

Supplement to the pharmacopoeia of the King and Queen's College of Physicians in Ireland, MDCCCL.

Contributors

King and Queen's College of Physicians in Ireland.
Royal College of Surgeons of England

Publication/Creation

Dublin : Hodges, Smith, 1856.

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(21.)

SUPPLEMENT

TO

THE PHARMACOPŒIA

OF THE

KING AND QUEEN'S

COLLEGE OF PHYSICIANS

IN IRELAND

MDCCCL.

DUBLIN:

HODGES, SMITH, AND CO., GRAFTON-STREET,

BOOKSELLERS TO THE UNIVERSITY.

1856.

Published by Authority of the College,

SEPTEMBER 15TH, 1856.

JOHN MOLLAN, PRESIDENT. ,

JAMES FOULIS DUNCAN, VICE-PRESIDENT AND CENSOR.

WILLIAM BARKER,

FLEETWOOD CHURCHILL, } CENSORS.

J. MOORE NELIGAN,

WILLIAM E. STEELE, REGISTRAR.

P R E F A C E.

THE King and Queen's College of Physicians in Ireland having had its attention, from time to time, directed to the serious consequences which occur in the dispensing and compounding of prescriptions, and also in the sale of drugs, from the accidental substitution of a dangerous medicine for one possessing less activity, has decided on issuing the following Supplement to the last edition of its Pharmacopœia, containing orders with respect to the bottles or other vessels in which certain simple and compound medicines are to be kept and dispensed, to be followed "by all and every Apothecary, Chemist, Druggist, and other person or persons who now do, or hereafter shall, prepare, administer, sell, expose to sale, or keep for that purpose, any kind of drug, simple or compound medicine, or chemical or other medicinal preparation whatsoever, throughout this Kingdom." (1 Geo. III. c. 14, s. 12.)

The College is fully aware that these orders cannot be regarded as constituting a complete preventive against those dangerous accidents, but feels confident that their adoption will afford a most important safeguard both to the public and to the apothecary.

COLLEGE HALL, DUBLIN,

September 15, 1856.

EXTRACT *from an Act of the Irish Parliament
for preventing Frauds and Abuses in the
Vending, Preparing, and Administering
Drugs and Medicines.*

Anno Regni primo GEORGE III. Regis,
Cap. XIV.

“ § XII. And for the better ascertaining the nature and qualities, and the doses and uses of all drugs, simple and compound medicines, and chymical preparations, Be it further enacted by the authority aforesaid, That it may be lawful for the said President, Censors, and Fellows of the College of Physicians, for the time being, to frame and publish a *Code*, or *Pharmacopæia*, containing a catalogue of such drugs, or simple medicines, as they shall judge necessary for the prescriptions or uses of Physicians and surgeons, together with forms and rules for preparing

and compounding the same, chymically and galenically, as they shall judge fit and necessary for the practice of physick and surgery, directing not only the form and manner, but the various vessels, and other utensils, and the materials of which such vessels or utensils shall be respectively made or composed; as also the measures, weights, and scales by which all such medicinal drugs, preparations, and compositions shall be dispensed and sold, which said *Code*, or *Pharmacopœia*, shall be followed and observed by all and every apothecary, chymist, druggist, and other person or persons, who now do, or hereafter shall prepare, administer, sell, expose to sale, or keep for that purpose, any kind of drug, simple or compound medicine, or chymical, or other medicinal preparation whatsoever, throughout this kingdom.

“§ XIII. And be it further enacted by the authority aforesaid, That if any apothecary, chymist, or druggist, or other person or per-

sons, who now do, or hereafter shall make, prepare, compound, sell, expose to sale, or keep for that purpose, any kind of drug, or medicinal preparation, or compound whatsoever, shall presume to make, prepare, compound, dispense, or sell any other officinal preparations or compositions, or make up any extemporaneous prescription of any physician or surgeon in this kingdom, by any other form or rule, in any other utensils, or by any other measures or weights, than shall be so directed and appointed by the said College of Physicians, such offender shall forfeit and pay, for every such offence, the sum of ten pounds sterling, unless where the contrary is or shall be directed by some regular practitioner, and that for his own private use solely.

some, who now do, or hereafter shall make,
prepare, compound, sell, expose to sale, or
keep for that purpose, any kind of drug or
medicinal preparation, or compound, whatso-
ever, shall presume to make, prepare, com-
pound, dispose, or sell any other official
preparations or compositions, or make up any
extraneous prescription of any phys-
ician or surgeon in this kingdom, by any other
form or name, in any other manner, or by
any other measure or weight, than shall
be so directed and appointed by the said
College of Physicians, such offender shall
forfeit and pay for every such offence, the
sum of ten pounds sterling, unless where the
contrary is, or shall be directed by some
regular prescription, and that for his own
private use only.

SUPPLEMENT
TO
THE PHARMACOPŒIA
OF THE
KING & QUEEN'S COLLEGE OF PHYSICIANS.

ORDERED,

1. That angular bottles or vessels, and none others, be employed in the dispensing of all medicines intended for external use.
2. That round bottles or vessels, and none others, be employed in the dispensing of all medicines intended for internal use.
3. That all the articles of the Materia Medica and Preparations included in the list which is hereto appended, be kept in shops and warehouses in angular bottles or vessels; and also that the same shaped bottles and vessels be employed in the case of such medicines and preparations being sold or delivered.

4. That all the articles of the *Materia Medica* and Preparations not included in the list appended, be kept in shops or warehouses in round bottles or vessels; and also that the same form of bottle or vessel be employed in the case of their being sold or delivered.
5. That a similar rule be observed with reference to other medicines, which, though not in the list of this *Pharmacopœia*, may be kept by apothecaries or druggists, namely, that those possessed of dangerous qualities should be invariably kept and sold or delivered in angular bottles or vessels.

MATERIA MEDICA.

ACIDUM MURIATICUM VENALE.

ACIDUM NITRICUM VENALE.

ACIDUM SULPHURICUM VENALE.

ACONITUM NAPELLUS.

ARSENICI OXYDUM ALBUM VENALE.

BARYTÆ CARBONAS.

BELLADONNA.

CANNABIS INDICA.

CANTHARIS VESICATORIA.

CERASUS LAUROCERASUS.

COLCHICUM AUTUMNALE.

CONIUM MACULATUM.

CREASOTUM.

CROTON TIGLIUM.
CUPRI SUBACETAS.
CUPRI SULPHAS.
DAPHNE MEZEREUM.
DATURA STRAMONIUM.
DIGITALIS PURPUREA.
ELATERIUM.
ERGOTA.
HYOSCYAMUS NIGER.
IODINIUM.
LIXIVUS CINIS.
LOBELIA INFLATA.
NICOTIANA TABACUM.
NITRUM.
NUX VOMICA.
OPIUM.
PLUMBI ACETAS.
PLUMBI CARBONAS.
POTASSÆ BICHROMAS.
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ACIDUM ARSENIOSUM PURUM.
ACIDUM HYDROCYANICUM DILUTUM.
ACIDUM MURIATICUM PURUM.
ACIDUM NITRICUM PURUM.

ACIDUM NITRO-MURIATICUM.

ACIDUM SULPHURICUM PURUM.

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MORPHIÆ MURIATIS LIQUOR.

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BARII CHLORIDI LIQUOR.

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SUBLIMATUM CORROSIVUM.

ZINCI CHLORIDI LIQUOR.

ZINCI CHLORIDUM.

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EXTRACTUM COLCHICI ACETICUM.

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EXTRACTUM OPII AQUOSUM.

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PULVIS IPECACUANHÆ COMPOSITUS.

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ZINCI SULPHAS.

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TINCTURA RADICIS ACONITI.

TINCTURA FOLIORUM BELLADONNÆ.

TINCTURA CANNABIS INDICÆ.

TINCTURA CANTHARIDIS.

TINCTURA DIGITALIS.

TINCTURA ERGOTÆ.

TINCTURA IODINII COMPOSITA.

TINCTURA LOBELIÆ.

TINCTURA OPII.

TINCTURA OPII CAMPHORATA.

TINCTURA STRAMONII.

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ACETUM OPII.

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AQUA LAURO CERASI.

SECTION XXXVII.—*Wines.*

VINUM OPII.

CHLOROFORMUM.

ELATERIUM.

SODÆ CAUSTICÆ LIQUOR.

Case No. 6, [48 in the list.] Left thigh removed by myself for ulcerated elephantiasis, with severe irritative fever, (the right forearm being also affected,) he recovered from the effects of the operation, but still suffers from elephantoid fever. On March 30th, 1860, when I last saw him, the enlargement of the right forearm was slowly progressing, but his general health had improved.

No doubt can be entertained of the necessity of removing a limb affected with elephantiasis, when the whole surface of the skin is ulcerated, thereby setting up irritative fever: for the pain is so severe that the patient rapidly becomes exhausted, and death closes the scene, should nothing be done for his relief. Two other instances are now under observation, in both of which I advise amputation: in the first, (Case 46,) the patient can only follow a sedentary occupation, his left lower extremity appears like a paviour's hammer, anchoring him to his post; a little increased exertion causes excessive pain, and on one occasion inflammation ending in two toes sloughing away. Useless for progression, and productive of much suffering, I propose its removal. In the second case the pain is more severe, the whole of the foot and ankle being covered with tubercles from the size of a pea to that of a large cherry.

The foregoing six cases of amputation corroborate what has previously been advanced by others, both in India and Ceylon; viz., that recovery from the constitutional symptoms of elephantiasis may follow the removal of an affected limb, but this does not prove it to be a local disease; in Case No. 4 both lower extremities being diseased, the subsidence of elephantoid fever occurred, after the amputation of one of them: the swelling probably requires a large amount of nutrition, and thus becomes a drain on the system, which being removed, the patients' health is re-established. On the other hand, as in Case No. 6, the system has become so implicated by the disease, that its eradication is impossible.

In the preceding paper I have purposely confined my remarks to the disease as affecting the extremities, and witnessed by myself in Cochin, such full accounts of elephantiasis scroti have recently been published, both in Bengal and Bombay, that I deemed more than a casual mention of them superfluous.

On April 20th, 1860, I saw two of the cases of leprosy already alluded to, as having elephantoid fever without effusion, and each of the patients at this date had one extremity enlarged: thus distinctly proving, that the constitutional symptoms may exist previous to the local ones becoming apparent: the first of these cases was of anæsthetic leprosy, elephantoid fever had been of a year's standing: the second was of the tubercular variety, elephantoid fever had likewise existed above a year.

COCHIN, April 25th, 1860.

ART. IV.—*Notes on some of the Indigenous Medical Plants of India.*

By EDWARD J. WARING, ESQ., Physician to His Highness the Rajah of Travancore.

It is the part of a wise and prudent man, whatever may be his position or profession, to make himself acquainted with the resources of the country in which his lot is cast. It cannot admit of a doubt, that the Great Continent of India contains many valuable medicinal products; and the Medical Officer, whose temporary or permanent home is in this land, will do well to cultivate a knowledge of those indigenous agents, which he may turn to account in the practice of his profession.

A broad line of demarcation requires to be drawn between a knowledge of the properties of indigenous medicines, and the adoption of native practice. The distinction is not sufficiently attended to, and the less enlightened native, seeing an European Medical Officer engaged in the investigation of the medicinal properties of indigenous remedies, is apt to conclude that he is favourable to, or about to adopt the native system of treatment. This erroneous impression should be at once eradicated; for, whilst it is certain that a knowledge of indigenous drugs is most highly useful and instructive, it is equally certain that the native practice is a tissue of the most absurd frivolities, having no more solid basis than a blind and superstitious empiricism.

It is a curious fact, that the natives of India are perfectly ignorant of the medicinal virtues of the most valuable drugs indigenous in their own land; and that it has been by the exercise of European judgment and research that they have been brought to light. Of this we see instances in the althelmintic virtue of the Indian Cowhage, (setæ or hairs of the pods of *Dolichos pruritus*,) the purgative properties of the Mysore Gamboge, (the exudation of *Garcinia pictoria*,) the astringent power of the Indian Kino, (the exudation of *Pterocarpus Marsupium*,) the antiperiodic property of Rusot, (the extract prepared from various species of *Berberis*,) or the powerfully alterative effects in leprosy, of the *Hydrocotyle Asiatica*. For a knowledge of these and many others, we are indebted, not to the native, but to the European settler, and to the investigations of sagacious European physicians, as Flemming, Playfair, Ainslie, Horsefield, O'Shaughnessy, Wight, Cleghorn, and others.

Having paid some attention to the medical products of India, I venture to offer a few hints derived from experience, which may serve to aid the researches of those who may labour in the same field.

1. When a new vegetable substance is brought to your notice as possessing certain medicinal properties, endeavour in the first instance, to discover the natural order to which the plant yielding it, belongs. This knowledge is very important and may save much sub-

sequent trouble ; for we know, as a general rule, that certain medicinal properties characterise certain Natural Orders ; thus we know that the Malvaceæ are demulcents ; the Euphorbiaceæ, and Apocyanaceæ, are acrid irritants, purgatives, and emetics ; the Solanaceæ and Papaveraceæ, sedatives and narcotics ; the Violaceæ emetics ; the Gentianeæ, and Menispermaceæ tonics ; the Cinchonaceæ, antiperiodics ; the Ranunculaceæ, local irritants, and rubifacients or vesicants ; the Burseraceæ, balsamic and stimulant, and so on. If then a man brings a root reporting it to possess powerful purgative or emetic properties, and it proves on investigation to belong to a Malvaceous plant, or, if on the other hand, he brings the fruit of a Euphorbia or Solanum, and represents it as a mild demulcent ; his statements may, *a priori*, be regarded as incorrect. There are, however, exceptions to every rule, even to those of Botanical affinities ; and if the statements regarding any vegetable substance, be its Natural Order what it may, are very precise and positive, and based on what may be considered good authority, there can be no harm in giving it a cautious trial. If there exists any difficulty or doubt as to the identification of a native drug, it is far better to allow it to remain simply under its native name, until the plant yielding it can be submitted to a competent botanical authority. Much of the confusion which exists as to the properties of certain Indian plants, has arisen from imperfect or incorrect identification.

2. An entire dependence on native names, without reference to Botanical characters or sensible properties, will often lead into error still, a correct and extensive knowledge of native names is often of essential use, and with the aid of the works of Ainslie,⁽¹⁾ O'Shaughnessy,⁽²⁾ Drury,⁽³⁾ and Piddington,⁽⁴⁾ we may often at once succeed in identifying a plant, the botanical name of which we are desirous of ascertaining. Ainslie's works are especially useful, from having the names printed in the native character ; and several times after I had failed in making a native collector understand what plant or medicine I required by repeating the name with what I flattered myself was, the most approved pronunciation, I have at once succeeded by simply shewing him the word in the Tamul characters, as given by Ainslie. In using the other works, useful and valuable as they are, in which the names are only given in the Roman character, much confusion is likely to arise from the various modes of orthography adopted. Similarity of sound, alone, is often calculated to mislead ; one example will suffice. The Hindústani name of the roots of *Aconitum heterophyllum* is *Atees*, that, in the same language, of the roots of *Asparagus sarmentosus* is *Utees* ; the

(1) *Materia Med. of Hindústán*, 4to 1813, and *Mat. Med.* Vol. II. 8vo. 1826.

(2) *Bengal Dispensatory* 8vo. 18.

(3) *Useful Plants of India* 8vo.

(4) *Index to the Plants of India.*

former is a powerful tonic and antiperiodic, the latter an inert nutritive. The sensible properties would indeed serve to distinguish them, but suppose that these are not attended to, and we allow ourselves to be guided only by the name, how much confusion as to their respective virtues may arise. Take three works, the *Ulfaz Udwiye*, translated by Gladwin, the *Taleef Shereef*, translated by Playfair, and Irvine's *Materia Medica of Patna*, in each of which the Hindústani character is employed, and then compare the totally dissimilar English words manufactured, from the same originals, and it at once becomes evident that, until a uniform mode of orthography is established, the greatest confusion is often likely to arise, from reliance alone on native names, as rendered into English characters.

Another source of confusion may arise from the fact that different names are used in different parts, even of the same district, to designate the same plant; and again, that the same name is occasionally in use to designate two totally different plants. On the whole, it must be admitted that though we may often succeed in tracing a plant by its native name, yet to rely on this alone, may be a source of grievous error.

3. Keep a register, and make notes at the time of each case in which the drug is administered. A little *method* in doing this will save much subsequent trouble, and will invest your observations with a weight which they could not otherwise possess. In testing recently the purgative properties of the *Kadu-Kai* of the bazaars, (The fruit of *Terminalia Chebula*.) I prepared beforehand a tabular statement, and divided it into columns, with the following headings. *Name, Age, Sex, Caste, Dose, Hour of administration, Hour of operation, Vomiting? Gripping? Number of stools, Character of stools, Remarks*; and the amount of information thus gained, with no great trouble, possessed a degree of precision which I regret to think, many of my former observations lacked. Tabular statements, such as these are easily prepared and kept in order, and they can of course be modified for each class of medicines, or single medicine, under trial. If this method were only followed out, we should obtain a large mass of well digested facts, instead of loose and vague assertions and opinions, which at present so encumber all our works on therapeutics.

4. Never assert the efficacy of a remedy on the strength of a solitary successful case. Before a medicine can be regarded as an established remedy for any disease, it is indispensable that it should succeed more or less uniformly in a considerable number of instances. It does not at all follow, because a patient recovers whilst taking a certain medicine, that the cure is due to that medicine; but if several patients, labouring under the same disease, recover under its use, then only are we justified in speaking of it as an established remedy. Assertions and opinions based on solitary cases, are often calculated to mislead.

5. In the use of vegetable substances, be careful to ascertain that they are of good quality, and bear in mind that in most cases they become deteriorated by long keeping. Generally speaking, the fresher the drug is, the greater is its efficacy. The country Sarsaparilla (*Hemidesmus Indicus*,) is far more energetic in its operation, and salutary in its effects, when freshly dug up, than if kept on hand for a long time, when its fragrance is dissipated and the root-bark of *Plumbago rosea*, which is a powerful vesicant in its fresh state, has little or no acidity after remaining in store for a few months.

6. Use some discretion in selecting the form apparently best suited for administration; it should be remembered that the application of heat, required in the preparation of some forms, as extracts and decoctions, not unfrequently dissipates all the active properties of the plant; some plants yield their active properties to water, others to alcohol; and comparative trials are necessary in all instances, to determine which is the most eligible form for internal administration.

7. Use great circumspection in determining the dose of any unknown medicine, especially if it be reputed to possess powerful properties, or if it belong to a Natural Order whose chief characteristic is acidity. The statements of the natives regarding the dose should not be relied upon. This partly arises from the fact that they very rarely administer a medicine without combining it with a variety of other ingredients, and thus they lose sight of the properties of each individual drug. Some years since, when I first commenced directing my attention to indigenous medicines, I was anxious to test the purgative properties of the oil of the common Physic nut, (*Curcas purgans*,) and on enquiry from an intelligent native doctor, I was informed that the ordinary dose was about a tea spoonful. Had I followed his advice, I should probably have learnt, by the death of the patient, that my dose had been four or five times too strong. It may be useful to be acquainted with some of the weights in use by the native doctors.

A grain of dried Paddy	= gr. $\frac{1}{2}$ to $\frac{2}{3}$	} Tamul.
Gold Fanam	= grs. v	
Star Pagoda	= grs. lii	
A Pollam	= 3 viii— 3 ix.	
A Soorkh		} gr. 1.
One Retti or Seed of <i>Abrus pracatorius</i> *		
A Mash	grs. viii	} Hindustani.
A Direm	grs. xxiv	
A Tolah or Rupee	grs. clxxx	
A New Copper Pice	grs. c	

With these few preliminary remarks, which might be greatly extended, we proceed to consider briefly some of the principal Demulcents, Emollients, Expectorants, and Diuretics, indigenous in India.

* Sir William Jones (*Asiat. Researches* II, p. 154, and V, p. 92,) makes one of these seeds to weigh gr. 1 5-16th, and he informs us that the *Retti* weight, used by jewellers, is equal to gr. 2 3-16th. (Ainslie.)

INDIGENOUS DEMULCENTS.

In commencing an investigation into the indigenous demulcents of India, attention is first naturally directed to the Order Malvaceæ; and when we find that India contains no less than 130 species,* we may feel confident that there can be no lack of indigenous demulcents and emollients. Many plants belonging to the Genera, *Abutilon*, *Sida*, *Malva*, *Hibiscus*, and *Gossypium*, are resorted to by the natives, in those cases where demulcents are indicated; but our attention will be principally directed to one plant of this order; first, because it is found in every part of India from the Himalayas to Cape Comorin; and secondly, because, if we possess this one, we can afford to do without the others, its demulcent properties being established on a far firmer basis than those of any others of the same family. This plant is the well known *Edible Hibiscus*, the

The fruit of Abelmoschus
esculentus.

بهذی

Bhendī.

Abelmoschus esculentus of Wight and Arnott, (Prod. I, p. 53,) the *Hibiscus esculentus* of Linnæus, (Sp. Pl. 980,) the *Hibiscus longifolius* of Roxburgh, (Flor. Ind. III, p. 210,) and the *Bhendi* of the Taleef Shereef. (p. 51, No. 250.) It appears originally to have

been a native of the West Indies, where it constitutes the *Ochra*; or *Okra* of the English, and the *Ketmie Gambo* of the French Islands. It is now completely domesticated in all parts of India, and is cultivated every where for the sake of its mucilaginous capsules, which are commonly known by the name of *Bhendi*, (Hind.) *Dhenroos*, (Beng.) *Vendi kay* or *Bendi kay*, (Tam.) *Benda*, (Tel.) *Yungma-da*. (Burm.) The whole of the plant, but especially the capsules, abounds with a large quantity of thick tenacious mucilage, which is readily extracted by boiling; and the capsules are consequently extensively employed in cooking, for the purpose of thickening soups and other dishes. It appears admirably adapted for all cases where demulcents are indicated. Observing that Dr. Walshe, in his work, on Diseases of the Lungs, (p. 403,) speaks very favourably of the practice of inhaling the vapour of water impregnated with emollient herbs, as a means of allaying cough, dryness of the throat, &c., I have resorted in several instances to the practice, using for the purpose these capsules in decoction, and the patients have generally expressed themselves greatly relieved by their use; whether the same benefit would have resulted from the vapour of hot water alone, I am unable to determine, but I am warranted in saying, that in catarrhs and other affections, where there is much irritation about the glottis, this simple measure may be resorted to with every prospect of affording a very great amount of speedy relief. Another method of obtaining

* Voigt. Hort. Calcuttensis, p. 111.

its demulcent effects in these cases, is to employ the mucilage in the form of lozenges. The Bengal Pharmacopœia (p. 434) furnishes the following formula for their preparation: Arrow-root, 1 oz.; White sugar, lb. 1.; Hibiscus mucilage, concentrated to one-third and strained, as much as is required to form a mass, to be divided into lozenges, and dried. O'Shaughnessy⁽¹⁾ strongly recommends these lozenges as a very pleasant nutritive and soothing preparation. The Taleef Shereef (p. 51) describes the *Bhendi* as diuretic, and there appears every probability that a decoction of the capsules, taken freely, would tend, by allaying morbid irritation of the urinary organs and passages, to favour an increased secretion and excretion of the urine. In the Mauritius, where it is known by the name of *Lalo*, a decoction of the seeds is in use as a diuretic; and in the form of ptisan and injection, it is likewise employed in dysentery.⁽²⁾ Whatever benefit is derived from it in these cases, is doubtless due to its demulcent properties. In Dr. Dancer's Medical Assistant, a decoction of the leaves and capsules is recommended as a substitute for linseed tea. In addition to their demulcent properties, the seeds or grains are highly nutritious, Dr. Daniel, in his work on the Medical Topography of the Coast of Guinea, (p. 89,) gives it as his opinion, that their bland and mucilaginous properties strongly recommend them as an article of diet, to those Europeans who intend to reside any length of time in the unhealthy localities of the African Coast. We have no hesitation in pronouncing this to be a valuable demulcent and nutritive.

Amongst the other plants of the Order Malvaceæ, to which demulcent properties are assigned, may be mentioned the following.

1. *Sida cordifolia* of Linnæus, (Wight and Arnott, Prod. I, p. 58;

Sida cordifolia.

بريارا

Buryārā.

Roxb. Flor. Ind. III, p. 177,) the *Buryārā*, of the Taleef Shereef (p. 37, No. 170,) a common plant in many parts of the Peninsula of India and Bengal, where it is known by the names of

Kharanta and *Buryara*, (Hind.) and *Barjala*. (Beng.) The whole plant is emollient and demulcent, and boiled with rice, is said to prove serviceable in dysentery. In the Taleef Shereef (op. cit.) the flowers are described as demulcent and emollient, and are advised in doses of 24 grains, with milk and sugar, in gonorrhœa and other affections.

- The *Sida retusa* of Linnæus, (Wight and Arnott, Prod. I, p. 58;

Sida retusa.

Roxb. Flor. Ind. III, p. 175,) constitutes the *Kurun-thodee* of Rheede, (Hort. Mal. X, tab. 18,) which the

Tamuls, under its native name *Karuntoothie*, employ extensively as an ingredient in their demulcent congees and other drinks, in fever, &c.;

(1) Bengal Disp., p. 217.

(2) Bouton Med. Pl. of Mauritius, p. 13.

they likewise employ the root, boiled in oil, as an external application in rheumatism, and other diseases. In the Mauritius, where it is known under the name of *Herbe a balais*, it is in common use amongst the creoles, as a demulcent both internally and externally, in mild bronchial inflammations, abdominal pains, affections of the bladder, retention of urine, &c. (Bouton.)(1)

The Abutilon (Sida) Indicum, (Don,) is another common Indian plant, known to the natives by the names of *Coongoonie*, (Hind.) *Petaree*, (Beng.) *Perin-tütte*, (Tam.) *Nugubenda*, (Tel.)

Tha-ma-khyoke, (Burm.) and *Anda*, (Cing.) The whole plant is mucilaginous and demulcent, agreeing, apparently, in properties with the officinal mallow, (*Malva officinalis*), for which it forms a good substitute. Hence, it is sometimes called the *Indian or Country Mallow*. Formerly, the *Abutilon Indicum* and *A. Asiaticum*, were regarded as distinct plants, but Wight and Arnott have pointed out that there is no character to separate them, except the larger calyx of the former, which is of minor importance. They both possess equal demulcent properties.

The next plant of this Order is the *Gossypium Herbaceum*, or *G. Indicum*, the *Indian Cotton Plant*, cultivated in most tropical countries for the

Gossypium herbaceum.

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Kāpās.

cotton which it yields. In India it is known under the name of *Karpasi*, (Sans.) *Karpas* or *Kāpās*, (Hind.) *Karpas*, (Beng.) *Parati cheddie*, (Tam.) *Puttie*, (Tel.) *Paroothi*, (Mal.) and *Wā*, (Burm.) The root is usually regarded as demulcent, and Ainslie(1) states that the Tamul doctors employ it in this character, in the form of decoction, in affections of the bladder. Caution, however, is necessary in its use, as the observations of Doctors Bouchelle and Shaw(2) prove that the root of this plant, raised in the Southern States of America, causes powerful contractions of the uterus, little inferior to those produced by the Ergot of Rye, and that it is used as an abortive by the negroes. According to Martius(3), the seeds are much used in Brazil as an emollient, being employed in infusion, injections and fumigations, in the treatment of fevers, and lymphatic engagements. In Travancore, the native doctors administer the shoots and young leaves in the dysentery of children, especially in that which supervenes upon measles. A gummy substance which exudes from the stem is also esteemed by them, as demulcent and diuretic. Given in daily doses of 4 to 12 drachms boiled in butter milk, it is said greatly to increase the urinary discharge.

(1) Med. Plants of the Mauritius, p. 12.

(1) Mat. Ind. II, p. 282.

(2) Prof. G. B. Wood, Therap and Pharm. II, p. 708.

(3) Merat and de Lens, Dict. Mat. Med. III, p. 410.

Leaving for the present the consideration of the Malvaceæ, we will proceed to notice another indigenous plant of the Natural Order Leguminosæ, the demulcent properties of which are well marked and established by long usage. This plant is the *Abrus precatorius* of modern botanists. (D. C. Prod. II, p. 38; Wight and Arnott,

Abrus precatorius.

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Gunj.

Prod. I, p. 236;) the *Glycine Abrus* of Linnæus; (Spec. Pl. 1025;) the *Orobis Indicus* of Burman; (Thes. Zeylan, p. 177;) the *Abrus* of Rumphius; (Herb. Amb. VIII, p. 75 t. 32;) the *Konni* of Rheede; (Hort. Mal. VIII, p. 79 t. 39;) and the *Goonchee* of the Taleef Shereef. (p. 138, No. 828.) It is a twining shrub, common in both the East and West Indies and other tropical countries. Its small bright red seeds, marked with a jet black spot at the top, are universally known, being much used for ornaments by the people of the West, and as weights (the Retti in the East Indies. Amongst its Oriental names we may mention *Gunch* or *Goonchee*, (Hind.) *Koonch*, (Beng.) *Gulivindatiga*, (Tel.) *Kundumani*, (Tam.) *Koonce*, (Mal.) *Rwagnay*, *Khyen-rwæ*, (Burm.) *Maklam*, (Siam.) *Dawn Soga*, (Malay.) *Olinda*, (Cing.)

All parts of the plant appear to possess demulcent properties, but it is the root which has been principally employed; it possesses not only the sensible properties, but also in a degree, the medicinal virtues of the officinal Liquorice Root; hence it has obtained the name of *Wild, Indian, or Jamaica Liquorice* amongst the English, and *Liane à réglisse* amongst French settlers. The Bengal Dispensatory (p. 297,) describes the root as abounding with sugar, and as being a perfect substitute for Liquorice in every respect. This description is perhaps a little too flattering, yet it is doubtless a very good substitute; and in India and other tropical countries, where the true Liquorice root is not procurable, may be regarded as a substitute of no mean value. The following extract prepared from it is officinal in the Bengal Pharmacopœia (p. 293.) Take of the *Abrus* Root lb. ii. ss.; boiling distilled water, C ii; macerate for 24 hours, boil to one half; strain, and evaporate to a soft mass in the water bath. When hardened, and taken in small quantities, it is said to act as a local demulcent in cough dependent on irritation in the pharynx or at the top of the trachea. According to Bouton,⁽¹⁾ the creoles of the Mauritius employ the root to relieve cough, dyspnœa, and bronchial irritation; and there appears to be little doubt that in this class of cases it may prove very serviceable. Horsefield⁽²⁾ also includes it, under the name of *Suga*, amongst the indigenous emollients of Java. The leaves appear to participate in the demulcent virtues of the root. In Ceylon the native doctors

(1) Med. Plants of the Mauritius, p. 43.

(2) Asiat. Journ. Vol. III, p. 266.

employ a decoction of the leaves, with sugar and lime juice, for the relief of cough, &c. Bennet.(3) In the Mauritius, the stems and leaves in decoction, are given to allay irritation of the bladder. (Bouton.) In Guadaloupe, an extract prepared from the leaves, is used for the same purpose. (Merat et De Lens.(4), Barham(5) states that he employed a ptisan of the leaves with great success, in colic; and Dr. Waitz (6) advises an infusion of the leaves, as a diet drink for children in tropical countries, and he adds(7) that he has found the expressed juice very serviceable as a local application in aphthæ.

The statements of the earlier writers as to the poisonous nature of the seeds appear to have been erroneous. In Egypt they are used as food. Prosper Alpinus(8) expressly states "quorum usus est ad cibum."

The next indigenous demulcent which requires notice belongs to Nat. Ord. Plantaginaceæ; Linn. Syst. Tetrandria Monogynia, the

Plantago Ispaghula.

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Ispaghul.

Plantago Ispaghula of Roxburgh, (Flor. Ind. I, p. 421,) a native probably of Persia, but cultivated in some parts of India for the sake of its seeds. It does not thrive well in Southern

India. The seeds, which alone are medicinal, are, however, commonly found in all the bazaars of India, and are known by the names of *Ispagool*, (Pers.) *Burz-katoone*, (Arab.) *Ispagol* or *Isufghol*, (Hind.) *Issufgool*, (Berg.) *Yisapugol Veric*, (Tam.) *Ispogul-beeja*, (Can.) Royle gives *Fusiloon* as the Turkish and *Fusiloon* as the Greek names, and this last term he regards as an evident corruption of *Ψυλλιον*. By Europeans they are often called *Spogel seeds*, an evident corruption from the Persian.

These seeds, which are small, ovate-elliptic, convex on the outside, convex within, of a light greyish colour, without sensible smell, and with little taste, appear to be of considerable value in cases requiring demulcents and sub-astringents. They are mentioned by Fleming(1), and Ainslie(2) states that some European medical men in India have employed them successfully in catarrh, gonorrhœa, and nephretic affections, 3 ii—3 iii. of the seeds being infused in a pint of boiling water. In the Eastern Provinces of India, according to Dr. Buchanan(3), the natives throw the seeds into water, until it becomes mucilaginous like sago, and in this state it is considered to afford a fine nutriment for those who have febrile complaints. In

(3) Account of Ceylon, p. 129.

(4) Dict. Mat. Med. Univ. I, p. 7.

(5) Hort. Amer. p. 88.

(6) Dis. of Children in Hot Climates, p. 150.

(7) Op. Cit. p. 197.

(8) De Plant. Æg. pt. p. 76.

(1) Asiat. Researches, Vol. XI, p. 174.

(2) Mat. Ind. II, p. 110.

(3) Martins Eastern India, Vol. III, p. 239.

Puraiya, we learn from the same authority, a poultice of the seeds is used as a local application to in hæmorrhoids. We have very strong evidence in favour of this remedy in some forms of diarrhœa, from the pen of Mr. Twining⁽¹⁾. In chronic diarrhœa in Europeans who have been long resident in India, benefit, he remarks, often attends the use of demulcents, followed by mild tonics. For this purpose, he states, that the *Isuf-ghool* seeds seem to answer better than any other remedy with which he was acquainted. The dose for an adult is two and a half drachms, mixed with half a drachm of sugarcandy. The seeds are exhibited whole, and in their passage through the intestines, they absorb as much fluid as makes them swell; and by the time they reach the central or lower portions of the canal, they give out a bland mucilage, and in general, they continue to possess the same mucilaginous property until they have passed through the intestines. If the frequency of the dejections be restrained by an anodyne enema, and by using only a small quantity of food, the mucilaginous properties of the seeds are most evident in cases where the evacuations from the intestines are fluid. This remedy is much used by the natives of India, in those cases of obstinate diarrhœa, in which they suppose some degree of irritation, or heat, or acrimony of the fluids, may exist, and it is said that a slight degree of astringency, and some tonic property may be imparted to these seeds, by exposing them to a moderate degree of heat, so that they should be dried and browned. This remedy sometimes cures the protracted diarrhœa of European children, (as well as of natives,) after many other remedies have failed. (Twining.) This valuable article appears to have fallen into disuse, but its virtues are well worthy of further investigation.

Very similar in operation to the last article, appears to be that of the fruit of the *Adansonia digitata*, the *Baobab*, or *Monkey Bread Tree*, a large tree of the *Nat. Ord.* Sterculiaceæ, a native of Africa, but now completely na-

turalized in many parts of India. Merat and De Lens,⁽¹⁾ on the authority of Dr. Louis Frank, give a full account of its employment in dysentery, by the people composing the caravans which traverse the desert between Darfour, Nubia, and Cairo. After putting the patient on a vigorous diet, they administer the spongy red friable part of the fruit, preceded in some cases, by small doses of rhubarb. If amendment does not shortly follow, they employ the bark beaten up with water into a paste, of which they give a piece the size of a chesnut, repeatedly during the day. Occasionally, they use the roasted seeds for the same purpose. Dr. Frank's personal testimony as to its use is very favourable. The spongy part

(1) Dis. of Bengal, Vol. I, p. 212.

(1) Dict. Mat. Med. Univ. I, p. 73.

of the fruit was analyzed by Vauquelin.(2) He found it to consist of starch, gum, an acid analogous to malic acid, but not crystallizable, sugar and woody matter. The mucilaginous and emollient properties are not confined to the fruit, but pervade more or less all parts of the tree; the leaves especially are adapted to a variety of purposes, entering much into poultices and fomentations for rheumatic and other painful affections of the limbs, and for foul and irritable ulcers. (Daniel.)(1) When dried and powdered, they are used to reduce excessive perspiration, and their expressed juice is valued as an antiscorbutic. (Hooker.)(2) The bark has had antiperiodic powers assigned to it.

Belonging to the same Natural Order, (Sterculiaceæ,) is another tree, which extends from one end of India to the other, and amongst the natives is held in high esteem for its medicinal properties; this

Bombax Malabarica.

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Sem-bal.

is the *Bombax Malabaricum* of Wight, and Arnott, (Prod. I, p. 61,) the *Bombax heptaphyllum* of Roxburgh, (Flor. Ind. III, p. 167 and Coromandel Plants, tab. 247,) the *Salmalia Mala-*

barica of Schott and Endlicher, (Melet. Bot. p. 34,) the *Gossampinus rubra* of Hamilton, (Linn. Trans. XV, p. 128,) the *Moul-elavou* of Rheede. (Hort. Mal. III, p. 61, tab. 52,) and the *Sembill* of the Taleef Shereef. (p. 103, No. 621.) By the English it is commonly known as the *Red Cotton Tree*. Its Oriental names are *Semal*, (Sans.) *Sem-bal*, *Sembill*, (Hind.) *Rukto-shimool*, (Beng.) *Mulaelas marum*, (Tam.) *Mulaboorka-manu*, (Tel.) *Lepan* and *Lai*, (Burm.) It yields the gum called *Moocherus*, which, being an astringent, is passed over for the present. The dried roots which constitute the *Sufaid mooslie* of the bazaars, are held in high esteem by the natives generally for their demulcent, and tonic properties. Two kinds of *Mooslie*, the white and the black, are described by writers, but whether the latter are the older roots, or the produce of another tree, remains to be determined.* The white *Mooslie* is a small brittle root, which, in a dry state, contains, 60 per cent. of gum, 15 of starch, with traces of resin; the remainder being woody fibre. The powdered root forms a thick mucilage with cold water, and answers admirably as a nutritious demulcent for convalescent persons (Bengal Disp. p. 228.) The Taleef Shereef contains a length-

(2) Ann. du Mus. Vol. VIII, p. 1.

(1) Med. Topog. of Guinea, p. 50.

(2) Bot. Mag. Vol. LV.

* Dr. Pereira, in his Notes on the Materia Medica, of Scinde (The Collection of the late Dr. Stocks,) gives "*Mooslie Sujah*, *Black Mooslie*, *Root of Murr-dannia scapiflora*, Royle; of *Curculigo orchoides*, Roxb. according to Ainslie, Mat. Ind. II, p. 242." The article is described as "dried slices of a blackish root, of about half an inch thick." (Pharm. Journ. 1855, Vol. XIV. p. 261.)

ened description of these roots and their properties. The Editor speaking from personal experience of the powdered root, remarks that it strengthens the stomach and proves slightly laxative. Emetic properties are assigned to these roots by Blume and Rumphius, but O'Shaughnessy, (op. cit.) after repeated trials, states that he did not observe this effect.

The last, but not the least valuable, of the indigenous demulcents of India which we shall mention, is *Oryza sativa*, or *Common Rice*,

Oryza sativa.

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Dhān.

an article too well known to need any further description. The very commonness of this remedy has caused it to be neglected by the majority of European practitioners, but the natives resort to it under the name of congee, invariably in every case where demulcents are usually considered indicated, and my own repeated observations warrant me in saying that there are few demulcents more generally effectual. In gonorrhœa, in ardor urinæ, in irritable states of the kidneys and bladder, in catarrhs attended with febrile heat, and bronchial or intestinal irritation, and in a variety of other cases, the following decoction of rice may be taken almost *ad libitum*, and with manifest advantage. Take Rice 3 i, Water O ii, Boil to O i, and strain. Combinations with other demulcents increase its efficacy, thus, in coughs and bronchial affections, the root of the *Abrus precatorius*, in febrile states, Citric Acid, or Lime juice, or the Nitrate or Bitartrate of Potash; in gentio-urinary affections, the capsules of *Abelmoschus esculentus*, may be advantageously conjoined with it. A decoction of twice or thrice the strength indicated above forms a good emollient enema, or it may be used simply as the vehicle, opium and other sedatives being added, as the case under treatment may require. In fact, it forms an excellent substitute for the officinal Decoctum Hordei.

The number of indigenous demulcents may be increased almost *ad infinitum*, but with those above described, the *Abelmoschus esculentus*, the *Abrus precatorius*, the *Plantago Ispaghula*, and *Common rice*, the Indian practitioner possesses all which he can possibly require in the way of demulcents, and as these are all obtainable in every part of India, from the Himalayas to Cape Comorin, at a mere nominal price, no possible good can accrue from multiplying their number.

We cannot conclude this account of the demulcents, without mentioning some of the indigenous gums which may be employed as demulcents, as a substitute for the true Gum Arabic, in certain cases. The trees which yield the principal of these are as follows:

1. *The Acacia Arabica*; the Indian Gum Arabic tree; a Leguminous tree, common throughout India, which yields the Indian Gum Arabic, *Babula Ka Goond*, (Hind.) *Karu Vellum pisim*, (Tam.)
2. *The Anacardium Accidentale*, the Cashew tree, which yields

large quantities of a clear amber coloured gum, *Hijilee badam Ka Goond*, (Hind.) *Mundiri pisim*. (Tam.)

3. *The Feronia Elephantum*, the *Wood Apple Tree*, a large tree, *Nat. Ord.* Aurantiaceæ, which yields an excellent gum, *Kath bael Ka Goond*, (Hind.) *Vulam pisim*. (Tam.)

4. The *Cochlospermum (Bombax) Gossypium*, and the *Sterculia Urens*, both yield the *Kutira Gum*, which is much used in Upper India as a demulcent.

5. *The Eriodendron anfractuosum*, the *Cotton Tree*, yields the gum termed *Huttian Ka goond*, (Hind.) which is given by the natives in bowel complaints.

6. The *Spondias mangifera*, *Amda* or *Amra*, (Hind.) *Kattu mám-pazham*, (Tam.) which yields a large quantity of pure gum, which is said to be sold in the bazaars as Gum Arabic.

List of other reputed Demulcents, indigenous in India.

Hibiscus Rosa Sinensis.....	Bengal Disp. p. 218; Drury's Useful Plants, p. 251.
Abutilon graveolens,.....	Irvine Mat. Med. Patna, p. 54.
Malva Sylvestris.....	Beng. Disp. p. 214.
Thespesia populnea.....	Ainslie Mat. Ind. II, p. 333.
Corchorus olitorius.....	Beng. Disp. p. 229.
Pavonia odorata,.....	Beng. Disp. p. 219.
Cordia Myxa,.....	Horsefield Asiat. Journ. VII, p. 146.
Zizyphus, Jujuba,.....	Ainslie Mat. Ind. II, p. 95, Wight Illust. I, p. 180.
Curculigo orchoides,.....	Ainslie; Drury's Useful Plants, p. 179.
Agrostis linearis,.....	Ainslie Mat. Ind. II, p. 27.
Malva Mauritiana,	Beng. Disp. p. 214.

INDIGENOUS DIURETICS.

Many of the demulcents already mentioned, will prove manifestly diuretic, provided the surface of the body be kept cool; this is particularly the case with the capsules of the *Abelmoschus esculentus*; we shall, however, now proceed to mention a few other indigenous plants, whose action appears to be particularly calculated to increase the urinary secretion.

Previous to commencing the consideration of them, however, it should be understood that our observations are principally confined to those agents, whose operation is solely or chiefly diuretic. In some, the diuretic operation is only incidental or subsidiary, as the *Hemidesmus Indicus*, *Clypeæa hernandifolia*, *Cocculus cordifolius*, for example; under the use of these drugs, the urinary secretion is often increased, but as tonicity is their chief characteristic, we have reserv-

ed their consideration for another division, namely that of the Indigenous Tonics.*

The first diuretic to which we will direct our attention is a plant of the *Nat. Ord.* Pedaliaceæ the *Pedaliium murex*, (Roxb. Flor. Ind. III, p. 114,) the *Murex* of Linnæus, (Flor. Zeyl. p. 440,) the *Hyoscyamus Maritimus* of Burman, (Thes. Zeylan. p. 122,) and the *Kaka Mooloo* of

Rheede. (Hort. Mal. X, p. 143, t. 72.) It is a common plant in dry arid sandy soils, on the Coasts of Coromandel, the Carnatic, Bombay, &c., and in Ceylon. It is well known by the names of *Barā Gokhrū*, or *Gokhroo dukhannee*, (Hind.) *A' nei nerinjé*, (Tam.) *Yenuga palleru*, (Tel.) *Caca-mulu*, (Mal.) and *Eet nerenchi*. (Cing.) The whole plant is regarded as demulcent and diuretic. The leaves and stems, briskly agitated in water, render it speedily mucilaginous, and in this manner it is a highly prized remedy amongst the people of South India in gonorrhœa and dysuria. The seeds also possess, though in a minor degree, the same properties. Of the powerful diuretic action of the mucilaginous water, I have been assured, on the best authority, European and native; and an officer told me that on several occasions, he has been rapidly cured of a gonorrhœa by this remedy alone, the only perceptible effect being that the flow of urine was increased in a very marked degree. Dr. Ives⁽¹⁾ speaks very favourably of its virtues. "A small branch of this plant," he remarks, "when fresh, dipped two or three times into a basin of water, changes the water into the consistence of the white of an egg, changes milk to the thickness of rich cream, and gives to both a very agreeable smell and taste. Half a pint of this cream, drank every morning, in the course of ten days as I and Mr. Thomas, too, experienced in our practice, often cured a gonorrhœa, without the aid of any other remedies." Diuretic virtues are also ascribed to the seed, which the natives use extensively in the form of decoction, in the treatment of dropsy. In trials with, this remedy, it should be remembered that water rendered mucilaginous by this plant, in a few hours returns to its original fluidity; and therefore that it should be freshly prepared each time it is required for use.

In this respect it differs from *Gmelina parviflora* of Roxburgh, (Flor. Ind. III, p. and Coromandel Pl. ii, tab. 162,) the *Gmelina parviflora* of Sprengel, (Syst. Veg. II, p. 765,) a shrub of the *Nat. Ord.* Verbenaceæ, indigenous in Coromandel and other parts of India. Its Eastern names are *Shieri Gúmúdu*, (Tel.)

* See Indian Annals, of Med. Science, Vol. V, p. 576.

(1) Voyage to India, &c., p. 466.

Gúmadi, (Tam.) *Kumatha*, (Can.) The leaves of this shrub communicate a mucilaginous thickness to water like those of the *Pedaliium Murex*, but the water remains mucilaginous until decomposed by fermentation. This mucilaginous water is much used by the natives as a remedy in gonorrhœa, ardor urinæ, &c., and is said to increase the urinary secretion. Both these articles are well worthy of further trials.

The *Pedaliium murex* is often confounded with the *Tribulus languinosus* of Linnœus, (Wight Icones, 1 t. 98,) the *Tribulus terrestris Zeylanicus* of Burman, (Thes. Zeylan. p. 26, tab. 106, fig. 1,) the *Gokhroo* of the Taleef Shereef. (p. 133, No. 803.) It is a small plant, belonging *Nat. Ord.* Zygophyllææ,

Tribulus languinosus.

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Gokhrū.

and is common in sandy soils, in most parts of India; its prickly capsules proving extremely troublesome to bearers and others who travel without shoes. Its Eastern names are

Gokhrū, (Hind.) *Gokhoor*, (Beng.) *Nerinji*, (Tam.) *Patteru*, (Tel.) and *Neringil*, (Mal.) The whole plant, especially the prickly fruit and the seeds, is held in high esteem by the Tamul doctors, as a diuretic, and in this character it is much resorted to in drop-sical affections, gonorrhœa, and in febrile states attended with high coloured and scanty urine. From the favourable report I received of it, I gave it a trial, and in some instances it appeared sensibly to increase the urinary secretions, but in others it exercised no perceptible effect. I employed the following formula, Neringi seeds bruised ʒvi. Coriander seeds ʒiii. Water O i. boiled to one half. This quantity was given in divided doses, during the day. Another mode of administration, adopted by the natives, is to boil the seeds with rice, and then to form a kind of medicated congee, which is taken in large quantites. Irvine* places the dose of the dried seeds and capsules, which he describes as highly mucilaginous, at ʒii to ʒi.

Another popular diuretic amongst the Hindús is the *Asteracantha longifolia* of Nees Von Esenbick, (Wallich, Pl. Asiat. Rar. III, p. 90; Wight. Icones, II, t. 449,) the *Barleria longifolia* of Linnœus, (Sp. Pl. 887,) the *Ruellia longifolia* of Roxburgh, (Flor. Ind. III, p. 50.) the *Bahelschulli* of Rheede, (Hort.

Asteracantha longifolia.
(Nees.)

تال مکھانا

Tāl Makhānā.

Mal. II, p. 88, tab. 45,) and the *Talmukara* of the Taleef Shereef. (p. 56, No. 282.) It is a small shrub of the *Nat. Ord.* Asteracanthaceæ, and is found chiefly in moist places in Oude, Nepal, Bengal, and many parts of the Peninsula. Its Oriental names are *Go'cant'aca*, (Sans.) *Goethura*, *Gokyura*, and *Tal-*

* Mat. Med. of Patna, p. 30.

makhārā, (Hind.) *Kanta-koolika*, (Beng.) *Nirmulli*, (Tam.) *Gobbi*, (Tel.) *Wahel Schulli*, (Mal.) and *Katu-iriki*. (Cing.) One of the earliest notices which we have of the diuretic properties of this plant is by Rheede, (op. cit.) who states that on account of its power in increasing the urinary secretion, it is administered in Malabar for the cure of dropsical and gentio-urinary affections. In Northern India it is similarly employed.⁽¹⁾ In Travancore, the natives highly esteem it as a diuretic, and not only administer the fresh plant in infusion, in dropsy, but they employ the ashes of the plant, incorporated with their food, with the view of acting more powerfully on the kidneys. Dr. Kirkpatrick⁽²⁾ states that he has frequently given this plant to dropsical patients, and that it undoubtedly possesses considerable power as a diuretic. He places the dose at one tolah, half an ounce. The few trials I made with this remedy disappointed my expectation, but I doubt much if I employed it in a proper class of cases; generally poor, anæmia, ansaracus subjects. In Patna the seeds of this plant, (*Tal-Makhana*, *Kanta Koolika*, (Hind) in doses of grs. 10—3 ii are given in infusion as a mucilaginous tonic and diuretic. Irvine.⁽¹⁾

Two plants of the *Nat. Ord.* Euphorbiaceæ, enjoy in India considerable repute as diuretics. The first of these is the *Phyllanthus Niruri* of Linnæus; (Sp. Pl. 1392; Wight's Icones, V, tab. 1894;)

Phyllanthus Niruri.

بهين او نله

Booien aoonlah.

the *Urinaria Indica erecta* of Burman; (Thes. Zeylan. p. 230;) the *Herba Mæroris alba* of Rumphius; (Herb.

Amb. VI, p. 41, tab. 17, fig. 1;) the *Kirganelli* of Rheede. (Hort. Mal. X, p. 29, t. 15.) It is a common weed in moist places in most parts of India, and is known by the names of *Booien aoonlah*, (Hind.) *Sada-hajur-muni*, (Beng.) *Kirganelli*, (Mal.) *Kizhanelli*, (Tam.) *Nela-usirika*, (Tel.) *Pita-wakka*, (Cing.) and *Daun Kottî* (Javan.) The diuretic operation of the leaves of this plant is noticed by Burman, Rheede, Rumphius, and other old writers; they possess a degree of bitterness, which has obtained for them the character of being also tonic and stomachic. The root is likewise bitter, and in the fresh state has been successfully employed in jaundice. Half an ounce with milk, given night and morning, completed a cure according to Dr. John, in a few days without causing any sensible operation. (Roxburgh.) Thus administered, it is held in high esteem in Travancore, in all bilious affections.

It is quite naturalized at the Mauritius, where it is extensively used by the creoles in gonorrhœa, (Bouton)⁽¹⁾ and here it doubtless

(1) Royle—Illust. Vol. I, p. 289.

(2) Cut of Mysore Drugs, No. 451.

(1) Materia Medica of Patna, p. 110.

(1) Med. Plants of the Mauritius, p. 136.

proves useful by its diuretic operation. Considering the prevalent and apparently just opinion entertained in India of its diuretic operation, it is a little curious to find it stated by Merat and DeLens,(2) on the authority of Maritins that it is regarded in the Brazils, where it is indigenous, as exercising an almost specific influence in diabētis ! It has other virtues attributed to it, which should not be omitted ; thus, in Travancore, the juice mixed with oil is used as a local application, to allay burning sensations of the eye. The juice mixed with oil, and inserted on a piece of cotton into the external meatus, is said to be effectual in neuralgic affections of the ear. Bouton (op. cit.) states that he has been assured by Dr. Beaugeard that he had employed it with success.

The second plant of this Order closely allied to the preceding is the *Phyllanthus urinaria* of Linnæus ;
Phyllanthus urinaria. (Sp. Pl. 1393) the *Urinaria Indica*
spinosa of Burman, (Thes. Zeylan. p.

231) the *Herba Mæroris rubra* of Rumphius, (Amb. VI., p. 3. tab. 17, fig. 2,) *Tsjeru Kirganeli* of Rheede. (Hort. Mal. X, p. 8, tab. 16.) Like the preceding it is a common plant in moist localities in most parts of India, Java, and Ceylon, and is known by the names of *Hajur Muni*, (Beng.) *Yerra Usirika*, (Tel.) *Tsjeru Kirganelli*, (Mal.) *Binko humba*, *Bin-nelli*, (Cing.) and *Mavirang-Chinu*, (Java.) The whole plant is regarded as diuretic, and Burman(3) speaks of it as acting powerfully in this character when given in decoction. In Java according to Horsefield,(1) it enjoys considerable repute as a remedy in gonorrhœa, gravel, and other affections of the genito-urinary system. It is similarly used in the Mauritius, where it is popularly known by the name of *Curanelli grimpanti* ; it is likewise employed by the creoles in dysentery, and as a wash for foul ulcers (Bouton.)(2)

Amongst the indigenous diuretics, none, perhaps, deserves more attention than the *Kalpasi* of the Tamuls, which Ainslie(3) has identified with the *Lichen rotundatus* of

Lichen Rotundatus.

پتھر کی پھول

Patthur ke phul.

Rottler? This lichen grows plentifully on the rocks in some parts of Southern India, and is met with in a dry state in most of the medicine bazaars of the Peninsula, Ainslie, who

furnishes the following synonyms, *Henná ey koreish*, (Arab.) *Pathur ke phul*, (Hind.) *Kull pashie*, (Tam.) and *Ratipanchi*, (Tel.) simply states that it is supposed to possess peculiar cooling qualities, and

(2) Dict. Mat. Med. V. p. 293.

(3) Thes. Zeylan, p. 231.

(1) Asiatic Journ. VII, p. 264.

(2) Op. cit. p. 133.

(3) Mat. Ind. II, p. 170.

that it is used in the preparation of a liniment for the head. It is singular that he should have omitted to mention its alleged diuretic properties for which it is in high repute among the natives, who employ it internally in dropsical and other affections where diuretics are indicated.

The *Henná ey koreish* is mentioned in the *Ulfaz Udwiye*h, (No. 816) but no properties are assigned to it in this work. Dr. Stevenson, of H. M. 13th Dragoons,⁽¹⁾ was the first to mention its efficacy as a diuretic, when applied as a poultice over the lumbar region. He recommended it to be boiled in water, bruised in a mortar, and then applied over the region of the kidneys, the application to be renewed twice daily; mild aperients only to be given when necessary. Dr. Stevenson mentions two cases in which its operation was very decided; in one, a confirmed case of dropsy, where the urine was scanty, feet œdematous, &c., a lichen poultice over each kidney produced its diuretic effects so freely that a quart of urine was voided every second hour. In ten days the circumference of the abdomen had decreased a foot, the dropsy was cured, and the man's health restored; sixteen months after he still continued well, with no signs of returning dropsy. In the Report of H. M. 1st Regiment, (Royals,) there are mentioned two cases of dropsy treated with this remedy.⁽²⁾ In both, the usual diuretics, such as squills with and without Calomel, Digitalis, Bitartrate of Potash, Nitre, &c., had all been unsuccessfully administered. Both individuals laboured under ascites, with anasarca of the lower extremities; one indeed was considered to be in the last stage of the disease. Under these circumstances a lichen poultice was applied, night and morning, over the region of the kidneys; its effect as a diuretic is mentioned as truly astonishing; the quantity of urine discharged amounted to many pints daily, and the patients at the end of the report were in perfect health. Dr. Samuel Rogers⁽¹⁾ also mentions that he often used this lichen externally, and in two cases very successfully, although his early experience of it does not appear to have been favourable, as he states⁽²⁾ that he had used it extensively in the Madras Native Infirmary, and that in every instance it failed to produce the slightest effect on the kidneys. Dr. W. H. Radford,⁽³⁾ when with H. M. 62nd Regt. in India, recorded "two very desperate cases" of Scorbutus, in which the lichen poultice over the region of the kidneys exercised a very great effect, in increasing, within a few hours, in a wonderful manner, the urinary secretion.⁽³⁾ Notwithstanding these favourable testimonies, the remedy has been allowed to fall into disuse. Its real diuretic properties deserve further investigation.

(1) Trans. Med. Phys. Soc. of Calcutta, Vol. V, p. 430.

(2) Madras Quart. Med. Journ. Vol. V, p. 389.

(1) Ibid, Vol. V, Note p. 391.

(2) Madras Med. Journ. Vol. I, p. 18, note.

(3) Madras Med. Journ. Vol. I, p. 18.

The *Clypea hernandifolia* (*Nememooka*, *Hind.*) possesses undoubted diuretic properties, but these appear subsidiary to its tonic operation; hence it has been considered elsewhere amongst the indigenous tonics of India.

The diuretic operation of the Bamboo (*Bambusa Asundnacea*) is believed in by the Indian doctors. In the Taleef Shereef* the joints are said to prove very useful in this character; and Loureiro(3) states that in Cochin China, the roots and buds are considered to increase diuresis; and are

employed for the relief of strangury.

The last diuretic which we shall mention at length in this place is the Wood or Gurjun oil (*Gurjun kattel*, *Hind.*) the produce of *Deplerocarpus laevis* of Hamilton; (Mem. of Wernerian Soc. VI, p. 299;) the *Dipterocarpus turbinatus* of Roxburgh, (Flor. Ind. II, p. 612; and Coromandel Pl. III, tab. 213.) It is a large tree indigenous in Assam, Chittagong, Pegu, &c., and forms one of the most common forest trees of Burmah; *Tileagurjin* is given as its Bengali, and *Ka-nyen-nee* as its Burmese name. Roxburgh (op. cit.) gives a full detail as to its mode of collection. O'Shaughnessy(4) describes it as varying in consistence from that of thick honey to a light oily liquid, and varying in colour from a pale grey to a light brown; as found in the bazaars, it generally occurs as a brown oily looking, semitransparent liquid, with an odour strongly resembling a mixture of balsam of Copaiba with a small portion of Naphtha. Sp. Gr. o' 962. (Guibourt found it o' 964.) It is totally insoluble in water, freely soluble in Alcohol at 835, difficultly soluble in Ether. On analysis, O'Shaughnessy found it to yield an essential oil, of an acrid sweetish heavy taste, and an odour closely resembling that of Copaiba, two resins analogous to the Copaiba acid resins, and a crystallizable principle.

This substance has recently been attracting much attention in Europe, and notices of it by Mr. D. Hanbury,(1) Mr. C. Lowe,(2) M. Guibourt,(3) Dr. De Vry,(4) and others, have been published; Mr. Lowe and Mr. Hanbury point out one peculiarity, which serves to distinguish it from Copaiba. A portion of the balsam heated in a corked phial to about 266° F., becomes slightly turbid, and so gelatin-

* Taleef Shereef, p. 28, No. 114.

(3) Flor. Cochin Chin. p. 71.

(4) Beng. Disp. p. 223.

(1) Pharm. Journ. and Trans. XV, p. 321.

(2) Ibid. XIV, p. 65.

(3) Ibid. XVI, p. 332.

(4) Ibid. XVI, p. 373.

ous that the phial may be inverted, even while hot, without its contents being displaced, and on cooling, the solidification is still more complete. Gentle warmth and agitation restore, to a great degree, its fluidity, but the solidification is again produced upon the liquid being heated to 266° F. Copaiba displays no such phenomena. Mr. Hanbury was unable to detect the yellowish white crystallizable substance, spoken of by O'Shaughnessy. Dr. De Vry points out two modes of distinguishing Wood oil from Copaiba ; 1, Wood oil, mixed with an equal volume of benzole, forms a turbid mixture, and after a very long time, a resinous flocculent substance is deposited. Copaiba Balsam, with the same relative volume of benzole, forms a perfectly clear solution. 2 ; It may be distinguished by the stronger rotation of the essential oil of wood oil, and by the fact that this rotation is changed from the left to the right, if the essential oil is treated with hydrochloric acid, and afterwards rectified with water.

The close resemblance in physical and chemical properties of this gurjun and Copaiba balsam, led O'Shaughnessy to institute an extensive series of experiments on the medical effects of the former in the treatment of gonorrhœa : the results seem perfectly conclusive that in the treatment of gonorrhœa, gleet, and similar affections of the urinary organs, the essential oil of gurjun is nearly equal in efficacy to the South American drug.

The essential oil may be given in x. to xxx. drop doses, in mucilage, milk, rice water, or thin gruel, and repeated thrice or still more frequently, daily. It generally causes a sensation of warmth at the epigastrium, eructations, and slight purging. It communicates a strong terebinthinate smell to the urine, which it increases remarkably in quantity. Some obstinate cases of chronic gonorrhœa and gleet, which long resisted Copaiba and Cubebs, were cured by this remedy, in the course of the experiments above alluded to.

The Bengal Ph. (p. 378) contains the following directions for the preparation of Gurjun oil. R. Gurjun balsam, lb.i.; Dried Muriate of Lime, 3 i.; agitate well for an hour in a stoppered bottle, and then *distil* from a capacious leaden bottle.

List of other reputed *Diuretics* indigenous in India.

Ananas Sativa.....	Horsefield As. Jour. VII, p. 264. Loureiro Flor. Coch. p. 237.
Barringtonia speciosa.....	Merat et De Lens ; Taleef Shereef p. 96.
Butea frondosa (flowers).....	Taleef Shereef, p. 40.
Callicarpa lanata.....	Horsefield, op. cit. VII, p. 266.
Cassia Absus (Receptach).....	Irvine Mat. Med. Patna, p. 38.
Euphorbia Nivulia.....	Rheed Hort. Mat. II, p. 38. Horse- field, op. cit. p. 265.
Herpestis Monnieria.....	Anislie Mat. Ind. II, p. 239.
Evolvulus Alsinoides.....	Ditto.
Justicia Ecboium.....	Beng. Ph. p. 146. Roxb. Flor. Ind. I, p. 114.

INDIGENOUS DIAPHORETICS.

In a country like India where, by the operation of the atmosphere, the pores of the skin are generally kept free and open, diaphoretics are for the most part far less frequently required than in cold climates; hence, we find comparatively few medicines of this class enter into the Indian Materia Medica. Many of the demulcents mentioned in the former part of this paper, will act freely as diaphoretics, if taken in the form of hot or warm decoction, the surface of the body being kept at the same time well covered with blankets, &c., so as to prevent the access of the cool air. A few, however, deserve notice in this place, and it should be remarked that most of them belong to the class of stimulant diaphoretics, applicable chiefly to atonic or adynamic states, and inadmissible in acute febrile states of the system.

The first which merits attention is the *Celastrus paniculata* of Willdenow; (Wight and Arnott, Prod.

Celastrus paniculatus.

مال کنگنی

Malkungnī.

I, p. 158;) the *Celastrus nutans* of Roxburgh; (Flor. Ind. II, p. 390;) the *Celastrus Rothiana* of Schultes; D. C. Prod. II, p. 8;) the *Ceanothus paniculata* of Heyne; (Roth. Nov.

Spec. p. 154;) the *Scutia paniculata* of Don; (Miller Dict. II, p. 34;) and the *Malkungnie* of the Taleef Shereef, (No. 878, p. 148.) It is a climbing shrub, of the Natural Order Celastraceæ, common in the Circars, the Concans, Mysore, and other parts of India, and is known by the names of *Malkungee*, *Malkhagni*, (Hind.) *Malkang-kanni*, *Valulvy*, (Tam.) *Mála-yerukala*, (Tel.) and *Malkunganee*. (Can.) The seeds, which alone are employed in medicine, are of a reddish colour, and possess a bitter pungent taste, dependent, it is said, on a resinous principle. The Taleef Shereef contains a lengthened account of their properties; they are said to increase the tone of the vessels, to preserve health and strength, to be useful in cough, dyspnoea, &c., and to form a favourite ingredient in prescriptions for paralysis, and as an aphrodisiac. Dr. Irvine,⁽¹⁾ speaks of them in their true character, as a sudorific, and he places the dose at grs. i. ss. to grs. iii. The Taleef Shereef, however, directs one seed to be taken the first day, and an additional one every other day up to 40; the dose then to be decreased at the same rate. Of late years these seeds have obtained some celebrity, as the basis of the "Oleum nigrum," which has been vaunted as a remedy in beriberi, paralysis, and rheumatism. The following directions are given for its preparation by Dr. Malcolmson.⁽²⁾ Into an earthen pot, the bottom of which is perforated by a number of small holes, are put the seeds of *C. nutans*. (Roxb.) lb. i. ss. Benzoin, cloves, nutmegs,

(1) Mat. Med. Patna, p. 661.

(2) Essay on Beriberi, p. 311 et. seq.

and mace, of each 3 ss. the mouth is then closed, and the pot placed over another is luted to it. They are then placed in a pit, three feet deep and nearly as wide, and surrounded by cakes of dry cow-dung, which are set on fire; and when these are consumed, about six ounces of the oil is found in the under vessel, ready for use. It should be kept in well closed vessels. Sp. Gr. 0.975. The Malkunjee seeds are the active ingredient.

This oil in its operation is stimulant and diaphoretic, in doses of gutt. x—xv, twice daily. When swallowed, it causes a sense of heat in the stomach, extending up to the throat, and an extrication of flatus. In some instances no other sensible effect follows; but frequently a general sense of heat is experienced, and a free perspiration breaks out some hours after, which is not followed by exhaustion. Doses of above 20 drops have caused abdominal uneasiness, and dysenteric stools. It is inadmissible where there is any tenderness at the epigastrium.

In Beriberi, it was first employed by the late Dr. Herklots, who states that he lost only 1 in 50 cases of Beriberi treated by it, while he had 11 deaths out of 15 cases before he adopted its employment. Although it is generally admitted to be a valuable remedy in this disease, no such success has attended its employment in other hands. Mr. Malcolmson (op. cit.) relates some cases in which its effects were most unequivocal; but he states that he knows many cases in which it failed to produce any good effect; and this appears to agree closely with the experience of other medical officers who have given it a trial, and whose opinions will be found recorded in Malcolmson's work. He concludes that the Oleum Nigrum possesses more power over the nervous affections than Treeak Farook and less over the œdema and the dropsical symptoms generally. The dose is from x. to xv. drops, twice or thrice daily, in the form of pills. The diet should consist of wheaten cakes and water, and this should be continued twice the time of the medicine. Improvement is generally evident in a few days. Frictions are to be diligently employed, and blisters and tonics will often prove useful adjuncts. Chronic cases appear to be less under control of this oil than recent ones. Those in which it produces free diaphoresis appear to derive the greatest amount of benefit.

Another valuable indigenous diaphoretic is the powdered bark of the root of *Calotropis Gigantea* and

Calotropis procera.

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Ark.

Calotropis procera, Ak or Mudar, (Hind.) *Yercum*. (Tam.) As I have recently given a full description of the properties of this plant as an alterative—Tonic;(1) I shall content myself

now with noticing the alleged diaphoretic power of the root bark.

(1) Indian Ann. of Med. Sci. Vol. V, p. 576.

O'Shaughnessy(2) speaks of its virtues from experience ; he states that in doses of from two to five grains, the powdered bark of the root proves nauseant, powerfully diaphoretic, and after several doses, gently cathartic. On the whole he regards it as one of our best substitutes for Ipecacuanha, producing similar emetic and diaphoretic results. In dysentery, it may be very safely substituted for Ipecacuanha, in Mr. Twining's and other formulæ, about twice the quantity being used in each dose. The Bengal Pharmacopœia (p. 405) contains the following formula for the Compound Powder of Mudar, as a substitute for Dover's Powder. Take Powder of Mudar, bark of the root, 3 ii. ; Sulphate of Potash powdered 3 i. Opium 3 i. Dose from v. to xx. grains.

The *Nat^ural Order*, Labiatæ, contains several plants with reputed diaphoretic properties. Amongst the Indian species which are said to possess this property we may mention the following :—

The <i>Anisomeles Malabarica</i> of R. Brown ; (Wight Icones, III, tab. 864 ;)	the <i>Nepeta Malabarica</i> of Linnæus ; (Mant. p. 566 ;)
<i>Anisomeles Malabarica.</i>	the <i>Ajuga fruticosa</i> of Roxburgh ; (Flor. Ind. III, p. 1 ;)
گاوزبان	the <i>Stachys Malabarica</i> of Siebold, and the <i>Carim-tumba</i> of Rheede. (Hort. Mal. X, p. 185, tab. 93.)
<i>Gajubām.</i>	It is

common in many parts of India, especially on the Western Coast, where it is called *Malabar Cat Mint*. Its other names are *Gajubām*, (Hind.) *Peyameretti*, *Pemayruti*, (Tam.) *Mogo-bira*, (Tel.) and *Karim-tumba*, (Mal.) The whole plant has a strong aromatic camphoraceous smell ; and, on distillation, yields a volatile oil, which is an esteemed remedy in rheumatism. In dysenteric affections and in intermittent fevers, the expressed juice, in doses of an ounce and a half, twice daily is employed ; and in the latter class of cases, Wight (1) states that the patient is made to inhale the vapours arising from a hot infusion, whilst the diaphoresis thus produced, is kept up by drinking plentifully of the infusion. Ainslie (2) states that the expressed juice of the leaves slightly warmed, is prescribed for children in febrile attacks consequent on dentition. It seems to be held in high esteem by the natives, but its real value has yet to be determined.

The *Anisomeles ovata*, *Gobura*, (Hind., and Beng.) *Vuttei Peymeretti*, (Tam.) another Indian species, is said to possess all the properties of the preceding. In Ceylon, where it is known by the name of *Jackwanassa*, the people prepare from the leaves, which have a bitterish aromatic taste and a strong camphor-

(2) Bengal Disp., p. 453.

(1) Illustrations, Vol. II, p. 221.

(2) Mat. Ind. Vol. II, p. 294.

aceous smell, a volatile oil which is regarded as efficacious in uterine affections. (Burman.)(1)

The different species of *Ocimum*, especially, 1, the *Ocimum sanctum*, (Tulsi,) 2, *Ocimum album*, (Suf-faid Tulsi.) and 3, *Ocimum basilicum*, (Kala Tulsi,) are all supposed to possess more or less diaphoretic properties, the leaves being used in the form of infusion. The seeds, of *O. basilicum*, steeped in water, swell into a pleasant

تلیس

Tulsi.

jelly which is used by the natives in cases of catarrh, dysentery, chronic, diarrhoea, &c., and is very nourishing and demulcent. (Voigt.)(2) Whatever benefit is derived from them is doubtless due to their diaphoretic operation.

Two species of *Andropogon* are reputed diaphoretics ; the first of these is the *Andropogon Citratus*

Andropogon Citratus. (D.C.) (*A. Martini?*) the Lemon Grass, an infusion of the pleasant smelling

leaves of this grass, taken at bed time, is stated to cause considerable diaphoresis, and in the West Indies, where it is now naturalized, one of the most popular domestic remedies in constant use is "Lemon grass tea," and in several instances during my practice in Jamaica, I witnessed benefit from its employment. In Ceylon, also we learn from Bennett,(1) a decoction of the leaves is used as a drink, in fevers. In catarrhal affections the natives of Upper India induce diaphoresis by rubbing the volatile oil (*Roosa ka tel*) into the soles of the feet (*Forsyth.*)(2)

The second species is *Andropogon (Anatherum) muricatum*, the root of which constitutes the well known *Khushkhus* or *Vetti-vayr*. This fragrant root is given in infusion by the native doctors, as a diaphoretic and mild stimulant, and as a grateful drink in fever cases (*Ainslie*)(3).

Andropogon Muricatum

اسدیر

Usir.

It has likewise been employed with advantage in Europe, by Foy(4) and others, in rheumatism and gout, and other affections where stimulant diaphoretics were indicated. The dose of the dried and powdered root is about a scruple in the form of pills, but it is best given in infusion, (3 i.—3 ii. ad Aq. lb. ii.) which may be drunk *ad libitum*. Of a strong infusion (3 i. ad. Aq. 3 viii.) the dose is a table spoonful. It may also be given in Tincture (3 i. Spt

(1) Thes. Zeylan, p. 12.

(2) Hort. Calcutt. p. 447.

(1) Account of Ceylon. p. 180.

(2) Trans. Med. Physic. Soc. of Calcutta, Vol. III, p. 213.

(3) Mat. Ind. II, p. 470.

(4) Dierbach Mat. Med. Ed. 1837, Bd. I, S. 166.

Vin. Rect. 3 viii.) in doses of 3 i. We shall have occasion to refer to these again when considering the Indigenous Stimulants.

The last indigenous diaphoretic which calls for particular notice, is the *Blumea balsamifera* of De Candolle, (Prod. V, p. 447,) the *Conyza balsamifera* of Linnæus; (Roxb. Flor. Ind. III, p. 427,) the

Blumea balsamifera. *Conyza odorata* of Rumphius, a plant of Nat. Ord. Matricariaceæ, indigenous in the Moluccas, Java, Assam, the

Southern Concans, Ceylon, &c. According to Roxburgh, the whole plant, called *Soomboon* by the Javanese, when bruised exhales the smell of camphor: and Horsefield mentions that it possesses an agreeable balsamic flavour, with a considerable pungent taste. The latter authority states that a warm infusion of it acts powerfully as a sudorific, and is very generally employed by the Javanese and Chinese as a pectoral. Several European physicians of Samarang assured Horsefield that they constantly employed it in complaints of the chest, colds, &c. Loureiro,(2) who describes it under the name of *Baccharis Salvia*, (*Cay-dai-bi*, Coch. Chinese,) states that the people of Cochin China employ it with benefit, both internally and externally, in paralysis, debility of the stomach, and lencorrhæa. In 1802, when some Poligars were transported from India to Penang, they suffered severely from scurvy, and we are informed that on their arrival at their destination, the free use of this plant, (the *Boonga Chappa* of the Malays,) both as a medicine and as seasoning for food, proved very beneficial by its stimulant action, though it failed to eradicate the disease. (Hunter.)(1) Any benefit derived from it in the above cases was doubtless due to its stimulo-diaphoretic operation.

Allied to the preceding, is another species of *Blumea*, indigenous in the Tenasserim Provinces, where it is known by the Burmese name of *Blumea grandis.* (Wallich.) *Pung-ma-theing*. It deserves notice here as yielding a fair kind of Camphor,

one of the most valuable stimulant diaphoretics we possess. The plant springs up in great abundance wherever a clearing is made, and Mr. Mason(2) justly remarks that it is so plentiful that the Tenasserim Provinces might supply half the world with Camphor. It is a small growing plant, and when the leaf is rubbed between the fingers, it exhales a strong camphoraceous odour. Mr. Mason states that many years since, he was informed by the people of Tavoy that they were in the habit of making an impure camphor from this plant by a very simple process; but Mr. E. O'Rily (now Commissioner in Pegu,) was the first to make a good article from it, and to

(1) Asiat. Journ. Vol. VII, p. 262.

(2) Flor. Cochin, p. 603.

(1) In Diseases of Lascars, p. 7.

(2) Nat. Prod. of Burmah, p. 151.

bring it to public notice. He manufactured more than 100 lbs., and a sample which was sent to Calcutta was reported, in its refined state, to be identical in all its properties with China Camphor. He likewise sent flowering specimens of the plant, and it was pronounced to be a new species of *Blumea*, probably the *Blumea Grandis* of Wallich. It seems well deserving of further notice. The only medicinal use made of it by the Burmese is in the form of an infusion of the leaves, as a stomachic and carminative.

Practical Midwifery, as observed in the Lying-in-Hospital, Madras, from 1st January, 1857, to 30th June, 1859. By J. L. PAUL, M.D., late Superintendent of the Hospital.

INSTITUTIONS devoted to the management of special diseases, among other advantages, furnish the means of observing a large number of facts in regard to them in a comparatively short space of time. I have taken advantage of the opportunity which the charge of the Madras Lying-in-Hospital, during a period of two years and a half, afforded me to collect the results and principal details of the cases confined there during that period; and present them in the following condensed Report, in the hope that they may not prove unacceptable to my professional brethren in India, serving as they do to show the working of a novel institution here, and affording, as far as I know, the only data to compare the Statistics of parturition in Asia with those in Europe.

The Report extends from the 1st January, 1857, to 30th June, 1859, and embodies the results of 2,135 confinements. Such tables as are interspersed through the Report have been framed after similar tables in the valuable Report of the Dublin Lying-in-Hospital, by Dr. Collins, during his Mastership.

The adoption of Collins' plan, for such tables as have been given, facilitates the comparison of our results with those well known Statistics, while it embraces all that is requisite.

In the preparation of these tables, and in condensing the details of upwards of 2,000 cases which appear here only as results, I must acknowledge the valuable assistance of Mr. Gorman, the resident Apothecary at the Hospital.

During the period under report 2,135 women were confined in the Hospital; of these 1,824 were cases of natural labor, 130 of difficult, 81 of preternatural, 74 of complex, and 29 of complex, and preternatural labors.

These 2,135 women produced 2,154 children, 25 women having given birth to twins, 2 to monsters not entered as children, and 4 dying undelivered.

Of the 2,154 children born 1,142 were males, and 1,012 were females, or in a proportion of 1.1 males to 1 female or 53.0 per cent. of males.

Of the 1,142 males 1,007 were born alive, and 135 or 11·8 per cent. still ; of the 1,012 females, 911 were born alive, and 101 or 9·9 per cent., still.

NATURAL LABOR.

Of the 1,824 natural cases 466 were women pregnant of their first children. Of these children 38 died, 20 males and 18 females.

Below is given a classification of the duration of the cases of natural labor with the relative frequency of the different varieties.

	Presentation of Vertex.	Presentation of Face.	Presentation of Head and Hand.
Delivered under 6 hours.....	781	1	0
„ between 6 and 12 hours.	660	2	1
„ „ 12 and 18 „	167	1	0
„ „ 18 and 24 „	67	1	0

In a few instances, the duration of labor could not be ascertained, and is consequently omitted.

No death from puerperal causes occurred after natural labor.

DIFFICULT LABOR.

Includes all cases of delayed labor, whether occurring in the 1st or 2nd stage ; but the distinction between delay in the 1st and in the 2nd stage is essential, especially if the delay in the 1st stage is fortunately associated with an unruptured state of the membranes—an association which, however, does not very frequently happen as premature rupture of the membranes, is itself one of the most frequent causes of tedious labor.

Under this head 126 cases are entered in the Returns, of these 58 were cases of tedious labor, in which the parturient act was simply extended over a longer period of time than the ordinary limits, without unusual exertion on the part of the uterus. The greater number of the tedious labors were confined to the 1st stage and had their origin in a rigid state of the Os and structures of the Cervix, or in premature rupture of the Membranes and the consequent escape of Liquor Amnii. One or two cases of extreme obliquity were remarked as causing the tediousness.

Tedious labor is infinitely more frequent in 1st than in subsequent labors. From the following table it will be seen that 36 of the 58 cases occurred in first pregnancies.

No. of Pregnancy...	1st,	2nd,	3rd,	4th,	5th,	6th,	7th,	8th,	9th,	12th.
„ „ Women.....	36	5	6	1	4	1	2	1	1	1

The remedy on which chief reliance was placed for the removal of rigid Os was Tarter Emetic, occasionally combined with Cannabis or Opium, the latter, if it was desirable to arrest for a time, “pains more hurtful than useful,” the former, if increased, uterine action seemed desirable. In no instance was the lancet used to remedy a rigid state of the Os. In one case, No. 10, most marked benefit was derived from the artificial dilatation of the Os by means of a sponge tent. The patient had been three days in labor with very strong uterine action,



