slender, giving off numerous very minute fibrillæ. They are of a pale brown colour. The surface of the root is hairy. It has a peculiarly agreeable aroma. The taste is slightly camphoraceous. It is much used as a perfume. The grass is used in making *Khasakhasa* Tattis, fans, and screens. Medicinally it possesses cooling and refrigerating properties. It is an ingredient of many refrigerant decoctions.

Usadhana ઉષધના *Andropogon Nardus* : **Ginger Grass :**

This plant resembles Rosel grass in its characters. Like it the stem is glabrous and keeled. It has a white hairy ring at the joint. The leaves are glabrous and striated. On bruising, it has a smell like that of fresh ginger. The taste is aromatic. Its infusion or tea is used as a carminative in bowel complaints of children.

COIX LACHRYMA.

THE SEEDS.

Kassai-bija કસૈ બિજા *Kasai bija* (Bom.) *Job's tears* (Eng.)

Characters : The seeds resemble those of *Karadi*. They are large, highly polished, and very hard. The colour is greyish white. In shape they resemble drops of tears, and hence the name *Job's tears*.

Preparations : *Cāñji*.

Actions and Uses : The seeds are used as a diuretic, and as food in the form of *Cāñji*.

COCOS NUCIFERA.

THE SHELL, THE JUICE OF THE FRUIT, AND THE KERNEL.

Narieala شجرة *Shajratuna-nárajila* (Arab.) *Drákhte-nárajila*, *Drákht-i-bádiñja* (Pers.) *Náriela-ká-jhára* (Duk.) *Nánila-chá-jhadá* (Mah.) The fruit : *Nárajila* (Arab.) *Bádiñja* (Pers.) *Náryela* (Guz.) *Náryala* (Beng.) *Narikala phalama* (Sans.) *Nárela* (Mah.) Cocoanut (Eng.) Dry kernel : *Koparuñ* (Guz.) *Khoprá* (Hind.) The oil : *Koparela tela* (Guz.) *Dhonuna nárajila* (Arab.) *Roghane nárajila* (Pers.) *Kobaráchá tela* (Mah.) Toddy : *Járije-nárajila* (Arab.) *Nárela-ki-señdi* (Duk.)

Characters : Jaggary is an impure kind of sugar obtained from the juice which oozes out when the spathes, stems, or the neighbouring parts of the tree are injured. The juice is known as *Nálierá-ni-tády* which when fermented produces a kind of spirit known as *Urúka*. Cocoanut consists of a husk within which is a shell containing a kernel known as *Koparuñ*. The husk is thick, tough, and fibrous. The shell is oval or ovate, very hard or ivory like, and of a dirty red colour. On exposure to the air it becomes dark brown. The kernel is fleshy, albuminous, and oily. It is of a globular, oval, or ovate form. Its epidermis is brownish red. The interior is of a pure white colour. The fruits are of 3 kinds : 1. *Nálierá* ; 2. The miniature sized *Nálierá* or *Khakhotá* ; 3. The immature ones known as *Shiala* or *Kákaró*. In the third kind the shell is less hard. The kernel is soft, jelly like, and very sweet, and contains a clear fluid known as cocoanut milk (*Kákará-nu-páni*). This fluid is of a sweetish taste and without any odour. In one variety of cocoanut the milky juice solidifies and is known as *Pusha*. The oil obtained from the kernel when pure is watery or of a pale yellow colour. It is extensively employed for making candles, soap, and pomatum. It congeals at a low temperature into a white, buttery, concrete mass. *Káchali-nu-tela* is prepared by burning the shells over a fire and the oil collected. The oil so obtained is of a dark colour, and has a smell resembling that of dammar.

Preparations : Oil from shell and kernel ; juice (*Náriela-nu-páni*) ; paste of kernel (*Náriela-nu-dudha*) ; and confection.

Actions and Uses : *Náriela-nu-páni* is cooling, refrigerant, and slightly aperient, and useful in fever and urinary disorders.

Koparela tela as a substitute for Cod liver oil is used in debility and phthisis, but is not so very digestible. As an inunction of it to the whole body it is used in fevers, and to the chest in lung diseases. It is a useful application for the growth of hair. *Kátali-nu-tela* is a very useful application in chronic skin diseases such as ring worm, psoriasis, pityriasis, &c. Fresh kernel is nourishing, cooling, and refrigerating. *Náliera-nu-dudha* with *Káli jiri* is locally applied to freckles with relief. *Kopará-ni-váti* is cut into thin slices and used as an ingredient of aphrodisiac confections.

Tada तडा (Borassus flabelliformis) : Palmyra Palm.

It bears fruits known as *Tára golá* (Bom.) The fruit is of a globular form and consists of a husk containing three seeds. The seeds are known as *Galeli*. Each seed is reniform, compressed, and consists of a jelly like albumen. The taste of the seed is delicious and sweet. It is used as an edible seed. The juice obtained from the stems is known as *Táda-ni-tádi*. It is a dirty white fluid of a pleasant and delicious taste, somewhat intoxicating, and used as a diuretic, demulcent, and nutritive in gonorrhœa, leucorrhœa, &c. Toddy when fermented is converted into *Táda-no-dáru*, a country drink used as a diuretic in gonorrhœa &c.

ANDROPOGON CITRATUS.

THE GRASS OIL AND PLANT.

Olen chaha ओले चहा The grass: *Nili-cháhe*, (Guz.) *Oleñ chá*, *Gonoti chaha* (Mah.) *Hari cháha* (Hind.) *Bhustriná* (Sans.) *Gaṇḍha bena* (Beng.) Lemon grass (Eng.) The oil: *Nāraṅgi-ká-tela* (Hind.) Oil of Verbena, Indian Melissa oil, Lemon grass oil (Eng.)

Characters : The colour of the leaves is green or glaucous. The leaves are linear lanceolate, and very long. They vary in breadth from $\frac{1}{2}$ inch to 2 inches. The leaves are keeled or channelled and striated. The margins are sharply ciliated. On their under surface they are markedly scabrous. This is due to very small minute white hairs which are slantingly arranged, their tops being directed upwards; hence the surface of the leaf from below upwards is smooth to the touch, and is scabrous from above downwards. The taste is pungent; and the smell, agreeable and lemon like.

Preparations : Infusion of the fresh plant.

Actions and Uses : It is a stimulant, diaphoretic, and carminative. The infusion of the leaves with *Phudino*, *Miri*, and *Suntha* is much used by the natives in fever and catarrh. It is also used as a fumigation.

ANDROPOGON SCHCENANTHUS.

THE ESSENTIAL OIL.

Rusa रसा The oil : *Rusa-ká-tela* (Hind.) *Rusa-ká-tila*, *Roshel* (Mah.) *Agiyá gháñsa tela* (Beng.) The Rusa grsss oil (Eng.)

Characters : The essential oil is of a pale sherry colour. The odour is agreeable.

Preparations : The oil is generally adulterated with the oil of ground nut, linseed, rapseed, and turpentine.

Actions and Uses : The oil is a stimulant. It is used internally for neuralgic and rheumatic pains. The grass is used to prepare medicated baths in fevers to cause diaphoresis. Internally it is used as a stimulant and carminative in colic and dyspepsia. Other uses are similar to those of *Kájáputa* oil.

SACCHARUM OFFICINARUM.

THE STEM.

Sheradi شرادی *Sheradi*, *Kavása-be-sakara* (Arab.) *Naya sakara* (Pers.) *Nái sakara* (Guz.) *Gáñdá* (Duk.) *Usa ámba* (Mah.) *Uakha* (Hind.) *Ikashu* (Sans.) Sugar cane (Eng.) The preparations : *Buro Sákara* (Guz.) *Sakará* (Sans.) *Sakkara* (Arab.) *Misari*, *Khadi sakkara* (Hind.) Cane sugar (Eng.) 2. *Kháñda* (Guz.) *Khañda* (Sans.) *Kañdá* (Arab.) *Pithi sakara* (Bom.) Sugar (Eng.) 3. *Gola* (Guz.) *Goda* (Sans.) *Guda* (Hind.) Molasses, Golden syrup, Treacle (Eng.) 4. *Sirakáh*, *Sarako* (Guz.) *Khála* (Arab.) *Usa ámba* (Mah.) *Ikashu* (Sans.) Vinegar (Eng.)

Characters : There are 2 principal varieties of *Sheradi* known as black and white. The stem is annular or jointed, smooth, and resembles that of *Váñsa*. The leaves are sheathing, hairy, very long, narrow, and lanceolate. The stem is highly juicy and fibrous. *Sákara* and *Kháñda* are too well known to need any description. Vine-

gar is a kind of dilute acetic acid obtained by an acetous fermentation of toddy or sugar cane juice or other alcoholic liquids. Its colour, odour, and taste are due to the materials from which it is prepared. Its colour varies from yellow to brown or red.

Preparations : Juice, sugar, vinegar, molasses (drawn from raw sugar), treacle (the thick juice drained from refined sugar in the sugar mould), and caramel (the burned sugar.) By the distillation of the fermented liquid of treacle or molasses, rum is obtained.

Actions and Uses : *Sheradi* is used as a cooling and refrigerant drink. When fried it is given to quench thirst, and in biliousness and jaundice. Sugar is used as a vehicle to various nauseant medicines, and chiefly to medicines given to children. Treacle, as an aperient, is used by native women for newly born children. It is also used as a vehicle to many confections. *Khāṇḍa* is generally used as an article of food. It is also used to sweeten food. It is very rarely used medicinally. Native *Vaidas* prefer treacle to *Khāṇḍa* as a medicinal agent. The property of vinegar is to stimulate appetite, promote digestion, and to assuage thirst, and hence it is used in fevers. As a bath, (vinegar 1 part to water 5 parts,) it is used to cause a refreshing sensation of coolness over the whole body, or as a lotion to the head in headache. It is given in lead colic after a free purge. In nervous headache, faintness, tendency to drowsiness, in sore throat, and commencing cold, its fumes are snuffed into the nose. In hæmaturia it is a very useful agent when locally applied to the pubes. In local inflammatory pains as from scorpion bites, bees or gnats, in irritation produced by *Chuná*, its local application gives relief. It relieves mammary abscesses. A mixture of one part of vinegar, one part of Eau de Cologne, and two parts of water, is very often applied to the chest of consumptive patients to check profuse sweats. As a detergent or antiseptic it is sprinkled round the sick bed for disinfecting the room.

Doses : *dr. i* to *drs. ii* internally.

Remarks : Vinegar prepared from *Drākṣha* is sold in the bazaar under the name of *Aṅguri sirakāḥ*, that from *Sheradi* is known as *Sheradi-no-sirako*, that from *Tāḍa*, *Tāḍa-no-sirako*. *Arraka* or Indian spirituous liquor is distilled from many substances the most common of which are *Kikara*, *Mohvā*, *Tāḍa*, *Nāriela*, *Sheradi*, *Shoragama*, *Gora*, *Chāvala*, &c.

BAMBUSA ARUNDINACEA.

THE SILICEOUS CONCRETIONS AND ARTICULATIONS.

Tabashira तबशिर The siliceous concretion: *Tabáshira* (Pers. and Arab.) *Bāṇsa lochana*, *Bāṇsa mitha* (Mah.) *Vāṇsa kapura*, *Vāṇsanu-mitha* (Guz.) *Bāṇsa kapura* (Hind., and Duk.) *Bāṇsa kápura* (Beng.) *Tvaka kshira*, *Vinasu lavanama* (Sans.) Articulations: *Vāṇsa gāṇtha* (Mah.)

Characters: *Tabashira* occurs in irregularly shaped, light, soft, and brittle pieces of an opaque white or greyish white colour. Larger pieces are about an inch in diameter, concavo-convex, and resemble in appearance to the joints of the female bamboo within which these deposits take place. The taste is sweet and cooling.

Preparations: Powder.

Actions and Uses: It is a demulcent, tonic, aphrodisiac, and pectoral, and useful in cough, consumption, asthma, and fever. In combination with other astringent medicines it is given in chronic dysentery and internal hæmorrhages.

Remarks: The Sanscrit name *Tvaka kshira* is derived from *Tvaka*, which means bark, and *Kshira*, milk. It is a milky bark of bamboo. *Vāṇsa lochana* means a siliceous concretion from *Vāṇsa* or bamboo.

685 \mathcal{R} . *Tabáshira* 5, *Galába phula* 5, *Gule aramáni* 5, *Gile makhatuṇ* 5, *Tukhm-i-kulphá* 5, *Sádanaza adasi* 5, *Khehrubá* 3, *Khasakhasa* 3, *Jeshthi madha* 3, *Alákíá* 3, *Buzurela karaphas* 20, *Afima* 1. Reduce to a powder.
Dose: *dr.* $\frac{1}{2}$ to *dr.* i.

Used in hæmoptysis, hæmatemesis, and hæmorrhages.

686 \mathcal{R} . *Tabáshira* *dr.* i, *Ghaun satva* *dr.* i, *Tukhm-e-hamáza* *dr.* i, *Gule anára* *dr.* i, *Tukhm-e-kulphá* *dr.* i, *Bábula goṇda* *dr.* i, *Májuphala* *dr.* $\frac{1}{2}$, *Hirá dakhana* *dr.* $\frac{1}{2}$. Mix and reduce these to a powder.
Dose: *dr.* $\frac{1}{2}$ to *drs.* ii.

Used in diarrhœa, hæmoptysis, menorrhagia, and passive hæmorrhages.

687 *B. Tabáshira* 5, *Hab-ul-ása* 5, *Dádama phula* 3, *Sumáka* 3, *Kesara* 1, *Afima* 1, *Sherabat-i-Behedáná* 20. Mix and prepare a confection.

Dose: *dr.* $\frac{1}{2}$ to *drs.* ii.

Used in chronic diarrhœa and looseness of the bowels attendant upon low fevers.

FILICES—The Hansaraja order.

In this order the plants are flowerless, generally leafy, producing a rhizome. The leaves or fronds are coiled up when young. They are either simple or divided into many segments. The reproductive organs consist of sporangia arising from the veins, from the under surface of the leaves, or from their margins.

Several species have bitter, tonic, astringent, and aromatic properties. The rhizomes and leaves of some are mucilaginous.

POLYPODIUM VULGARE.

THE RHIZOMES OR CADEX.

Bisapheja *बिसपेज* *Basaphaiza* (Pers.) *Azarás-ula-kalba* (Arab.) *Khañkali*, *Khañkáli* (Hind.) *Bisapháyaza* (Duk.) Mushroom (Eng.)

Characters: The dried rhizome occurs in pieces of one to two inches long, or of various lengths, and of the thickness of a crow's quill. They are of a reddish or darkish brown colour. Each piece is flattened. It is more compressed on one side, than on the other, where it is marked with irregular tubercles or elevations which are the remains of the stipes. The surface is rugous and longitudinally fissured. On section the cut surface is of a brown colour, and either starchy or resinous. The taste is nauseous and somewhat acrid. The odour is sickly.

Preparations: Decoction.

Actions and Uses: *Bisapheja* is an aperient, deobstruent, and alterative. It is frequently combined with *Garamálo* and *Madha*. Brayed in water it is used externally in rheumatic pains.

Remarks: The name *Azarás-ula-kalba* literally means dog's tooth fern. This is in allusion to the toothed appearance of the fronds.

POLYPODIUM Sp. ?

THE RHIZOME OR CAUDEX.

Kalabichva कलबिचवा *Kálá bichavá* (Mah.)

Characters : The rhizomes are of a dark brown colour, hard, and heavy. The surface is rugous. They have on their upper surface several horn like or scaly projections. Each projection is curved, about $\frac{1}{2}$ inch long, and fissured. These projections are the remains of the stipes of the fronds. On section the interior is darkish or brownish red. The aroma is disagreeable, somewhat resembling that of *Afima*. The taste is acrid.

Preparations : Paste.

Actions and Uses : The rhizome is locally used for the relief of rheumatic pains of the joints, for indolent tumours, and acne.

ADIANTUM VENUSTUM [LUNULATUM.]

THE FRONDS.

Rajahansa राजहंस *Hañsarāja, Mubárakhi-no-pálo* (Guz.) *Hañsa-padi* (Sans.) *Hañsarāja, Mobárakha* (Bom.) *Shirula jibala* (Arab.) *Parasi avashana* (Pers.) Fairies' hair or Maiden hair ferns (Eng.)

Characters : *Rājahañsa* consists of stems and leaves. The stems are very slender, black, and highly polished as if varnished. They are one or more channelled. The channels are deep, irregular, and on one side. The leaves are small, reniform, rugous, and marked with fanlike veins. They are of a brownish dark colour. The taste is faintly astringent. The odour is rather disagreeable.

Preparations : Syrup and fronds.

Actions and Uses : It is considered to be a deobstruent, diuretic, emmenagogue, resolvent, and pectoral. As a pectoral it is used in pulmonary catarrh. It is also a demulcent and a mild stimulant. It is a flavouring agent in expectorant mixtures. As a discutient its plaster is a useful application on chronic gouty and other swellings. Burnt with oil it is used as an application for itch.

Remarks : *Shirula-jibala* means Fairies' hair. The Sanscrit word *Hañsa padi* is derived from *Hañsa*, which means geese, and *Padi*, the foot. The segments of the leaves resemble feet of geese.

- 685 R. *Hañsarāja* 5, *Sumbul-ula-tiba* 4, *Mulatāni māti* 2, *Gáo zabāna* 3, *Gulavela* 4, *Banaphashā* 5, *Unāba* 6, *Variāli* 4, *Jirun* 5, *Dhánā* 4, *Jethi madha* 6. Mix and make a decoction; when ready add *Khákashira* 6.

Yogavāhi: If constipation exists add *Kāli drákhsha* 5, *Máiyun* 3, and *Golāba kali* 6; if cough and biliousness, *Behedānā* 3, *Tukhm-e-khitami* 4, *Nilota phala* 2, *Dhánā* 4.

Dose: oz. $\frac{1}{2}$ to oz. i.

Used in chronic fever, biliousness, headache, &c.

LICHENES—The Pathara phula order.

These are cellular flowerless plants, nourished through the medium in which they grow. They are perennial, often spreading over the bark of trees, old pailing or walls, or the surface of the earth, or rocks, or trees. They are composed of parenchymatous cells arranged so as to form a foliaceous, somewhat scaly, hard, and crustaceous or leprous thallus. They propagate by spores. They are sometimes parasitic and commonly present a dry, more or less shrivelled, and lifeless appearance. Several of the plants are nutritive and contain starch. They are also emollient and demulcent. Many of them possess bitter principles, and are therefore tonic and astringent.

LICHEN ODORIFERUS.

THE LICHEN (THALLUS.)

Ushna *Ushna* *Motā dagada phula*, *Patharakā phula* (Hind.) *Davalā* (Pers.) *Ghabilo* (Guz.) *Pathara-kā-phula*, *Chhadilā*, *Chhela chhabilā* (Guz. and Hind.) *Hinna-i-koriska* (Arab.) Rock moss (Eng.)

Characters: The thallus is of a dirty white or greyish brown colour. It is about 2 to 4 inches long, and made up of numerous fibres spreading from a common stalk. The fibres are flat, generally dichotomously, and rarely trichotomously branched. The surface of the thallus is rugous and marked here and there with irregu-

lar depressions. The fructification is undeveloped and looks like punched tubercles on the fibres. The smell is rather aromatic. The taste is bitterish or rather saline.

Preparations : Powder, smoke, snuff, liniment, and poultice.

Actions and Uses : These are similar to those of Isinglass. As an emollient a poultice placed over the lumbar and renal regions causes a copious flow of urine. As a liniment it is applied to the head in cases of headache. It is much used as an incense and also in the preparation of a *Masálá* used for washing the hair. It has also soporific and sedative properties.

Lahana dagada phula लहना दगडा फुला *Lahína dagada phula*, *Kálí chhadila* (Hind.) *Kálí dagada phula* (Böm.) *Alectoria*.

This lichen occurs in irregular, thin, strap-like pieces of a greyish brown colour. Their upper surface is dark, the under surface brownish red. The surfaces are highly wrinkled. The margin of the thallus is irregularly cut or fringed. The fructification on the upper surface presents a cup like elevation which is black within and white externally. The taste is rather pungent. The smell is aromatic. The powder is said to be an astringent, resolvent, and aperient. As a nutritive tonic the lichen is used in dyspepsia and other stomach disorders. It has a good effect in relieving nocturnal discharges. In amenorrhœa it causes the flow of menses. When burnt the smoke is used to relieve headache. It is a good emollient. Its powder is applied to promote healing of wounds.

FUNGI—The Gharekuna or Phanasa amba order.

The plants are cellular, having no flowers. They are growing in or upon decaying or living organic substances. They are nourished through their vegetative structure called the spawn or mycelium. The fructification is various.

The fungi have very variable properties. Some are edible. Many species are rich in phosphorus and are hence aphrodisiac. Some are narcotic, tonic, astringent, emetic, purgative, and styptic.

POLYPORUS OFFICINALIS.

THE FUNGUS.

Gharekuna घरेकुना *Ghārekunā* (Hind. and Bom.) White Agaric, Bamboo or Worm Mushroom (Eng.)

Characters : It is a fungus of a brownish white colour. It occurs in irregular masses of variable sizes. In shape and appearance, it resembles *Bhui koholā*. It is very friable. The odour is acrid. The taste is bitter. It contains resin.

Preparations : Pills, powder, and decoction.

Actions and Uses : As a cathartic it is given with honey in eruptive fevers to promote the rising of the eruptions. In large doses it gives rise to large watery motions, to nausea and vomiting, and also to excessive sweats. In spasmodic cough and phthisis, combined with *Jethi Madha* it is very useful in checking colloquative sweats. Applied to the breasts it stops the secretion of milk. It checks bleeding from leech bites.

Doses : *grs.* ii to *grs.* iii given every hour.

Patala tumari : This fungus is chiefly found in Kathyawar. It is from $\frac{1}{2}$ inch to 2 or 3 inches in length and the same in breadth. In form it resembles *Jāmbu*, *Añjira*, or *Himaja*. At the top is a depressed circular point. The base is tapering with a shining stalk. On section the interior is white, corky, and soft. The smell is disagreeable and the taste acrid. The fungus is poisonous. The smoke is narcotic. It is never used as an edible fungus or as a nutritive tonic as described by some authorities. The word *Pátāla tumbadi* is derived from *Pátāla*, which means very deep under the ground, and *Tumbadi*, a *Dodhi*. It is in allusion to its form being like that of a *Dodhi*, and obtained from under the ground.

AGARICUS OSTREATUS.

THE FUNGUS.

Phanasa amba फनसा अम्बा *Phanasa alombo* (Mah.) Oyster mushroom (Eng.)

Characters : This fungus resembles oyster shells in form. It is tufted, sessile, or with stalks or sublateral stipes. The stalks

are from 4 to 5 inches long, and from 3 to 4 lines in thickness. The cap is shell like, smooth, and fleshy. Its upper surface is convex and of a pale bluish, grey, or brown colour. The under surface is concave and formed of several layers resembling the rib-bones, or lamellæ. The lamellæ are of a whitish or pink colour, separate above and anastomosing with one another as they extend below.

Preparations : Paste.

Actions and Uses : Applied to the gums it prevents excessive salivation. It is supposed to act as a good styptic.

Remarks : Under the name of *Phanasa ámba* several other fungi are known. 1. *Agaricus palmatus* and its species : This fungus grows on the stumps of *Phanasa* (Jack) tree. They are very beautiful and edible. 2. *Polyporus gigantius* : These sometimes grow in the same localities as *Agaricus*, but are corky, hard, variable in size, and highly foetid, or of a disagreeable smell. The juice flowing from them appears to resemble Iodine paint. They are poisonous. Many varieties of fungi grow on the waste ground in Bombay. These are known as *Kutará-ni-topi* (Guz.) *Phanasa ámba* means Jack tree mushroom.

ALGÆ—The Chinai ghasa order.

The weeds are cellular flowerless plants. They are nourished through their whole surface like the lichens, and grow in fresh or salt water, or in moist places. The thallus is foliaceous branched or filamentous, or pulverulent. The colour is usually greenish or brown.

Several species are employed for food. The nutritious properties are due to the presence of starch, sugary matter, mucilage, and albumen. In some species there is a principle to which the name of Gelose is given. This substance is to a great extent nutritious. One part of Gelose dissolved in 500 parts of boiling water, will on cooling, leave a colorless transparent jelly behind.

GRACILARIA LICHENOIDES.

THE MOSS.

Chinai-ghasa ചിനൈ ഘസ *Chinai ghása* (Bom.) *Daryáki ghánsa* (Duk.) Sea weeds, Edible moss, Ceylon moss, Japanese Isinglass (Eng.)

Characters : It occurs in bundles. Each filament is from 12 to 15 inches long, dry, quadrangular or cylindrical in form, nearly white in colour, and reticulated. It resembles the pith like substance found in the interior of a quill. It is very light, rather flexible, but can easily be broken. The taste is mucilaginous and resembles that of rice *Cāñji*.

Preparations: Jelly and *Cāñji*.

JELLY : The moss is reduced to a fine powder. The powder is boiled with water and strained. The filtered solution on cooling forms a fine jelly. When ready it is flavoured with *Limbu-ni-chhāla* (peel), *Taja*, &c.

Actions and Uses : It is used as a nutritive tonic, also as an emollient, demulcent, and alterative. It is especially valuable in pectoral affections. As a restorative it is useful for invalids. It contains Iodine, and hence is useful in goitre, scrofula, &c. As a demulcent it is useful in chronic catarrh of the intestines (diarrhœa) and phthisis. As a demulcent and emollient it is used in irritation of the urinary passages. A jelly made of it is given in leucorrhœa and profuse menstrual flow with benefit.

Remarks : It is a good substitute for Isinglass. It requires a very large proportion of water to form a jelly. Sea weed jelly is well known.

PHYSIOLOGICAL CLASSIFICATION OF DRUGS.

Medicinal agents are intended to create a healthy or normal action in a diseased part. Some of them have a mechanical action on the part of the body for which they are intended. A majority of them produce chemical and physiological changes in the structure and functions of the body. Several agents known as acrids destroy the structures with which they come in contact. Of these many interfere with the integrity of their functions and their vitality, and lead to fatal results. In very small doses some agents known as poisons act very beneficially in the cure and arrest of chronic diseases.

ABORTIVES : These agents are useful in expelling the contents of the pregnant uterus before the seventh month of gestation. By their use a foetus is prematurely expelled. These are :—

Aghádá bija, Bela leaves, Chañdana bija, Pharaphiyuñ, Gájara bija, Gelaphala, Ispañda, Kanera mula, Koussu, Khera chámphá, Kukadavela bija, Lála chitraka mula, Rámethá, Rána bija, Setápa, Segata goñda, Sitáphala bija.

ACIDS are various substances of a sour taste. They act chemically. Those principally used by the natives are of a vegetable origin. These are :—

Bilambi, Gul-i-pistáñ, Kadu badáma, Limbu-no-rasa, Lobána-ná-phula, Sirakáh.

ACRIDS OR COUNTER IRRITANTS : These topical agents stimulate, irritate, or inflame the skin, tissues, or parts with which they come in contact, and thus affect the functions or nutrition of other parts. They have no chemical action. Acrids are classified according to the degree of action. They are called Revulsives when they induce a morbid action in a part remote from the seat of disease. Derivatives : These when applied set up a morbid action in their neighbourhood. The derivatives are :—

Agara, Akadáná pána, Ámbá halada, Añkola, Aradhi sopári, Báma, Barása kapura, Bedáni saphedi, Bhui riñgani, Chuno (acrid), Erañdi pána, Gajá pipali, Ganasura, Gañdha biroja, Gujara, Gugala, Haladi, Kálá nimakha, Jheri nárela, Kachorá, Kadu nimba, Káephala Kálá bola, Kálá bichvá, Káñdá, Kapura kachari, Káta phala, Khákashira, Kesuri-ná-phula, Lasuna (acrid), Medá lakadi, Málakágani, Mina haramá, Mirachi, Mudára, Niraguñdi, Pána, Pharaphiyuñ, Phataki,

Rái, Rála, Revāñchi-no-siro, Rogan-i-balasāna, Segata chhāla, Samudra sosha, Sāmbara siṅga, Sāpasaṇḍa, Thuvara, Tripākasi, Upaleta, Umbro, Utarani mula, Wet sponge.

Rubefacients are those which produce redness of the skin or set up inflammatory action in the minute vessels. They are quick in action, and could be applied over a large extent of surface. When used for the purpose of killing or removing insects, they are called Insecticides.

Rubefacients are :—

Anisuñ, Bedīni saphedi, Bāvañchi, Cholamugrá, Dudhyá bhophalá tela, Dāruri tela, Hurahuriyá, Kálá miri, Kānaphuti, Kañkola, Kapilo, Kapura tela, Káyákuti tela, Khera champá, Khákhanela, Khorásāni ajavāna, Kerosine oil, Lavaṅga tela, Limbu tela, Mákhaṇa, Mamai, Methi, Nim oil, Ová tela, Odi tela, Pisá tela, Rái tela, Suñṭha, Taja tela, Turpentine, Udela tela.

Insecticides are :—

Bhurañdi (Insects), Chañdana tela (Itch), Dhaturá leaves (Lice), Dhupela tela (Lice), Gañdhaka (Itch), Garambhi (Lice), Gajakarani (Insects, Dhobies itch), Gule hamāza (Insects), Hulahula (Maggots), Kadu dadoka (Lichen), Kadhi nimba (Insects), Kákamāri (Lice), Kapura tela (Pediculi), Kārañja tela (Insects), Kosumbela (Itch), Narakhuda (Insects), Nirguñdi (Leech bites), Párá kajali (Insects), Rājahaṇsa (Insects), Sitáphala (Lice), Tákali bija (Itch).

Vesicants or Epispastics : These when applied for a long time act as powerful stimulants to the cutaneous vessels and produce vesication or a blister. Vesicants are known as Pustulants when they cause an eruption of pustules resembling those of small-pox. Some of the vesicants have a peculiar inflammatory action and leave an indelible mark. These are :—

Agiyá, Bekh-i-Banaphashá, Bhilāmo, Bhui champá, Jamálagoto, Kájú bija, Lāla chitraka, Mazeriuna, Palāsa pápado, Pílu, Rámethá, Rānasura, Sera, Segata tela, Thuvara.

Caustics (burning) include Escharatics or Corrosives. Corrosives are used to destroy the virus in tissues around a poisoned wound, and thus prevent the absorption of the poison of bites of snakes, rabid animals, syphilis, &c. These are also useful in destroying unhealthy tissues or in removing polypi, malignant or other growths, and excrescences. These are :—

Aghádo (Stings of reptiles), Apaṅga (Warts), Gurakha mudi (Piles), Hurahuriyá (Tumours), Jaṅgāla (Piles), Kávali (Snake

bites and insects), *Nāga champā* (Snake bites), *Punaranavā* (Scorpion bites), *Pipali* (Reptile stings), *Vakha khāparā* (Scorpion bites), *Veta* (Mice bites), *Vitachadā* (Scorpion bites.)

Milder caustics: These have a sort of chemical action. They combine with the oleaginous and gelatinous elements, and convert them into soap. They alter the morbid action going on in subjacent parts, hence their application is useful in promoting cicatrization of ulcers, relieving inflammation of the mucous membranes and checking small hæmorrhages. They also remove warts, hairs, &c. When used to remove or destroy hair, they are called depilatories. These are:—

Hirākashisha, *Kādi khāra*, *Morathuthu*, *Rasa kapura*.

Depilatories are:—Ashes from fire wood, *Haratāla*, *Kali chuno*.

Actual Caution: It is a mild caustic. It is a most common practice among the natives to cauterize or cause a blister over the diseased part by means of a rod of iron at a white heat.

ANTACIDS or ALKALIES are used to counteract the increased acidity of the secretions from the stomach and bowels. Some of them act directly by combining or neutralising the free acids; others have a remote action in diminishing the acidity of the urine. They are useful in relieving acid eructations, heart burn, scanty and acid urine, &c. These pathological conditions depend upon the too acid juice secreted by the stomach, or the decomposition of food leading to the formation of acids, or upon slow or imperfect digestion. When the digestion is faulty vegetable bitters should always accompany antacids. They should not be long continued as they lead to impair digestion. Direct antacids may be given if the bowels are regular or relaxed or constipated. Remote antacids are useful in lessening the irritability of the bladder and acidity of urine. They are highly recommended in cystitis, gonorrhœa, &c. In gouty persons their action is to prevent the deposit of uric acid gravel. These are:—

Bāṅgāda khāra, Cowries, *Gābhana*, *Java khāra*, *Kali chuno*, *Pāpāda khāra*, *Paravāluṇ*, Rock salt, *Sāji khāra*, *Sāṅg-i-yāhuda*, *Sorā khāra*, *Zehera moharā*.

ALTERATIVES:—These medicines restore the nutrition of the body to its own normal condition. They have no action on the bowels, nor any marked effect on the nervous system. They improve assimilation and the tissue changes. Where the food is not properly digested as in dyspepsia, nor properly assimilated as in diabetes, the tissue changes are imperfectly carried on. The tissues

may break up too rapidly as in fever, or the waste products are not properly removed as in Bright's disease. In such cases alteratives are most needed. Some of them act as resolvents, absorbents or liquifacients by breaking up the newly deposited fibrinous masses, and promoting their absorption; others act by counteracting the effects of the syphilitic poison upon the soft tissues; others again act upon the lymphatic system, and are useful in removing œdematous and other glandular swellings. Some of them stimulate the absorbents and thus remove fibrinous deposits and syphilitic growths. These are:—

Aphatimuna (Blood purifier), *Ākadā*, *Aklil-ula-mulka* (Blood purifier) *Anānta mula*, *Arani*, *Bādāvarda* (Purifier of blood), *Bavañchi*, *Bheñduka*, *Bhui kumarā*, *Brahmi*, *Chaba-i-chini*, *Champā sála*, *Chañdana prabhā gotikā*, *Chhatrána*, *Chaula murgá*, *Chitraka sála*, *Gáo zabána*, *Gañdhaka*, *Garamabhi*, Gold leaf, *Gugala*, *Ganasura*, *Halima*, *Hirábola*, *Haratála* (*varakhi*), *Hīngula*, *Hiradā*, *Jadavára*, *Jasaḍa*, *Kachurá*, *Kala khápari*, *Kañcha kuri*, *Kashisha bhashma*, *Khadyá nága*, *Khápará bhashma*, *Kovatela*, *Kushta kuthára rasa*, *Lájávarda*, *Lohá bhashma*, *Makoya*, *Manasila*, *Mañdura bhashma*, *Manajishta*, *Mashi patri*, *Meñdi*, *Mezariuna*, *Mithuñ*, *Morathuthu*, *Moravela*, *Musali*, *Navaságara*, *Pára bhashma*, *Rájamraghanika-rasa*, *Rakta simula*, *Ránashira*, *Rāñjai*, *Rasa siñdura*, *Rasa kapura*, *Rásanā-dikvátha*, *Ruperi varakha*, *Sáji khára*, *Sálavana*, *Samudra sosha*, *Sañkhahuli*, *Sarveshvára rasa*, *Sera*, *Sonámukhi bhashma*, *Sháhterá*, *Sīngroti*, *Soneri varakha*, *Somala*, *Suriñjana*, *Suryá varta*, *Tákalá*, *Támbrabhashma*, *Tána*, *Thuvara*, *Upalasari*, *Venivela*, *Viláyati sálasa*.

Resolvents are those agents which aid the absorption of effused products. These are:—

Alasi, Counter irritants, *Gulabása*, *Hīngalo*, *Kálo malama*, *Kāñdā*, *Kapásidāñ* (boils), *Kharoti*, *Kosumba tela*, *Lála malama*, *Papitá*, *Pivalábola*, Poultices, *Ratanajota*, *Rakta rohidá*, *Ratavaliyo*, *Tambákhū*, *Vakha khápará*.

ANTAPHRODISIACS—Absence of sexual desire—It sometimes means impotence. These medicines take away, repress, lessen, or diminish the sexual excitability or power. Under their use the activity of the sexual functions is lowered. Some of them act by lessening the excitability of the nerves of the genital organs; others by influencing the circulation. These are:—

Avoidance of Spirits, Bleeding, Bodily exercise, Cold baths, Close study, Clothings (warm and heavy), Diet (poor), Feather beds,

Hygienic and moral characters, Ice, *Kapura*, *Kirdamāna*, Nauseants, *Nilophara*, Pads about the hips and loins, Purgatives.

ANTEMETICS—(against vomiting)—These remedies in suitable cases relieve and even remove vomiting. In all cases of vomiting it is always necessary to remove the cause. Vomiting is common in (1) organic diseases of the stomach, (2) protracted indigestion, (3) ingestion of decomposing food, (4) irritation or organic lesion of distant organs, (5) pregnancy, (6) sea-sickness, (7) abuse of intoxicating drinks, and (8) blood poisoning. These are :—

Kadu nimba, *Jheri Nárela*, *Duravo*, *Kolañjana*, *Lavaṅga*.

ANTEPERIODICS—Medicines which prevent or relieve the paroxysms of diseases which have a periodic character such as intermittent and remittent fevers, periodic headaches, neuralgias, and similar other affections due to malaria. These are :—

Ativisha, *Dikámáli*, Emetics, *Gulavela*, *Haratála* (*varakhi*), *Hingula*, *Kadávi*, *Kadávi-návi*, *Káli kutaki*, *Kiráeta*, *Oleñ karyáta*, *Manasila*, Purgatives, *Sapheda sambula*, *Sátavina*.

ANTHELMINTICS—(Against a worm.)—These medicines cause destruction or expulsion of various kinds of worms which infest the intestines. Vermicides have a mechanical action of destroying or injuring the worms. Vermifuges cause expulsion of worms. It is thus that the cathartics act as vermifuges. They operate on the bowels and thus expel worms. Prophylactics are those agents which increase the tone of the digestive organs and thereby obviate that condition of the stomach and bowels which tends to favour the generation and nourishment of these animals. Anthelmintics are not efficacious against every kind of worm. To remove them from the bowels, the best rule is to give an anthelmintic at night, and on the following morning a dose of opening medicine. These are :—

Ambá báthá, *Bakáyana*, *Baṅgabhashma*, *Dálimba sála*, *Dorali mula*, *Erañdi tela*, *Gela phala*, *Gogári lákaruñ*, *Gorakha muñdi*, *Gulanára*, *Hab-ula-bána*, *Kahuli*, *Kaloñji*, *Kapilá*, *Kárelá bija*, *Kavacha*, *Kiramáni ová*, *Khorásáni ajována*, *Kouso*, *Lála bhopalá bija*, *Mithuñ*, *Nimba*, *Palása pápado*, *Papaya bija*, *Revañchino siro*, *Rithá*, *Sakamuniyá*, *Satápa*, *Sishá bhashma*, *Somala*, *Supári*, *Surapana*, *Thuvana*, *Vakhamá*, *Vavadiṅga*, *Zoph-i-Yábisa*.

ANTESCORBUTICS :—(Against scurvy.) These agents are useful in cases of intense general debility, accompanied with sponginess and swelling of the gums, ecchymosis resembling bruises about

the thighs and legs, hardness about the muscles of the calves, pearly conjunctivæ, and a sallow, mild, and jaundiced aspect. These are :—
Ambosi, Apples, *Chincha*, Goavas, *Kháakashira*, Oranges, Potatoes.

ANTISPASMODICS :—These agents diminish the irritability of muscles and relieve or prevent spasm. They act by influencing the nervous system and chiefly that portion of it which affects the motion. Some of them affect the voluntary muscles. They may affect a single muscle or a group of muscles as in cramps, or the whole muscular system as in tetanus, hysteria, chorea, epilepsy, and other chronic convulsive diseases. Antispasmodics also affect the involuntary muscles. Cases of colic, headache, neurosis of the uterus and bladder, vomiting, hiccough, and convulsive coughs are thus relieved. They are very useful in stricture of the urethra, strangulated hernia, renal calculi, and spasm of the gall-ducts. They relieve tremors and delirium tremens as occurs in fevers. These are :—

Ambara, *Afima*, *Ajovana*, *Bekh-i-sosana*, *Darunaj-i-akrabi*, *Dhavalá*, *Dhaturá bija*, *Phudiná*, Galbanum, *Gorochana*, *Hinga* (the gum resin) *Hulahula*, *Jatámanasi*, *Junde bidásatara*, *Kálá miri*, *Kapura*, *Kasaturi*, *Káyákuti tela*, *Kevadá arka*, *Kevadá mula*, *Ládana*, *Lasuna*, *Máshi patari*, *Olaka tambula*, *Rasavanti Sumbul-ula-tiba*, *Surpana*, *Tambákhu* (the smoke), *Támra kshára*, *Tiriáke pharuka*.

ANTIHYDRATICS—These agents are used to relieve excessive sweat. They are useful in plethora, atony, or relaxed state of the skin, hectic fever, rheumatism, and intermittent fever. These are :—

Diuretics, Shower baths, Saline cathartics, Salts of iron, Sponging with vinegar and water, Preparations of zinc, *Gorakha chincha* (leaves), *Karatola mula*.

APHRODISIACS (exciting sexual desire.) They increase the sexual appetite and powers. They act directly or indirectly by increasing the excitability of the nerves of the genital organs, causing their irritation or by stimulating the brain. These are :—

Asálio, *Bānga bhashma*, *Barása kapura*, *Bhānga*, *Bhui kohakí*, *Birabávatí*, *Bozidána*, *Brahma dāndi*, *Ekharo*, Flagellation, *Jáepatri*, *Jáephala*, *Jaṅgali akharota*, *Káli musali*, *Kálu*, *Kapura*, *Kavaoha bija*, *Kesara*, *Khajura*, *Kháreka*, *Kuchallí*, *Kuliñajna*, *Kushta*, *Madanamasta*, *Maṇḍura*, *Moti*, *Pána*, *Rege máhi*, *Ruperi varakha*, *Satamuli*, *Somala-nu-tela*, *Soneri varakha*, *Supári*, *Suravátri*, *Ubhi riṅgani*, *Udida*, *Upaleta*, *Utiṅgana*, *Vaṇsa lochana*, Wine, *Zápharána*.

ASTRINGENTS:—These chemical agents are known as topical astringents and astringents. Topical astringents are used in the form of (1) powder, (2) solution, (3) plaster, (4) lotion, (5) ointment, (6) gargle, (7) injection, and (8) suppository. They have a special power of causing contraction of vessels, or of tissues, or of the parts to which they are applied. They are employed (1) to stop preternatural secretion from the mucous surfaces as leucorrhœa, gleet, gonorrhœa, &c. (2) to check profuse secretion from ulcerated surfaces; (3) to stop bleeding from the uterus, lungs, kidneys, piles &c. (4) to strengthen the relaxed parts as prolapsed rectum, uterus, vagina, &c. Astringents combined with carminatives and stimulants are useful in checking diarrhœa, and relieving irritable condition due to gastric and intestinal fluxes. Where the irritation of the alimentary canal is violent and attended with fever, astringents should be combined with narcotics. Astringents are contra-indicated in cases of great irritation, inflammation, or dryness of the secreting surfaces, Styptics: These are topical astringents. They repress hæmorrhage from wounds. In gastric and uterine hæmorrhages, styptics have a special action. These are:—

Abraka bhashma, Abreshâma, Aghâdo, Akâkiâ, Âmbâ bâthâ, Âmboti, Âmalî, Âmachhâla, Anañda bhairava rasa, Âvala kâthi, Bâbula sâla, Bâkula sâla, Bâñdhâro, Bâñguda (styptic), Bela, Bhamburdâ (Black ink), Bari mâiñ, Chanâ âmba, Chhoti mâiñ, Chiñchokâ, Chikanâ pâta, Chora âmalâ, Dâlimba sâla, Dhamâso, Devakâpusa.

CARMINATIVES (carding or cleansing): The word carminative is derived from carman, which means a charm. These agents are useful in expelling flatus from the stomach and intestines, and thus relieving colicky pain or griping. When given to dyspeptic patients they promote digestion and are known as stomachics or cordials. Carminatives contain a volatile oil and are therefore termed aromatics. They are seldom given alone, generally in combination with several other carminatives. When given with antacids they correct the acidity of the stomach, with purgatives they prevent griping. These are:—

Adraka, Anisuñ, Bâbunîh, Bâdiâna, Badisonph, Bâphali, Bidalavana, Chini kalañjana, Dârachini, Dhânâ, Gaja pimpali, Godâvacha, Halâda, Kâlâjâma, Kâlâñ miri, Kâlâ nâga kesara, Kalonji, Karaphasa, Keherubâ, Kesara, Krishnâ jiri, Lasana, Lavañga, Lendi pimpali, Orâ, Pâhâdi phudinâ, Pokal miri, Pâna, Pañcha lavana, Pâñdelona, Pimpala, Râi, Sâmbaramitha, Samudra lavana, Shiâ zirâha, Soñachala, Sonapha, Suñtha,

Surangi nágakesara, Suvá, Taja, Tálispatra, Tamálapatra, Vekhaṇḍa, Viláyati ziráh, Zápírán, Ziráh sapheda.

CATHARTICS—(cleansing or purging.) These substances cause alvine evacuations through the rectum in quantities larger than the natural excretion. **DRASTIC** (I am active) **PURGATIVES** or **hydragogue** (water eliciting) cathartics. These are strong acrids. They cause evacuations of digested or undigested contents of the intestines in a liquid form. They often cause nausea, vomiting, tenesmus, great depression of spirits &c. They excite the abdominal vascular system and are therefore contra-indicated during the exacerbation of fever and inflammation of the bowels. They are most useful in other inflammations, spasmodic or other intestinal obstructions, apoplexy, also torpid bowels and dropsy due to heart or kidney disease. **Purgatives**: These are less acrid than the cathartics, but more active than the salines. They act chiefly, if not entirely, on the muscular coats by increasing the movements of the intestines, diluting the solid contents, and lubricating the passages. They are contra-indicated in piles and diseases of the rectum. They are very useful in hæmorrhage from the lungs, plethora, and cerebral or other congestions. **Saline purgatives**: These increase the peristaltic action of the bowels, augment the effusion of fluids, and give rise to watery stools. In small doses they become absorbed and are eliminated by the kidneys. They are highly recommended in liver complaints, fever, and inflammatory diseases. **Laxatives and Aperients**: This group generally evacuate from the intestines fæcal matters, undigested food, worms, morbid secretions, and poisonous agents, without causing irritation or depression of the general system. They are useful for children and pregnant women, in surgical cases after operations, in uterine flexions &c. Different purgatives take different intervals between their administration and action. This depends upon their degree of solubility and upon particular tract of the intestines on which they act. Some of them act within an hour, others in two hours, others again in 3 or 4 hours. A few take a still longer time. These are:—

Ahaliva (Aper), *Alu Bokhárá* (Lax.), *Amali* (Lax.), *Aṅgura*, *Añjira*, *Asperaka* (Aper.), *Assáliá* (Aper.), *Bakáyana*, *Banaphashá* (Lax.), *Behedān*, *Bishkháprá* (Cath.), *Chaná* (Lax.), *Chincha* (Lax.), *Chiretá* (Lax.), *Dānti mula* (Aper.), *Dáruhaḷada* (Purg.), *Dáruri* (Cath), *Drákhsha* (Lax.), *Dudha* (Lax.), *Eliyo* (Purg.), *Eraṇḍela* (Lax.), *Farfyuñ* (Drastic.), *Ganasura* (Purg.), *Gandhaka* (Lax.),

Garamálo (Lax.), *Gazanjabín* (Aper.), *Gelaphala* (Cath.), *Gharikuñ* (Cath.), *Gokarana bija* (Purg.), *Gokarná mula* (Lax.), *Goruchana* (Aper.), *Guláb-kali* (Aper.), *Gule gápheza* (Aper.), *Gugala* (Aper.), *Gujanjabina* (Aper.), *Habaulbán* (Lax.), *Hinaganabeta* (Purg.), *Himaja* (Aper.), *Haradán* (Purg.), *Indráyana* (Cath.), *Itchá bhedí rasa* (Purg.), *Jamálagotá* (Cath.), *Javakhára* (Lax.), *Javasa* (Aper.), *Kadudodaká* (Cath.), *Kadu padvala* (Cath.), *Kálábola* (Purg.), *Káládáná* (Purg.), *Kálidráksha* (Lax.), *Kamala*, *Kampila* (Cath.), *Kánphuti* (Lax.), *Kanteri indráyana* (Cath.), *Karadai* (Lax.), *Karavi tumbadi*, *Kasumbá* (Lax.), *Kasunlá*, *Kasusa*, (Aper.), *Kesari* (Lax.), *Khápra mula* (Cath.), *Khasakhasa* (Lax.), *Khokali* (Lax.), *Kukadavela* (Purg.), *Kupi* (Lax.), *Revanchini* *Ukadi* (Lax.), *Lodhra* (Aper.), *Madha* (Aper.), *Makoya* (Cath.), *Mamirán* (Aper.), *Mesura* (Aper.), *Mulábija* (Lax.), *Navaságara* (Aper.), *Nimba* (Purg.), *Nishotara* (Purg.), *Pálaku* (Lax.) *Palasa pápadá* *Párakajali* (Purg.), *Pilijari* (Lax.), *Pimpala* (Lax.) *Pivalá bola* (Lax.), *Punaranavá* (Lax.), *Ránasura* (Purg.), *Rásaná* (Purg.) *Revañ-chinosiro*, *Sakumniya* (Aper.), *Samudralavana*, *Sankháhuli*, (Lax.), *Sátodo* (Lax.), *Sávara mitha* (Lax.), *Sená makhi* (Purg.), *Sevana sála* (Lax.), *Shahteráh* (Aper.), *Shetura* (Lax.), *Sindhava nimaka* (Lax.) *Sirkhist* (Aper.), *Survári Harade* (Aper.), *Thuvara* (Purg.), *Tila bija*, (Lax.) *Tukhme kasus* (Purg.), *Turañjabina* (Aper.), *Tryamána* (Aper.), *Unába* (Aper.), *Vakha khápará* (Lax.), *Váeveruna* (Lax.) *Zharasa* (Aper.)

CHOLAGOGUES—(bile moving.) These agents lessen the amount of bile in the blood. They hurry on or expel from the bowels, chyle or other similar agents which are necessary for digestion, without allowing them to be properly digested. They increase the flow of bile, and of the pancreatic juice. They are useful in promoting hepatic functions. These are :—

Ámalá, *Eliyo*, *Hamámá*, *Kokamba*, *Navaságara*, *Pápada khára*, *Pára kajali*, *Revañchi-no-siro*, *Zarishka*.

DEMULCENTS—Medicines which soften, protect, or soothe the mucous membrane of the alimentary canal by forming a soft coating and thus sheathing it from external irritation. They are generally of a mucilaginous nature. When applied to the skin they are known as emollients. Under their use inflammation due to acrid poisons is checked ; irritation, ulceration and pain of the bowels relieved. They are given either by the mouth, or in the form of an enema. In inflammation of the air passages many of them

are used as inhalations. Several of them are given as cooling drinks, in relieving pain and irritation in the throat, and in lessening troublesome cough. There are :—

Abreshama, Alasi, Arani, Bábula goṇḍa, Badáma, Bárataṅga, Bedá-ni-saphedi, Behidánáh, Bhúji bija, Bheṇḍá, Bhui kumrá, Chakra bheṇḍa, Chaṇḍana, Chárolī, Charoti, Chávala, Chiknápáta, Chora ámalá, Dhákali 'dudhi, Dorli mula, Faraṅja mushka, Gakarni mula, Gaozabán, Gulekhitami, Gule khairu, Gule pistán, Guṇja, Harana siṅga, Ispoghula, Java, Jeshti madha, Jangli methi, Jasovaṇḍa, Kabába chini, Kamara kákri, Kamara kasa, Kaṅkola, Kanochá, Karáí goṇḍa, Katirá goṇḍa, Kathályo goṇḍa, Khabázi, Khajura, Khasakhasa, Kulphá, Kumábija, Madha, Madami, Maidá lákadi, Mázeryuṇ, Methi, Mohti dudhi, Mina, Mocharasa, Mothen gokharu, Mogla-i-behadáná, Murádasiṅga, Mushk-dánáh, Párasa pipala, Pisá, Pistán, Poini, Rája jirá, Rakta simala, Ráma-turái, Rána tulasi bija, Ratana purusha, Ratoliyo, Reshá-e-khitami, Sapheda musali, Sapistána, Sátamuli, Sivana sála, Tána, Tila, Tukhm-e khitmi, Tukhm-e-balaṅgo, Tukhm-e-rohána, Tulasi bija, Upalasari, Usa ámba, Utanagana, Vákumbhá, Wássanvela.

DIAPHORETICS :—The word literally means (carrying or conveying through or throwing off by perspiration). It is an act of perspiring. By means of these agents perspiration is artificially produced. They increase the secretion (sweat) from the skin or from the mucous membrane of the lungs. Sudorifics are those agents which cause the perspiration to stand in beads upon the surface of the body. These are :—

Ajamáná pána, Alphajána Ayápána Banaphashá, Cháha (hot) Chob-i-chini, Dáruhaláḍa Gulegaozalána, Haricháhá, Káloválo, Koṇḥa kuri, Kátha ávalá, Káyá kuti tela, Makoya, Moist air, Miri, Náephatki, Náraṅgikátela, Rasavaṇti, Sorákhára, Suṇṭha, Tumbá Upalasari, Ustakhudus, Warm baths, Warm clothings.

DENTIFRICE (cleansing the teeth). These act mechanically. They are usually used as powder or paste. They are made up of a combination of detergents, astringents, aromatics &c. They are useful in removing foreign matters adherent to the teeth. They require a certain degree of hardness or grittiness. Insoluble powders should best be avoided as they are apt to accumulate in the spaces between the gums and the neck of the teeth. These are :—

Badáma-ná-kotaláṇ (Burned), Bávala (stem), Chikali (stems), Chalk, Sopári (Burned), Kolasá-no-bhuko, Hirábola, Kapura, Hirádakhana, Kátho, Kharoti, Jheela (stem), Mithuṇ, Nimba, (Stems) and Tamakhira.

DETERGENTS:—(Skin cleansing.) They remove dirt or epidermal scales, which, by being accumulated on the skin, interfere with its proper secretion. Some of them act chemically, others have a mechanical action. Oils are useful in removing resinous deposits left on the skin. These are :—

Alkalies, *Bávala chhála*, *chaná-no-lota*, Charcoal, *Dudha*, *Gora tela*, *Gul-e-aramáni*, *Kapura tela*, *Koparela tela*, *Lákha*, *Madha*, *Nágora*, Oat meal, Ox gall, Pumice stone, *Rála*, *Rithá*, Rice flour, Sand, Saw dust, *Sikákái*, *Shirakáh*, Soap, *Tañkana khára*, Water (hot.)

DILUENTS:—These agents when taken internally are digested, absorbed, and assimilated. They are employed to quench thirst (dryness of the throat) as in fever and diabetes. Where the thirst is due to local causes, aromatics and vegetable or mineral acids stimulate the saliva and thus act as diluents. Diluents act (1) by forming a mucilaginous coat inside the mouth and pharynx; (2) by promoting the action of the secreting and exhaling organs; (3) by lubricating, soothing, or sheathing the irritated or inflamed structures; (4) by promoting the action of emetics, cathartics or diaphoretics, when given along with them; (5) by diluting the urinary secretion, in cases of highly acid urine. In cholera the diluents introduced into the circulation, either by injection into the veins, or through the alimentary canal, cause their absorption and promote the action of the skin, lungs, and kidneys. These are :—

Aqueous fluids, Solutions of gum, Solutions of sugar, Mixture of oily matter and water, Mixture of glutinous matter and water, Mixture of albuminous matter and water.

DISINFECTANTS:—These are topical medicines. They either render inert or destroy miasmata, or absorb or destroy foul effluvia and organic decomposed fetors. Those which destroy unpleasant or offensive odours are called Deodorants. The offensive odorous bodies are essentially volatile and contain *Gāndhaka* in some state of combination. Their action is chemical. Many destroy effluvia by overpowering or disguising them. This they do by absorbing or condensing odorous substances. These are :—

Ashes from burned fire wood, Charcoal, *Chuno*, Cow's dung, Earth, Eau de Cologne, Infested clothings boiled in water at a very high temperature, Free ventilation, *Gāndhaka*, *Hirákashi*, *Mañdura*, *Morathuthu*, *Shirakáh*, Sugar.

DIURETICS:—(Make water through). These agents are useful in directly increasing the secretion or the quantity of urine. They

render the urine more watery and prevent the deposition of solids from the urine by redissolving any concretion that may have formed. They promote elimination of poisonous agents from the system, and remove effete organic matter from the blood. They relieve inflammations and remove excrementitious products such as urea from the body. In general dropsy, ascites, &c. they are very useful. The indirect method consists of removing those causes which lessen or check the excretion of urine.

Diuretics are useful in restoring the healthy condition of the kidneys. Thus in fever the secretion of urine is scanty and high coloured, and the diuretics act by stimulating or removing waste products. The secretion of urine is modified by, (1) temperature, (2) season of the year, (3) time of the day, (4) climate, and (5) quantity of fluids consumed. If excess of water (diluent) is taken into the system the excess of it is got rid off by the kidneys. If the discharge from the skin and lungs be checked as by keeping the skin cold, the kidneys make up for this deficiency of action. These are :—

Abhala Ajamuda, Añgura, Aqueous substances, Asagañdha, Asáñiá, Bádiána, Bakáyana, Bañga bhashma, Bhui ávalá, Bhuirīngani mula, Bitteracrids, Bhomyá, Bráhmī, Dagadiphula, Durabhá, Dudhyá bhopalá bija, Ekharo, Elachi, Farañja mushka, Fatara sáliyuñ, Gájara bija, Gokarani mula, Gárajana-ká-tela, Haliyuñ, Jañgali káñdá, Java khára, Kadavi ghisodi, Kájuno dāru, Kálájáma, Kamara kákadi, Kámuni, Kañchari, Kákadibija, Káteri máta, Karavⁱ tumbadi, Kasái bija, Khajurano dāru, Kháranuba sámi, Kharabuza bija, Kulphá, Lahána gokharu, Láزالu, Makoya, Mercurials, Methi, Mishka dānā, Motheñ dagadi phula, Motheñ gokharu, Mulá bija, Náephataki, Nilophara, Pá Khanabheda kválha, Pálaka, Pita pápadá, Prema bheda rasa, Rána tulasi bija, Sága bija, Sañg-i-isama, Sañg-i-sira-máhi, Sañg-i-yáhuda, Sátamuli, Sátodá mula, Sháhterá Sishá bhashma, Táda-nitádi, Táda-no-dāru, Tila bija, Tarabuza bija, Uñdirakáni, Upala-sari, Utakatára Utañgana, Vakha khápará, Venivela, Zoph-i-yábisa.

EMETICS :—(Vomiting.) These cause emesis of bile, mucus, and other contents of the stomach. They are useful (1) in cases of poisoning, (2) in removing food or other foul matters which if not digested cause gastric irritation, nausea, headache, &c., (3) in promoting secretion and excretion which may be sluggish as occurs in torpid liver, dyspepsia, &c. (4) in expelling bile as in biliousness and ague fever, (5) in removing croupous or diphtheritic membranous exudations from fauces, or any foreign bodies lodged in the throat, œsophagus, or the air pas-

sages, (6) in exciting nausea and thus reducing the increased vascular action as occurs in active hæmorrhages, inflammatory fever, acute inflammation of the lungs, testicles, mammæ, joints, &c. (7) in depressing the muscular system as is necessary in reducing dislocations of large joints; (8) in giving relief to spasmodic diseases such as asthma, whooping cough, gall stone colic, &c. They are contra-indicated in inflammation of the bowels. Vomiting may be promoted by (1) tickling the fauces (especially the velum pendulum palati) with a feather, or touching them with a finger; (2) by contact of irritants with the mucous membrane of the stomach; (3) by repletion of the stomach with tepid liquids, salt and water, and acrids or irritants. All these agents act by exciting nerves of the stomach. These are :—

Ākadā mula, Āmati, Bakāyana, Bābunāha, Banaphashā, Dārurī, Gārambi, Gelaphala, Godāvacha, Hab-ula-bāna, Hiṅga, Hiṅganabeta, Jaṅgali aṅjira, Jaṅgali piyāza, Jaṅgali pitavāna, Kadu dadokā, Kānaphuti, Karavi tumbadi, Khokhali, Kukadavela, Karavi turai, Mithuṇ, Mohvā, Morathuthu, Nāephutaki, Rāi, Rithā, Samudra lavāna, Samudra phala, Tāmbuṇ, Unbe sālāpa.

EMMENAGOGUES :—(Eliciting menstrual discharge.) These agents stimulate the vascular system of the uterus. They restore its normal functions which may be at fault or cause expulsion of its contents which may be obstructed by abnormal condition of the passages. In anæmia and general debility where menstruation is checked or retarded emmenagogues effect a cure. Some of them have a direct action upon the unstriped muscular fibres of the uterus.

Agents which excite the uterine muscular fibres and lead to their contraction are known as Echbolics. They are also useful in expelling the contents of the uterus. These are :—

Abhala, Alphejāna, Bakāyana, Bekh-i-sosana, Fatharasuvā, Gugala, Hab-ula-ghara, Hirākashisha, Hirābola, Hramalā, Ispaṇḍa, Kālā bola, Kaloṅji, Kāsani, Kevadāmula, Khāranuba sāmi, Lasana, Moravā, Mishk-i-tarāmashi, Nāephutaki, Naravela, Niraguṇḍi, Olekā tumbula (Dysm), Pīlu, Pimpali mula, Pivalā bola, Ranukā bija, Rāsanā (Lochia), Sāgaragotā, Samudraphala (Parturition), Sāpasaṇḍa, Satāpa, Sātharā, Surāpana, Taja (expel foetus) Taṅkana-khāra, Tabāshira (Lochia), Ustekhudusa, Varadhāro (promote growth of the foetus.)

EMOLLIENTS :—These are topical medicines. They have the effect of softening or relaxing the parts to which they are applied. When applied to inflamed parts they relieve tension, and lessen irritation

and pain. Owing to their containing fat and water they prevent the skin from cracking. Applied over an abraded surface as in burns and scalds, they form a uniform coating and thus promote their healing action. They also prevent irritation or friction between the two apposing surfaces. Some of them contain warmth and moisture and are therefore applied over boils, carbuncles, &c. These are :—

Alasi, Alasi-no-khora, Badāma-nu-tela, Bedāni saphedi, Bhusuñ (bran), Bread, *Chanā-no-lota, Chora āmalā, Dudha, Flour, Ghee, Gora tela, Kulphā, Madha, Mākhana, Mina, Oatmeal, Rice flour, Rose water, Sarasuñ tela, Tila tela, Wheat flour.*

EXPECTORANTS :—(Evacuation out of the chest.) Some of these agents modify the secretion and condition of the bronchial mucous membrane; others correct the abnormal condition of the respiratory muscles. There is an indirect method of producing expectoration. Patients are made to swallow diluent drinks or allowed a piece of sugar or any glutinous substance to melt into their mouth. It is thus that the irritation of the air passages is allayed. Expectorants act (1) by aiding the evacuation of the already secreted bronchial mucus, (2) by exciting cough, (3) by removing the already formed secretions from the air passages, (4) by altering the quality of the mucus by rendering it thinner and less viscid. They at first assist the evacuation of the bronchial fluids and after a time check their secretion. (a) Pulmonary sedative expectorants, otherwise known as paregorics, are given in cases where the cough is dry and harsh, and the expectoration scanty and acrid. They act as demulcents, by soothing and lubricating the air passages. (b) Topical expectorants :—These are directly applied to the bronchi. They act as emollients and demulcents. Some of them act as local stimulants. (c) Stimulant expectorants :—These are useful in diseases of the bronchi, in dyspnœa with constriction in the chest, laborious breathing, and violent cough, in chronic inflammation of the lungs occurring in debilitated old people, and in phthisis, where the lung secretion is profuse. (d.) Nauseating expectorants: These are useful in acute bronchial irritation. Antasthmatics:—These agents have a very beneficial action in checking or relieving spasm of the muscular fibres of the bronchial tubus. These are :—

Adulāsā, Adraka Agara, Aghāḍā bija, Ajamānā pāna, Añjira, Anisuñ, Asālio, Ayāpāna, Badāma bija, Bādīāna, Balesāna, Banaphashā, Behadānā, Bhui riñgani, Berijā, Brāhmi, Dhaturā, Drākhsha, Gazañjabinja, Gugala, Gul-i-khitami, Hab-ula-balesāna, Halada, Halima bija, Hiñgula, Hirābola, Javakhāra, Kāephala, Kākanaja,

Kamala phula, Kámuni, Káñdā jāñgali, Kapura, Kasuñda, Kasaturi, Khajura, Kharadi, Khokhali, Lobāña-nā-phula, Lálachiruchiri, Madha, Mocharasa, Movā phula, Nilophara, Niraguñdi, Pimpali, mula, Phudino, Rái, Rájahañsa, Rasa siñdura, Sakar-i-tigala, Sikákái Suvā, Sabajá, Sumabula, Suñtha, Tálisapátra, Tañkanakhára, Triphalá, Tukhm-i-balesána, Tulasi bija, Turañjabina, Ushaka, Utarani mula, Zopha-i-yábisa.

FEBRIFUGES—ANTIPYRETICS—(To drive away fever.)

Both have one common action, namely to reduce the temperature of the body whenever it is abnormally raised. Some of them known as refrigerants act either by withdrawing or abstracting or lessening the blood heat from the surface of the body. Others act as derivatives on the stomach and intestines. The cutaneous arterioles allow the heated blood to circulate freely through the skin and to be cooled by exposure to the cooling media surrounding it. Some febrifuges have a specific action or an antiseptic power over the extraneous ferments or septic materials which may exist into the blood owing to the fermenting influence of vegetable germs from decaying vegetations contained in it. These are :—

Bachanága (Haladio), Báma, Bhánadira, Brandy, Champá, Cold baths, Diaphoretics, Dariái jái, Gogári lákari, Gul-e-ghápheza, Ice, Indrajava, Kálákudá, Kesari, Kheta páparo, Kudá sála, Limbado, Máháruka, Mamirá, Manasila, Miri-ni-cháha, Niraguñdi, Patola, Pilijari, Pilu, Phudino, Rohana sála, Ságaragotá, Sañkha huli, Samabula, Vákhmá, Váyavarana.

FUMIGATION :—(Smothering.) These medicinal agents are capable of being volatilised by heat. Their vapour is allowed to enter into an apartment or come into contact with articles of clothing for purposes of disinfection or to act therapeutically (on becoming absorbed) either upon the surface of the body or upon limited parts. These are :—

Agara, Ajamoda, Badáma-nā-kotaláñ, Alasi, Bháñga, Bhutapála, Bhúiriñgani, Boi, Chañdrusa, Chhána, Dhamáso, Dhaturá-nā-pána, Gañdhaka, Gujañjabina, Gugala, Halada, Hiñgula, Huramala, Janáradhana-uda, Kaunadala, Kapilo, Krishnágara, Lavañdara-nā-phula, Lobána, Makoya, Miracháñ, Naraka-uda, Páhadi dhupa, Párá kajali, Rála, Satápa, Siñdura, Siñgrapha, Triphalá, Ushaka, Vissha, Variáli.

LITHONLYTICS—LITHONTRIPTICS :—(Dissolving stone) These agents act as solvents for the stone. Some of them are given by

the mouth, others are injected into the bladder. Medicines which promote the copious secretion of healthy urine act as solvents, for the stone. Injections into the bladder are the direct methods of bringing solvents into contact with the stone, but if not properly selected they irritate the bladder and are dangerous. Antilithics prevent the formation of urinary calculi. Their action is that of diuretics and alteratives combined. As a diuretic they increase the quantity of water or render the urine more dilute. It is thus that the insoluble or the solid constituents are dissolved. They also promote the secretion of uric or lithic acid. As an alterative they alter the chemical qualities of the urine and thus prevent the formation of urinary deposits. These are :—

Mulá bija, Sañg-i-yáhuda, Sañg-i-isama, Váyavarana.

NARCOTICS :—(Becoming torpid.) These agents stupify the mind. They artificially irritate or promote the natural physiological process of sleep. When given in large doses they lead to insensibility. They are often confounded with anodynes and sedatives. (1) Indirect narcotics act by removing most of the disturbing causes which lead to sleeplessness such as want of free and well ventilated room, inconvenient bed, excessive heat or cold. (2) Direct narcotics are also known as soporifics. These have a specific action upon the cerebral grey matter. In small doses they act as stimulants and are most useful in excessive fatigue, exhaustion, and in early stage of cholera. In full doses they alleviate the pain of sciatica, lumbago, hemicrania, &c. In delirium tremens, narcotics diminish tremors and sleep is restored. In convulsive and spasmodic diseases such as tetanus, asthma, whooping cough, &c. narcotics in full doses may be given with advantage. In fever and in inflammatory diseases such as peritonitis, narcotics alleviate the agony of the patient. (a) Sedatives : (easing or assuaging.) These exert a soothing action upon the general system. They directly diminish the force of the heart's action, reduce the strength and frequency of the pulse, diminish pain, lessen the functional activity, and tranquilize irregular muscular movements. (1) General sedatives are useful where the pain is excruciating as in biliary and renal calculi &c. (2) Local sedatives are useful in relieving neuralgic or rheumatic pains or the acute suffering of superficial inflammation. (3) Gastric sedatives are useful in irritable state of the stomach leading to gastrodynia, vomiting, pyrosis, &c. (4) Vascular sedatives have the power to lower the heart's action. It is thus that various emetics and nauseants act. (b.) **Anodynes :—**(Privation from pain.) These act by lessening the ex-

citability or sensibility of the nerves or of the nerve centres. They consist of solid and liquid agents which are either swallowed or inhaled or injected into the rectum or used as pessaries or suppositories or hypodermically injected or locally applied to the skin. These are :—

Afima (A. and N.), *Aghádo* (L. A.), Alcohol (N.), *Álubálu* (G. S.), *Amaravela* (L. S.), *Añkola* (L. A.), *Ávara* (L. S.), *Bachanága* (N. and S.), *Bami* (A.), Bleeding (S.), *Bárá lakha* (L. S.), *Bhánga* (K.), *Bispháez* (L. S.), *Dáruri* (N.), *Dhaturá bija* (N.), *Gullála* (S.), *Hamámá* (H.), Heat (dry and moist) (A.), *Kadu badáma* (G. S.), *Kálá bichavá* (L. A.), *Kálá dhaturá*, (L. S.) *Kapura* (L. S.), *Kashishádi tela* (L. S.), *Párasa pipalo* (L. S.), *Posta* (L. A.), *Rasavañti* (L. S.), *Samudraphena* (L. S.), *Silájita* (L. S.), *Silárasa* (L. S.), Sugarlet (L. S.), *Surinjana* (L. S.), *Surokhára* (L. S.), *Tambákhú* (L. S.), *Usná* (S. and H.)

REFRIGERANTS (cooling.) These are agents that diminish the temperature of the body or of any of its parts when it is preternaturally raised. They are useful in lowering the body heat, either during health or in disease. When taken they allay thirst and produce a feeling of coolness. They are also locally applied. All agents classed under febrifuges work as refrigerants. These allay febrile heat, but have no action in diminishing the ordinary or healthy temperature. Refrigerants are :—

Ahaliva (Local), *Ajamáná pína* (Local), *Álu bokhárá*, *Amboti*, *Ámalá* (Local), *Ámali*, *Bela*, *Banaphashá*, *Báratañga*, *Barijá* (Local), *Behi dánáh*, *Bodúra kákaró* (Local), *Chañdana* (Local) *Chhipa bhashma* (Local), Cold air, Cold bath, Cold lotion, *Cowri bhashma* (Local), *Dálimba*, *Dahi*, *Drákhsha*, Fresh fruits, *Dudhyá bhopalá bija tela* (Local), *Ekharo*, *Erañdiná pána* (Local), *Geru máti* (Local), *Gopichañdana* (Local), *Gule aramáni* (Local), *Gul-i-hamáza*, *Gul-i-khitami*, *Jáephala* (Local), *Jheri nárela* (Local), *Jeshtimadha*, *Kabábachini* (Local), *Kadu badáma*, *Kalakhápará* (Local), *Káhu*, *Kamala phula*, *Kamala kañkadi*, *Kañkola* (Local), *Kámuni*, *Káñkadi bija*, *Kavita*, *Kevadínno-arka* (Local), *Kharabuja bija*, *Kherasála*, *Kokumba*, *Limbu*, *Makoya*, *Medhola* (Local), *Moglai-behidáná*, *Mohvá phula*, *Murádárasañga* (Local), *Mushka dánáh*, *Náriela páni*, *Navaságara*, *Nilophara*, *Páladalamula Pánisoka* (Local), *Phálasañ*, *Peparamiñta-ná-phula* (Local), *Rakta chañdana* (Local), *Ratáñjali*, *Saphedo* (Local), *Sága*, Infusion of marking nut, *Sana bija*, *Sábara siñga* (Local), *Sañkha bhashma* (Local), *Sátamuli*, *Shetura*, *Sora khára*, *Tarabuja magaja*, *Tukhm-i-báluñga*, *Utañgana*, *Zarera*.

SIALAGOGUES (Saliva eliciting.) These agents increase the quantity of saliva more than is necessary during health. Saliva

is useful in keeping the mouth soft and moist, and thus facilitating the power of speaking, chewing, deglutition, &c. It also keeps the fauces moist and thus prevents thirst. In inflammation of the parts in the neighbourhood of the mouth leading to earache, toothache, headache, &c. sialagogues are often useful. Sialagogues assist the digestion of starch. They also promote gastric digestion by stimulating the secretion of the gastric juice. (a) Direct or topical sialagogues known as masticatories are acrid or irritating substances which when applied into the mouth lead to salivation. (b) Specific or indirect sialagogues :—These when swallowed become absorbed. They act by increasing the activity of the salivary secretion and also by increasing the supply of blood to the secreting glands. These are used in the treatment of general diseases such as syphilis, scrofula, rheumatism &c. The idea of savoury food leads to salivation. These are :—

Akkalakaró, Hávájivá, Kátaphala, Párá kajali, Rumi-mastaki, Raṅg-i-Bádasháha, Ratanajota.

STERNUTATORIES OR ERRHINES (sneezing). These agents cause sneezing and also increase the secretion from the mucous membrane of the nose. They are useful in hysterical syncope, headache, giddiness, epistaxis, &c. They have secured a world wide popularity and some of them are used as a necessary for life. These are :—

Tamakhira, Bhuta pála, Náka i siṅkani, Miri (fine powder), *Abira, Ambara, Ámbehalada, Chaṇḍrusa, Dagadaphula, Kachorá, Káchari, Kapura, Lobána, Muroá, Pátcha, Tuti harani.*

STIMULANTS (stirring up.) These agents increase the force and frequency of the heart's action by exciting the nerves' influence. If locally applied they increase the normal function of a part, arouse the vital powers, and set up a slight degree of superficial irritation, and hence are known as derivatives or counter irritants. When swallowed they affect the tongue. In moderate doses they act (1) by exciting the gastro-intestinal tract, (2) by producing a sensation of warmth in the stomach, (3) by promoting contraction of the muscular fibres and (4) by increasing the secretion of the mucous follicles, thereby expelling gaseous matters and assisting digestion. They undergo certain chemical changes and become absorbed. A portion of them evacuates along with the excretions such as the breath, urine, &c. They quicken respirations and increase the temperature of the body, and are hence known as calefacients. Their action upon the brain and cord is to stimulate them to an increased action. When taken in large doses they overpower the functions of the brain and cord, thus

acting both as a sedative and a narcotic. They are most effective in their action as diuretics, expectorants, sudorifics, &c. Stimulants are divided into (1) Cordial stimulants: These improve the tone and vigour of the circulation. (2) Cerebral stimulants: These strengthen the intellect. (3) Vascular stimulants give tone to weakened vessels. (4) Stomachic stimulants: These are otherwise known as carminatives, aromatics, or condiments, and are useful for the cure of flatulence &c. (5) Diffusible stimulants, otherwise known as temporary stimulants: These when taken into the stomach or hypodermically injected, or inhaled into the lungs through the breath or injected into the rectum, at first give rise to a sensation of warmth, the sensation then soon extends to the whole body followed by exhilaration of spirits, warmth in the skin, and fulness and frequency of the pulse. Stimulants are chiefly useful in asthmatic disorders, in cases of exhaustion (nervous), and in spasmodic diseases. They are contra-indicated in plethora, acute inflammation, and high fever. They do harm if given in delirium due to cerebral congestion or to cerebral inflammation. These are:—

Afima, Agar-i-hīndī, Ahaliva, Akalakará, Alphajána, Ambara, Aod-i-balesána, Asálio, Badrañjaboya, Bakula phula, Barása kapura (Cord. Stim.), *Bhimaseni kapura* (Dif. Stim.), *Chiraphala* (Vas. Stim.), *Gájara bija, Gajá pimpali, Gorochana, Hema garbha, Hab-i-balesána, Jatámanasi, Juñde bidástara, Kebara, Kálá jáma, Kálo válo, Karaphsa, Káyákuti tela, Kavata, Kevadí-no-arka, Kesara, Khuba kalána, Krishnágara, Lála behamana, Lála mirachi, Lavañga, Málakāñgani tela, Mishk-i-tarámashi, Nágaramoṭha, Nimba, Patchaka, Pimpali mula, Rái, Roghan-i-balesána, Rag-i-máhi, Samudra phala, Sáthará, Soneri varakha, Sunṭha, Surāñgi nága kesara, Tejábela, Tiraphala, Todadi sapheda, Todadi surkha, Tumbá, Tiriák-i-pharuka, Ustekhudusa, Zápharána, Zopha-i-yábisa.*

STOMACHICS (Appetizers). The act of digestion consists of three functions, viz: 1 gastric secretion, 2 gastric absorption, and 3 gastric movements. Stomachics directly increase the functional activity of the stomach, allay thirst, promote appetite, and assist digestion. Some stomachics increase the secretion, others assist in the absorption and digestion of fatty substances when there is a deficiency of bile or pancreatic juice, others again act in improving the enfeebled and atonic condition of the stomach. Some of them act as general tonics to the whole enfeebled and debilitated muscular system, others again are often useful as anthelmintics. Their good effects in expelling worms

are due to their improving of the condition of the alimentary canal and to the removal of those conditions which favour the production of worms. In dyspeptic patients they retard acetous fermentation and thus relieve acidity, flatulence, &c. Stomachics are also known as bitters. These are known by different names : (1) Aromatic bitters : These have an aroma. They are better borne by the stomach than simple bitters. (2) Astringent bitters possess both bitterness and astringency in an imminent degree. They also act as tonics. (3) Laxative bitters have the combined action of both a bitter and a laxative. These are :—

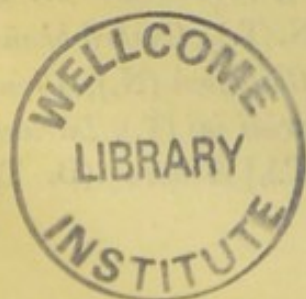
Adraka (S.), *Agara* (A. B.), *Agasti chhāla* (B.), Alkaline carbonates (S.), *Ashakhara* (S.), *Bela* (A.), *Bakāyana*, (A. B.), *Bari māyīn* (B.), *Bhāmburdā* (A.), *Bhui teravada* (B.), *Chanā āmba* (D.), *Chini kolañjana* (S.), *Chhoti māyīn* (B.), *Dānti mula*, *Daryāi nárela* (S.), *Devadāra* (B. S.), *Elachi* (A.), *Gahulā* (S.), *Gorakha muñdi* (S.), *Gavati chāhā* (S.) *Hab-ula-ghara*, *Hādāvaruna* (B. A.), *Halāda* (C.), *Hari chāhā* (S.) *Jāephala* (A.), *Jāepatri* (A.), *Jaṅgali lavaṅga* (A. B.), *Jentiana* (B.), *Jinasīṅga* (B. A.), *Jhiprigāthi kiriāta* (B.), *Jvaraṅkusha* (S.), *Kadavi nāi* (B.), *Kadavi ghisodi* (B.), *Kadu khajura* (B.), *Kāephala* (A.), *Kāleñ miri* (S.), *Kulama kāchari* (B.), *Kāleñ nāga kesara* (A.), *Kāsani* (B.), *Kasusa* (B.), *Kushtha kalañjana*, *Karavā indrajava* (B.), *Kavita pāna* (S.), *Kheta pāparā* (B.), *Khorāsāni ajavāna*, *Kidā māra* (B.), *Kudā sāla* (B.), *Kusara* (B.), *Limbu* (S.), *Māyapatri* (A.), *Māshipatri* (S.), *Mamijvo* (B. A.), *Māiyuñ* (B.), *Mishka-dānāh*, *Mitha* (S.), *Mirachi* (S.), *Minā haramā* (B.), *Movā sāla* (B.), *Nāga kesara* (B. A.), *Nāraṅgi tela* (A. B.) *Nimba sāla* (B.), *Oleñ kiriāta* (B.), *Padmakāshṭā* (B.), *Pahādī phudinā* (S.), *Pañcha lavana*, *Pañdelona*, *Pañdhari sāla* (B.), *Patola*, *Phudinā* (S.), *Rohana sāla* (B.), *Rājamāri* (B.), *Samudra phala* (A.), *Sāpasaṅda* (B.), *Sātoda mula*, *Sevāna sāla*, *Sonā champā* (B. A.), *Surapāna* (S.), *Sugaṅdha bālā* (A.), *Tetu mula* (S.), *Trāyamāna* (B.), *Todadi* (A.), *Tumbā* (S.), *Tambākhu* (S.), *Usadhāna* (S.), *Vācha* (A. T.), *Vākumbhā* (A.), *Vakhamā* (B.), *Vālo* (A. T.), *Valiṅga sāla* (B.), *Varadhāro* (B.), *Vāyavaruna* (B. S.), *Venivela* (B. A.)

TONICS :—These agents augment the tonicity or contractility of muscular fibres, or of the tissues of the whole body, or of any of its parts. These agents when taken into the stomach undergo chemical changes, become absorbed, and some portion is then thrown out of the system by the excretory organs. These give permanent tone to the body. By their use the appetite improves, digestion becomes regular, the spirits revive, health and vigour for exercise return and several

debilitated organs regain their normal health. 1. Direct or general tonics:—These arrest the local discharges and thus produce the effect of tonics in their general action. They are useful in general debility proceeding from a local cause such as hæmorrhage, profuse discharges, prolonged lactation, &c. 2. Blood or alterative tonics otherwise known as restoratives:—These improve the condition of the blood or of some natural secretions. Some of them produce tonic effects by a slow influence. Their administration should be aided by good food, free and open exercise, fresh air, sea-bathing, &c. They are useful in cases of anæmia, enlargement of the spleen, struma or general debility without any organic complication, in poverty of blood due to some definite constitutional disease such as phthisis or Bright's disease. 3. Vascular tonics act upon the blood vessels. Very often the application of local heat or cold to a part aided by friction increases the effect of these tonics. They are useful in cases where the pulse is very soft and feeble, and there is œdema of the dependent parts. 4. Stomachic bitter or gastric tonics give vigour to the deranged gastric functions, as in flatulence, loss of appetite, imperfect or deranged digestion, pain after eating, &c. 5. Intestinal tonics:—These are mostly indicated where the movements of the intestines are sluggish as in constipation or where there is tympanitis. In diarrhoea they are useful agents. 6. Nervine tonics otherwise known as anti-spasmodics are useful in hysteria, epilepsy, chorea, &c., and in certain debilitated states of the nervous system attended with spasmodic contractions of the voluntary muscles. They are also useful in general nervous debility, loss of memory, indisposition to work, langour, paralysis, &c. They stimulate the nervous system to increased and permanent activity and remarkably influence the muscular apparatus.

Abraka, *Aphasāntina* (T.), *Aghūdo* (N.), *Airana mula* (B. T.), *Alu bālu* (N. T.), *Āmali* (N. T.), *Añjira* (N.), *Aod-i-balesāna* (T.), *Arani* (B. T.), *Arajuna* (T.), *Asgāndha* (T.), *Asperaka* (B. T.), *Asālio*, *Ativisha* (T.), *Bābula goṇḍa* (N.), *Bābula sāla* (T.), *Bābunāh* (T.), *Badāma* (N.), *Bādashāi sālema*, *Badrañjaboya* (T.), *Bala bija* (N.), *Baku, phali* (N.), *Bākhālā bija* (T.), *Bakula sāla* (T.), *Bāma* (T.), *Bela* (T.), *Bhañdira* (B. T.), *Bhāngro* (T.), *Bhīndo* (N.), *Bhui āvali* (B. T.), *Bhui kumarā* (T.), *Bibavā* (N. T.), *Bikhma* (N. T.), *Biralāva'i* (N. T.), *Bozidāna* (T.), *Brahmi* (N. T.), *Brahmadāñdi* (N. T.), *Chakrā bhañda* (N. T.), *Champū sāla* (B. T.), *Chhatiāna* (T.), *Chilagozā* (N.), *Chināi ghāṇsa* (T.), *Chobe-i-chini* (T.), *Dāruhalada* (T.), *Darīai jai* (T.), *Dārunaj-i-akrabi*, *Dhamāso* (Plant) (A. T.), *Durbha* (B. T.), *Ekharo* (B. T.),

Ghauñ satva, *Gárambi*, *Godávacha* (N.), *Gogúri lúkaruñ*, *Gujañjabina* (T.), *Guli ghápheza* (T.), *Gulavela*, *Hab-ula-balesána* (T.), *Halima*, *Haliyuñ* (T.), *Hikala bija* (N. T.), *Hingula* (D.), *Hirú kashisha*, *Jadarúra* (Blood purifier) (B. T.), *Jáharaki-haladi*, *Jasadaná phula*, *Jatí múnasi* (N. T.), *Kachchi ámalí* (N.), *Kákadi siñgi* (T.), *Kálí kudá* (T.), *Káloválo* (S. T.), *Káli musali*, *Kamala kákari* (Seeds), *Kamara-kasa*, *Káñta selio*, *Kañgai* (N.), *Kañchana sála*, *Kasuñda*, *Kavata*, *Kavacha bija* (N.), *Khadyá nága* (T.), *Khajura*, *Kharadi* (T.), *Kharanubá sámí* (A. T.), *Khúpará bhashma*, *Khasakhasa* (N.), *Kolama kúchari* (B.), *Kulitha* (N.), *Kuchalá*, *Kusara* (A. T.), *Karru*, *Lahana sára* (L.), *Lála behamana*, *Lañtaka* (B. T.), *Lohá bhashma*, *Lázávarda* (T.), *Madanamasta* (N. T.), *Máháruka*, *Makháná*, *Mamirá* (B. T.), *Máiyúñ*, *Mesura*, *Methi* (N. T.), *Mishka dánáh*, *Mocharasa*, *Mohavá phula* (B. A.), *Moravá*, *Manasila*, *Mañdura bhashma*, *Muga*, *Musali* (T.), *Musali khañdá* (T.), *Nágara motha*, *Nirguñdi* (N. T.), *Páhádi kiráita* (T.), *Páñde lona* (T.), *Pákhana bheda lakari*, *Pañjábí sálema* (N. T.), *Papitá* (T.), *Pará bhashma*, *Pásána bheda*, *Paraváluñ*, *Patola*, *Patála tumbadi*, *Patañga*, *Pilijari*, *Pilu* (T.), *Rája mraghañka rasa* (A. T.), *Rakta kañchana sála* (A. T.), *Rakta rohida* (T.), *Rakta chañdana* (A. T.), *Rámaturái* (N.), *Rásaná* (A. T.), *Roghan-i-balesána*, *Reg-i-máli*, *Renuká bija*, *Ruperi varkha*, *Sapheda behamana* (B. T.), *Sapheda musali* (N. T.), *Sapheda sumbula-nu-tela*, *Sákar-i-tigala*, *Setápa* (B. T.), *Sálema misari* (N. T.), *Sálepa* (N. T.), *Sámbara siñga* (N. T.), *Samudra sosha* (T.), *Samudra lavana*, *Sañg-i-basari*, *Sañkha vali* (T.), *Satávári* (N. T.), *Sátavina* (The bark) (T.), *Sáthará* (T.), *Shámalo*, *Sháhterá*, *Sikákula misari* (N.), *Siñgodáñ* (N.), *Somala*, *Soná mukhi dagadi bhashma*, *Soneri varkha* (T.), *Surapañkha*, *Tálama kháná* (T.), *Tavakira* (The fecula) (N.), *Tila bija* (T.), *Tiriáke pharuka*, *Tiramisha* (N. T.), *Tukhme balesána*, *Tukhme sanobara*, *Tulasi bija* (N.), *Udida* (N.), *Upalasari*, *Utakatára* (B. T.), *Vekhario* (N.), *Vávadiñga* (T.), *Varakhi haratála*, *Viláyati sálusa* (A. T.), *Vishnu gañdha* (T.), *Zahara mohará* (T.), *Zarishka* (N. T.), *Zharasa*, *Zirávañde madhirája*.



CLASSIFICATION OF DRUGS USED AS SUBSTITUTES FOR OTHER DRUGS OR FOR ENGLISH DRUGS.

<i>Akadá</i> —Ipecacuanha	<i>Khabázi</i> —Marsh mallow
<i>Anañta mula</i> —Sarsaparilla	<i>Kokumabela</i> —Vasselline
<i>Añta mula</i> —Ipecacuanha	<i>Kovatela</i> —Chaulmogra
<i>Báma</i> —Digitalis	<i>Krishnágara</i> —Eagle wood
<i>Banaphashá</i> —Ipecacuanha	<i>Máhdrukha</i> —Kudá chhála
<i>Barañja sipha</i> —Davaná	<i>Mamijvo</i> —Kádavi náí
<i>Champá sála</i> —Guaiacum	<i>Mamirána</i> —Coptis teeta
<i>Chañdana tela</i> —Copaiba	<i>Máñgostina</i> ,—Bela
<i>Darbha</i> —Triticum repens	<i>Masura</i> —Revalanta Arabica
<i>Gañdha birojá</i> —Galbanum or	<i>Moká</i> —Taraxacum
Common rosin	<i>Mudára</i> —Ipecacuanha
<i>Gáozabána</i> —Sarsaparilla	<i>Nishotara</i> —Jalap
<i>Garajana tela</i> —Copaiba	<i>Pañthari</i> —Taraxacum
<i>Gorakha muñdi</i> —Máshipatri	<i>Patañga</i> —Log wood
<i>Gulabása</i> —Jalap	<i>Ráma bána</i> —Medicated cotton
<i>Jañgali káñdá</i> —Squills	wool
<i>Jasavañda</i> —Althea Radix	<i>Rásané</i> —Sarsaparilla
<i>Jatámánasi</i> —Valerian root	<i>Sakabinaja</i> —Segapinum
<i>Jávashira</i> —Galbanum	<i>Sapheda musali</i> —Sálapa
<i>Jeshti madha</i> —Liquorice	<i>Sátavina</i> —Quinine
<i>Kadavi</i> —Chiretta	<i>Sevati</i> —Chamomile
<i>Kákamári</i> —Strychnia	<i>Sháterá</i> —Dandelion
<i>Kálá dáná</i> —Jalap	<i>Suriñjana</i> —Colchicum
<i>Kálo válo</i> —Valerian	<i>Tavakhira</i> —Arrowroot
<i>Karavi náí</i> —Chiretta	<i>Upalasari</i> —Sarsaparilla
<i>Katerá goñda</i> —Tragacanth	<i>Vasanavela</i> —Sarsaparilla
<i>Kathályo goñda</i> —Tragacanth	<i>Vekhario</i> —Muñga,
<i>Kávali</i> —Ipecacuanha	

CLASSIFICATION OF DRUGS USED AS SPECIFICS IN CERTAIN DISEASES.

<i>Aduno rasa</i> —Cough and Dyspnoea	<i>Báláguti</i> —Indigestion in children
<i>Aduso</i> —Fever and Cough	<i>Bañdháro</i> —Menorrhagia
<i>Agiyá</i> —Application in headache	<i>Baṅga bhashma</i> —Diabetes
<i>Airanamula</i> —Convalescence from fevers	<i>Bávañchi</i> —Leucodermal spots
<i>Ajamoda</i> —Dyspepsia and Indigestion	<i>Behedáñ</i> —Cough and Dyspnoea
<i>Ajirana kañtaka rasa</i> —Indigestion and Diarrhoea	<i>Bháñgro</i> (Application)—To turn the hair black
<i>Ákalakaro</i> —Seminal debility	<i>Bhui ávali</i> (plant)—Diabetes
<i>Akarakara bhadi churana</i> —Chronic bowel complaints	<i>Bhui ávali</i> (root)—Jaundice
<i>Ámalá</i> —Loss of appetite, and Bloody fluxes	<i>Bhui riñgani</i> —Fumigation in toothache
<i>Ambá gopa</i> —Diarrhoea	<i>Bhuruñ koholuñ</i> —Hysteria, and Spasmodic diseases
<i>Amrita haritaki</i> —Dyspepsia	<i>Bhutapála</i> (Sternutatory)—In Headache
<i>Anaṇḍa bhairava rasa</i> —Chronic diarrhoea	<i>Bijorá-ná-pána</i> —Vomiting
<i>Aradhi sopári</i> —Application in hemicrania	<i>Bilavádi kvátha</i> —Chronic diarrhoea
<i>Araghadhadi</i> —Ague fever	<i>Bilavá pañḍaka</i> —Chronic dysentery
<i>Asuñdha</i> —Seminal debility	<i>Bodára kákaró</i> (Application)—In freckles, and Acne
<i>Ativisha</i> —Dyspepsia and Chronic fever	<i>Brahmadáñdi</i> —Seminal weakness
<i>Bábula pána</i> —Diarrhoea	<i>Bráhmí</i> —Syphilis and Leprosy
<i>Bachanága</i> —Application to guinea worms	<i>Briñgarája tela</i> —Depilatory
<i>Badi sonpha</i> —Dysentery of children	<i>Chañdra prabhá gutiká</i> —Calcular diseases
<i>Bahu phali</i> —Leucorrhoea	<i>Chinai gháñsa</i> —Invalids from profuse Leucorrhoea and Menorrhagia
<i>Bákhala</i> —Nutritive tonic	<i>Chiñcha</i> —Scurvy
<i>Bálágoli</i> —Wakefulness in children	<i>Chitraka sála</i> —Dyspepsia

- Dādimba sāla*—Dysentery
Dāruhalāda (Locally)—Leucorrhœa
Dashamulādi-kvātha — Chronic fever
Devadāra—Cough and Rheumatism
Devakāpusa (Capsules)—Dysentery
Dhamāso (Gargle)—Sore mouth
Dhāuriphula—Diarrhœa, Menorrhagia, and Leucorrhœa
Dikā māli (Local)—Maggots
Drākhsha—Bilious fever
Durbha—Dysuria
Eluchi—Vomiting
Gābhana—Menorrhagia
Gajakarani (Local)—Ringworm
Galo—Seminal debility
Gaṇdhaka—Constipation, Application in Skin diseases
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