PART IV.

EXPLANATORY ILLUSTRATIONS

TWENTY-FOUR CLASSES.


Tab. 1
Tab. 2
Tab. 3
Tab. 4

EXPLANATION OF PLATE III.

Class I.—*Monandria*

Fig. I.

Canna Glauca.—*Flowering Reed or Cane.*

A. A. a. The Perianth.
B. C. D. Depending divisions of the monopetalous Corolla.
E. F. G. Other parts or portions of the Corolla.
H. g. The extreme portions of the tube of the Corolla.
I. The Anther attached to the edge of the petal F, which serves it in the place of a filament.
K. The Stigma.
L. The Germe, which is inferior (*Germen inferum*) and scabrous.

Fig. II.

Canna Indica, another species of the same genus.

A. d. A. The Perianth.
B. The Corolla.
C. The Anther.
D. The Stigma.
E. The Germe.
e. The persisting Stigma adhering to the germe.
a. The germe enlarged into a pericarp, and which is now a Capsule (*capsula.*)
b. The persisting Stigma.

EXPLANATION OF PLATE IV.

CLASS II.—*Diandria.*

FIG. I.

Cunila Mariana (*Mountain Balm.*)

A. A. A. The Corymbs (*corymbus*), of flowers.

B. The Perianth, without the Corolla, &c.

C. The Perianth, with the Corolla, the two stamens and the pistil.

D. The Perianth, with the pistil only.

FIG. II.

An American species of Speedwell (*Veronica*), *the leaves of which are opposite* (*opposita*), *and sessile* (SESSILIA.)

A. A. The Spikes supporting the flowers, each of which has two stamens, and one pistil.

a. The Perianth, with the Corolla, before it has opened.

b. A posterior view of the Corolla, with its Perianth.

c. The Corolla, exhibiting the two stamens and one style.

FIG. III.

COLLINSONIA CANADENSIS (*Horse Weed.*)

A. A. The two Corymbs (*Corymbus.*)

B. The Corolla, which is somewhat ringent (*subringent.*)

b. The Perianth.

C. The Stigma, supported by its style, between the two stamens with their Anthers.

D. The two Anthers, with the pistil between.

E. The terminal Corymbus (*Corymbus terminalis.*)

EXPLANATION OF PLATE V.

Containing Two Classes.

Class III.—*Triandria.*

Fig. I.

Commelina Virginica.—(A common *North American* plant.)

A. The Calyx, which is a Spathe (*Spatha*), and is (*Cordata*,) Heart-shaped.

B B. b. The Petals.

C. C. The three *Nectaries*, as termed by Linnæus; resembling cross-shaped Anthers (*Cruciforme*), situated upon their proper filaments. These would be more properly called infertile stamens.

E. F. The Leaves, which are alternate (*Alterna*), and Lanceolate (*Lanceolata.*)

c. The Stigma.

Class IV.—*Tetrandria.*

Fig. II.

Ludvigia Alternifolia.

A. A. The Stem, or ascending Caudex, from which proceed the leaves B. B. B. B.; these are generally alternate, and lanceolate (*lanceolata*); but the leaves of this species are not constantly alternate; sometimes the same plants protrudes both alternate and opposite leaves.

C. One of the segments of the Calyx, which is a perianth and four-parted (*perianthium 4-partitum.*)

D D. The Corolla, which is tetrapetalous, or four-petalled (*tetrapetala*), contains four stamens and one style.

E. The Capsule, invested by the Calyx.

EXPLANATION OF PLATE VI.

Containing Two Classes.

CLASS VI. — *Hexandria.*

FIG. I.

Lilium Canadense (Canadian Lily).

A. A. Its six Stamens.

B. The Style.

C. C. The Corolla, which is six-petalled, and bell-shaped (*Corolla campanulata, 6 petala.*)

E. E. The Bractæ (Bractes.)

D. One of its flowers unopened.

CLASS VII. — *Heptandria.*

FIG. II.

Æsculus parviflora.—(Horse-chesnut.)

A. The Corolla, consisting of four petals, with seven stamens and one style.

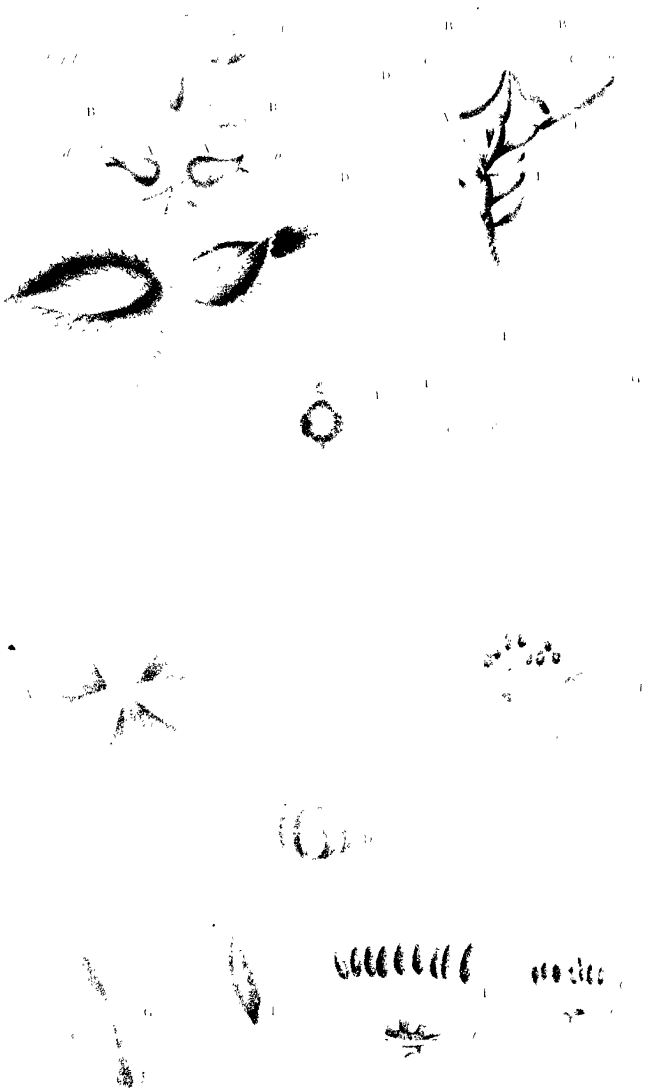
B. The Germe considerably enlarged, with the persistent style, after the fall of the stamens.

C. C. Showing how, in the early age of the inflorescence, the stamens exist with only the rudiment of the pistil. This plant, therefore, ought to be arranged with the Class *Polygamia.*

D. The Pericarp (*pericarpium*), considerably magnified; and which is three-valved (*trivalve.*)

The Seed, also considerably magnified, and which is a nut (*nux*), distinguished by a very large hilum, by which it receives nourishment.

The leaves of this species of Æsculus afford a very good example of that species of compound leaf (*folium compositum*), which Linnæus calls a digitate leaf (*folium digitatum.*)



EXPLANATION OF PLATE VII.

Containing Two Classes.

Class VIII. — *Octandria.*

Fig. I.

Rhexia Virginica.—(A beautiful *North American* plant.)

The leaves of which are opposite and sessile (*folia opposita, sessilia.*)

A. A. The Calyx, which is a Perianth.

d. A Corolla, yet unopened.

b. D. The Pistil.

B. B. The Corolla, consisting of four petals, and which are inserted into the Calyx.

C. The Pistil, surrounded by the eight stamens.

E. The vascular Calyx opened, and considerably magnified to show the position of the eight stamens F. The filaments are terminated by fulcated anthers (*Antheræ fulcatæ.*)

G. The Germe.

H. The Pistil.

I. The Pericarp, crowned by the four points of the Calyx.

Fig. II.

Gaura Biennis.—(A common *North American* plant.)

A. The Calyx.

B. B. The four petals of the Corolla.

C. C. The eight stamens.

D. The Stigma, which is four-lobed (4-*lobum.*)

E. A flower yet unopened.

F. The Pericarp, which is a Capsule.

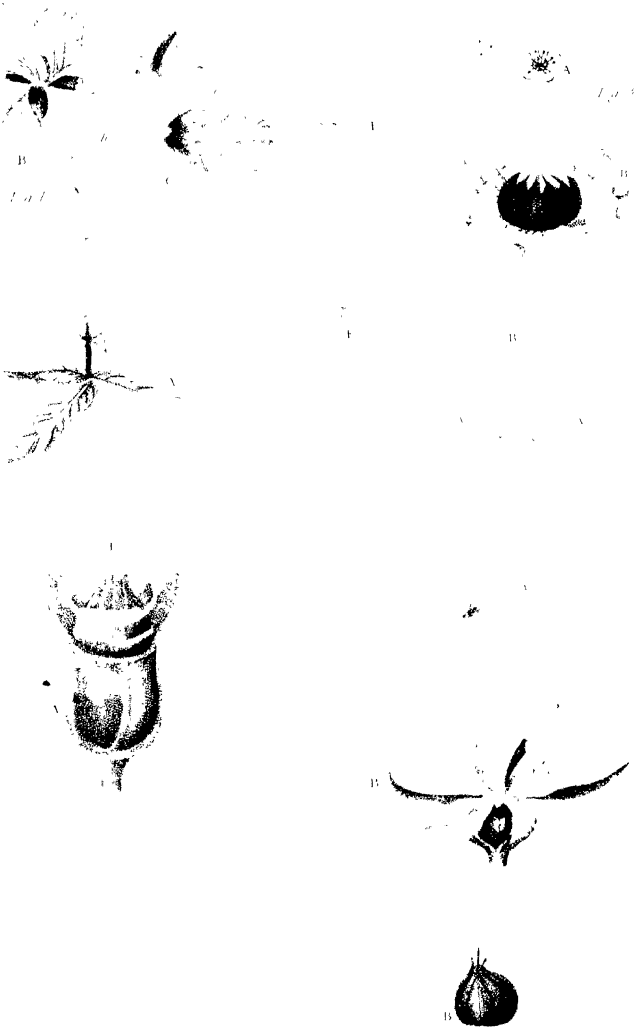
Explanation of Plate VII. *continued.*

CLASS IX.—*Enneandria.*

FIG. III.

Different parts of the fructification of the *Butomus umbellatus* (Flowering Rush.)

A. The posterior view of a Corolla.
B. An anterior view of the same.
C. The nine Stamens, the petals (or, as M. Jussieu terms them, the Calyx) being removed.
C. The *Receptaculum* (receptacle).
E. f. The same magnified.
D. The six Germes magnified.
F. A single Stamen, considerably magnified.
G. An Anther, considerably magnified, in order to show its peculiar structure, which is bilamellate or two-plated (*anthera bilamellata*).



EXPLANATION OF PLATE VIII.

Containing Two Classes.

Class X.—*Decandria.*

Fig. I.

Cucubalus Stellatus.—(A very common plant, peculiar to the neighbourhood of *Philadelphia, North America.*)

A, a. The Leaves, which are stellate (*folia stellata.*)
B, b. Bractæ (Bractes.)
C. The Perianth.
D. The Stamens (ten in number.)
E, e. The three styles.
F. Showing the three styles detached from the other parts.

Fig. II.

A. A. The ten Stamens, } Of the white Saxifrage
B. The two Pistils, } (*Saxifraga granulata*).

Fig. III.

The *inflorescence* of the common Poke (*Phytolacca decandra.*)

A. The flower of its natural size.
B. The same magnified, showing the ten stamens, the striated germe, and ten stigmas.

Explanation of Plate VIII. *continued.*

CLASS XI.—*Dodecandria.*

FIG. IV.

Asarum Canadense (Wild Ginger.)

A. The Germe, below the Calyx, and hid within the substance.

B. The Stellate, or star-shaped stigma (*stigma stellatum*), six-parted (*sex-partitum.*)

b. b. Six of the twelve Stamens: the other six have been removed, for experiment, but the places which the filaments had occupied are made visible.

C. A diagram showing the twelve filaments, as inserted on the top of the germe; the filaments are subulate or awl-shaped (*filamenta subulata*), with the anthers joined near to the centre of the filament.

D. E. Two of the Stamens magnified.

FIG. V.

Agrimonia Eupatoria (Common Agrimony.)

A. The flower of its natural size.

B. The same magnified; the Corolla is five-petalled (*pentapetala*); the stamens are twelve, and the styles two in number.

FIG. VI.

Euphorbia Lathyris (Caper-spurge.)

The whole of these parts are magnified.

A. The twelve Stamens.

B. The Germe.

b. b. The Styles.

a. The six Stigmas.

EXPLANATION OF PLATE IX

Containing Two Classes.

Class XII.—*Icosandria.*

Fig. I.

Philadelphus Inodorous.

The Petals are four in number.

A. The Calyx, &c. detached from the Petals.

a. a. a. a. The Calyx, which is a Perianth monophyllous, or consisting of one leaf, but four-parted (*Perianthium monophyllum, quadripartitum*).

b. b. c. c. The Stamens, which are numerous, and attached to the Calyx.

d. The four Stigma.

B. The Calyx, with the appearance of the Germe; e., after it is possessed of the Pollen.

f. The feature or rather the rudiment of the Styles displayed, after the reception of the Pollen by the Germe.

Explanation of Plate IX. *continued.*

CLASS XIII.—*Polyandria.*

FIG. II.

A. B. C. A flower, before it has opened, of the May-apple, called also Wild-Lemon, Mandrake; it is the *Podophyllum peltatum of* Linnæus.

A. The Peduncle (*Pedunculus*).

B. The Perianth.

C. The Petals.

D. The expanded blossom, of its natural size; the Petals vary in number from six to ten; but the most prevailing number is six. The number of Stamens is very various.

E. A Stamen.

e. The Filament.

f. The Anther.

F. The fruit, which is a berry (*bacca*).

i. The persisting Stigma.

G. The Seed.

EXPLANATION OF PLATE X.

Class XIV.—*Didynamia.*

Fig. 1.

Bartsia Coccinea (American painted Cup).

A.A.A.A.A.A. The large and crimson-coloured Bractees (*Bractes*), which are more deeply coloured than the Corolla or the Calyx.

B. B. B. The Perianth.

C. A Perianth detached.

D. d. The Corolla.

E. A portion of the Corolla turned downwards, to show the four Stamens and the Style.

F. The four Stamens, two of which are longer than the other two.

G. The Pistil

H. The Pericarp, which is a Capsule, two-celled (*capsula bilocularis*), and two-valved (*bivalvis*).

I. The Capsule opened, exhibiting the locality of the seed.

Fig. II.

Gerardia Flava.

A. The Corolla, which is monopetalous (*monopetala*), ringent (*ringens*), the limb (*limbus*) five-parted (*5-partitus*). The Stamens are four in number, two longer than the other two. There is one Pistil.

The Pericarp, which is a Capsule (*capsula*), seated in its Calyx, which is perianth, monophyllus, and five-parted; three only of which are exhibited in this drawing.

EXPLANATION OF PLATE XI.

Containing Two Classes.

CLASS XV.—*Tetradynamia.*

FIG. I.

Different parts of the *Cheiranthus Incanus* (Stock, or July flower).

a. The six Stamens and the Pistil, of their natural size.

b. The same magnified, four of the Stamens are long and two short, which is the character of this Class. The base of the shorter Stamens is surrounded with four nectariferous protuberances.

c. The Corolla, which is tetrapetalous, four-petaled (*tetrapetala*), is also cruciform, or cross-shaped (*cruciata*, s. *cruciformis*).

CLASS XVI.—*Monadelphia.*

FIG. II.

Malpæa.

[redacted] Filaments united into a single bundle [redacted], which is the characteristic of the Class [redacted]*delphia*.

[redacted] Pericarp, which is a capsule.

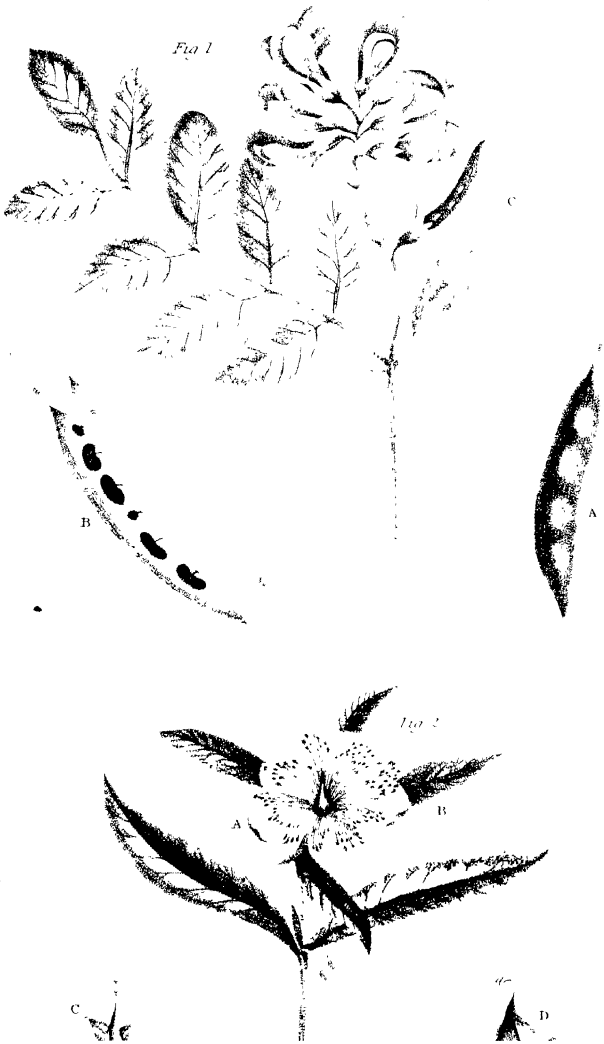
[redacted] of the cells of the capsule magnified.

A single seed magnified.


A
B
C
D
E

Fig 1 DIADELPHIA
Class 17

Fig 2 POLYADELPHIA
Class 18



EXPLANATION OF PLATE XII.

Containing Two Classes.

CLASS XVII.—*Diadelphia.*

FIG I.

Robinia Viscosa, (a native of the southern parts of the *United States.*)

A. The Seed-vessel, which is a legume (*legumen*).

B. The same opened, showing the two valves of which it consists, and the Seeds fixed along one of the sutures.

C. An unmatured Legume.

This plant furnishes a good example of the pinnate leaf (*folium pinnatum*), and of that species which Linnæus denominates *folium pinnatum cum impari*, unequally pinnate; when the wings, composed of leaflets, are terminated by a single leaflet.

CLASS XVIII.—*Polyadelphia.*

FIG. II.

Hypericum Kalmianum.

A. The Corolla, which consists of five petals, and the Stamens are distributed into several bunches.

B. The Pistil in the centre.

C. The Calyx, which is a Perianth, five-parted (*quinque partitum*), with the Pistil.

D. The Capsule, with the Calyx attached to it.

EXPLANATION OF PLATE XIII

CLASS XIX.—*Syngenesia.*

First Order.—*Association Æqualis.*

Tragopogon Virginicum.—(Virginian Goat's-Beard.)

A. The Amplexicaule Leaf (*folium amplexicaule*).

B. b. The Stipules (*stipulæ*).

C. The Calyx, with contained Corolla, &c.

D. A posterior view of the Flower exhibiting the common Calyx

E. E The Corolla.

e, e. The Stigmas.

A single Floscule,—f. the Petal,—g. the Cylinder of the Anthers,—h. the Style protruded through the cylinder of the Anthers.

G. The Seed, with the Pappus, or Aigrette, attached to it.


H
I
G
F
C
D
A
E
B

EXPLANATION OF PLATE XIV.

CLASS XX.—*Gynandria.*

Passiflora Incarnata.—Passion-flower.

A. The three-lobed (*trilobum*), and serrated (*serratum*), Leaf.

B. Another Leaf, but partially decayed.

C. C. The two Glands, situated at the termination of the Petiole (*petiolus*), or commencement of the Leaves; it is from these Glands that Linnæus forms his specific character of this species of Passiflora.

D. D. *Cirri*, the Tendrils, or Claspers.

E. The five-leaved Calyx (*perianthium pentaphyllum*), coloured, and resembling Petals.

e. The Involucre.

F. One of the five Petals of the Corolla, and which terminates obtusely and not in joints, as do the leaves of the Calyx.

G. The Nectary (*Nectarium*), which is said "to crown the Corolla."

H. The three Styles.

I. The Germe, with the Stamens below, of which there are five, but only four appear in this drawing.

K. One of the leaves of the Calyx.

EXPLANATION OF PLATE XV.

CLASS XXI.—*Monœcia.*

Sagittaria Sagittifolia.—(Common Arrow-head.)

A. H. Uncpeled pistilliferous Flowers.

B. The Scape (Scapus.)

b. The Bractes (*bracteæ.*)

C. D. Petioles which support the Sagittate Leaf (*Folium sagittatum.*)

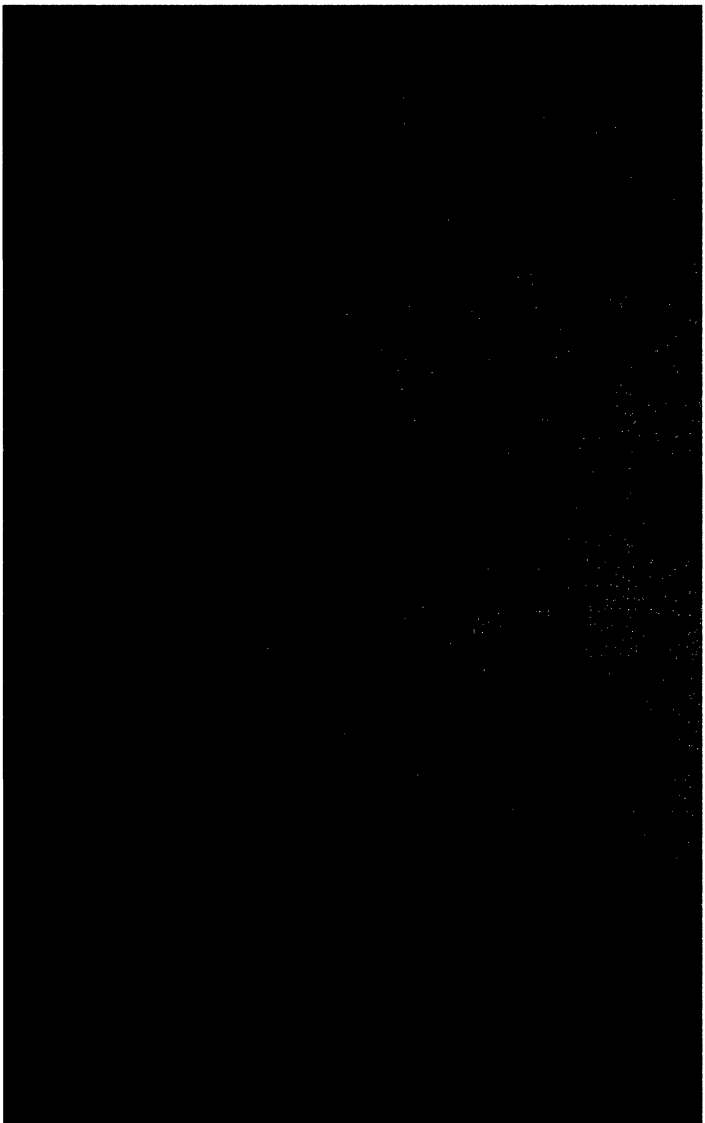
E. One of the pistilliferous Flowers in perfection, exhibiting the three-petaled Corolla (*corolla tripetala,*) and the Styles.

F. The same, after the removal of the Petals, exhibiting the three-leaved Perianth (*perianthium triphyllum*), and the Styles.

f. A posterior view of a pistilliferous Flower.

G. The perfect staminiferous Flowers, exhibiting the three Petals and the numerous Anthers.

I. A posterior view of the same.



EXPLANATION OF PLATE XVI.

CLASS XXII.—*Diœcia.*

FIG. I.

The staminiferous plant of the *Acnida Cannabina.*

FIG. II.

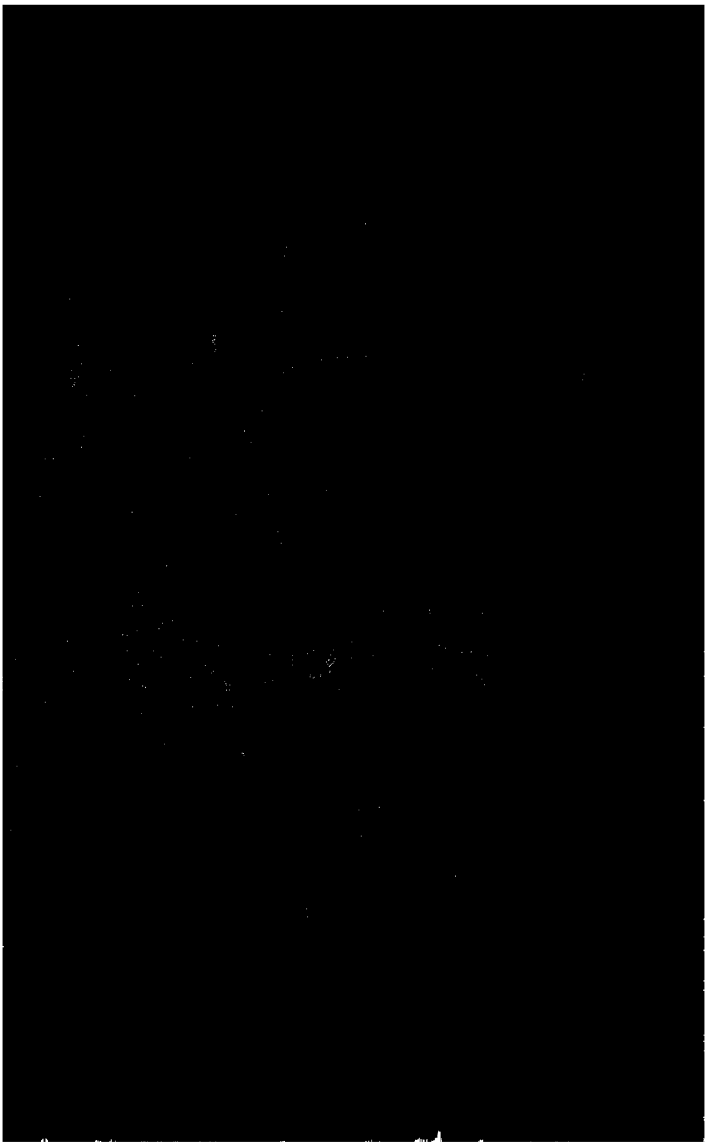
The pistilliferous plant of the same.

A. A. The Spikes (*spica*), of the flowers.

B. A staminiferous flower, exhibiting the five Petals and the five Stamens.

C. A pistilliferous flower, exhibiting the Perianth, with the Germe and five Styles.

D. The Pericarp, which is a Capsule (*capsula*).



Explanation of Plate XVIII. *continued.*

Fig. 5. A detached individual of the same Moss, magnified considerably.

- A. The Stem.
- B. The Capsule, which Linnæus improperly calls an *Anthera*.
- C. The Calyptre (*Calyptra.*)

Fig. 6. Another species of Moss considerably magnified.

- A. The Stem.
- a. B. The pendent Capsule.
- b. The Peristome.
- C. The Capsule, which is cylindrical.
- D. The Convex Opercule, or Lid (*operculum*), which covers the Capsule.
- E. The Calyptre detached.

Fig. 7. The Capsule, &c. of the Moss represented in the preceding figure magnified by a higher power.

- A. The hollow part, which contains the powder.
- B. The solid base of the same.
- C. The Peristome, furnished with what assimilates to straight but narrow teeth.
- D. The Opercule.
- E. The ring of the Peristome.
- F. The naked Peristome.
- G. The Opercule detached.

Fig. 8. The fructification of a *Lichen.*

Fig. 9. The funnel-shaped fructification of a *Lichen.*

Fig. 10. The fructification of the genus *Marchantia.*

- A. The escutcheon-like or target-shaped fructification (*pelta*).
- B. Are cups which contain Corpuscules, or seeds, from which other plants are produced.

Explanation of Plate XVIII. *continued.*

Fig. 11. The fructification of the genus *Jungermania.*

A. The tubulous sheath, embracing the Stem.

B. The Stem.

C. The Capsule, which is four-valved, and contains the seeds which are attached to that which has the appearance of elastic cords.

Fig. 12. A portion of the *Virginian Polypody* (or Stameniferous Fern). This is the true Dorsiferous Fern, the fructification being fastened upon the back of the Frond, by A. A., to two of which attention is drawn.

Fig. 13. The Order *Fungi, Clavaria Acrospermum,* represented of the natural size, and as growing upon old and dry timbe·

Fig. 14. The same magnified.

Fig. 15. A. The *Pileus* or Cap.

B. The *Stipe,** or Stalk.

C. C. The *Velum,* or Veil; a horizontal membrane, connecting the margin of the *Pileus* with the Stipe.

D. The *Volva,* or Wrapper; which originally was a bag or sack enveloping the whole plant, but was left at the foot of the Stipe when the plant elongated and burst through it.

E. The lower part of the Stipe.

* From the Greek of στιπος, a stake.

FINIS.