Thirty-eight plates with explanations; intended to illustrate Linnaeus's System of vegetables, and particularly adapted to the Letters on the elements of botany [J.J. Rousseau] / By Thomas Martyn.

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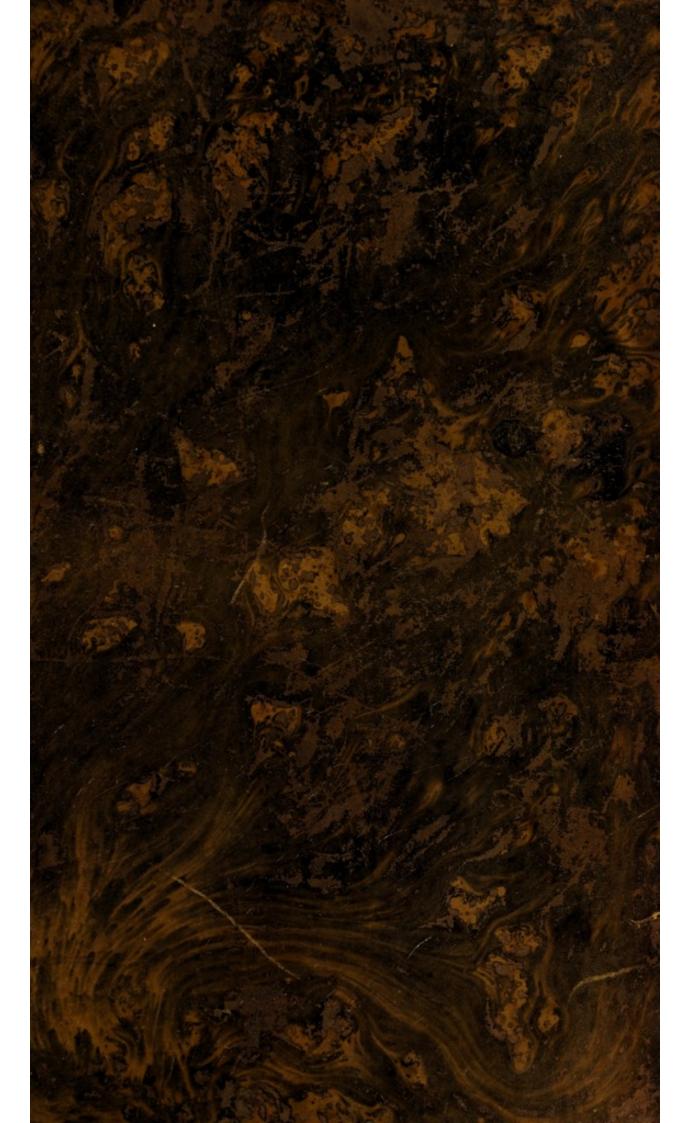
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# THIRTY-EIGHT PLATES,

WITH

### EXPLANATIONS;

INTENDED TO ILLUSTRATE

# LINNÆUS'S SYSTEM OF VEGETABLES,

AND PARTICULARLY ADAPTED TO THE

LETTERS ON THE ELEMENTS OF BOTANY.

By THOMAS MARTYN, B.D. F.R. & L.S.S.

REGIUS PROFESSOR OF BOTANY

IN THE UNIVERSITY OF CAMBRIDGE.

LONDON:

PRINTED FOR J. WHITE, AT HORACE'S HEAD, FLEET-STREET.

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## ADVERTISEMENT.

Some persons, who have honoured the Letters on the Elements of Botany with their approbation, having signified a wish that the subject might be still farther illustrated by sigures, Mr. Nodder, an ingenious artist, has been employed for this purpose, and has both drawn and engraved thirty-eight plates. By these, and the explanations which are given on the opposite page,

A 2

the

the Author hopes that he may have met the ideas of his friends.

These Plates, with their explanations, may be considered as an entire work: but it is presumed that they will be much more satisfactory when studied jointly with the Letters.

Six plates are given to illustrate Rousseau's fix letters upon the most remarkable Natural Classes. The rest are intended to explain the Classes of Linnæus's System in their order, except the thirty-fourth, which exhibits figures of the most remarkable Nectaries. No general plate, explanatory of the classical characters, is given; both because it has already been elegantly done by Mr. Curtis, and also may easily be collected from the particular plates of this work.

# Thus the character of the Class

MINUTE ATABIEDED	the state of the s	
MONANDRIA is explained in -	- Plate VII.	
DIANDRIA	- VIII.	
TRIANDRIA DIGYNIA -	IX.	
MONOGYNIA -	· — x.	
TETRANDRIA	→ XI.	
PENTANDRIA MONOGYNIA	- xii.	
DIGYNIA -	v. and xIII.	
HEXANDRIA	- 1. and xiv.	
HEPTANDRIA 2	XV.	
OCTANDRIA 5	- A.V.	
ENNEANDRIA	VVI	
DECANDRIA S	- XVI.	
DODECANDRIA -	- xvII.	
ICOSANDRIA -	- XVIII.	
POLYANDRIA -	- xix.	
DIDYNAMIA — —	iv. and xx.	
TETRADYNAMIA	- II. and XXI.	
MONADELPHIA —	- xxII.	
DIADELPHIA	III. and XXIII.	
POLYADELPHIA -	- XXIV.	
SYNGENESIA — —	— VI.	
POLYGAMIA ÆQUALIS — XXV.		
SUPERFLUA XXVI.		
aranti di salah sa	SYNGENESIA	

SYNGENESIA POLYGAMIA	FRUSTRANDA	PLATE
	-NECESSARIA	xxvII.
	SEGREGATA	XXVIII.
MONOGAMIA	_	XXIX.
GYNANDRIA -		XXX.
MONOECIA -	7000-700	XXXI.
DIOECIA		XXXII.
POLYGAMIA -		XXXIII.
CRYPTOGAMIA, FILICES		xxxv.
MUSCI		XXXVI.
ALGÆ		XXXVII.
FUNGI	Annual Advanta	XXXVIII

### BOOKS

### Lately Published by JOHN WHITE.

- 1. Letters on the Elements of BOTANY. Addressed to a Lady, by the celebrated J. J. ROUSSEAU. Translated into English, with Notes, and twenty-four additional Letters, fully explaining the System of Linnæus. By THOMAS MARTYN, B.D. F.R. and L.S.S. Professor of Botany in the University of Cambridge. The Fourth Edition. Price Seven Shillings, in Boards.
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### PLATE I. LETTER I.

#### LILIACEOUS FLOWERS.

Lilium candidum. White Lily.

- a The flower in bud.
- b The corolla expanding.
- c The corolla quite open.
- d The pistil or pointal. e The germ.
  f The style. g The stigma.
- h The fix stamens. i The filaments.
  k The anthers.
- I The germ advanced into a pericarp, which here is a capfule.
- m A transverse section of the pericarp, to show the three cells and seeds.

PLATER L. LETTER I.

LEMEN CONTROL MAN AND LANGE LANGE IN LANGE IN

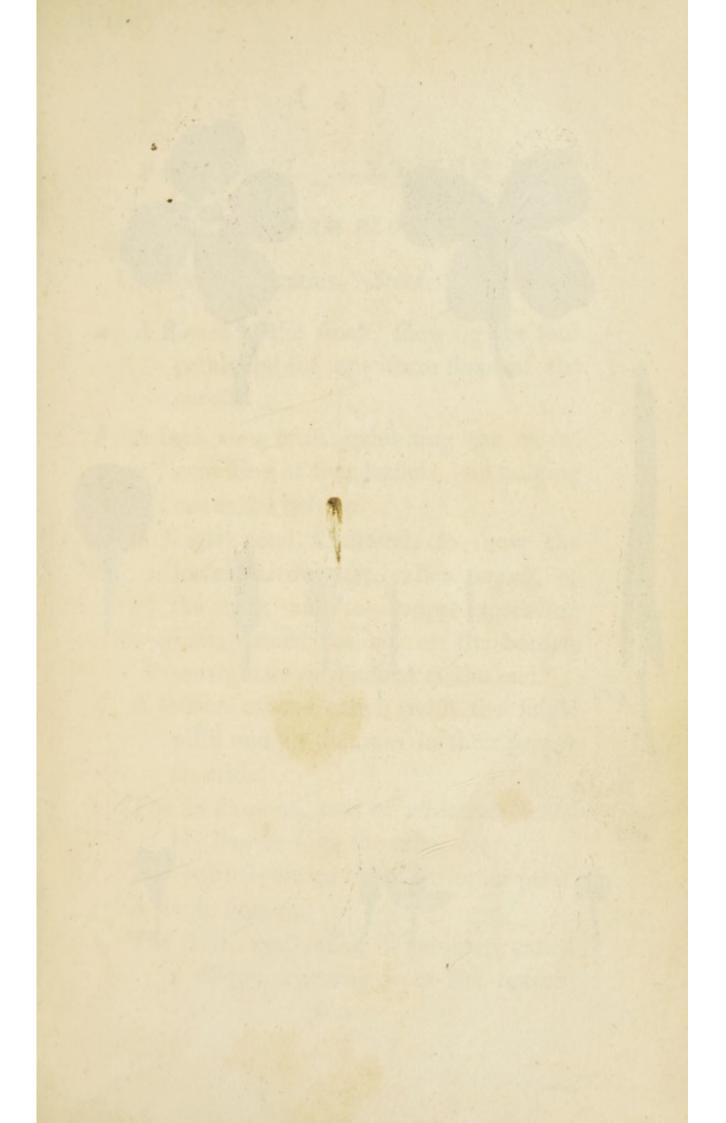
The pids or points! e The germ.

The fisher fishe digina.

The fix flaments.

The germ situanced linto a pericarp, which here is a capable.

thow the thrangells and feeds





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## PLATE II. LETTER II.

#### CRUCIFORM FLOWERS.

Cheiranthus incanus. Stock-Gilliflower.

- a A flower of the stock, showing the four petals and the cruciform shape of the corolla.
- b A back view of it, exhibiting the calyx, confifting of four leaflets, and bulging out at the bottom.
- c A fingle petal separated, to show the lower narrow part, called unguis, or the tail; and the upper spreading part, named lamina, or the border, emarginate or notched at the end.
- d A fection of the calyx, with the fingle pistil and fix stamens in their proper fituation.
- e The fix stamens, two of which are sensibly shorter than the other four.
- f The pistil separated from the other parts.
- g A fingle stamen.
- h The fruit, seed-vessel, or pericarp, called a silique, opening from the bottom

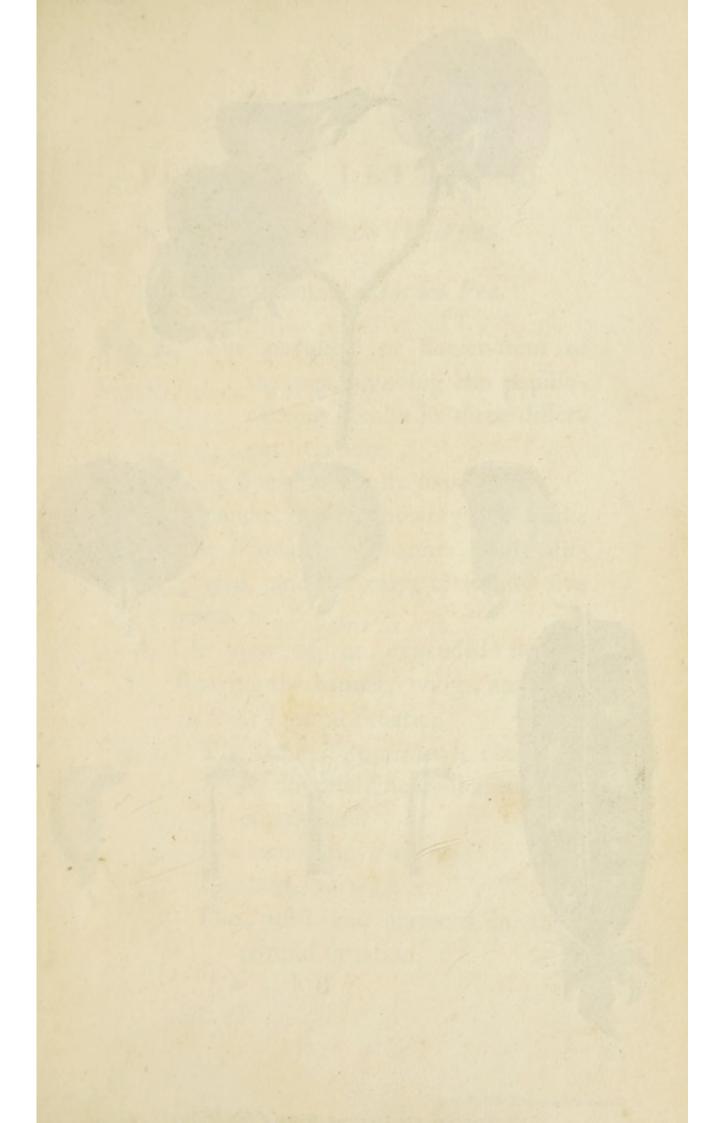
upwards, and showing the two valves, with the seeds ranged along the disfepiment, or partition, of the two cells, and the permanent stigma at the top.

- i k l Figures of filicles, or fmall short pods or pouches.
- The flat triangular, or heart-shaped silicle of the shepherd's purse.
- k The oblong filicle of scurvy-grass, both shut and open.
- I The almost spherical silicle of candy-tuft.

  See Letter XXIII. and Plate XXI.
- e Explains the classical character of the class

  Tetradynamia, and
- h i k l Explain the characters of the two orders, Siliquosa and Siliculosa, into which it is divided.

The fix flamens, two of which are fenfly



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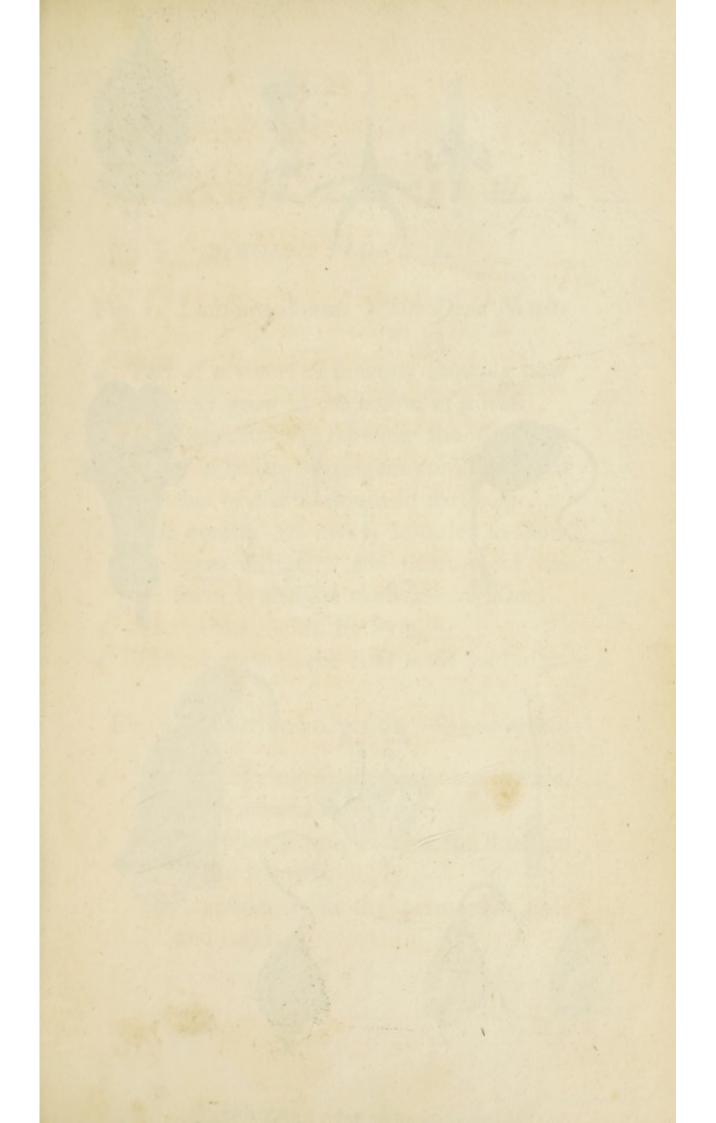
# PLATE III. LETTER III.

#### PAPILIONACEOUS FLOWERS.

Pisum sativum. Garden Pea.

- Fig. 1. The peduncle or flower-stem of the pea, showing the papilionaceous corolla in three different fituations.
- a A young flower not fully expanded.
- b An expanded flower, showing the back; the standard, or banner, fully displayed, and the calyx cleft into five parts.
  - c A fide view of an expanded flower, flowing the banner, wings, and keel in their natural fituation.
  - Fig. 2. The banner (vexillum), obcordate or inversely heart-shaped, and emarginate.
    - 3. The two wings (ala).
    - 4. The keel (carina).
    - 5. The pistil and stamens in their natural situation.

- Fig. 6. The lower broad stamen, which involves the germ, terminating in nine filaments, with an anther on each.
  - 7. The upper narrow filament, accompanied with the pistil.
  - 8. The pericarp, which is a legume, or pod, open to show the two valves and the seeds fastened alternately to the sutures of the valves at the back of the legume. The permanent calyx is also here exhibited.
- Obs. The character of the class Diadelphia, and of the order Decandria, as also of the natural class of Leguminous plants, is here explained.





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### PLATE IV. LETTER IV.

#### RINGENT FLOWERS.

# Fig. 1. Lamium album. White Dead Nettle.

- a Part of a whorl of flowers, showing how they grow in the bosom of a leaf.
- b A fingle flower, showing the structure of a labiate or ringent corolla, and of that of the Lamium in particular.
- The corolla cut away, in order to show more distinctly the situation of the stamens and the classical character.
- d The germs, with the style.
- e The calyx, with the four feeds within it.

# Fig. 2. Antirrhinum majus. Snapdragon.

- a The closed ringent, or personate corolla, in its natural form.
- b The corolla opened, to show the situation of the stamens.
- c The capfule, with the permanent style and calyx.

- Fig. 3. Digitalis purpurea. Purple Fox-glove.
- a A fingle flower, showing the open bell-shaped corolla.
- b The infide, exhibiting the fituation and structure of the stamens.
- c The germ, with the style.
- d The capfule, with the style permanent.
- e A fection of the capfule.
- f A capfule, deprived in part of its outer fkin, to show the interior texture of the coat.

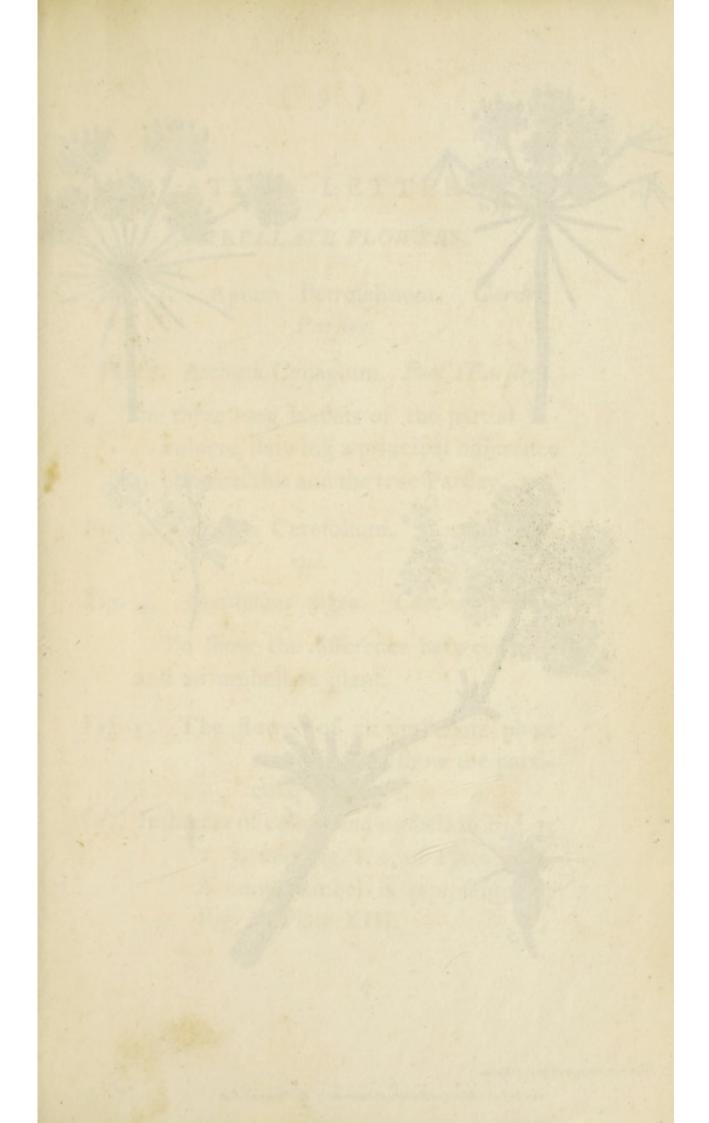
The corolla cur away, in order to thow

The closed ringent, or perfonate corolli,

c. The capfulet with the permanent flyle

d - The germs, with the flyle.

in its natural form.





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### PLATE V. LETTER V.

#### UMBELLATE FLOWERS.

- Fig. 1. Apium Petroselinum. Garden Parsley.
- Fig. 2. Aethusa Cynapium. Fool's Parsley.
- a The three long leaflets of the partial involucre, showing a principal difference between this and the true Parsley.
- Fig. 3. Scandix Cerefolium. Garden Cher-
- Fig. 4. Sambucus nigra. Common Elder.

  To show the difference between that and an umbellate plant.
- Fig. 5. The flower of an umbellate plant magnified, to show the particular structure.
- Obf. Instances of compound umbels in Fig. 1, 2, 3, and Fig. 1, 2, of Plate XIII. A simple umbel is represented at Fig. 3, Plate XIII.

# PHATE V. LETTER V.

## UMBELLATE PLOWERS.

Fig. 1. Apium Petrofelinum. Garden

Fig. d: Actbufa Cynapium. Fool's Parfley.

The three long leaflets of the partial involuere, thewing a principal difference
between this and the true Parfley.

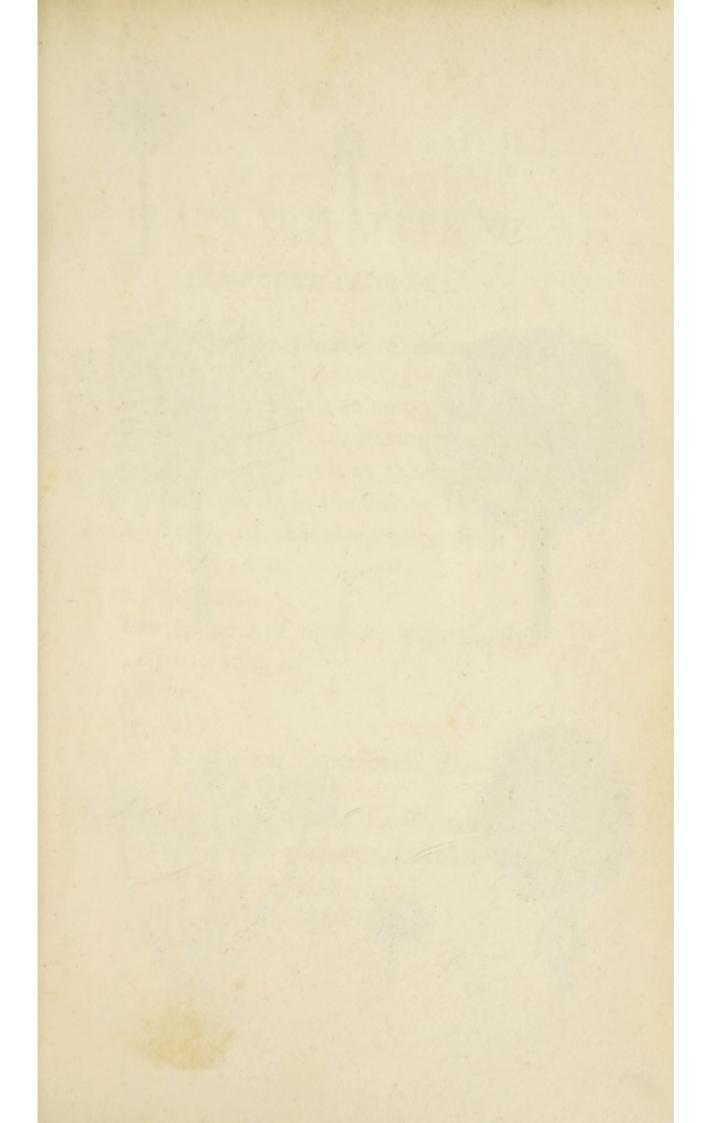
Fig. 3. Scandix Cerefolium, Garden Cher-

Fig. 4. Sambuens nigra. Cemmon Elder.

To thow the difference between that and an umbellate plant,

Fig. 5. The flower of an umbeliere plant magnified, to thow the parti-

A fingle as I show the represented as the Companied as th



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## PLATE VI. LETTER VI.

#### COMPOUND FLOWERS.

# Fig. 1. Bellis perennis. Common Daify.

- a The flower, which is compound and of the radiated kind, having semiflorets or ligulate florets in the ray, and tubular florets in the disk.
- b A section of the receptacle, with the florets on it.
- c A femi-floret.
- d The cylinder of anthers, with the style perforating it.
- e A floret.

# Fig. 2. Leontodon Taraxacum. Dandelion.

- a The whole compound flower, confifting entirely of femi-florets, called by Linnæus ligulate florets.
- b A fingle floscule, or floret.
- c The head of feeds.

Fig. 3.

Showing a flosculous flower, or a flower composed of florets only, called by Linnæus tubular florets.

- a The whole compound flowers.
- b A fingle floscule.
- c The back of a compound flower, showing the calyx.

Fig. 4. Trifolium pratense. Red Clover.

To show the difference between this, which is a head or aggregate of flowers, and a genuine compound flower, such as Fig. 1, 2, 3, exhibit.

d The cylinder of anthers, with the flyle perforating it.

Fig. 2. Leortodon Taraxacum. Dandelion.

The whois compound flower, conlifting entirely of femi-florets, called by Lin, name ligulate florets.

A fingle floscule, or florer, The head of feeds.





## PLATE VII. LETTER XI.

#### MONANDRIA.

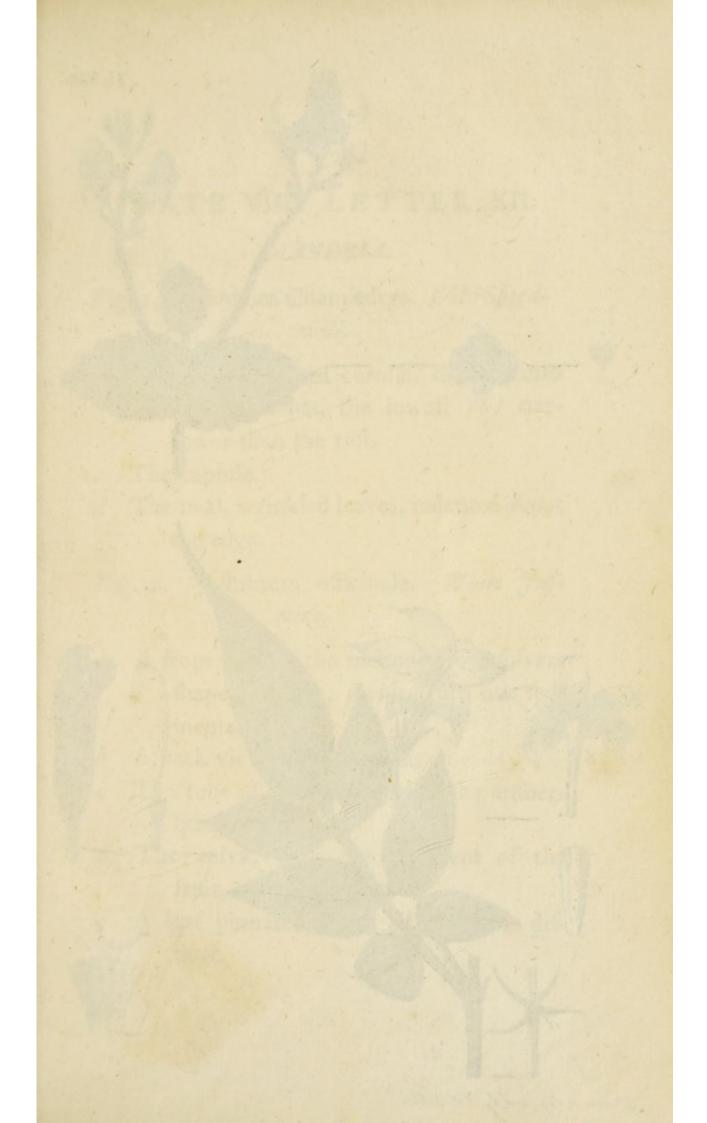
Fig. 1. Canna indica. Indian Shot.

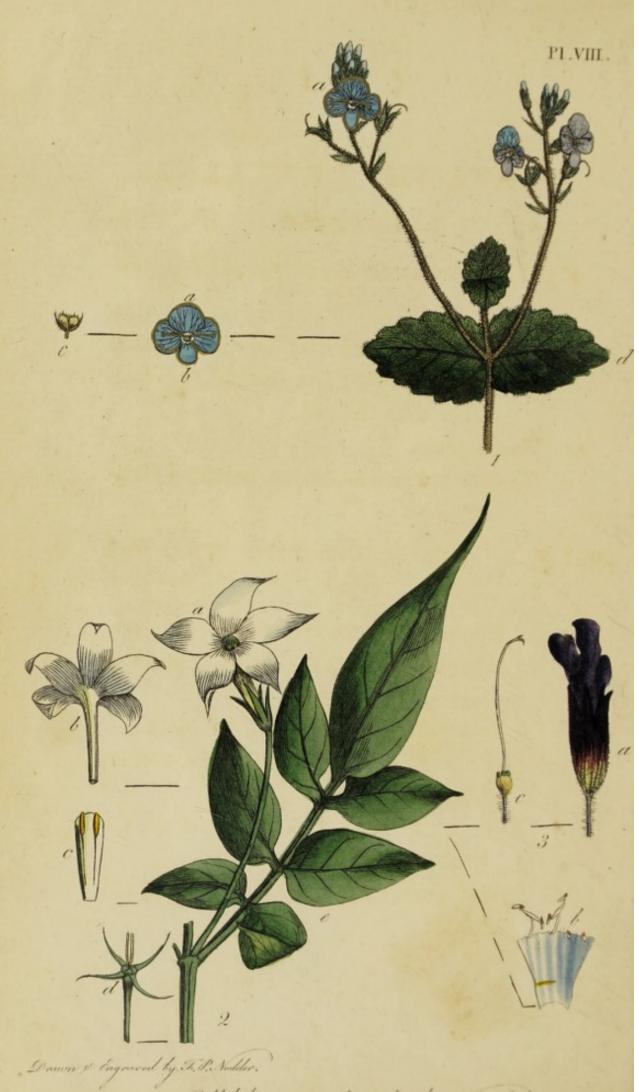
- a a a Three different views of the flower, the corolla cut into fix lanceolated parts, one of the three interior reflected.
- b The scabrous germ, with
- c The triphyllous perianth, or calyx, on the top of it.
- d The anther growing to one of the petals, which ferves it for a filament.
- e The flyle, growing to the petaliform
- f The scabrous capsule.
- g Cut open to show the three cells.

Fig. 2. Hippuris vulgaris. Mare's Tail.

- a a The germ.
- b The stamen.
- c The style.

N STITES OF STAR May to Bull. the corolla out into fix lapceolated parts, one of the toree intellor reionvilous periodice, or calyx, on -un adr to ano or marwors rading statuted a rol to several dominition





## PLATE VIII. LETTER XII.

#### DIANDRIA.

- Fig. 1. Veronica Chamædrys. Wild Speed-well.
- four segments, the lowest (b) narrower than the rest.
- c The capfule.
  - d The oval, wrinkled leaves, indented about the edge.
  - Fig. 2. Jasminum officinale. White Jas-
  - a A front view of the monopetalous falverfhaped corolla, divided into five fegments.
  - b A back view of the corolla.
  - The tube of the corolla, with the anthers lying within it.
  - d The calyx, with the rudiment of the fruit.
  - A leaf pinnated, with all the lobes diftinct.

Fig. 3. Salvia officinalis. Garden Sage.

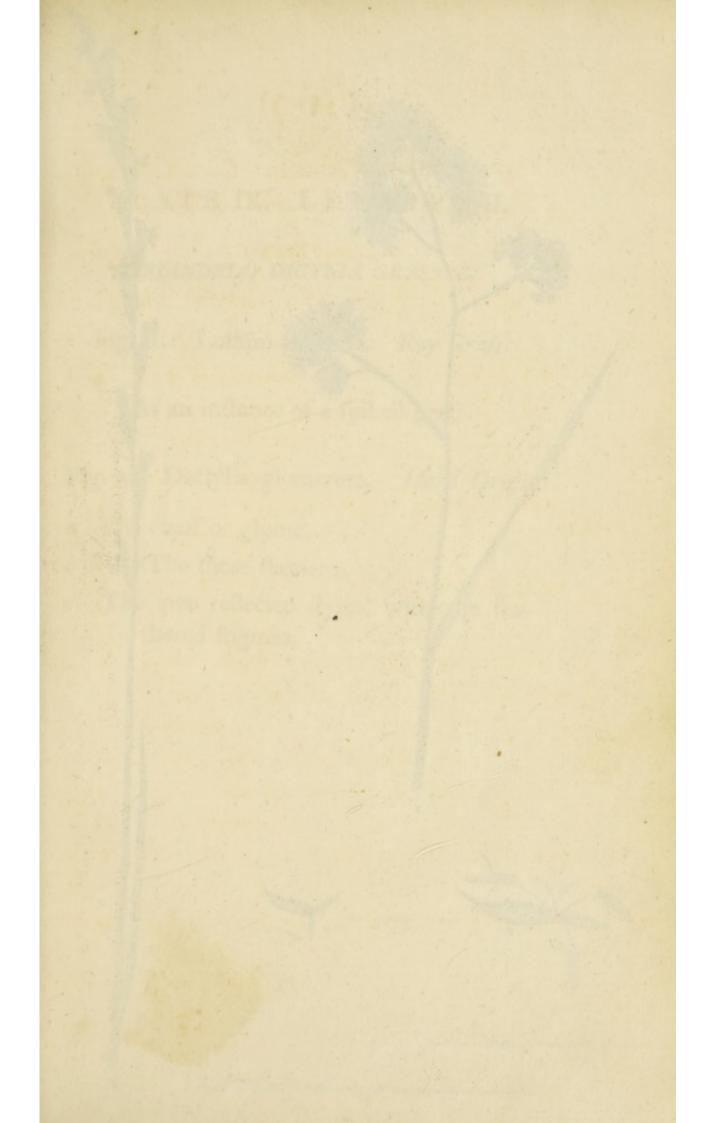
- a A flower.
- b The two stamens, showing their singular structure.

Fig. a. Jalminure officinale. While Jak

howis elleron begarlinged of the

nower than the reft. '

c The pistil separate.





## PLATE IX. LETTER XIII.

TRIANDRIA, DIGYNIA GRASSES.

Fig. 1. Lolium perenne. Ray Grass.

As an inftance of a spiked grass.

Fig. 2. Dactylis glomerata. Hard Grass.

- a The chaff or glume.
- b b b The three stamens.
- c The two reflected styles, with the feathered stigmas.

PLATEIX. BETTER XIII.

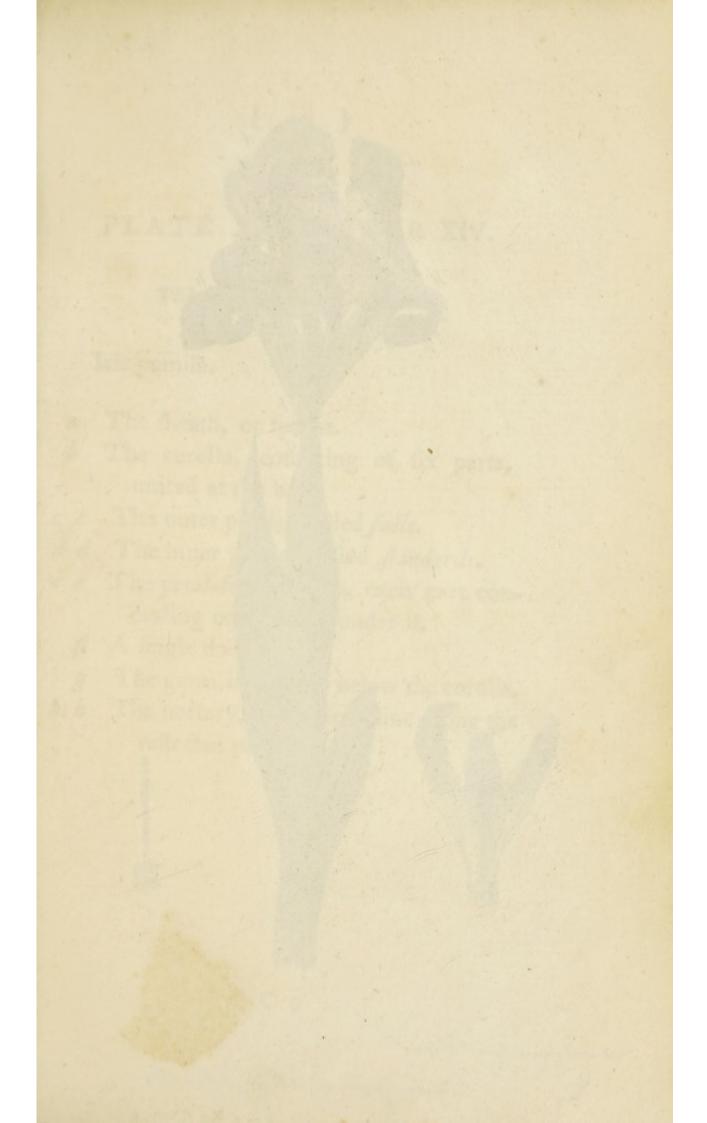
THIANDLA-DICKNIA GRASSES.

Fig. 1. Lolium peranne. Ray Graft.

As an inflance of a fpiked graß.

Fig. a. Dactylis glomerata. Hard Graft.

- a The chaff or glume.
- & b b The three flamens.
- The two reflected flyles, with the feathered fligmas,





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## PLATE X. LETTER XIV.

## TRIANDRIA MONOGYNIA.

Iris pumila.

- The sheath, or spathe.
- b The corolla, confisting of fix parts, united at the base.
- c c The outer petals, called falls.
- d d The inner petals, called fandards.
- e e The petal-form stigma, each part concealing one stamen under it.
  - f A fingle stamen.
  - g The germ, inferior or below the corolla.
- h h The nectary, in a villous line along the reflected petals.

# PLATE X. LETTER XIV.

# TRIENDRIA MONGGYVIA.

Iris pumila.

a The fleath, or fpathel.

b The corolla, confitting of fix parts, united at the bafe,

. The outer petals, called falls.

d d The inner petals, called flander dr.

e e The petal-form stigma, each part concealing one stamen under it.

A fingle flamen.

g. The germ, inferior or below the corolla.

The nectary, in a villous line along the reflected petals.





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## PLATE XI. LETTER XV.

#### TETRANDRIA.

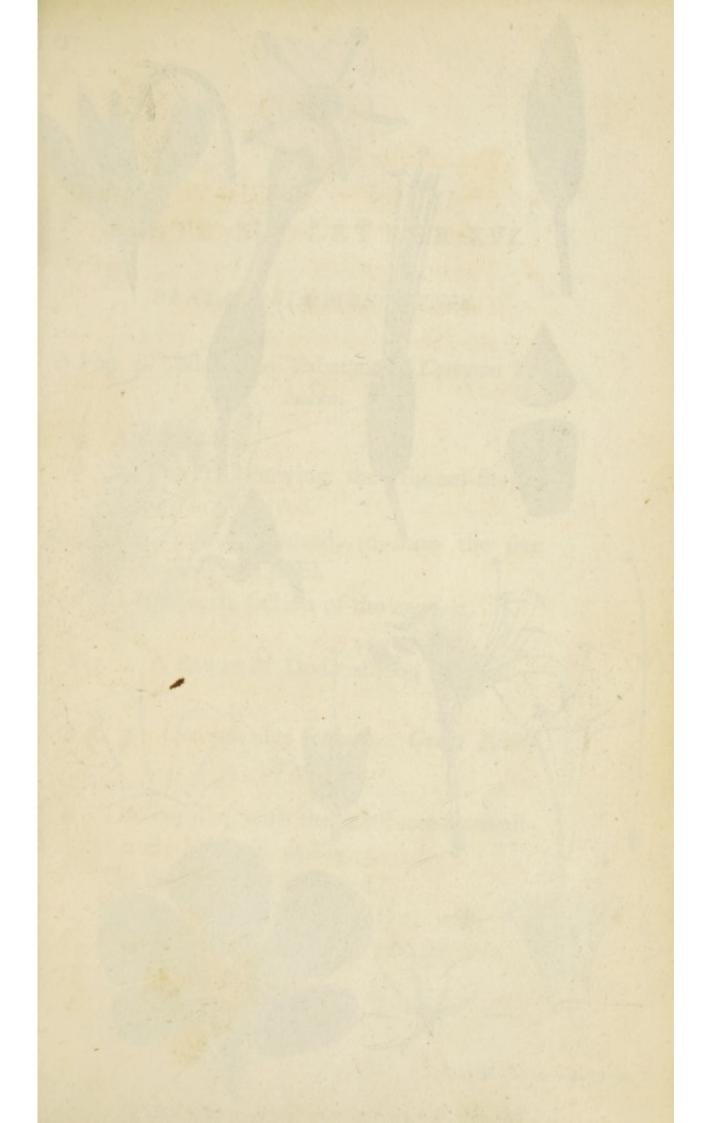
Fig. 1. Scabiosa columbaria. Small Scabious.

An aggregate flower, confifting of many flofcules.

- b A fingle floscule; the corolla cut into five irregular fegments, and the germ crowned with hairs.
- c The calyx, with the four stamens and the pistil.
  - Fig. 2. Rubia peregrina. Wild Madder.

    An instance of stellated plants.
- The fquare stalk: the stellated leaves: the corolla of four segments: the double germ below the flower.
- Fig. 3. Plantago lanceolata. Ribwort Plan-
- a The flowers growing in a spike or oblong head.

- f The angular scape.
- o A fingle flower, exhibiting the quadrifid corolla and the very long filaments.
- d The germ and style.
- . The calyx, inclosing the capfule.



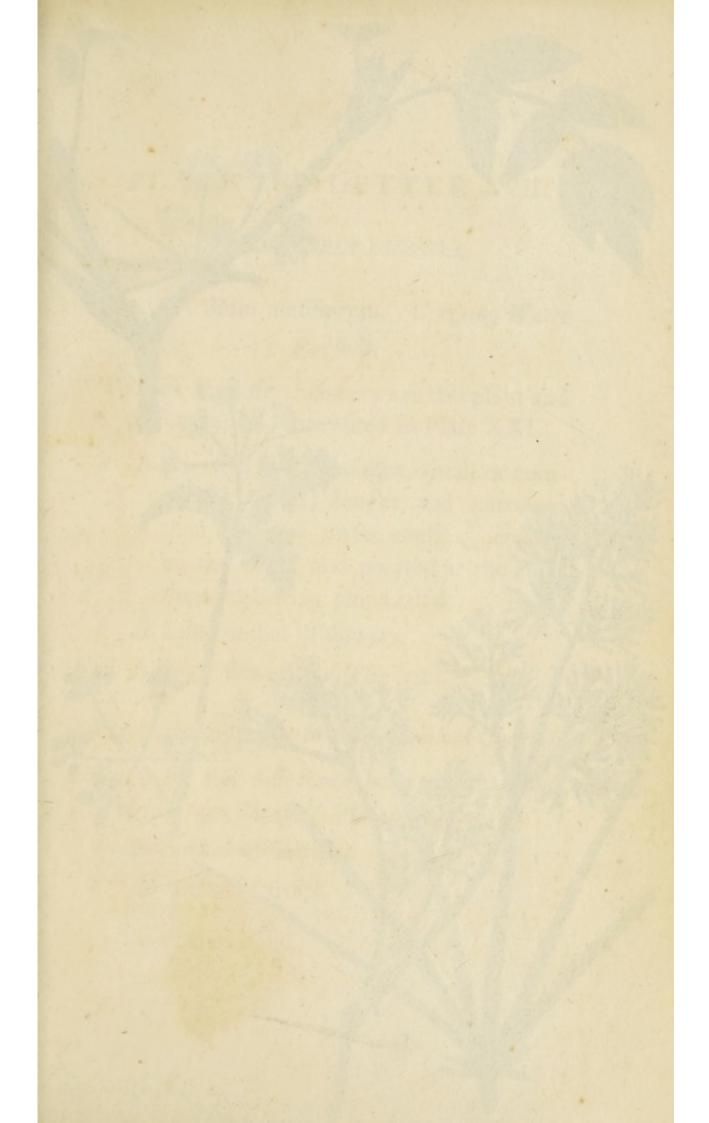


## PLATE XII. LETTER XVI.

#### PENTANDRIA MONOGYNIA.

- Fig. 1. Nicotiana Tabacum. Common Tobacco.
- a A flower-bud.
- b A flower, showing the funnel-shaped corolla displayed.
- c The corolla removed, to show the five stamens and pistil.
- d A transverse section of the capsule.
- Fig. 2. A flower of Dodecatheon Meadia.
- Fig. 3. Convolvulus sepium. Great Bind-Weed.
- a The corolla, with the involucre immediately below it, at Fig. 3.
- b The five stamens displayed.
- c The germ within the calyx, with the ftyle, terminated by the two stigmas.

- Fig. 4. Lonicera Caprifolium. Garden Honey suckle.
- A flower, exhibiting the irregular monopetalous corolla.
- b The tube opened, to show the manner in which the filaments are fixed.
- c The pistil.
  - Fig. 5. Vinco major. Great Periwinkle.
- a The corolla, showing the bending of its five divisions, and the pentagon form of the faux, or opening of the tube.
- b The calyx divided to the bottom into five fegments; and the piftil with two ftigmas, one over the other.
- the fituation of the five stamens and form of the anthers.
- d A fingle stamen separate.





## PLATE XIII. LETTER XVII.

#### PENTANDRIA DIGYNIA.

Fig. 1. Sium nodiflorum. Creeping Water
Parsnep.

To show the difference between this plant and water cresses, represented in Plate XXI.

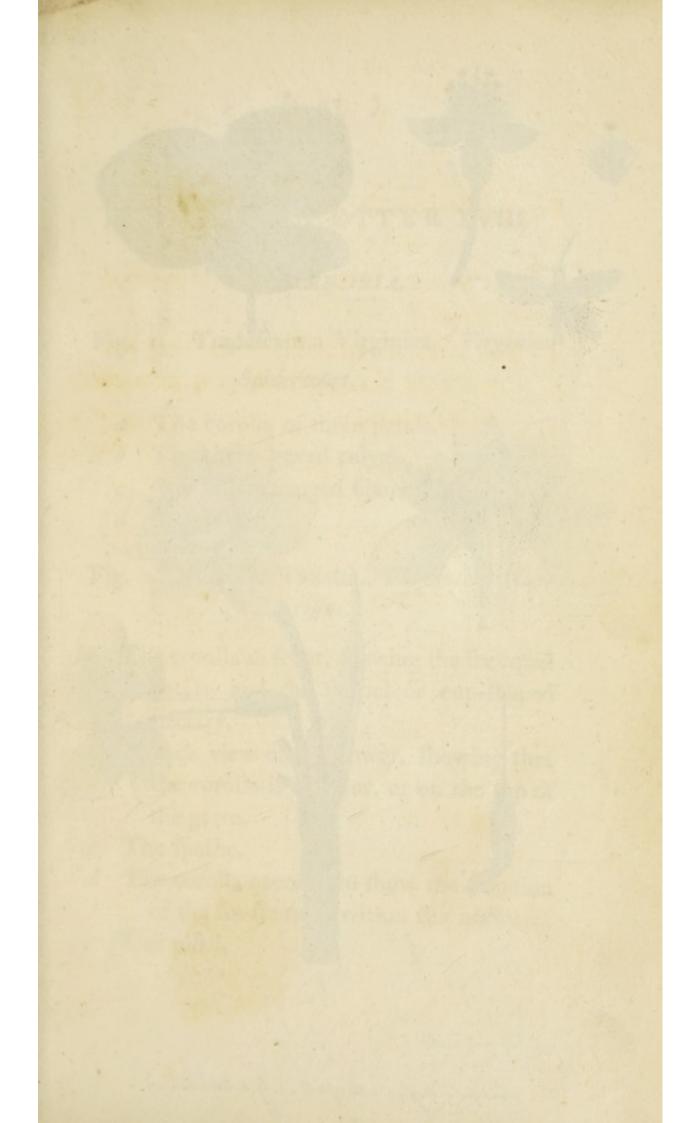
- a A pinnated leaf, the pinnæ, small or component leaves, longer and narrower than those of water cresses, serrated on the edges and pointed at the end: the terminating pinna trisid,
- b A feffile umbel of flowers.
- c A fingle flower,—d The fruit.

Fig. 2. Scandix Anthrifcus. Hemlock Chervil.

To show the difference between that and Garden Chervil. Plate 5, Fig. 3.

- a An umbel of flowers.
- b An umbel of fruits.

- Fig. 3. Scandix Pecten. Shepherd's Needle, or Venus's Comb.
- a The umbels, being instances of a simple umbel.
- b The feeds, terminated by the long processes or beaks, which gave occasion to the names.





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# PLATE XIV. LETTER XVIII.

#### HEXANDRIA.

- Fig. 1. Tradescantia Virginica. Virginian Spiderwort.
  - a The corolla of three petals.
- b b The three-leaved calyx.
  - c One of the fringed filaments.
  - d The pistil.
- Fig. 2. Narcissus Tazetta. Polyanthus Narcissus.
- a The corolla in front, showing the fix equal petals, and the funnel or cup-shaped nectary.
- b A back view of the flower, showing that the corolla is superior, or on the top of the germ.
- c The spathe.
- d The corolla opened, to show the situation of the six stamens within the nectary.
- e The pistil,

XVV. PETTER XVIII

HON ANDRIA

Tradefearma, Virginia, Virginian

The certails of three pensis.
The there-leaved calvai.
Consort the fringed filantests

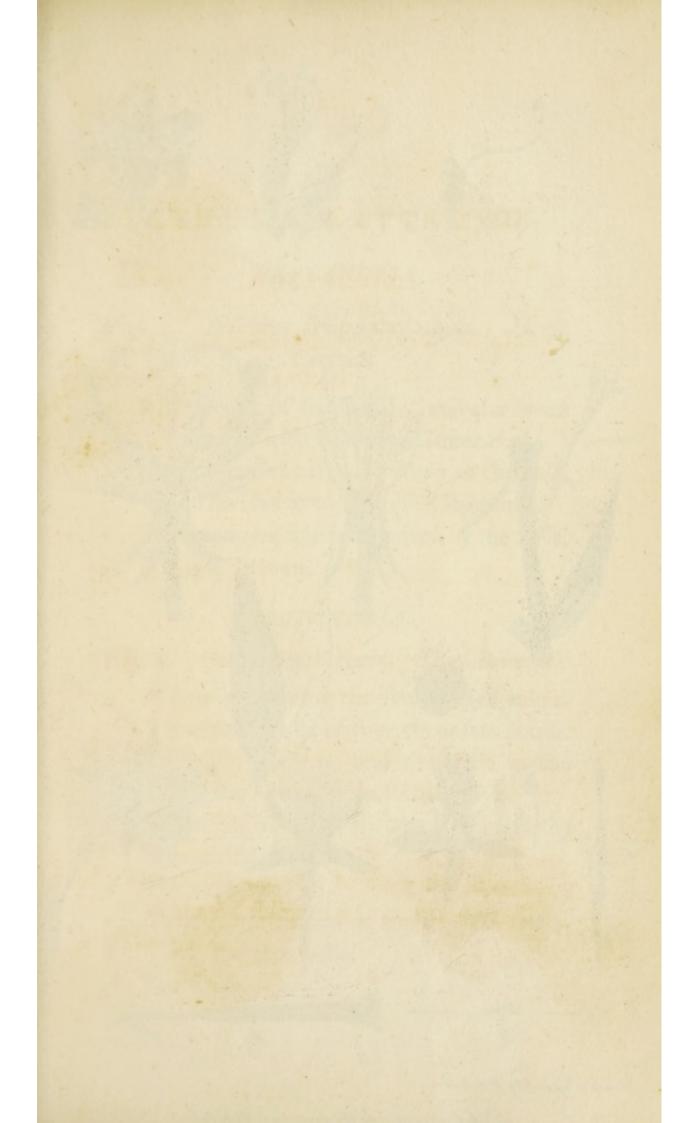
Fig. 1. Filter allow Toxicon. Pelleseide Nor-

The carolla in front, likewing the fix equal petals, and the furnel or cop-thaped nectary.

the corolla is loperior, or on the top of the top of

The spathe.

The brolls opened, to flow the Significant of the fire fix flament within the neckury.





## PLATE XV. LETTER XIX.

#### HEPTANDRIA.

# Fig. 1. Æsculus Hippocastanum. Horse Chesnut.

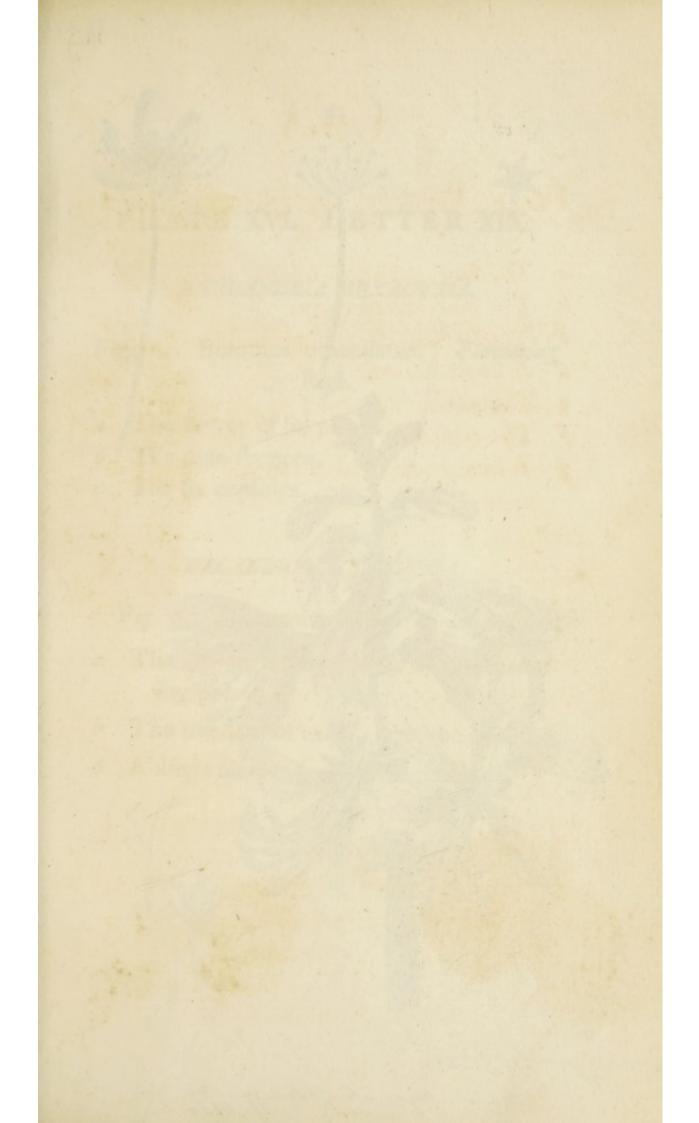
- a The corolla of five petals, and the feven stamens, with bending filaments.
- b The one-leafed calyx, swelling at the base, and divided at top into five segments.
- c The young capfule terminated by the style.
- d A fingle stamen.

## OCTANDRIA.

- Fig. 2. Oenothera biennis. Tree Primrose.
- a A flower, showing the four-parted calyx, and the corolla of four obcordate petals.
- b The eight stamens, and the pistil in the middle, with the deflected calyx.
- The pistil, with the filiform style, and the quadrifid stigma.
- d The capfule.
- e A transverse section of the capsule, showing the four cells.
- f The feeds.

# Fig. 3. Epilobium angustifolium. French Willow.

- a The flower.
- b The four-leaved calyx.
- The stamens, four longer and four shorter.
- d A fingle stamen.
- e The pistil.
- f The capfule.
- g A feed crowned with down.





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# PLATE XVI. LETTER XIX.

#### ENNEANDRIA HEXAGYNIA.

- Fig. 1. Butomus umbellatus. Flowering Rush.
- a The flower of fix petals.
- b The nine stamens.
- c The fix capfules.

### DECANDRIA MONOGYNIA.

- Fig. 2. Dictamnus albus. Fraxinella.
- a The flower, with a corolla of five spreading petals.
- b The five-leaved calyx, with the capfules.
- c A fingle filament, with its glandules.

# PLATE XVI. LETTER XIX.

# ENWEADER'S WENACHNIA.

Fig. 1. Butomus umbellatels. Flowering

- The flower of fix petals.
  - . b The nine flamens.
    - The fix capfules.

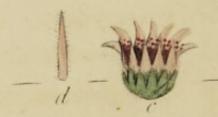
## DECANDRIA MONOGRAMA.

Fig. 2. Dichamnus albus, Frankella.

- a The flower, with a corolla of five fpreading petals.
- The five-leaved calyx, with the capfules.
  - A fingle filament, with its glandules.







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# PLATE XVII. LETTER XX.

### DODECANDRIA DODECAGYNIA.

Sempervivum tectorum. Common Houseleek.

- a The flower-stem, with a reflexed range of flowers.
- A flower in front, showing the corolla of twelve petals.
- c The calyx, with the capfules, after the flower is past.
- d A fingle capfule.
- e The twelve stamens and twelve styles, separated from the flower.
- f A fingle pistil, exhibiting the germ, style, and anther.
- g Two stamens.

# PLATE MVII. LETTER XX.

# BODESANDRIA DODECACKNIA.

Sempervivom te Borum. Cammon Honfeleck.

a The flowers, with a reflexed range

A dower in front, inswing the corolla of

The cally with the capfules, after the flower is paff.

A fingle capfule.

The twelve flamens and twelve flyles, feparated from the flower.

A fingle piffil, exhibiting the germ, flyle,

Two flamons.





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# PLATE XVIII. LETTER XXI.

#### ICOSANDRIA.

Fig. 1. Myrtus communis. Common Myrtle.

- a The corolla.
- b The fruit or berry.
- c A fingle flower without the corolla, showing the stamens proceeding from the calyx.

Fig. 2. Pyrus Cydonia. The Quince.

mendan Counter Myrth. ingle flower without the corolla, thow-





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## PLATE XIX. LETTER XXI.

#### POLYANDRIA.

- Fig. 1. Caltha palustris. Marsh Marigold.
- a A flower, showing the corolla of five petals, the many stamens shorter than the corolla, &c.
- b Another flower, showing that it has no calyx.
- c The capfules, after the flower is past.
  - Fig. 2. Papaver Rhoeas. Corn Poppy.
- a The corolla of four large roundish petals.
- b The numerous stamens proceeding from the receptacle.
- c The capfule crowned with its stigma.
- Obs. Fig. 1. is an instance of the order Polygynia. Fig. 2. of the order Monogynia.

Fig. a. Papaver Ribons, Com Popps.

The corolla of four large roundilla petrela. The marron flamens proceeding from

of the contract of the price





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## PLATE XX. LETTER XXII.

#### DIDYNAMIA GYMNOSPERMIA.

Fig. 1. Glechoma hederacea. Ground Ivy.

- a The kidney-shaped leaves.
- b The ringent flowers.
- c A flower opened, to show the situation of the stamens.
- d A flower exhibiting the cruciform appearance of the anthers.
- e The calyxes.
- f A fingle filament.
- g The pistil.

#### DIDYNAMIA ANGIOSPERMIA.

Fig. 2. Bignonia radicans. Trumpet Flower.

- a The calyx.
- b The corolla.
- c The corolla displayed, to show the situation of the stamens.
- d The pistil.
- Obs. The classical character is clearly shown at Fig. 2. c.
- This class was farther illustrated in Plate IV.

MXX FETTEL XXX for is clearly showing





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# PLATE XXI. LETTER XXIII.

### TETRADYNAMIA.

Sifymbrium Nasturtium. Water Cress.

- a a The pinnated leaves.
- b The odd lobe ending blunt.
- c The corymb of flowers.
- d A fingle four-petalled cruciform flower.
- e A fingle petal.
- f The calyx.
- g The calyx, with the stamens.
- h A fingle stamen.
- i The filique.

Compare Plate XIII. See also Plate II.

Significan Staffereight. They be Cop. The covered of flowers. Compare Plan XIII. See alfo





# PLATE XXII. LETTER XXIV. MONADELPHIA.

Fig. 1. Althæa officinalis. Marsh Mallow.

- a The flower, showing the five petals united at bottom, obcordate or inversely heart-shaped, and slightly emarginated or end-nicked. In the centre is the column of stamens, with the pistils in the middle of them.
- b The column of stamens and pistils removed from the corolla, and showing the rudiment of the fruit underneath.

c The pistil separate.

- d The calyx, exhibiting the nine divisions of the outer calyx, which is one of the principal generic characters.
- Fig. 2. Malva sylvestris. Common Mallow.
- a The flower as before. The petals narrow, heart-shaped, and much more deeply end-nicked.
- bc The column of stamens, and pistil separated.
- d The fruit, with the double calyx; the outer very narrow, the clefts of the

inner broad and large: there are five of these, and three distinct leaves in the other; but all of them could not be represented. The fruit flat, with many seeds in a ring, each covered with its aril, or loose coat.

# Fig. 3. Geranium zonale. Horse-shoe Cranesbill.

a The flower, showing the corolla of five unequal petals, with the column of stamens, very slightly connected at bottom, and of unequal lengths.

Both these figures show the style standing up above the stamens, and terminated by sive stigmas.

figmas; showing the beaked form of it, and the five feeds in their arils, each terminated by a tail, and separating from the beak. a b c show that the calyx is single and five-leaved.

N.B. These figures serve to explain the class Monadelphia: and two of the orders, Decandria, Fig. 3, and Polyandria, Fig. 1, 2.





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# PLATE XXIII. LETTER XXV.

#### DIADELPHIA DECANDRIA.

Lathyrus latifolius. Everlasting Pea.

Fig. 1. A bunch of flowers, in their natural fize and fituation.

Fig. 2. The banner.

Fig. 3. One of the wings.

Fig. 4. The keel.

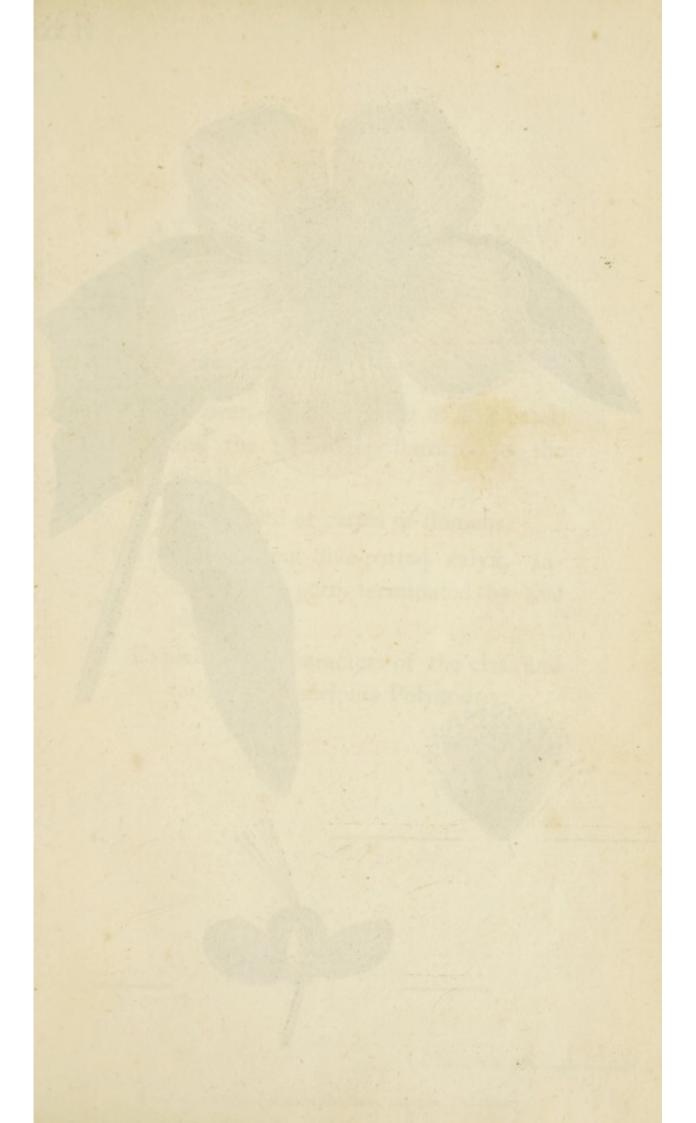
Fig. 5. The stamens and pistil in their natural situation.

Fig. 6. The stamens, showing the simple filament separate from the compound one.

Fig. 7. The piftil.

See Plate III.

The framens and piffil in their na-Fig. 6: The flamens, showing the fimple filement leparate from the com-





## PLATE XXIV. LETTER XXV.

#### POLYADELPHIA.

Hypericum Ascyron. Garden Tutsan.

- a The flower, with a corolla of five petals and the numerous stamens in the middle.
- b A fingle pencil or parcel of stamens.
- c The permanent five-parted calyx, including the germ terminated by five pistils.
- b Explains the characters of the class and order—Polyadelphia Polyandria.





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# PLATE XXV. LETTER XXVI.

#### SYNGENESIA POLYGAMIA ÆQUALIS.

Fig. 1. Tragopogon porrifolium. Salsafy.

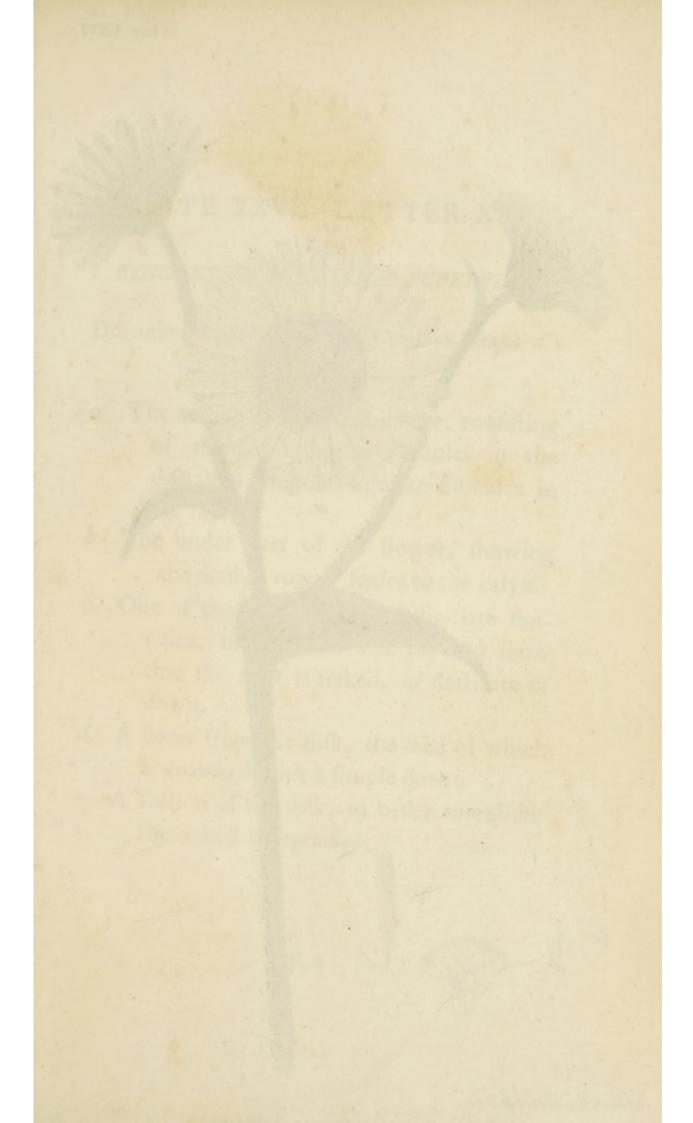
- a A flower closed, showing the simple calyx.
- b A fingle ligulate floscule.
- c A floscule, deprived of the corolla.
- d A feed, with the feathered stipitate down.
- e The cylinder of anthers, with the pistil perforating it, terminated by the two revolute stigmas.
- f The cylinder of anthers alone.

# Fig. 2. Carduus nutans. Musk Thistle.

- a The compound flower, showing the calyx all imbricate with thorny scales.
- b A front view of the whole compound flower, composed wholly of tubulous florets.
- E A fingle floscule or floret.
- d The cylinder of anthers.
- e The pistil.

# Fig. 3. Eupatorium cannabinum. Common Hemp Agrimony.

- a A bunch of flowers.
- b A fingle flower.
- c A fingle bunch of flowers.
- d The down.
- Obs. These three figures explain the three sections of this order. 1. Containing compound flowers with ligulate florets only. 2. The capitate or headed flowers, with tubulous florets only. 3. The discoid, or naked discous flowers, with tubulous florets, but not in a head.





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### PLATE XXVI. LETTER XXVI.

#### SYNGENESIA POLYGAMIA SUPERFLUA.

Doronicum pardalianches. Common Leopard's Bane.

- a The compound radiated flower, confifting of regular tubulous floscules in the disk, and irregular ligulate floscules in the ray.
- b The under part of the flower, showing the double row of scales to the calyx.
- c One of the femi-florets, or ligulate flofcules, taken from the ray, to show that the feed is naked, or destitute of down.
- d A floret from the disk, the seed of which is crowned with a simple down.
- e A section of the disk, in order to exhibit the naked receptacle.

# ATE XXVI. LETTER XXVI.

# SINGENESLI POLYGAMIA SUPERPLE

Dorpnicum pardulianches, Common Leopard's

The compound radiated flower, confifting of regular tubulous florcules in the diffs, and irregular ligulate florcules in the ray.

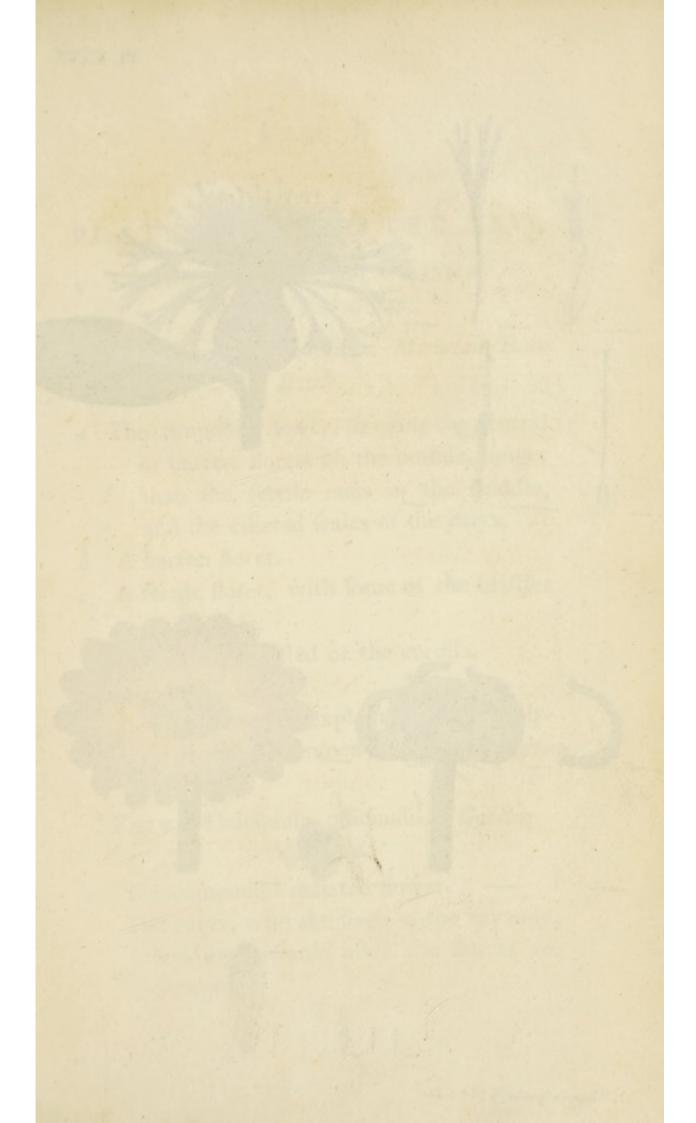
The under part of the flower, showing the double row of scales to the calyx.

cules, taken tions the ray to thow that the feed is naked, or defittute of down.

A floret from the difk, the feed of which is crowned with a fimple down.

A festion of the difk, in order to exhibit

the naked receptacle.





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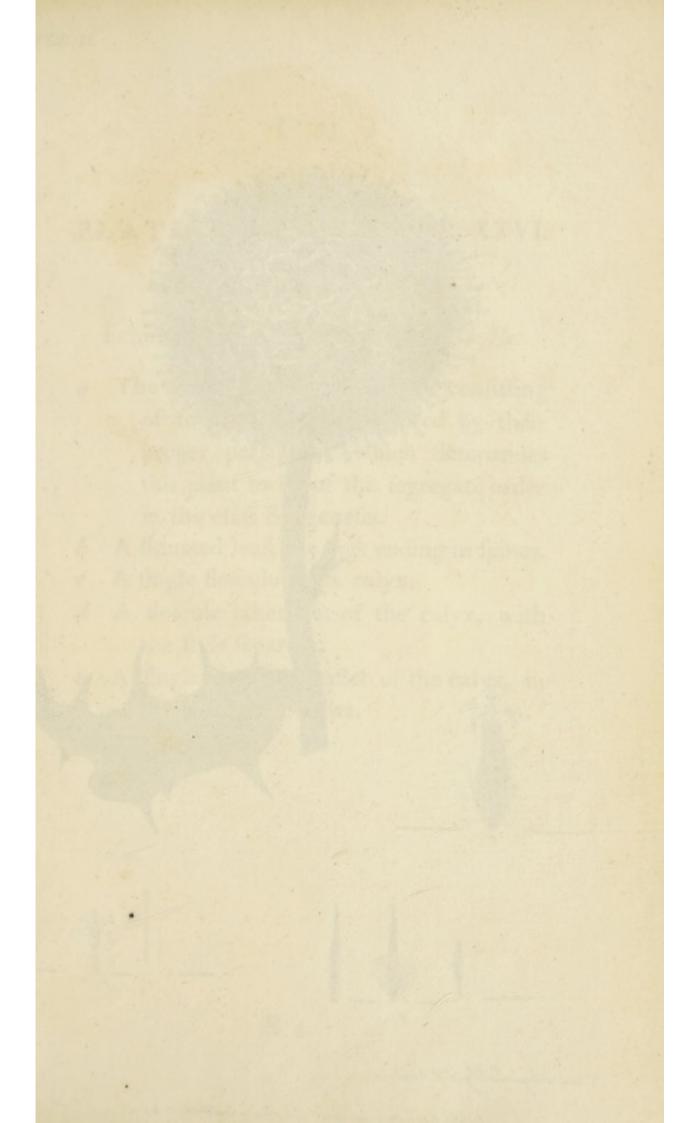
### PLATE XXVII. LETTER XXVI.

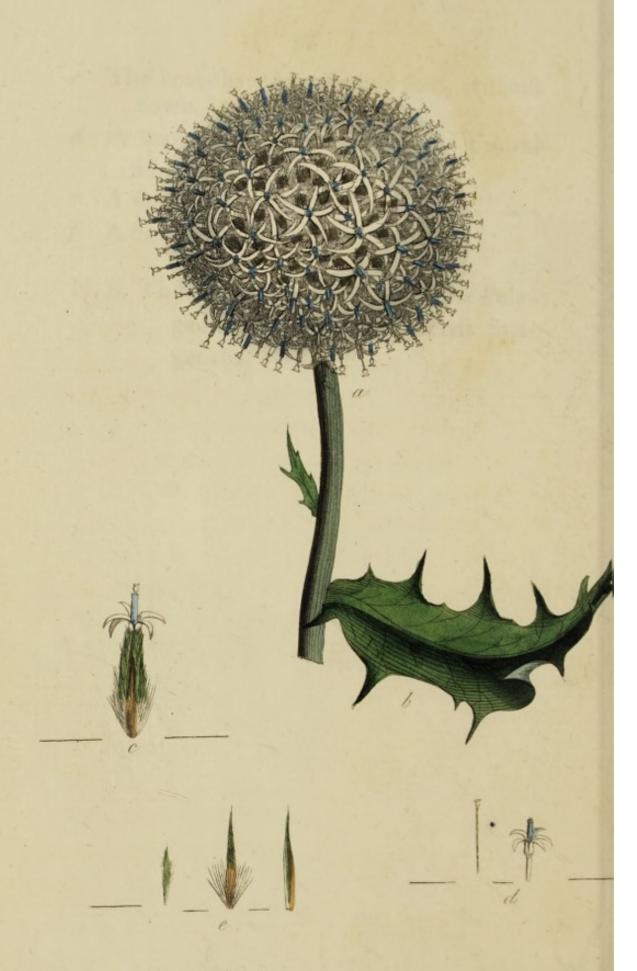
# SYNGEN. POLYG. FRUSTRANEA and NECESSARIA.

- Fig. 1. Centaurea montana. Mountain Blue Bottle.
- or barren florets on the outfide, longer than the fertile ones in the middle, and the ciliated scales of the calyx.
- 6 A barren floret.
- c A fertile floret, with some of the briftles at the base.
- d The same, divested of the corolla.
- e The pistil.
- N. B. This ferves to explain the order Polygamia Frustranea in the class Syngenesia.
  - Fig. 2. Calendula officinalis. Garden Marigold.
- a The compound radiated flower.
- b The calyx, with the feeds in the ray only, bending inwards after the florets are decayed.

E 3

- The boat-shaped muricated seed, without down.
- d A barren feed, from one of the central flowers.
- e A fertile floscule from the ray.
- f A barren floscule from the disk.
- N. B. This ferves to explain the order Polygamia Necessaria in the class Syngenesia.





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# PLATE XXVIII. LETTER XXVI.

SYNGEN, POLYG. SEGREGATA.

Echinops sphærocephalus. Globe Thistle.

- a The entire compound flower, confisting of tubular florets, separated by their proper perianths; which determines this plant to be of the segregate order in the class Syngenesia.
- b A finuated leaf, the jags ending in spines.
- c A fingle floscule in its calyx.
- d A floscule taken out of the calyx, with the style separate.
- A fingle fubulate leaflet of the calyx, in three different views.

SLYAN THE KANDELLER XXXX

THE PHASE SECRETARY

Echinge St. Francische St. St. Williams

The entillescompound day des rounting of tubulet Bocets, appointed by their proper perianths; which determines this plant to be of the tegregate order in the clafs Syngenefia.

A finuated leaf, the jags ending in fpines.

A magic flotcule an its calyx.

A flofcule taken out of the carry, with the the feparate.

A fingle Etholine traffet of the calyx, in





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### PLATE XXIX. LETTER XXVI.

#### SYNGENESIA MONOGAMIA.

Viola odorata. Sweet Violet.

- a The calyx of five leaves.
- b The corolla of five irregular petals.
- c The horn-shaped nectary.
- d A flower opened, to show the stamens with the five connected anthers.
- e The stamens within the calyx.
- f A fingle stamen.
- g The pistil.
- h h h The heart-shaped leaves.
- i i The young leaves, involuted, rolled inwards, or rather upwards.
- k k k The scape, with the double bracte on the middle of it.
- 1 One of the stolones, or runners, putting forth roots.





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#### PLATE XXX. LETTER XXVII.

#### GYNANDRIA.

Passiflora carulea. Blue Passion Flower.

- a The palmated leaf.
- b The corolla and calyx, each of five leaves, and having the same appearance in front.
- c The radiate crown, which is the nectary.
- d The pistil and five stamens.
- e The anthers terminating the filaments, which spring from the bottom of the germ, where it meets the pedicle, upon which it stands.
- fff The three stigmas arising from the germ.

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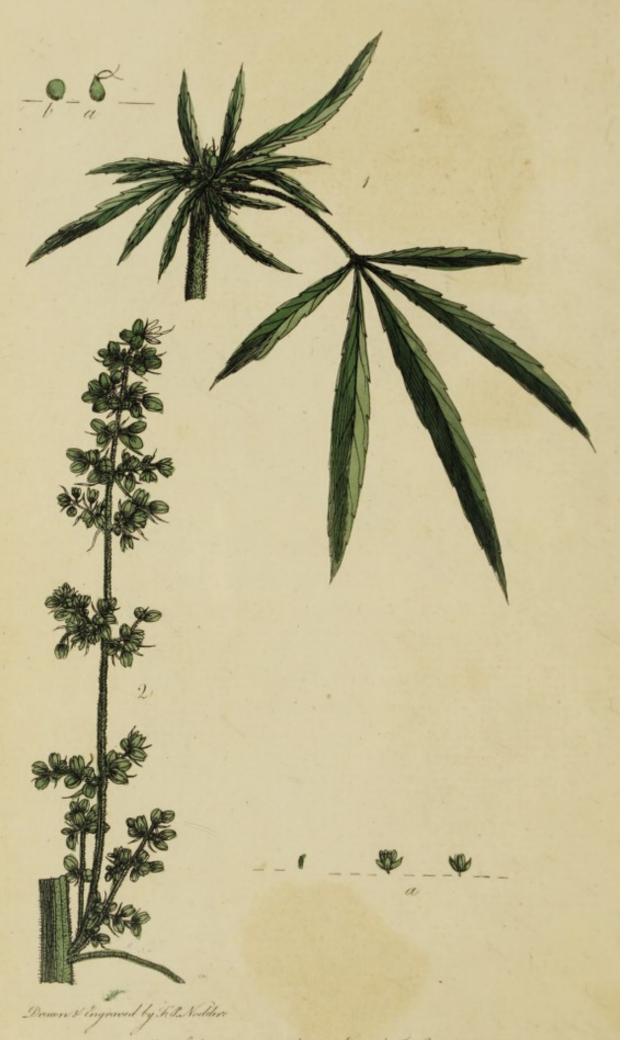
#### PLATE XXXI. LETTER XXVIII.

#### MONOECIA.

Momordica Elaterium. Spirting Cucumber.

- a a The male or staminiferous flowers.
- b b The female or pistilliferous flowers, with the large germ below the receptacle.
- The male flower, showing the three filaments, with double anthers on two of them, and a simple anther on the third.
- d The germ, furmounted with the style, divided into three parts, each part fustaining an oblong gibbous stigma.
- e The divided part of the style, with the stigmas.
- f Two different views of a fingle stigma.





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# PLATE XXXII. LETTER XXIX.

#### DIOECIA.

Cannabis fativa. Hemp.

Fig. 1. Female Hemp.

a A fingle female flower.

b The feed included within the calyx.

Fig. 2. Male Hemp.

« Male flowers separate.

PLATE XXXII. LETELER XXIX

DIOECLL

Cannabis fativa, Hengh.

Fig. 1. Female Hemit.

and fingle female flower.

The feed included within the calyxi

Fig. 2. Male Elemp.

Male flowers feparate.





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## PLATE XXXIII. LETTER XXX.

#### POLYGAMIA MONOECIA.

Acer campestre. Common Maple.

- a a The lobed leaves.
- b b Bunches of flowers. c Perfect. —

  d Male, with stamens only.
- e A fingle perfect flower.
- f A petal.
- g A perfect flower divested of the corolla and calyx.
- h A fingle stamen.
- i The pistil, with the two revolute stigmas, and the rudiment of the two capsules, terminating in a wing.
- k A male, or staminiferous flower, and a fingle petal of it.

t for the wolf describilities of her before A. A.





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## PLATE XXXIV. LETTER XXXI.

#### NECTARIES.

- Fig. 1. Aconitum Napellus. Blue Monk's Hood.
- a a The two recurved pedunculated nectaries.
- b A fingle nectary, taken out of the flower.
- Fig. 2. Delphinium Ajacis. Garden Lark
  spur.
- a The nectary, continued backward in form of a horn or fpur.

Fig. 3. Parnassia palustris.

- a A flower, with the nectareous scales at the base of the stamens.
- The five heart-shaped nectaries, terminating in hairs, with a little ball on the top of each, and placed between the stamens.
- Fig. 4. A petal of the Ranunculus, showing the honied gland just above the base, on the inside at a a.

- Fig. 5. Iris or Flag. The nectary, in form of a villous line, along the middle of one of the reflex petals.
- Fig. 6. Fritillaria Imperialis. Crown Imperial.
- a An excavation at the base of the petal, which is the nectary.
- Fig. 7. Asphodelus luteus. Yellow Asphodel.
- a The flower, showing the fix stamens, each fitting on its valve, and the fix valves forming an arch over the germ.
- b A fingle filament on its scale, which is inserted into the base of the petal.
- Fig. 8. Helleborus fætidus. Stinking Black-Hellebore.
- a The tubular nectaries placed in a ring at the base of the stamens.
- b A fingle nectary.





# PLATE XXXV. LETTER XXXII.

#### CRYPTOGAMIA FILICES. Ferns.

# Osmunda Spicant. Rough Spleenwort.

Fig. 1. The barren frond.

Fig. 2. The fertile frond.

Fig. 3. A fingle pinna magnified, with the scales at aa; and covers of the capsules at bb.

Fig. 4. A part of the pinna more magnified, with the anthers on the rib at a, and the membrane rolled back at bb, to exhibit the rudiments of the feed vessels at cc.

# PLATE XXXVI. LETTER XXXII.

# CRYPTOGAMIA MUSCI. Moffes.

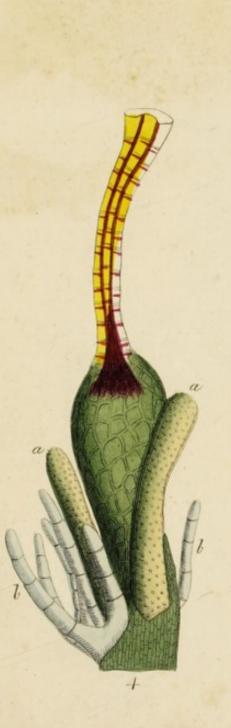
# Bryum pyriforme. Pear Bryum.

- Fig. 1. The moss of its natural size.
- Fig. 2. The anthers yet entire.
- Fig. 3. The female flower, while it is yet inclosed within the inmost leaves.
- Fig. 4. The fame feparated, with the appendages, viz. a a the adductors.

  b b the cylindrical jointed threads.









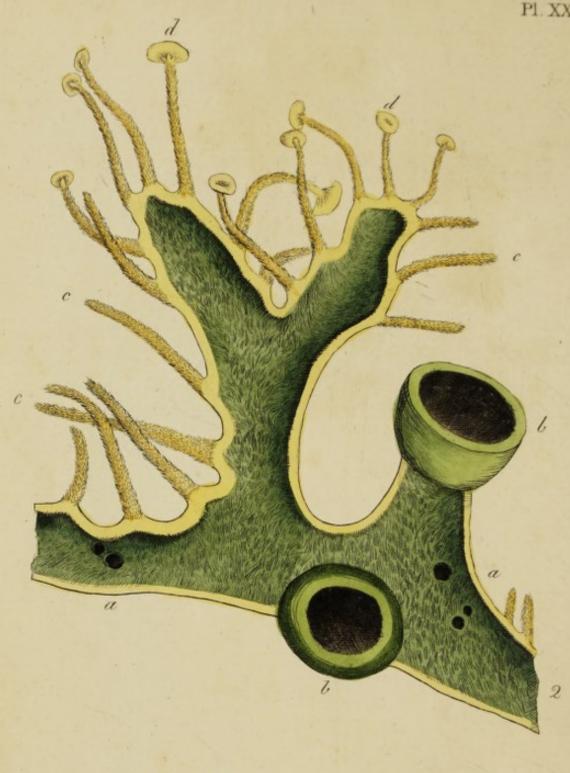
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### PLATE XXXVII. LETTER XXXII.

#### CRYPTOGAMIA ALGÆ.

### Lichen ciliaris. Ciliated Liverwort.

Fig. 1. The plant of its natural fize.

Fig. 2. The fame magnified.

a a The male or barren flowers.

b b The females in a state of ripeness.

c c The rooting hairs.

d d The hairs, or ciliæ, growing on the extremities.

Fig. 3. The feeds magnified.

## PLATE XXXVIII. LETTER XXXII.

CRYPTOGAMIA FUNGI. Funguses.

Agaricus Dillen. giff. p. 185.

- Fig. 1. Plants of different ages, and of their natural fize.
- a Is the Fungus in its perfect or adult state.
- b The fame in its middle state.
- c Small plants just rising.
- Fig. 2. A parcel of knotted threads from the fungus marked b, supposed to be the stamens.
- Fig. 3. A fection of the cap (a) and lamella (b) of the fame fmall fungus magnified.
- Fig. 4. The ripe feeds of this fungus much magnified.
- Obs. These four plates are copied from Hedwig's Theoria, as it would have answered little purpose to figure such minute plants of their natural size only.



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