

**Genera filicum, or, Illustrations of the ferns, and other allied genera / from the original coloured drawings of Francis Bauer ; with additions and descriptive letterpress, by Sir William Jackson Hooker.**

**Contributors**

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Royal College of Physicians of Edinburgh

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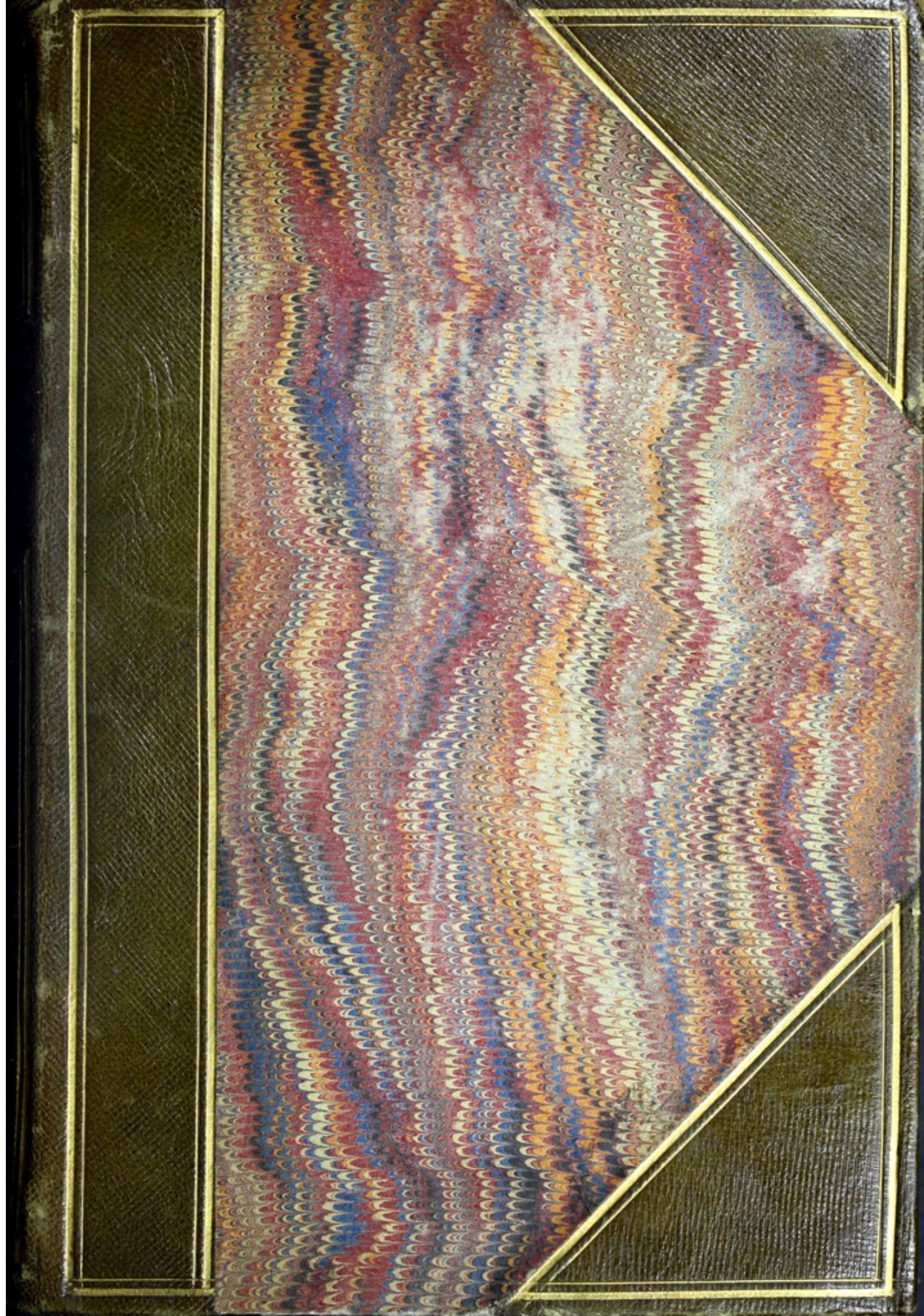
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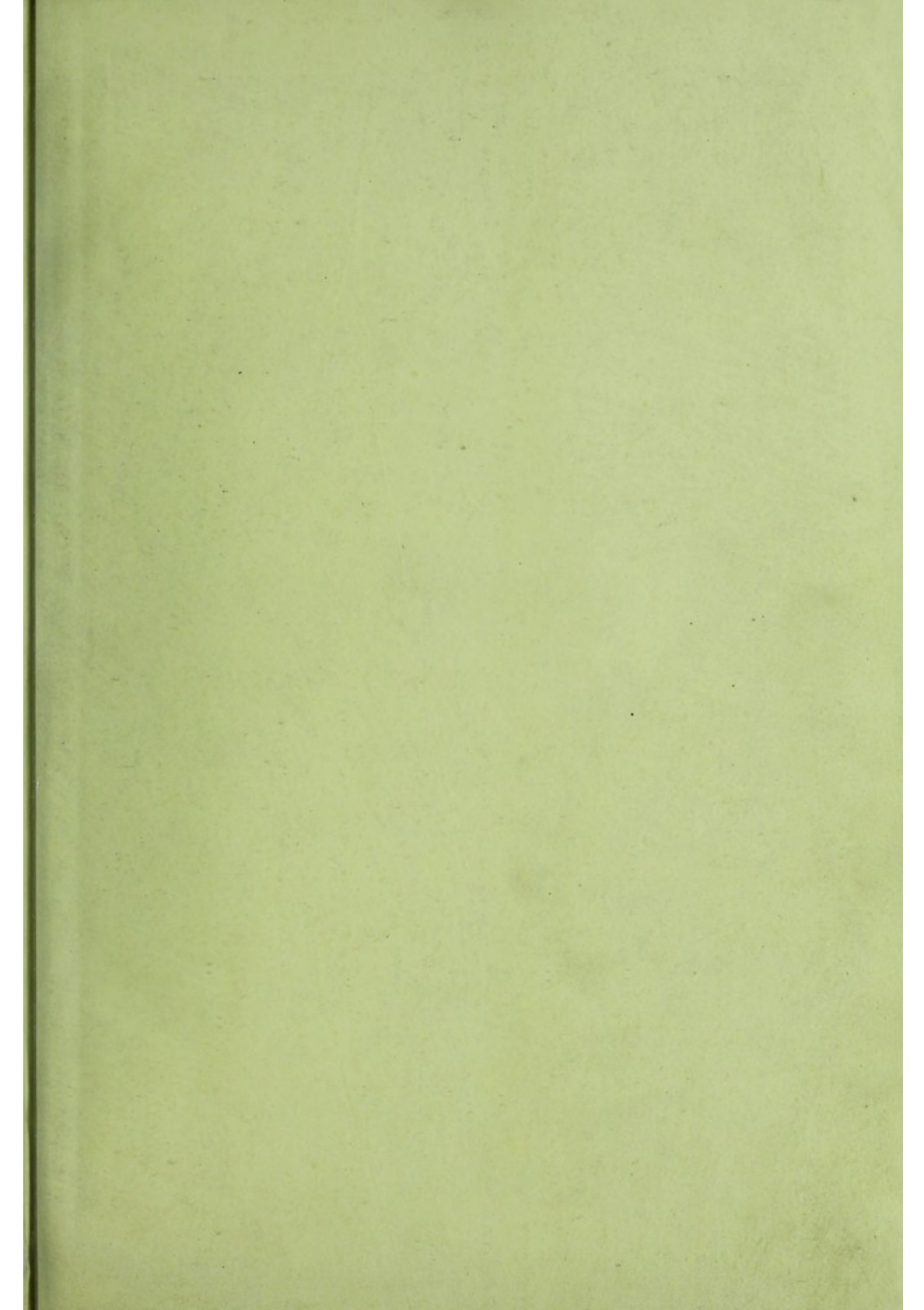


Ch. 8

Page 8

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GENERAL PRINCIPLES

ILLUSTRATIONS OF THE FERNS

OTHER ADDED GENERALLY

ORIGINS OF THE FERNS

THE LATE FRANKLIN BAKER, ESQ.

ADDITIONS AND DESCRIPTIVE LETTERPRESS

BY WILLIAM JACKSON PROCTOR, ESQ.



LONDON:

PRINTED FOR HENRY COLVER, No. 4, YORK STREET

COVENT GARDEN







GENERA FILICUM;

OR

ILLUSTRATIONS OF THE FERNS,

AND

OTHER ALLIED GENERA;

FROM THE

ORIGINAL COLOURED DRAWINGS

OF

THE LATE FRANCIS BAUER, ESQ.,

BOTANIC PAINTER TO HER MAJESTY;

WITH

ADDITIONS AND DESCRIPTIVE LETTERPRESS,

BY

SIR WILLIAM JACKSON HOOKER, K.H.,

LL.D. F.R.A. & L.S.,

VICE-PRESIDENT OF THE LINNÆAN SOCIETY; HONORARY MEMBER OF THE ROYAL IRISH ACADEMY; MEMBER OF THE  
IMPERIAL ACADEMY CÆSAR. LEOPOLD. NATURÆ CURIOSORUM, OF THE IMPERIAL SOCIETY CÆSAR. NATURÆ  
CURIOSORUM OF MOSCOW; OF THE ROYAL ACADEMIES OF SWEDEN, PRUSSIA AND LUND; OF THE  
ACADEMIES OF PHILADELPHIA, NEW YORK, BOSTON; OF THE NAT. HIST. SOCIETY OF  
MONTREAL, &c., &c., &c.,

AND DIRECTOR OF THE ROYAL BOTANIC GARDENS OF KEW.



LONDON:

PRINTED FOR HENRY G. BOHN, No. 4, YORK STREET,  
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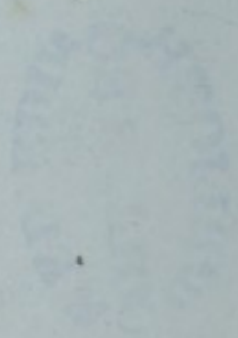
MDCCCXLII.

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THE LATE FRANCIS BAKER F.R.S.

GLASGOW:  
PRINTED AT THE UNIVERSITY PRESS, DUNLOP STREET,  
BY EDWARD KHULL.

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BY WILLIAM JACKSON HOOKER, F.R.S.

LONDON:  
PRINTED FOR HENRY G. Bohn, No. 4, YORK STREET,  
COVENT GARDEN.





TO  
HIS GRACE JOHN DUKE OF BEDFORD,

&c. &c. &c.

ALIKE DISTINGUISHED BY NOBILITY OF BIRTH AND OF CHARACTER,

THE DISINTERESTED AND STEADY PATRON OF THE

NATURAL SCIENCES,

AND OF

BOTANY AND HORTICULTURE IN PARTICULAR,

THE PRESENT WORK,

WHICH OWES MUCH TO HIS GRACE'S FRIENDSHIP AND ENCOURAGEMENT,

IS DEDICATED,

WITH THE HIGHEST SENTIMENTS OF REGARD AND ESTEEM,

BY HIS GRATEFUL AND OBEDIENT SERVANT,

W. J. HOOKER.

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IS DEDICATED

WITH THE HIGHEST RESPECTS OF ADMIRATION AND GRATITUDE

TO HIS GRACE AND HIS MOST OBLIGED SERVANT

W. J. HOOKER



## PREFACE.

---

WHATEVER may be the merits of the present publication, it will be seen that they are entirely due to the distinguished Natural History Painter whose name appears upon the plates, and who, upon the expression of my admiration of the beauty and fidelity of the original drawings, most liberally confided them to my charge, with a view to their immediate publication. The plates have been all executed in my own residence, and under my own eye, in zincography, by a young artist, WALTER FITCH, with a delicacy and accuracy which I trust will not discredit the figures from which they were copied.

With regard to my own share in the work, I would not have it to be understood that the Genera here introduced are what I definitively recommend as, in every instance, worthy of being retained; but such as have been universally received and firmly established, or such as have been formed by Botanists whose opinions deserve attention. A more accurate examination of the several species of each Genus, which are now under review in the preparation of a "SPECIES FILICUM," will enable me hereafter to form a more correct judgment on this head than it is now in my power to do. In the meanwhile I shall pay the utmost deference to the opinions of Swartz, and our own countrymen, Sir James Smith and Mr Brown, to whose successful labours the Order of Filices owes so much; and no less to those of Professor Presl of Prague, author of the admirable "TENTAMEN PTERIDOGRAPIÆ, SEU GENERA FILICACEARUM, PRÆSERTIM JUXTA VENARUM DECURSUM ET DISTRIBUTIONEM EXPOSITA." This work, which only reached my hands after much of the present fasciculus was prepared for the press, has thrown a new light upon the distribution of the Ferns, chiefly by the

clear exposition of the arrangement of the veins or nerves. The importance of these, in the Genera of this Order, has been long ago insisted on by the learned Brown, not only in his *Prodromus Floræ Novæ Hollandiæ*, but more particularly in a proof sheet, which I had once the opportunity of seeing, on the "*Botany of Java*," which has been printed, if I mistake not, thirteen years, but which has, from some cause over which the author had no control, not yet been published.

So completely do the ideas of Dr Presl accord with my own, in regard to the limits of many Genera, that I should do him injustice were I not, in such cases, to quote his characters verbatim; and indeed, the more attentively I study his book, and compare his descriptions with the plants themselves, the more satisfied I am that he has produced a work which will not easily be surpassed for accuracy of research, and clear and perspicuous arrangement. At present, however, I am disposed to think he has laid too much stress on the number and other circumstances connected with the bundles of vessels in the stipes, which in the Herbarium are difficult of investigation, and that the venation holds too prominent a place in the generic character:—but this opinion I may see fit to change in the progress of my undertaking.

GLASGOW, May 1, 1838.



TAB. I.

HYPODERMIS. M. J. W. L. P. 1861. Pl. 1. 1. 1.

201. Globular vesicles, subparallel to the surface, containing vesicular contents, reticulated in center. 202. Globular vesicles, subparallel to the surface, containing vesicular contents, reticulated in center. 203. Globular vesicles, subparallel to the surface, containing vesicular contents, reticulated in center. 204. Globular vesicles, subparallel to the surface, containing vesicular contents, reticulated in center. 205. Globular vesicles, subparallel to the surface, containing vesicular contents, reticulated in center.

Hypodermis. M. J. W. L. P. 1861. Pl. 1. 1. 1.

My attention has been directed to this curious group of forms by Mr. John Smith of the Royal Gardens, at Kew, where he has, for 18 years, assisted Mr. Aiton in the practical management of that establishment, and where he has availed himself of every opportunity which the valuable collection in those gardens has afforded him, of improving his knowledge in botany. The forms have especially occupied his attention, and I am indebted to him for many valuable remarks which have accompanied Mr. Bunter's drawings. It will be seen that with a fruitfulness in many respects similar to that of Woodia, Mr. Wiggins has a group of similar structures to that of Phymatopteris, but of the Polyozium group; or to that of Alveolus, but of the Alveolus group.

Fig. 1. View of the water surface of a small portion of the head; scale 1 diam.—A. 2. 2. per-  
fect form; w. 25 diam.—A. 3. A small tip of form; w. 15 diam.—A. 4. A small portion of the tube;  
diam. w. 100 diam.—A. 5. Specimen in different stage; w. 100 diam.—A. 6. Specimen of different  
of 100 diam.—A. 7. Specimen; w. 100 diam.

*Polypodiaceæ.*

TAB. I.

HYPODERRIS. *Br. in Wall. Ic. Pl. Asiat. Rar. in not.*

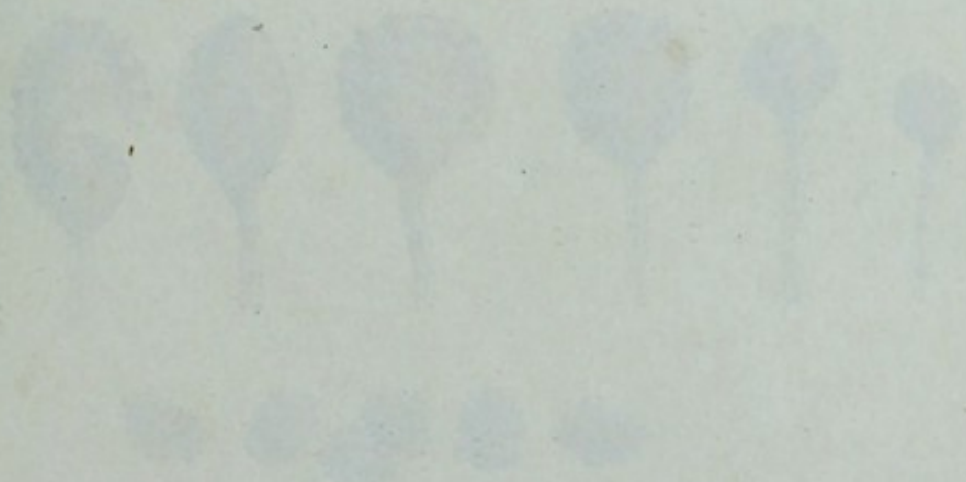
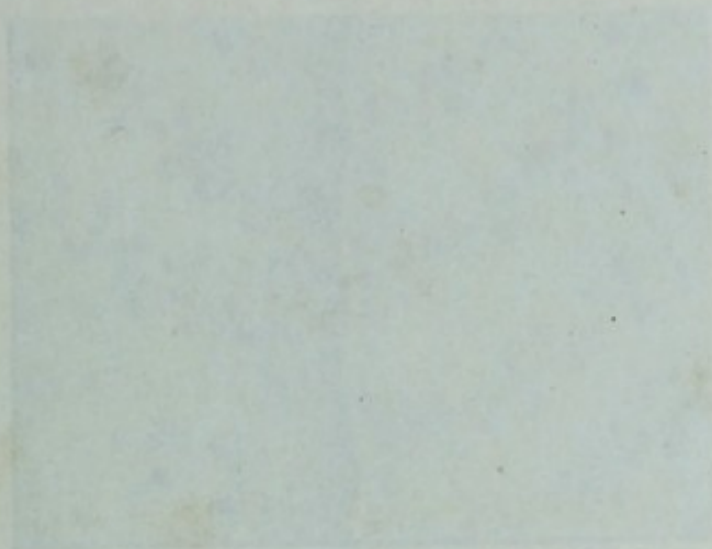
*Sori* globosi venis subparallelis ad angulos confluentes venularum reticularum inserti.  
*Indusium* inferum, calyciforme, membranaceum, reticulatum, margine fimbriatum.  
*Receptaculum* minutum fere obsoletum.—*Filix Ins. Trinitatis.* Frons stipitata, simplex, membranacea, subcordato-auriculata, acuminata, costata, pinnatim venosa, venis alternis parallelis, venulis anastomosantibus, secundariis reticulatis.

*Hypoderris Brownii.* *J. Smith Mst.* (TAB. I.)

My attention has been directed to this curious genus of Ferns by Mr. John Smith of the Royal Gardens, at Kew, where he has, for 18 years, assisted Mr Aiton in the practical management of that establishment, and where he has availed himself of every opportunity, which the valuable collection in these gardens has afforded him, of improving his knowledge in botany. The Ferns have especially occupied his attention, and I am indebted to him for many valuable remarks which have accompanied Mr Bauer's drawings. It will be seen that with a fructification in many respects similar to that of *Woodsia*, Br., *Hypoderris* has a frond of similar structure to that of *Phymatodes*, Presl, of the *Polypodium* group; or to that of *Aspidium*, Presl, in the *Aspidium* group.

*Fig. 1.* View of the under surface of a small portion of the frond; *magn.* 2 diam.—*f. 2.* A perfect sorus; *m.* 25 diam.—*f. 3.* A more ripe sorus; *m.* 25 diam.—*f. 4.* A small portion of the indusium; *m.* 100 diam.—*f. 5, 5.* Sporangia in different stages; *m.* 100 diam.—*f. 6.* Stipites of sporangia; *m.* 100 diam.—*f. 7.* Sporules; *m.* 200 diam.





THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
RECORDS

RECORDS OF THE DEPARTMENT OF CHEMISTRY  
FROM 1857 TO 1875

These records contain a list of the names of the students who have been admitted to the Department of Chemistry from 1857 to 1875. The names are arranged in alphabetical order, and the date of admission is given for each student.

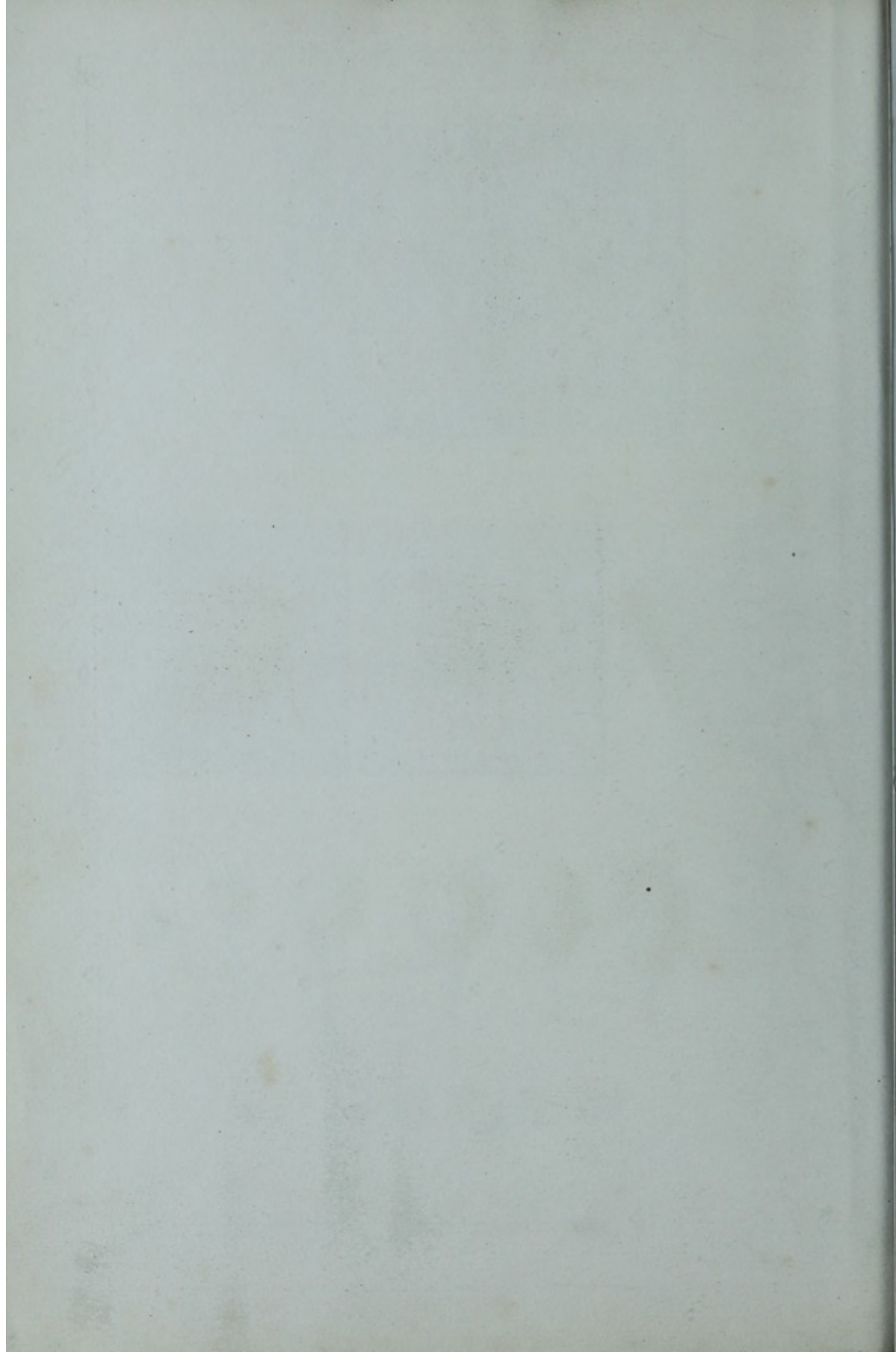
ADMISSIONS TO THE DEPARTMENT OF CHEMISTRY

The following is a list of the names of the students who have been admitted to the Department of Chemistry from 1857 to 1875. The names are arranged in alphabetical order, and the date of admission is given for each student.

ADMISSIONS TO THE DEPARTMENT OF CHEMISTRY  
FROM 1857 TO 1875







TAB. II.

SCHIZOCOMA A. SMITH

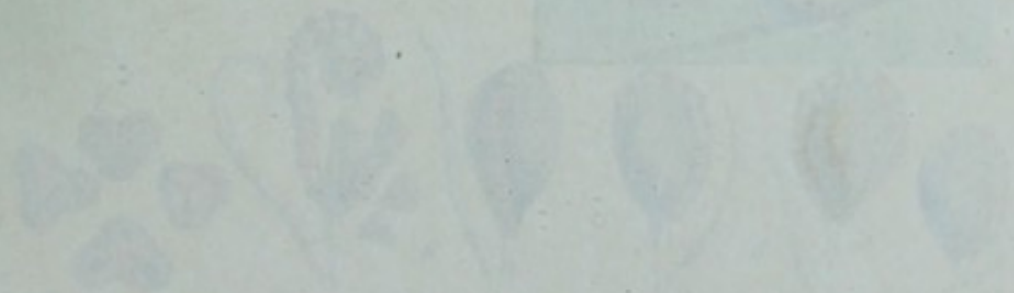
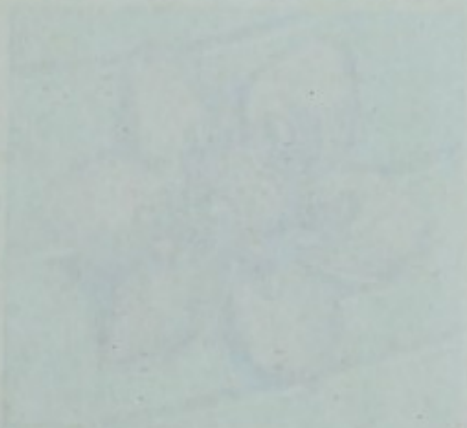
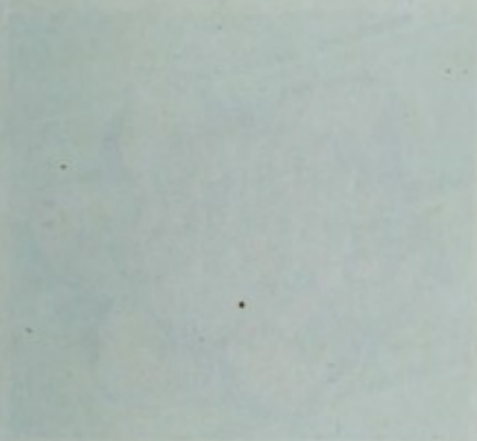
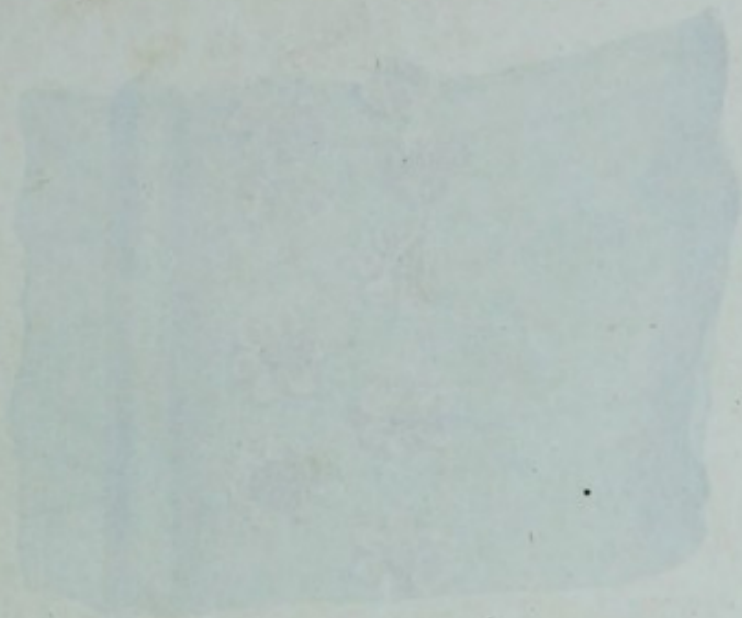
Species of the genus Schizocoma are characterized by the following features: ...

Schizocoma ... (Table II) ...

This is the plant to which Mr. Brown alludes at p. 123 of his ...

Fig. 1. ...





TAB. II.

SCYTHOCENA. F. Kohl.

*Scythocena* ... .. *Scythocena* ... ..

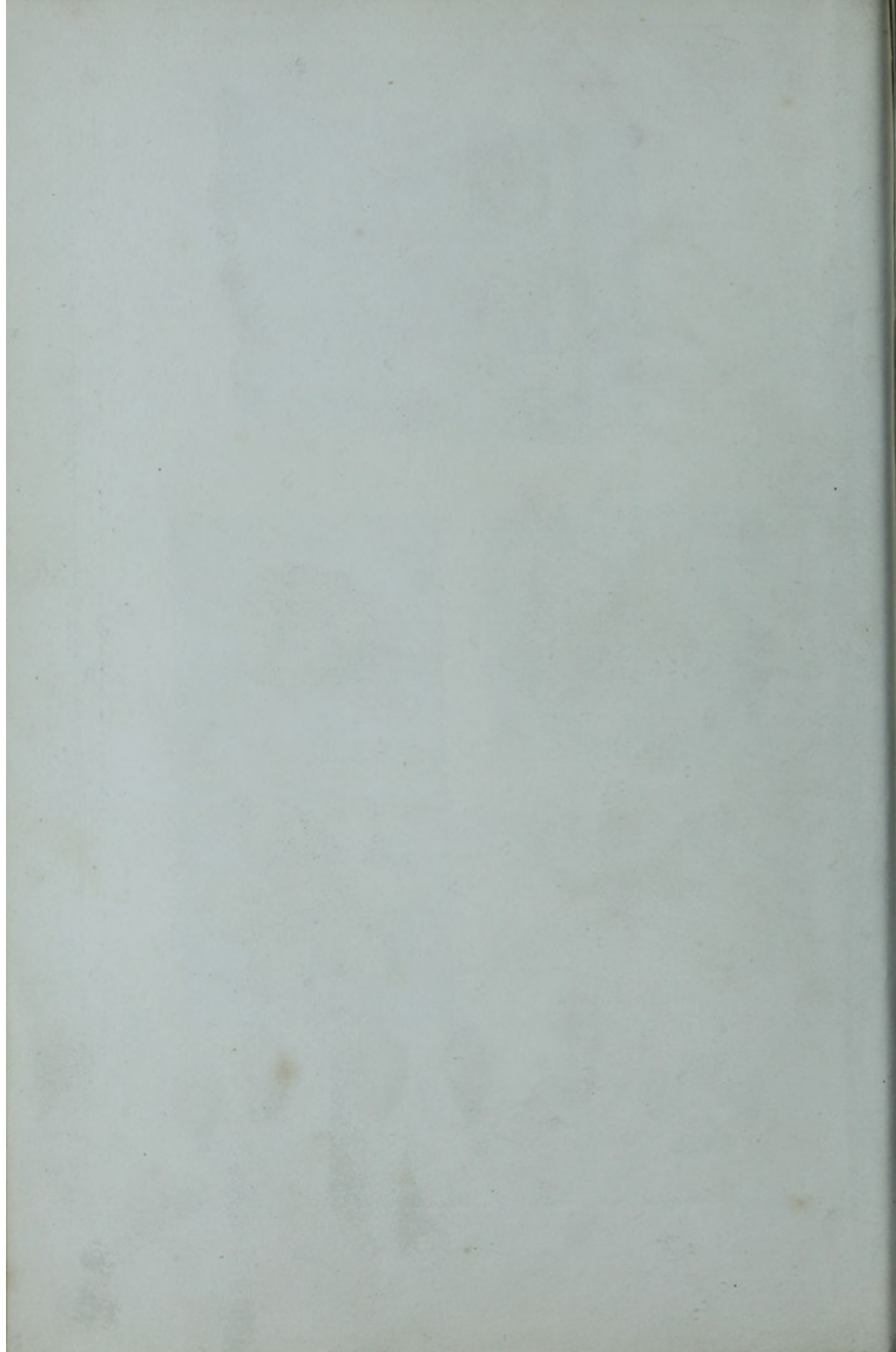
*Scythocena* ... .. *Scythocena* ... ..

This is the place to which the stones ... ..

... ..









TAB. III.

HYMENOCYSTIS C. A. MYER

ov. globosi, dorso latero distincte renatis (et spinosis) insidentes. Capsulae pedicellatae, annulo articulo cinctae, receptaculo paracymbiformi insertae. Testes ovales sphaerici, hyalini, capsulas includens, spinae ovis lateralis debent. Filiculae sphaericae 1-8 pediculis ovum velovis aequis firmis. Testes pinnati, pinnis oblongis pinnatis, lobis obtusis, lobis subobtusis oblongis debent et sub-intervallis: alii non pinnati. Testes non pinnati, lobis marginis spinosis: autem non pinnati, lobis obtusis, lobis subobtusis oblongis debent et intervallis: autem non pinnati. Testes ovales sphaerici, hyalini, capsulas includens, spinae ovis lateralis debent. Filiculae sphaericae 1-8 pediculis ovum velovis aequis firmis. Testes pinnati, pinnis oblongis pinnatis, lobis obtusis, lobis subobtusis oblongis debent et sub-intervallis: alii non pinnati. Testes non pinnati, lobis marginis spinosis: autem non pinnati, lobis obtusis, lobis subobtusis oblongis debent et intervallis: autem non pinnati.

Hymenocystis Canonicus. C. A. Myer, *Ann. Entom. Soc. Lond.* 25: 226. (Tab. III.)

As I have not had the opportunity of seeing this plant, I confine myself to the descriptive character of the author above quoted.

Fig. 1. Under surface of a portion of the food; magn. 10 diam. - A. Upper surface of a small portion of the same; m. 10 diam. - B. Smaller portion of do.; m. 30 diam. - C. View of foot in different stages; m. 20 diam. - D. Sporogia in different stages; m. 100 diam. - E. Spores; m. 200 diam.

TAB. III.

HYMENOCYSTIS. *C. A. Meyer.*

*Sori* globosi, dorsales, distincti, venulis (ad apicem) insidentes. *Capsulæ* pedicellatæ, annulo articulato cinctæ, receptaculo punctiformi insertæ. *Involucrum* sphæricum, hyalinum, capsulas includens, apice ore lacerato dehiscens.—*Filicula glabriuscula*, 4-6 pollices alta, habitu *Aspidii* fragilis. *Frons pinnatisecta*, pinnis oblongis pinnatifidis, lobis obtusiusculis oblongis subovatisve obtuse dentatis vel subintegerrimis; stipite basi paleaceo. *Sori* nunc pauciores, minores, margini approximati; nunc majores, copiosi, conferti. *Involucrum* *Cyathæ*; *receptaculum et capsulæ* *Woodsiæ*.—In rupestribus promontorii Caucasici prope acidulam Nartzana (alt. 500 hexap.), et in lapidosis ad torrentem Terek prope Kobi (alt. 1000 hexap.) *C. A. Meyer.*

*Hymenocystis Caucasica. C. A. Meyer, Enum. Pl. Cauc. et Casp. p. 229. (TAB. III.)*

As I have not had the opportunity of seeing this plant, I confine myself to the descriptive character of the author above quoted.

*Fig. 1.* Under surface of a portion of the frond; *magn.* 10 diam.—*f. 2.* Upper surface of a small portion of the same; *m.* 10 diam.—*f. 3.* Smaller portion of do.; *m.* 20 diam.—*f. 4.* Views of sori in different stages; *m.* 20 diam.—*f. 5.* Sporangia in different stages; *m.* 100 diam.—*f. 6.* Sporules; *m.* 200 diam.





TAB. III.

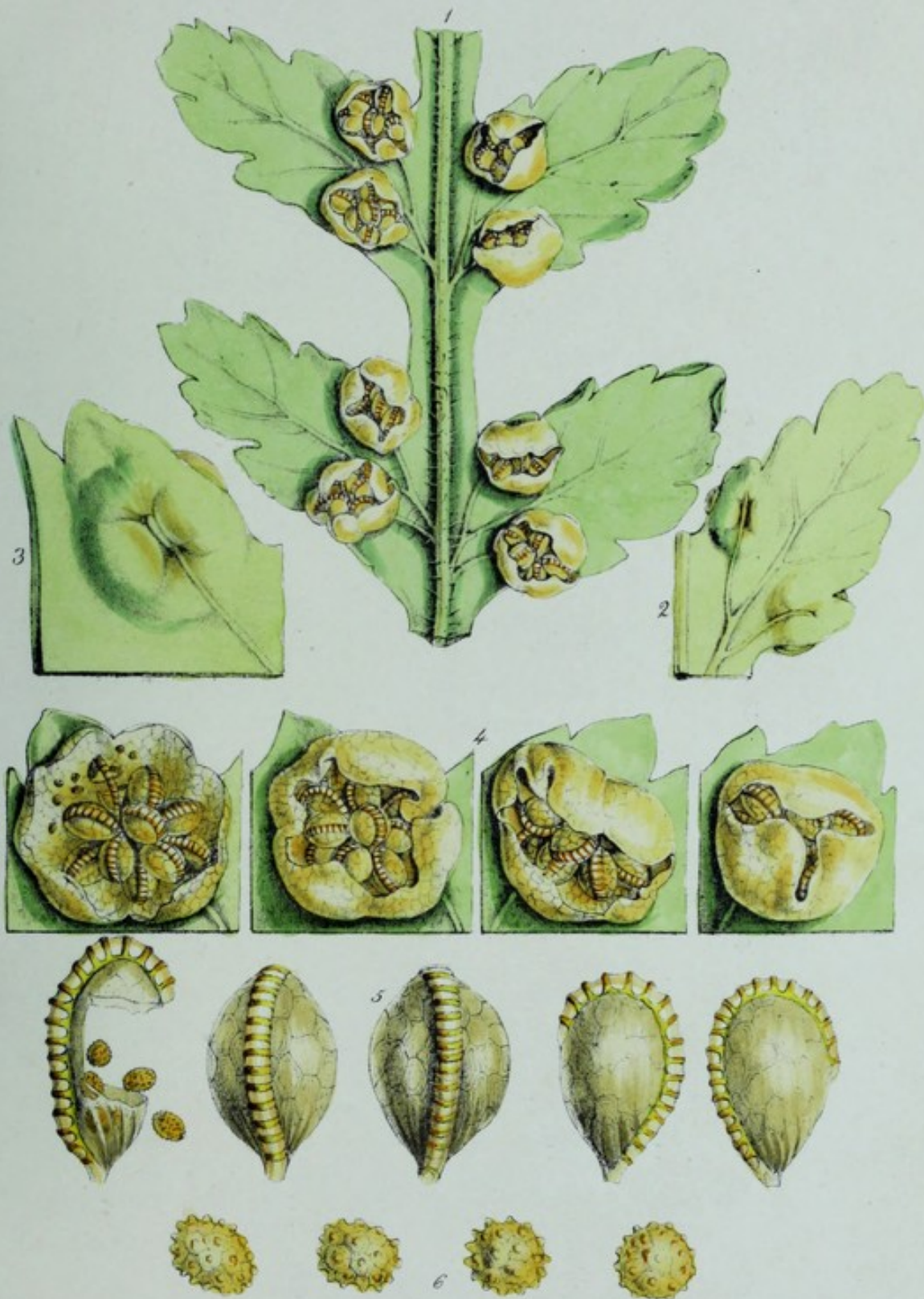
HYMENOCYSTIS, C. A. MEYER

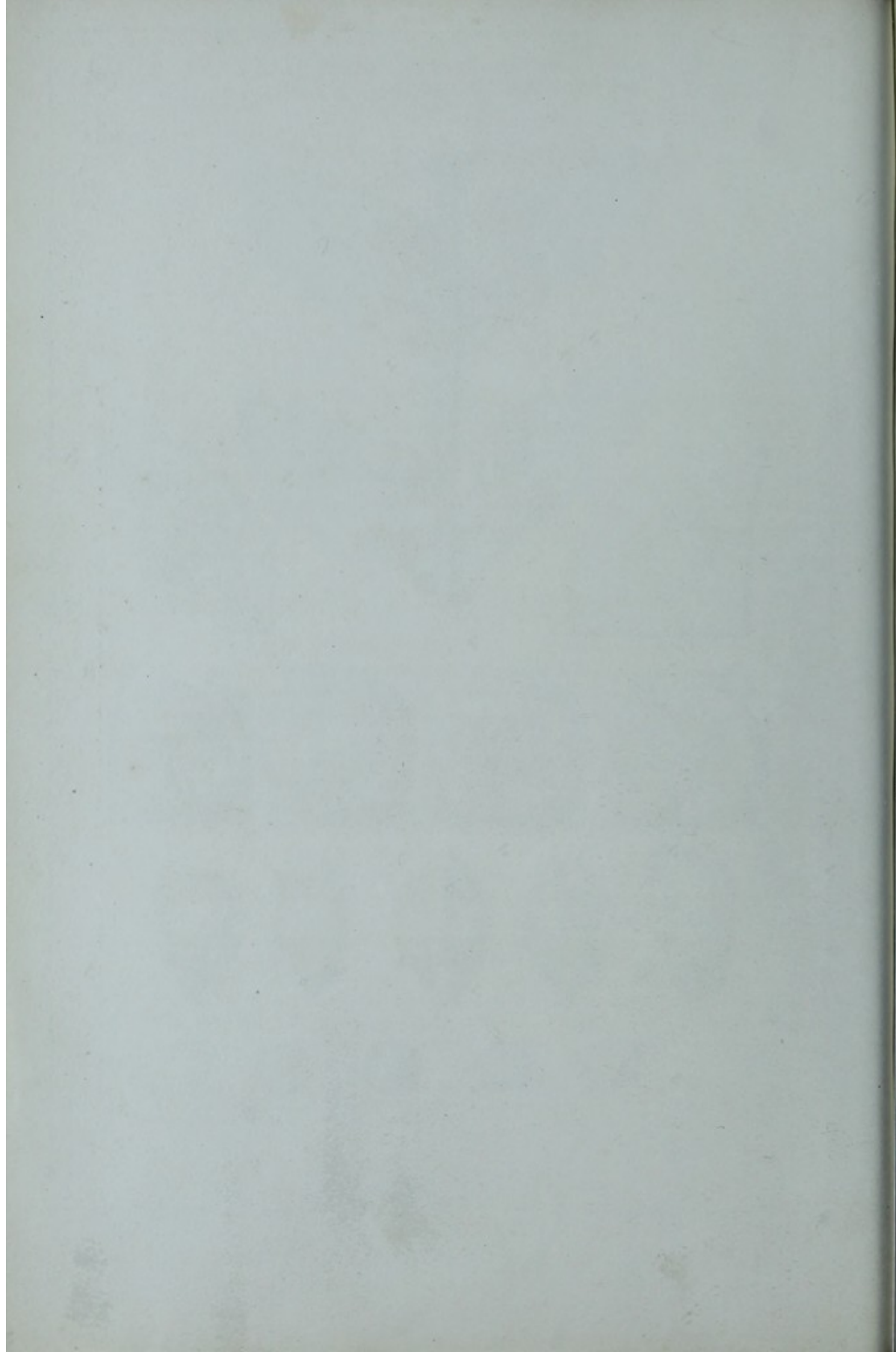
*Hymenocystis*. Species diverse, tanks (not species) indented. Capitate pedicellata, sessile sessilifera ciliata, radiata, subrotunda, lobata. — Antherozoa apiculata, bifurcata, bifurcata, bifurcata, bifurcata, bifurcata, bifurcata. — Filices pluricaules, 2-3 pedalis alta, bifurcata, bifurcata, bifurcata. — Habit: caespitosa, pinguis, utripis prostrata, folia alternata, oblonga, subovata, obtusa, capsula ad antherozoa sessile basi pedunculata. — Habitat: montana, maritima, marginal, circumfluvia, alia, marina, caput, caerulea. — Antherozoa: Cystozoa, bifurcata, capsulae Wilhelmi. — In repository, prostratae: Cystozoa, prostrata, bifurcata (alt. 500 hump), et in lepiditae ad torrentum "Luch" prostrata, Luch (alt. 1000 hump). C. A. Meyer.

*Hymenocystis*. C. A. Meyer, *Bull. Univ. of Calif.*, 9, 193. (Tab. III.)

As I have not had the opportunity of seeing this plant, I confine myself to the descriptive character of the author's short notes.

Fig. 1. Under surface of a portion of the frond, male, 10 days. — 2. Upper surface of a small portion of the frond, male, 10 days. — 3. Another portion of the frond, male, 20 days. — 4. Three of four in different stages, male, 20 days. — 5. Antherozoa in different stages, male, 200 days. — 6. Antherozoa, male, 200 days.







TAB. IV.

CREMIDARIA FOCKE

Zeit in medio dorso ventralium, gibbosus, parvi. Labium inferum, involutum, (nono dimidiatum) demum irregulariter fissum aut partitum. ...

Crepidaria hirsuta Focke. (Tab. IV.) - Hirsuta. Br. Cyathus. 2m.

This was drawn by Mr Bauer with the view of illustrating the Brown's genus ...

Fig. 1. Portion of the outer surface of the lobes of a head; magn. 2 diam. ...

TAB. IV.

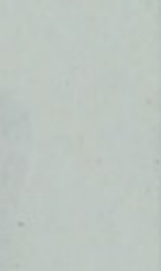
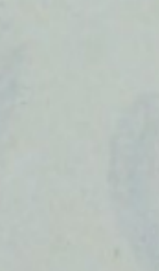
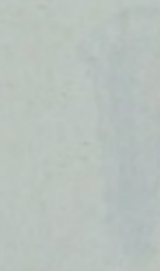
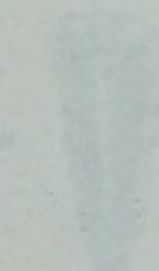
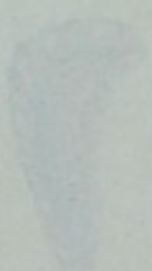
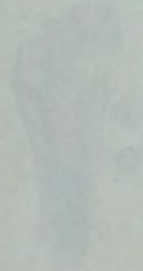
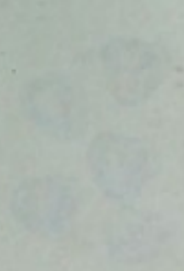
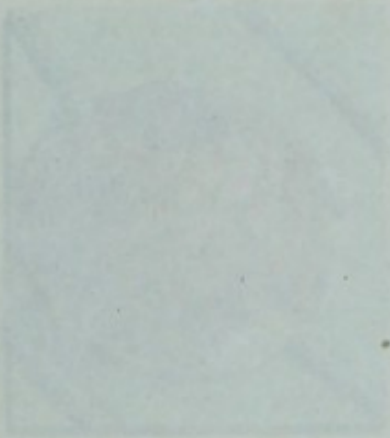
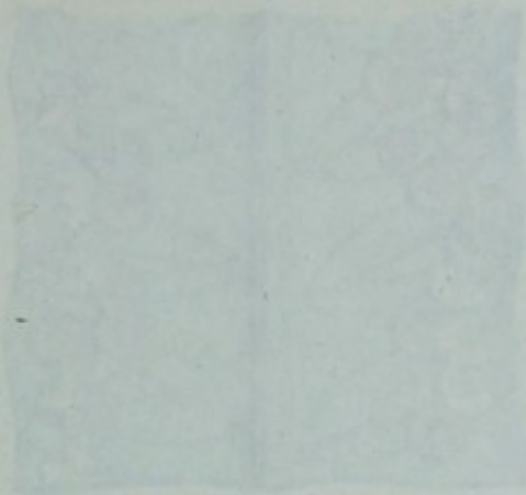
CREMIDARIA. Presl.

Sori in medio dorso venularum, globosi, parvi. *Indusium* inferum, involucrans, (nunc dimidiatum) demum irregulariter fissum aut partitum. *Receptaculum* globosum, minutum.—Arbores *inermes rarius aculeatæ*. Frondes tenuiter coriaceæ bipinnatæ, pinnulis laciniisque latis. Venæ pinnatæ, utrinque prominulæ, infimæ oppositæ in arcum angulatum venuliferum anastomosantes, venulis duabus-tribus in sinum laciniarum frondis connivendo-excurrentibus, superiores furcatæ, venulis parallelis. Presl.

*Cremidaria horrida*. Presl. (TAB. IV.)—*Hemitelia*. Br. *Cyathea*. Sw.

This was drawn by Mr Bauer with the view of illustrating Mr Brown's genus *Hemitelia*, consisting, amongst other unpublished species, of *Cyathea multiflora*, *horrida* and *Capensis*, of Sm., in which the "Sori latere venæ insident, involucro instructi fornicato, basi semicirculari infra receptaculum inserto, marginibus solutis, demum reflexo et persistente." Presl has, however, in his admirable "*Tentamen*," confined the genus *Hemitelia* to the *H. Capensis* alone, which has a different venation, and the sori solitary upon each lacinia, situated at the base of the lowest veinlet of the upper half of the lacinia. The other species of Mr Brown's *Hemitelia*, together with *H. obtusa*, Kaulf., *Cyathea horrida*, Sieb. (not Sw.), and *C. munita*, Willd. Herb., belong to *Cremidaria*, a genus readily distinguished from the other *Cyatheaceæ*, "venis infimis in arcum angulatum radiato-venuliferum anastomosantibus;" a character which, unfortunately, from a lower portion of the lacinia not being introduced into Mr Bauer's drawing, is not here represented.

Fig. 1. Portion of the under surface of the lacinia of a frond; magn. 5 diam.—f. 2, 3, 4. Sori in different states; m. 30 diam.—f. 5. Small portion of the upper surface of a lacinia; m. 30 diam.—f. 6. Small portion of the lower surface from which the sporangia and receptacle have fallen off; m. 30 diam.—f. 7. *Indusium* by itself; m. 30 diam.—f. 8. A vertical section of a perfect sorus; m. 30 diam.—f. 9. Sporangia in different stages; m. 100 diam.—f. 10. Sporules; m. 200 diam.





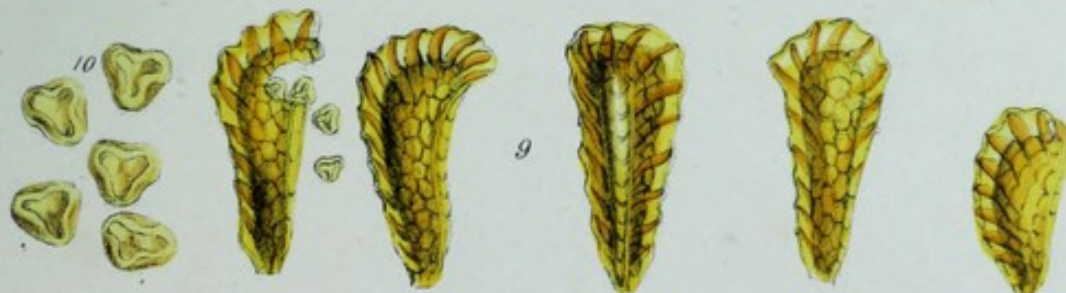
CREMIDARIA, Part 4

and the bodies of the organisms, which, with the bodies of the organisms, are... (The text is very faint and difficult to read.)

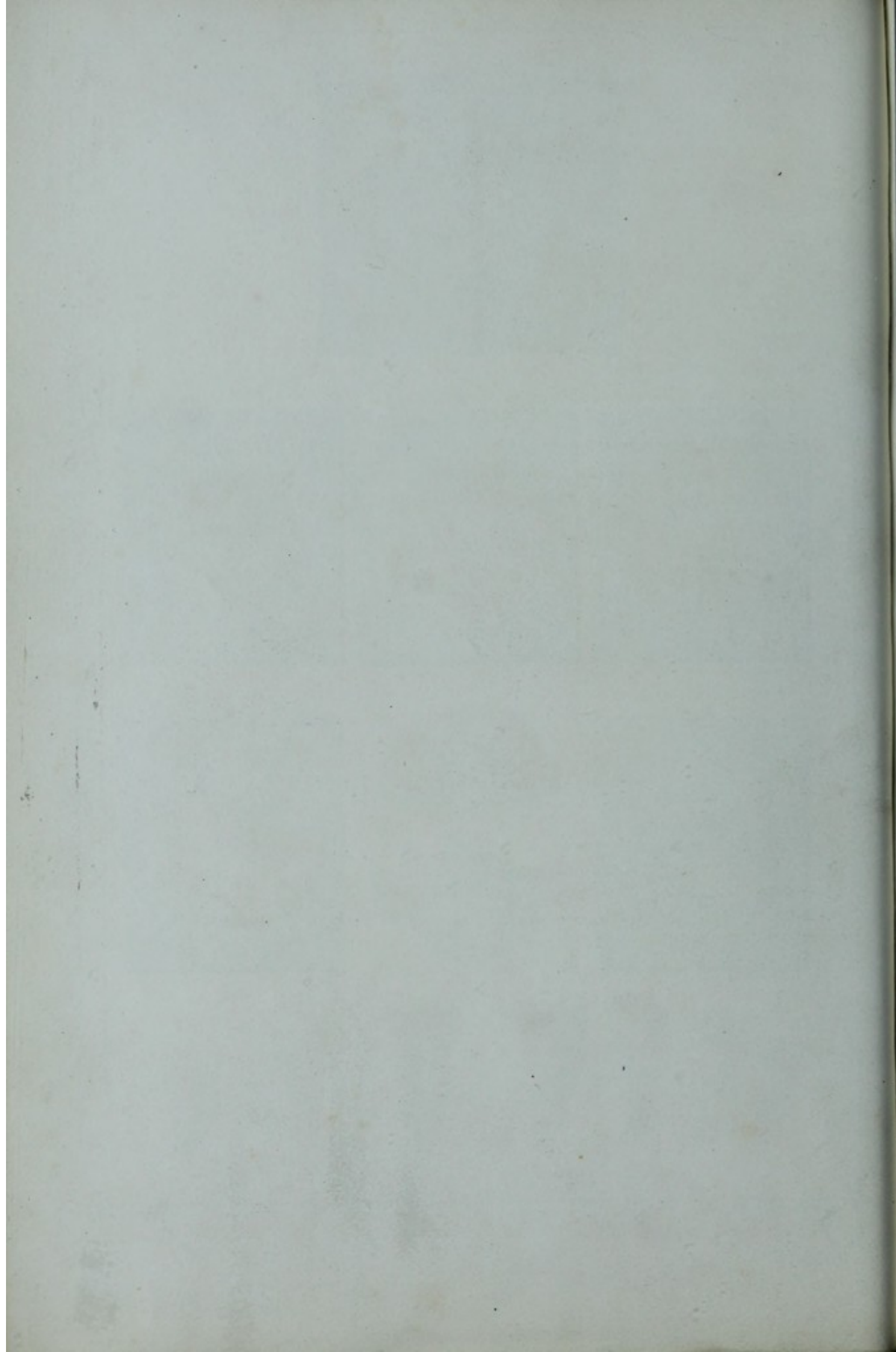
*Crepidaria laticosta*, Part 4 (Pl. IV) - *Platystrophia* Dr. (Pl. IV)

This was done by Mr. Deane with the view of illustrating the structure of the... (The text is very faint and difficult to read.)

The 1. Figure of the structure of the body of a... (The text is very faint and difficult to read.)









TAB. V.

ALCHORUS BERNARDI, Fries.

Zori marginales, primam subrotundi, discreti, ciliatissimi confluentes et tum linearis  
continui, marginis foveolis crenato-plicatis revolutis et indolis obsoletis. Alchorus  
marginatus, linearis, continuus, membranaceo-corticatus, plerumque aut plicatus.  
Sporangia sessilia et pedicellata.—Hilarius subglobosus vel rotundus.  
Funiculus vel sporae, corticibus aut hirsutis, parvisque ciliatis et repandis  
peltatis, foveolis laciniatis multo angustioribus. Vires parvas, creberrimas,  
intrae, imbricatas, sub-tili-punctiformes, tenuis punctis apice ciliatis libere  
transmittit. Fries.

Alchorus bernardi, Fries. (Tab. V.)—Fries hirsutus, 88.—Ciliatissimi Kze. Fries  
corticibus, 77; polymorphic, Fries; ciliatissimi Hill; hirsutissimi Schw. (Tab.  
Natur).

It will require a more accurate examination than I have been able to give to the subject  
to determine accurately the limits of Fries and the allied genera and for the present I  
shall follow Fries, and consider the old Fries hirsutus-illustration of the genus Alchorus;  
though I must confess that as it stands in that author, it contains a very heterogeneous  
assemblage: his first division (BETRICT) including several supposed species of Cladonia,  
Gyalium, and Fries types, &c. The second division (Hirsutus), besides other  
species of Cladonia, includes our present species and its allies together with Amanita  
Hook. et Gr.; while his third division (Acutis) embraces the well marked group of  
Fries species and its affiliates. Kneze observes of our Al. hirsutus: "in planta novella  
fertilis induratum proprium crustatum et rotas involens rotulas, cum illis Cladoniae cur-  
culon concolorae observari. Indur. eodem jure ad Cladoniae genus revocanda vide-  
bitur. Altamen non est confusio, et indolis explanatio, ut si nos inter Friesum et  
Cladoniae hic fore adolecentem." I may observe that Fries and other authors consider  
Alchorus of Bernardi the same with Cladonia.

Fig. 1. Under surface of a piece; magn. 8 diam.—A. 2. Upper view of the same; do.—A. 3. Under  
surface of a very small portion; m. 30 diam.—A. 4. Upper view of the same; do.—A. 5. Friesian  
surface of a sort; do.—A. 6. 7. Sporangia in different states; m. 100 diam.—A. 8. Spores; m. 200  
diam.

TAB. V.

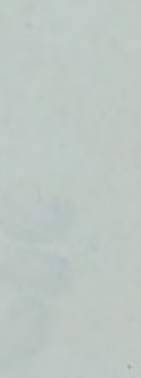
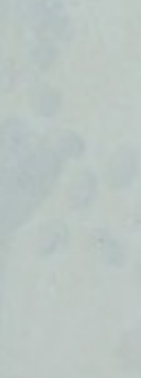
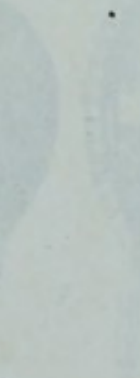
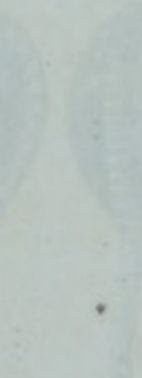
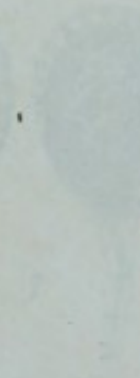
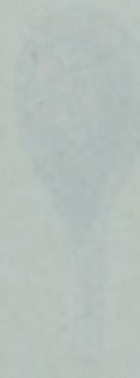
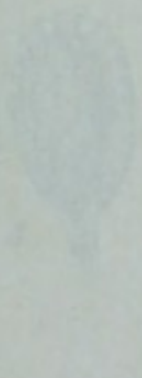
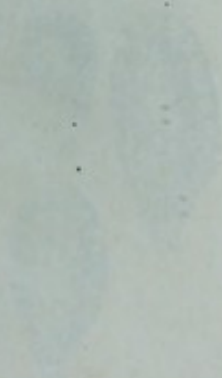
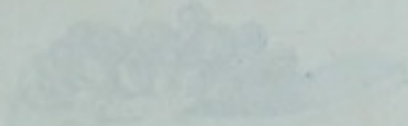
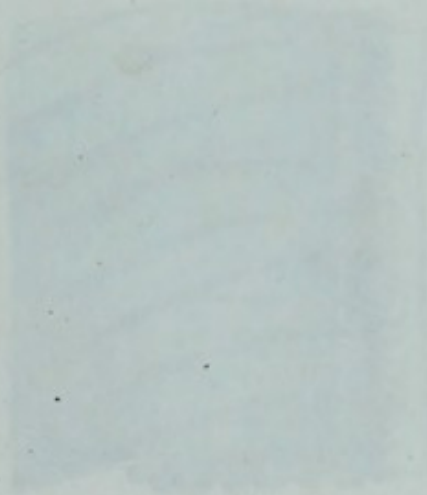
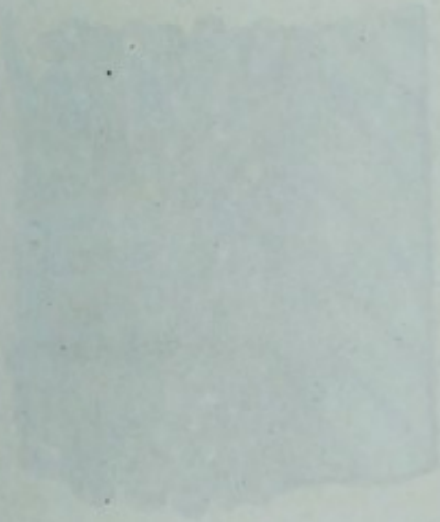
ALLOSORUS. *Bernhardi. Presl.*

*Sori* marginales, primum subrotundi, discreti, citissime confluentes et tum lineares continui, margine frondis crenato-plicato revoluti et indusio obtekti. *Indusium* marginarium, lineare, continuum, membranaceo-scariosum, planum aut plicatum. *Sporangia* sessilia v. pedicellata.—*Rhizoma subglobosum aut repens.* Frondes *fasciculatæ aut sparsæ, coriaccæ aut herbaccæ, pinnatim compositæ et supradecompositæ, fertiles pinnulis laciniisque multo angustioribus.* Venæ *pinnatæ, creberrimæ, internæ, tenuissimæ, uni-bi-tri-quadrifurcatæ, venulis parallelis apice clavulato libero terminatis.* *Presl.*

*Allosorus hastatus. Presl. (TAB. V.)—Pteris hastata. Sw.—Cheilanthes. Kze. Pteris auriculata. Th.; polymorpha. Poir.; adiantoides. Willd.; hastifolia. Schrad. (fide Kunzii).*

It will require a more accurate examination than I have been able to give to the subject to determine accurately the limits of *Pteris* and the allied genera, and for the present I shall follow Presl, and consider the old *Pteris hastata* illustrative of the genus *Allosorus*; though I must confess that, as it stands in that author, it contains a very heterogeneous assemblage: his first division (ENTYPICI) including several supposed species of *Cheilanthes*, *Onychium*, and *Pteris crispa*, L. The second division (MONOMORPHI), besides other species of *Cheilanthes*, includes our present species and its allies, together with *Jamesonia* Hook. et Gr.; while his third division (AQUILINI) embraces the well marked group of *Pteris aquilina* and its affinities. Kunze observes of our *All. hastatus*: “in planta novella fertili indusium proprium crenulatum et soros invicem remotos, cum illis *Cheilanthes auriculatæ* conformes, observavi. Itaque eodem jure ad *Cheilanthes* genus revocanda videbantur. Attamen mox sori confluent, et indusia explanatur ita, ut fines inter *Pteridem* et *Cheilanthem* hic fere abolescant.” I may observe that Bory and other authors consider *Allosorus* of *Bernhardi* the same with *Cheilanthes*.

*Fig. 1.* Under surface of a pinna; *magn.* 3 diam.—*f. 2.* Upper view of the same; *do.*—*f. 3.* Under surface of a very small portion; *m.* 20 diam.—*f. 4.* Upper view of the same; *do.*—*f. 5.* Transverse section of a sorus; *do.*—*f. 6, 7.* Sporangia in different states; *m.* 100 diam.—*f. 8.* Sporules; *m.* 200 diam.





ALLIANCE

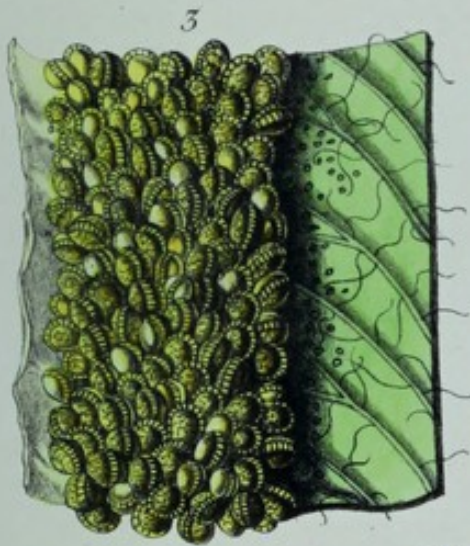
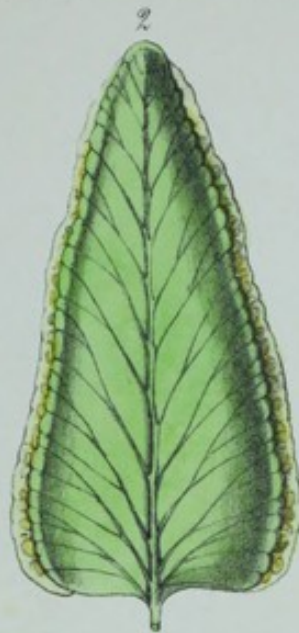
The first step in the process of forming an alliance is to identify potential partners who share common interests and goals. This involves a thorough analysis of the market and the competitive landscape. Once potential partners are identified, the next step is to establish a relationship with them. This can be done through various means, such as attending industry conferences, reaching out via email, or making direct contact. The goal is to build a rapport and understand each other's strengths and weaknesses.

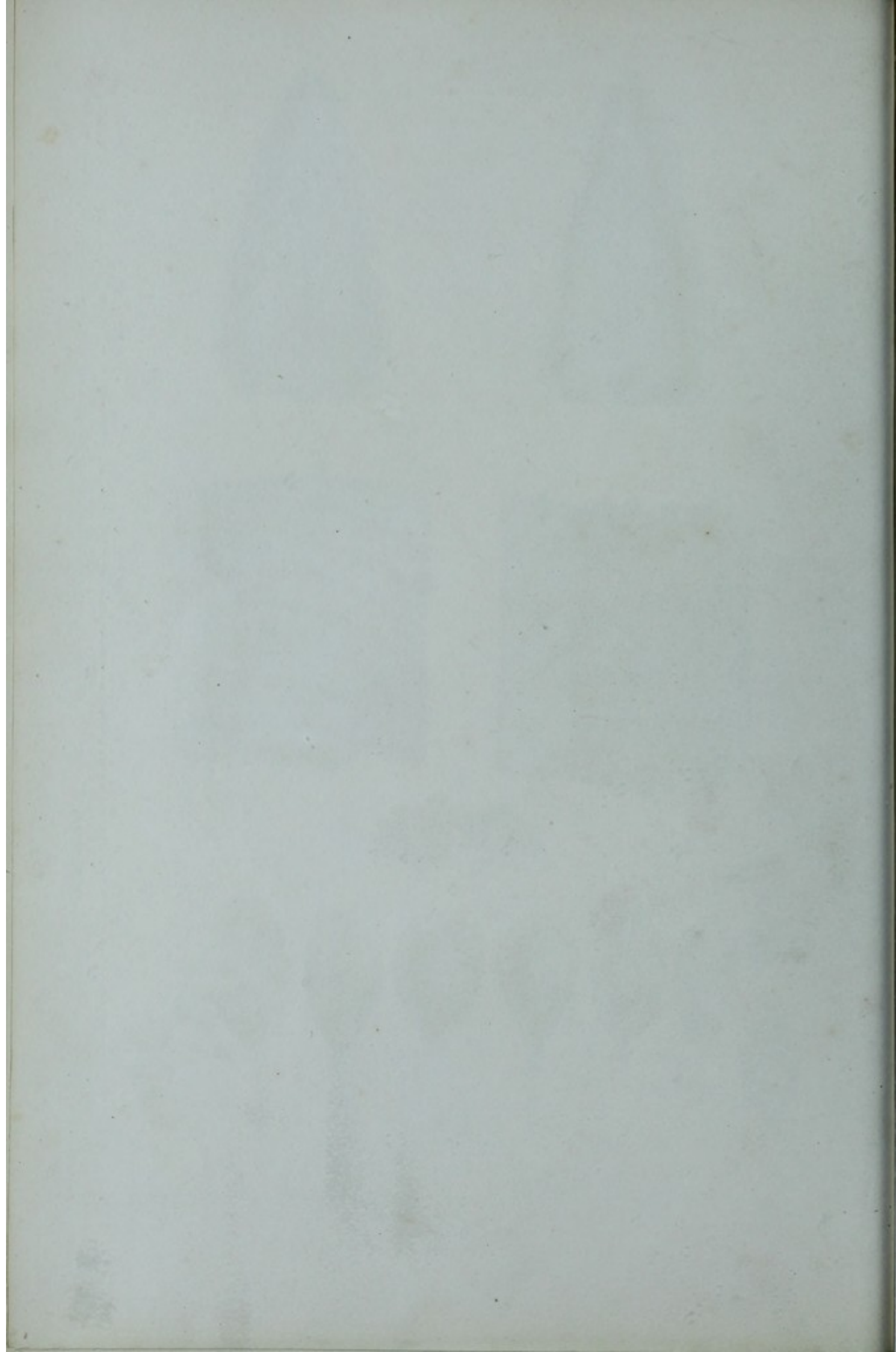
Once a relationship has been established, the next step is to negotiate the terms of the alliance. This involves discussing the scope of the partnership, the resources each party will contribute, and the expected outcomes. It is important to be clear and concise in these negotiations, and to ensure that all parties are satisfied with the terms of the agreement.

After the terms of the alliance have been negotiated, the next step is to implement the agreement. This involves setting up a communication plan, defining roles and responsibilities, and establishing a timeline for the partnership. It is important to monitor the progress of the alliance and to be open to making adjustments as needed. The goal is to ensure that the alliance is successful and that all parties are achieving their desired outcomes.

In conclusion, forming an alliance is a complex process that requires careful planning and execution. By following the steps outlined above, you can increase your chances of forming a successful partnership that will benefit all parties involved.

100-100







TAB. VI.

ASPENIUM. Spec. Aspl. Spec. Ia.

Asplenium linearis, elongate. Asplenium linearis elongatum & vix latiusculum. Asplenium linearis elongatum, marginibus superioribus liberis.—Asplenium linearis elongatum. Frons linearis, marginibus superioribus liberis. Vix latiusculum, marginibus superioribus liberis. Asplenium linearis elongatum, marginibus superioribus liberis. Vix latiusculum, marginibus superioribus liberis. Asplenium linearis elongatum, marginibus superioribus liberis. Vix latiusculum, marginibus superioribus liberis.

Asplenium linearis. Tab. VI.—Asplenium linearis. Spec.

This figure represents one of the group of Asplenium, having the fronds much divided, and the segments so narrow as to bear only one vein, and consequently one sori, to which has been given the name of *Campylaria* by Beauverd. Named by Sir J. E. Smith; which Mr. Brown has clearly shown can by no means be separated, some species having fronds partly answering to *Asplenium* and partly to *Campylaria*.

Fig. 1. Upper surface of a portion of a frond; see size—A. Upper surface of a small portion; magn. 10 diam.—B. Lower surface of the same; do.—C. Upper view of a small portion of the frond, with a sori; see size—D. Upper view of the same; do.—E. Spores; see size.

TAB. VI.

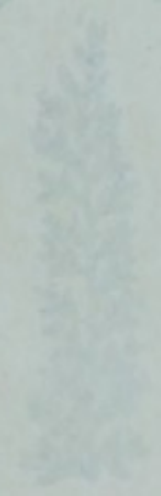
ASPENIUM. *Presl.* ASPL. *Spec. L.*

Sori lineares, elongati. *Indusium* lineare elongatum e vena lateraliter ortum ducens, planiusculum, margine superiore libero.—Rhizoma *subglobosum*. Frondes *fasciculatæ, simplices, lobatæ aut varie divisæ*. Venæ *pinnatæ, simplices aut unifurcatæ venulisque parallelæ, aut apice libero punctiformi acutove terminatæ, aut arcu transverso conjunctæ (ut in A. Nidus)*.

*Asplenium cicutarium*. *Sw.* (TAB. VI.)—*Darea cicutaria*. *Sm.*

This figure represents one of the group of *Asplenium*, having the fronds much divided, and the segments so narrow as to bear only one vein, and consequently one sorus, to which has been given the name of *Cænopteris*, by Bernhardi, *Darea*, by Sir J. E. Smith; which Mr Brown has clearly shown can by no means be separated, some species having fronds partly answering to *Asplenium* and partly to *Cænopteris*.

*Fig. 1.* Under surface of a portion of a frond; *nat. size.*—*f. 2.* Upper surface of a small portion; *magn.* 10 diam.—*f. 3.* Under surface of the same; *do.*—*f. 4.* Under view of a small portion of the frond, with a sorus; *m.* 20 diam.—*f. 5.* Upper view of the same; *do.*—*f. 6.* Sporangia; *m.* 100 diam.





TAB. VI

ASPLENIUM. *Prod. Aspl. Spec. L.*

*Sori* lineares, elongati. Radices lineares elongatae e vena interaliter sita, dorsali, phloemata, margini superiore libris.—*Radix* asplenium. *Stipulae* foliis oppositae, ovatae, libris aut vena dorsali. Vena primaria simpliciter et bifurcata ramisque parallelis, et vena libris pinnatifida acuta breviter, et vena terminalis cuneata (ut in *A. Nidus*).

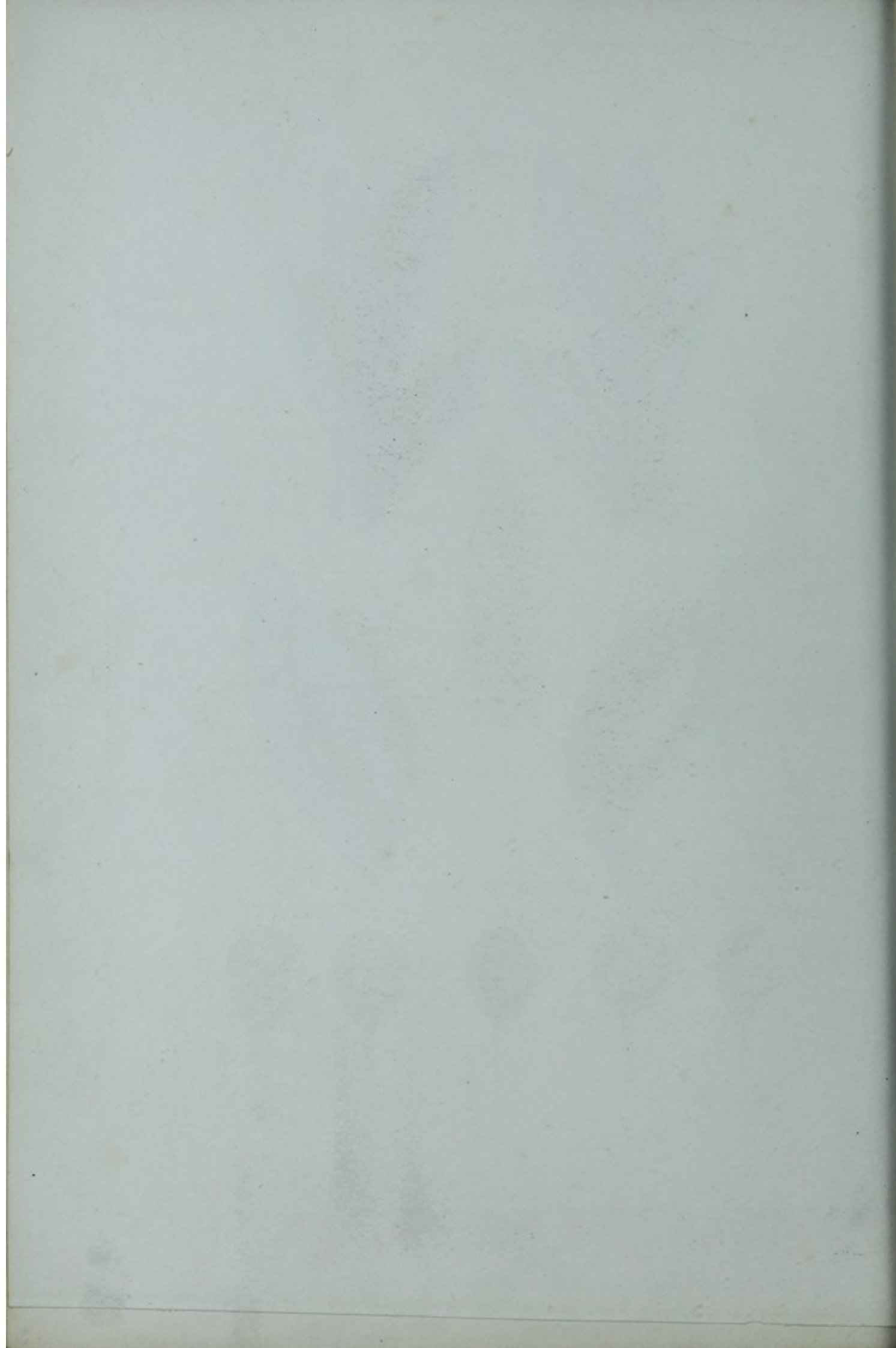
*Asplenium nidus*. *Nid.* (Tab. VI.)—*Dorsum* *radicum*. *St.*

This figure represents one of the group of *Asplenium*, having the fronds much divided, and the sori as to be carried as to have only one vein, and also a single one vein, to which has been given the name of *Asplenium*, by Bernardi, *Prod.* by G. J. E. Smith; which Mr Brown has clearly shown was by no means to be separated, other species having fronds partly ascending to *Asplenium* and partly to *Asplenium*.

*Fig. 1.* Under surface of a portion of a frond; *Fig. 2.* Under surface of a small portion, *Fig. 3.* Under surface of the same; *Fig. 4.* Under side of a small portion of the frond, with a vein; *Fig. 5.* Under side of the same; *Fig. 6.* *Asplenium*, *St.* *Stipula*.









TAB. VII.

DANIEL 2a.

2a: dorsal, lateral line pagnum pinnarum apertae, nervi paralleli insidentes.
adhaerens coriacum, oblongum, transversum, multifidum; localis basalis-
bus, sporadicis, poro delibescitibus: sporadicis oblique ovatis, exannulatis,
ovis contractis. Sporadicis insistentibus, globosis, masculinis.—Filiis tropicae
ex thalassio meridionali. Caulis sapor, sapor. Pinnas simplices n. pinnas
subpinnas comites, nervi filiales n. pinnas. Clavus apertae insidet, nervi
oblati. Pinnas filiales dorsales insidentes. Vasa pinnarum a canaliculis
transversis, nigricantibus et foveolis.

Danae 2a: (Tab. VII.)—Block of tissue for Fig. 1 & 2.

The real structure of the integument of the gills is difficult to be understood. It
would appear from the Danae's anatomical analysis that beneath the epidermis, upon each
transverse nerve of the dorsal pinnas, a series is formed, surrounded by a peculiar covering
which I here consider the indurated, eventually opening with a double line of pores, each
pore communicating with a number of transverse chambers or cells, and each chamber
having 2 (for there does not appear to be a discontinuity between them) sporangia, obliquely
set, that is flat on their inner side, convex on their outer, fixed to the nerve by a point
at the inner base, contracted and a little prolonged at the mouth, which opens at the base
of the induratum. These indurata are so crowded as to occupy the whole under side of the
pinnas, but not reaching to the costa in the middle, nor to the edge on the margin, where
there is certainly a wing-like border.

Fig. 1. Portion of the upper side of the dorsal fin: magn. 20 diam.—A. A small portion of the
costa; m. 12 diam.—B. The upper side of the same; do.—C. A single pore; m. 12 diam.—D. A
longitudinal section of an induratum; do.—E. Transverse section of A. A showing the sporangia in
the cells, with their spores; do.—F. Spores; m. 12 diam.

TAB. VII.

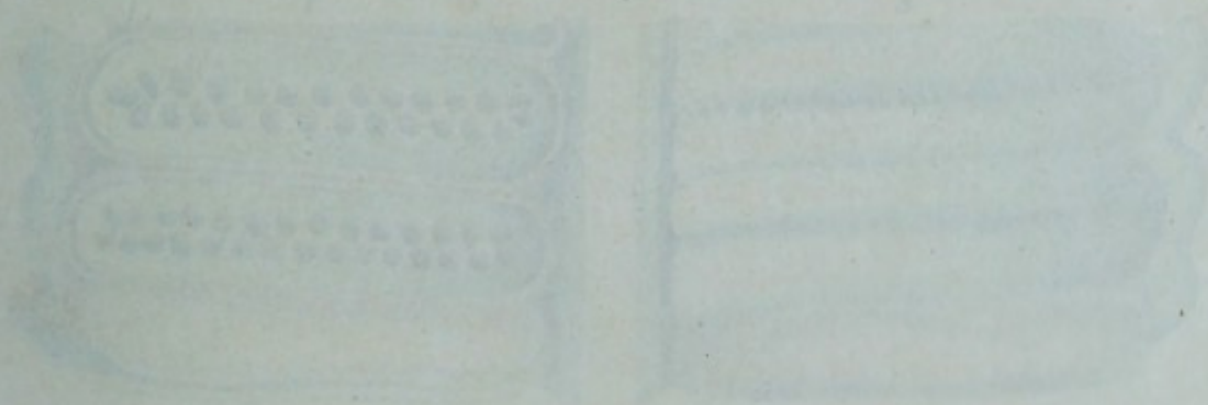
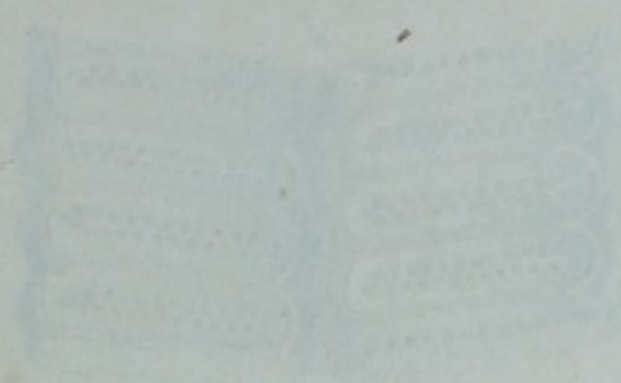
DANÆA. Sm.

*Sori dorsales, totam fere paginam pinnarum tegentes, nervis parallelis insidentes. Indusium coriaceum, oblongum, transversum, multiloculare; loculis biserialibus, sporangiferis, poro dehiscentibus: sporangiis oblique ovatis, exannulatis, ore contracto. Sporulæ minutissimæ, globosæ, muriculatæ.—Filices tropicæ ex America meridionali. Caudex longus, repens. Frondes simplices v. pinnatæ subcarnoso-coriacæ, siccitate fragiles et nigricantes. Rachis sæpius nodosa, nunc alata. Pinnæ fertiles sterilibus minores. Venæ pinnatæ; venulæ parallelæ transversales, simplices vel furcatæ.*

*Danæa alata*. Sm. (TAB. VII.)—*Hook. et Grev. Ic. Fil. t. 18.*

The real structure of the fructification of this genus is difficult to be understood. It would appear from Mr Bauer's admirable analysis, that, beneath the epidermis, upon each transverse nerve of the fertile pinnæ, a sorus is formed, surrounded by a peculiar covering which I here consider the indusium, eventually opening with a double line of pores, each pore communicating with a number of transverse chambers or cells, and each chamber having 2 (for there does not appear to be a dissepiment between them) sporangia, obliquely oval, that is flat on their inner side, convex on their outer, fixed to the nerve by a point at the inner base, contracted and a little prolonged at the mouth, which opens at the pore of the indusium. These indusia are so crowded as to occupy the whole under side of the pinnæ, but not reaching to the costa in the middle, nor to the edge on the margin, where there is constantly a wing-like border.

*Fig. 1.* Portion of the under side of the fertile frond; *magn.* 8. diam.—*f. 2.* A small portion of the same; *m.* 15 diam.—*f. 3.* The upper side of the same; *do.*—*f. 4.* Single sorus; *m.* 25 diam.—*f. 5.* Longitudinal section of an indusium; *do.*—*f. 6.* Transverse section of *f. 2.* shewing the sporangia in the cells, with their sporules; *do.*—*f. 7.* Sporules; *m.* 400 diam.



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TAB. VII.

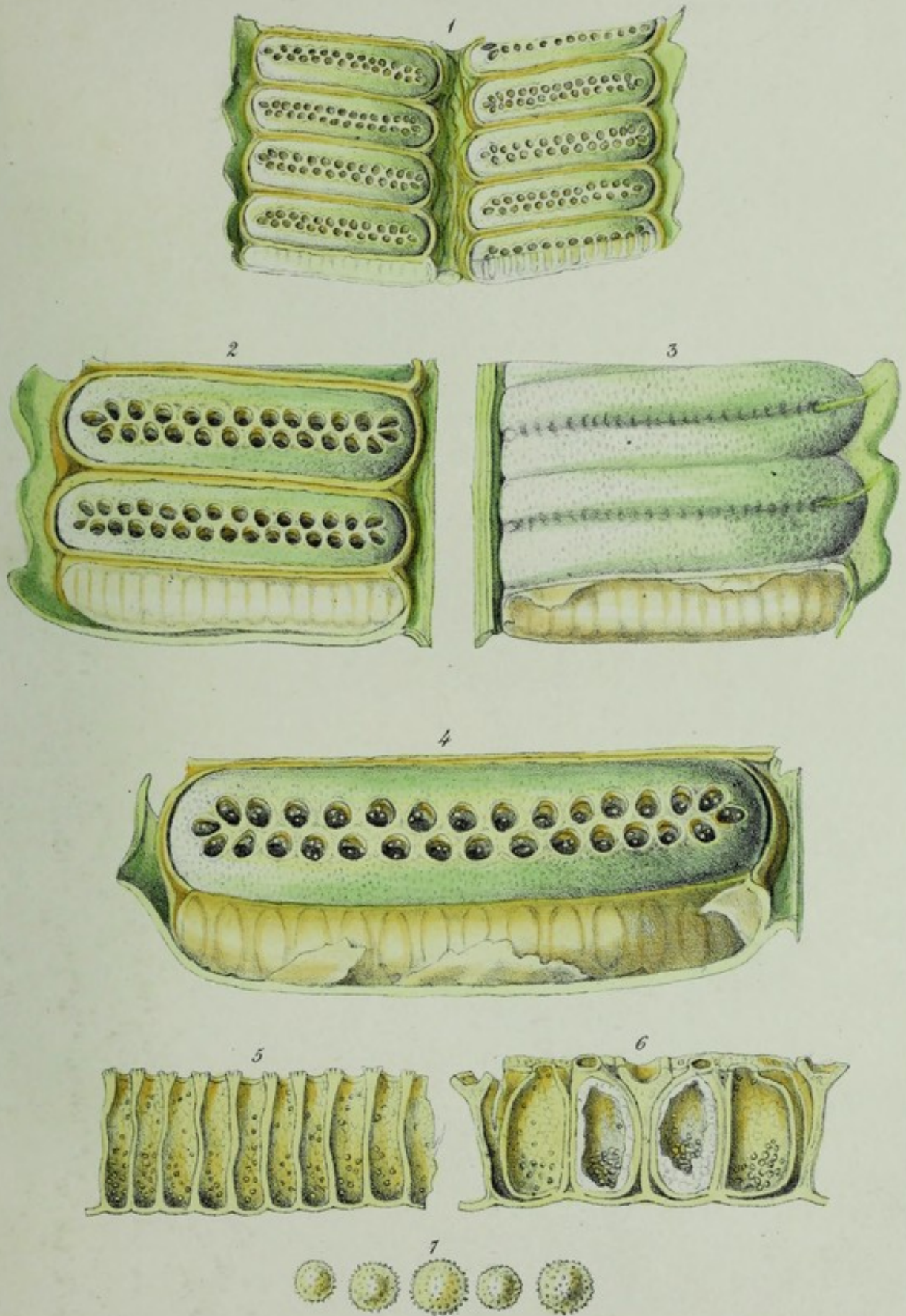
DANCEA, Ga.

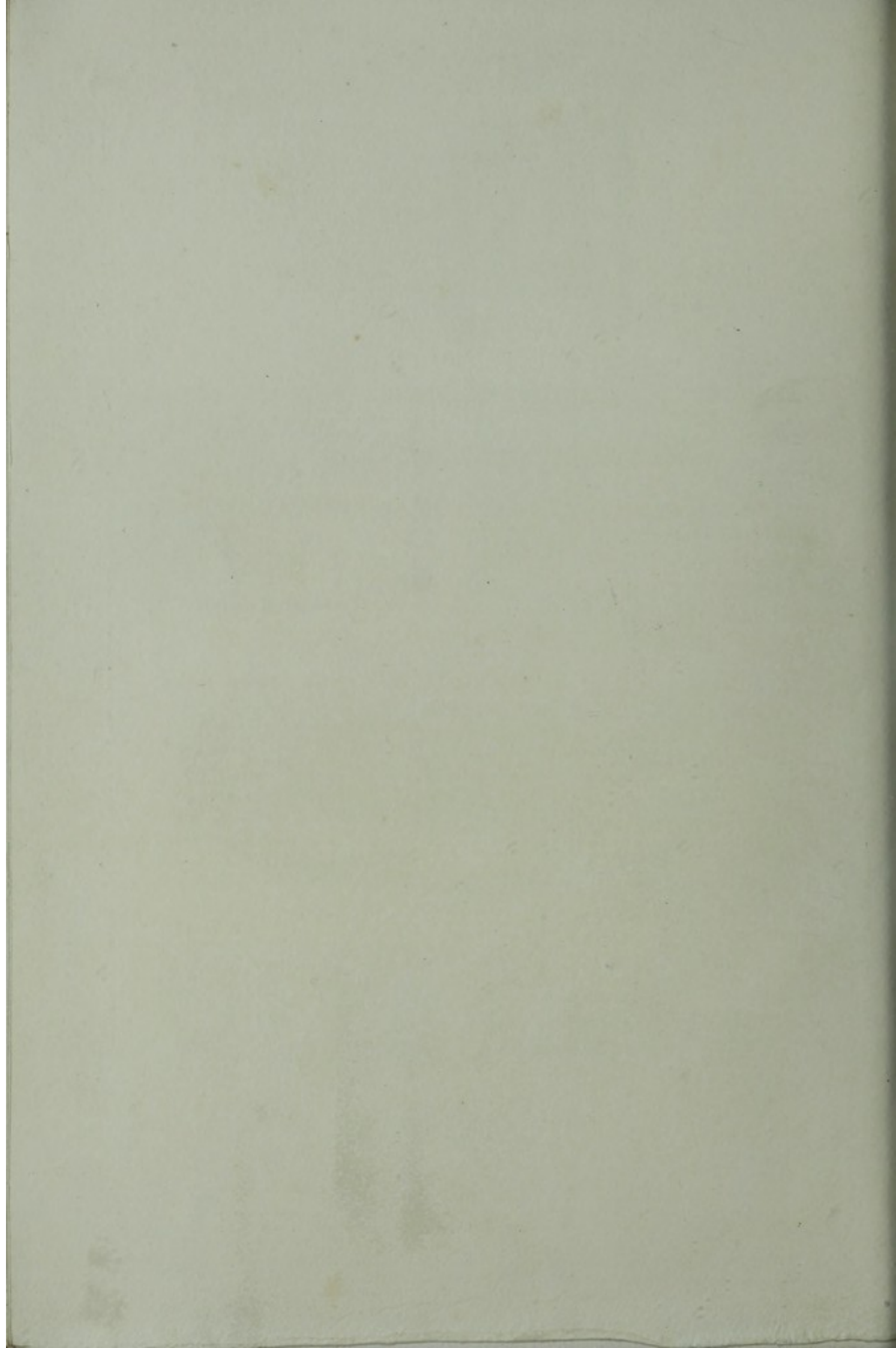
*Leaf dorsals, when the papillae punctate are not, nervis parallelis incidentibus. Indusium cartilagineo, oblongum, transversum, multifurcatis, loculis plerumque sporangiferis, parte delimitatis. Sporangia oblique orata, circumscissis, are confertis. Spores minutissimae, glabrae, uniloculares. Filices tropicae in America meridionali. Caulis prope, repens. Epitoca simplicis, pinnae subternatae, striatae fronde et nigrescente. Radix leprosa, velut, sicut alba. Frons foris parviter verrucosa. Vena pinnae, nervis parallelis transversis, confertis et forata.*

*Dancea alata, Sw. (Tab. VII).—Quart. J. Geol. Soc. Lond. 1841, 10.*

The real structure of the frondiferous part of the gametophyte is difficult to be understood. It would appear from Mr. Flower's admirable analysis, that beneath the epidermis, upon each lamina of the leafy plant, a series is formed, surrounded by a peculiar covering (which) has within the lamina, a regular opening with a double line of pores, each pore corresponding with a number of separate chambers, or cells, and each chamber having a pore there does not appear to be a discontinuity between them, opening is, obliquely cut, the sides of their lower side, curves on their bases, held to the centre by a point at the lower base, connected and a line prolonged at the mouth, which opens at the pores of the laminae. These tubes are so arranged as to occupy the whole under side of the pinna, but not reaching to the roots in the middle, but at the edge in the margin, where there is evidently a strong fibre bundle.

Fig. 1. Transverse section of the leafy part, magn. 10 diam. — 1. A small portion of the stem, as it appears. — 2. A. The upper side of the stem, showing a single row of cells, as it appears. — 3. Longitudinal section of the lamina, showing the arrangement of the tubes, and their structure, as they appear. — 4. A. Showing the structure of the tubes, and their structure, as they appear.







TAB. VIII.

DIDYMOCHILINA. Des.

(MONOCHILINA. Gooden. TROULARIA. Winn.)

Species tenuis simplicis vel fuscata inserti elliptici, subimbricati. Adaxium immo-  
bilis, abscissa, medio disco longitudinaliter respectu alio, utrinque  
liberum, et parvi duplex. — Folia brevissima. Caput uterque. Frons  
rotunda, caputque elliptica. Pinnulae subovatae, oblique ellipticae,  
longe oblique cuneatae, sinuato-crenatae, nervis nervisque punctis-glanduliferis, rotunda  
tenuis, etiam simplicis vel fuscata, imbricata. Sori parvi nervisque inserti.

Didymochilina sinuata. Des. (TAB. VIII.)

A very distinct genus, confined, however, to a solitary species, which is rather variable  
in the shape of its pinnules. Presl refers to it as synonymous, *D. spinosa* and *D. caudata*,  
Des., *Asplenium sinuatum*, Forst., *Typhloium obtusifolium*, Heine, *Asplenium Drummondii*,  
Sw., *Asp. spinosum*, Willd., *Asp. ellipticum*, Presl, and *Asplenium pulcherrimum*, Radlk. —  
Opposite to the imbricated form on the upper surface of the pinnules is a corresponding  
swelling, with a sunken line in the centre, answering to the situation of the venetule. The  
pinnules are triangular, with a triangular cavity.

Fig. 1. Under side of 2 pinnules; magn. 4 diam. — 2. Upper surface of a pinnule; do. — 3.  
Portion of the same; do. diam. — 4. Under side of the same; do. — 5. A sori; do. diam. —  
6. The same, more enlarged; do. — 7. The same, with the lobes removed; do. — 8. Trans-  
verse section of a pinnule; do. — 9. Spongia; do. diam. — 10. Spongia; do. diam.

TAB. VIII.

DIDYMOCHLÆNA. *Desv.*

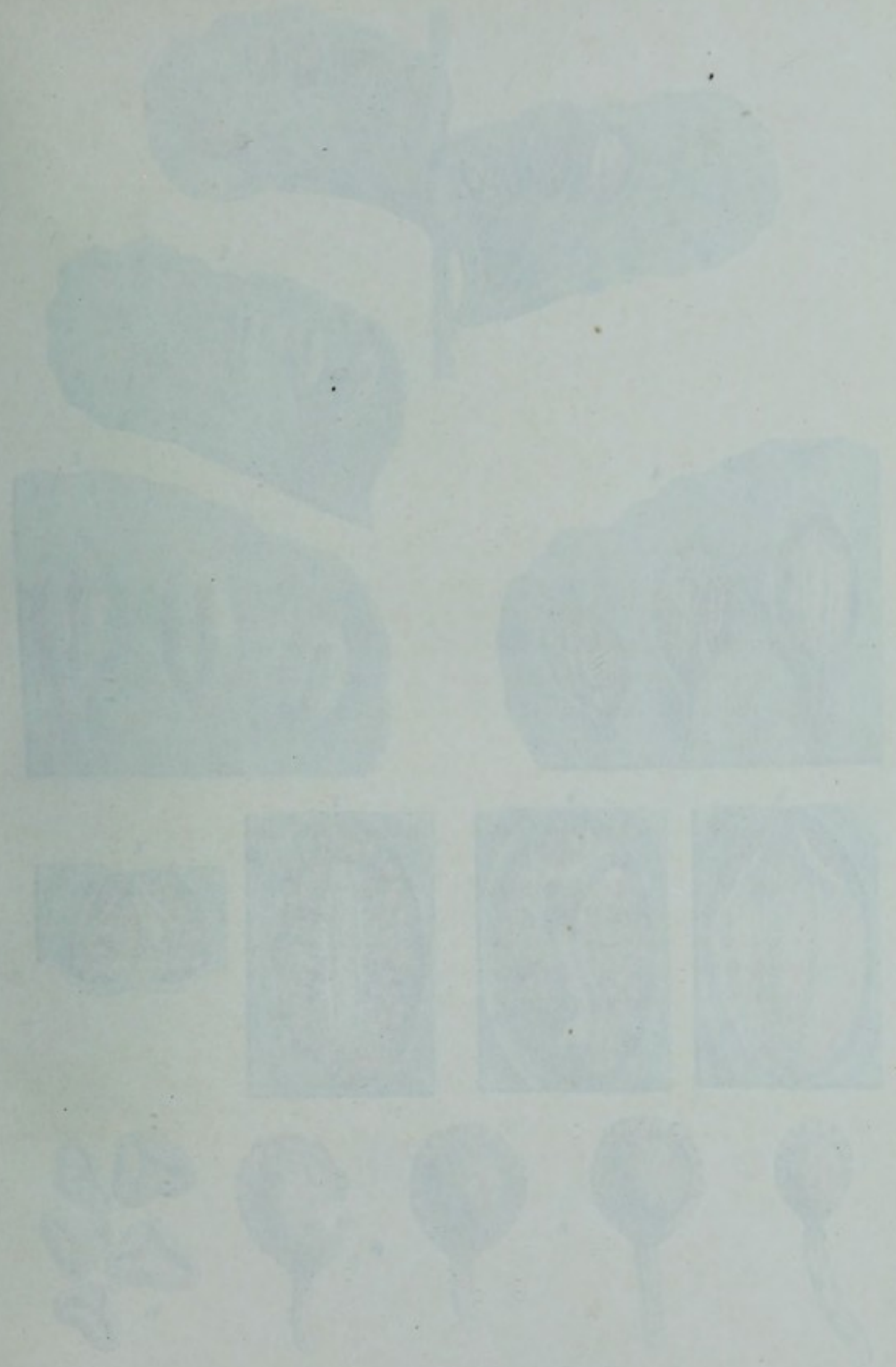
(MONOCHLÆNA. *Gaudich.* TEGULARIA. *Reinw.*)

*Sori* apici venulæ simplicis vel furcatæ inserti, elliptici, subimmersi. *Indusium* membranaceum, ellipticum, medio disco longitudinaliter receptaculo affixum, utrinque liberum, et quasi duplex.—*Filix Brasiliensis.* Caudex *arboreus.* Frondes *fasciculatæ, amplissimæ, stipitatæ, bipinnatæ.* Pinnulæ *subcoriaceæ, oblongo-ellipticæ, basi oblique cuneatæ, sinuato-crenatæ, versus marginem punctato-glandulosæ, radiatim venosæ; venæ simplices vel furcatæ, indistinctæ.* *Sori prope marginem inserti.*

*Didymochlæna sinuosa.* *Desv.* (TAB. VIII.)

A very distinct genus, confined, however, to a solitary species, which is rather variable in the shape of its pinnules. Presl refers to it, as synonyms, *D. squamata* and *D. lunulata*, *Desv.*, *Asplenium ramosum*, *Poir.*, *Tegularia adiantifolia*, *Reinw.*, *Aspidium truncatulum*, *Sw.*, *Asp. squamatum*, *Willd.*, *Asp. cultratum*, *Presl*, and *Diplazum pulcherrimum*, *Raddi.*—Opposite to the immersed sori on the upper surface of the pinnules, is a corresponding swelling, with a sunken line in the centre, answering to the situation of the receptacle. The sporules are triangular, with a triangular cavity.

*Fig. 1.* Under side of 2 pinnules; *magn.* 4 diam.—*f. 2.* Upper surface of a pinnule; *do.*—*f. 3.* Portion of the same; *m.* 6. diam.—*f. 4.* Under side of the same; *do.*—*f. 5.* A sorus; *m.* 12 diam.—*f. 6.* The same, more advanced; *do.*—*f. 7.* The same, with the indusium removed; *do.*—*f. 8.* Transverse section of a perfect sorus; *do.*—*f. 9.* Sporangia; *m.* 100 diam.—*f. 10.* Sporules; *m.* 400 diam.





TAB VIII

DIDYMOBLEMA, Em.

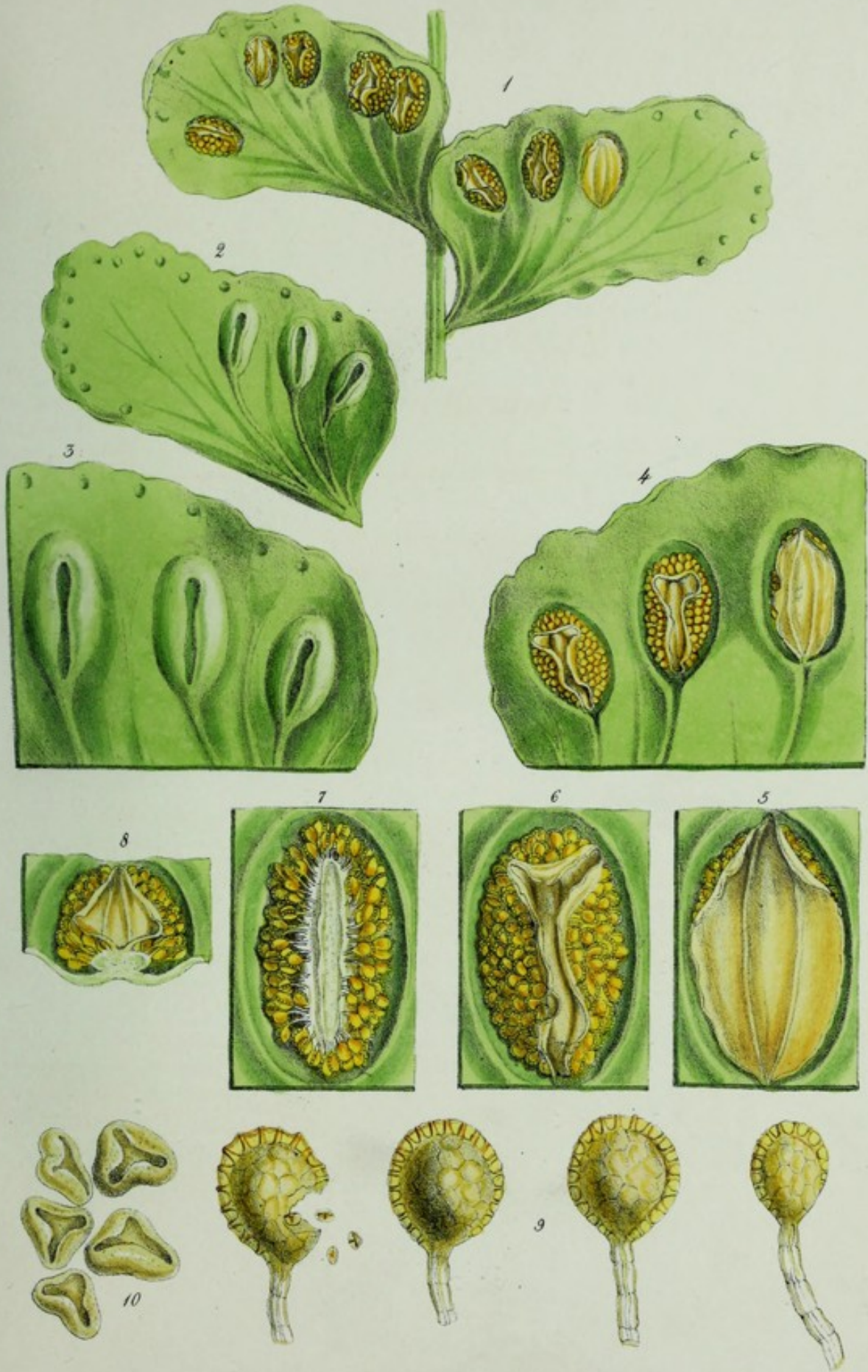
(MOSCOLELLA, Gerd. Thaum. Em.)

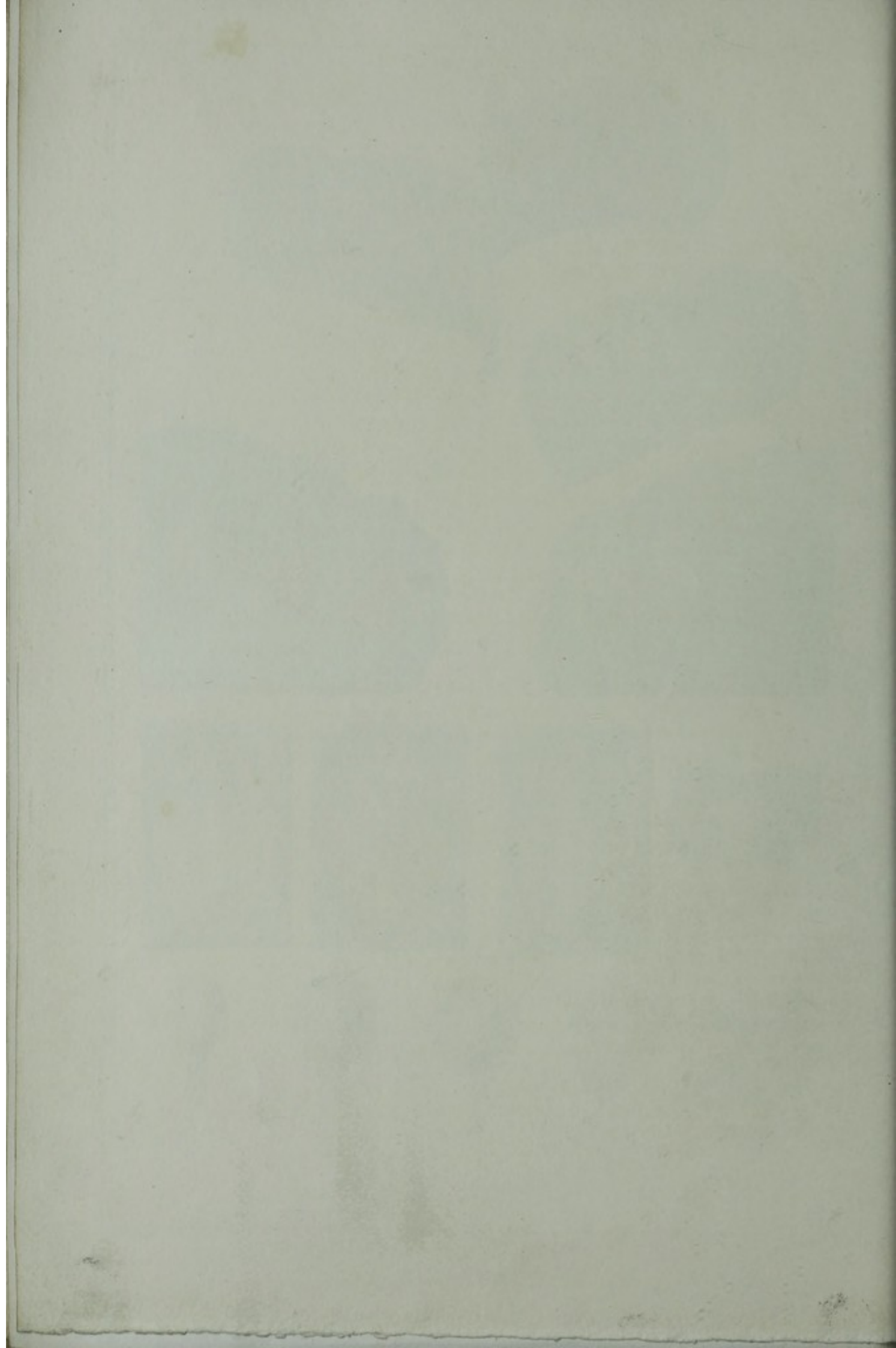
Small white or yellowish, or brownish, elliptical, elongated, flattened, ...  
transverse, elliptical, with two long, slender, divergent setae, strongly  
curved, at great angles. — Fila branched. — Ocelli absent. — Pupae  
white, cylindrical, striate, tapered. — Pupae whitish, elongate-elliptical,  
with slight constriction at each end, with narrow, striate, dusky  
lines, and dorsal and lateral fasciae indistinct. See page description.

*Didymoblemma* Em. (Tab. VIII)

A very distinct genus, indeed known, is a white species, which is rather readily  
to be distinguished by its peculiar ...  
white, cylindrical, striate, tapered. — Pupae whitish, elongate-elliptical,  
with slight constriction at each end, with narrow, striate, dusky  
lines, and dorsal and lateral fasciae indistinct. See page description.

The ...  
of the ...  
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## ALSOPHILA. Br. Presl.

CYATHEÆ, Sp. Auct. CHNOOPHORA. Kaulf. ALSOPHILÆ; Sect. II. HAPLOPHLEBIA, et III. DICRANOPHLEBIA. Mart.

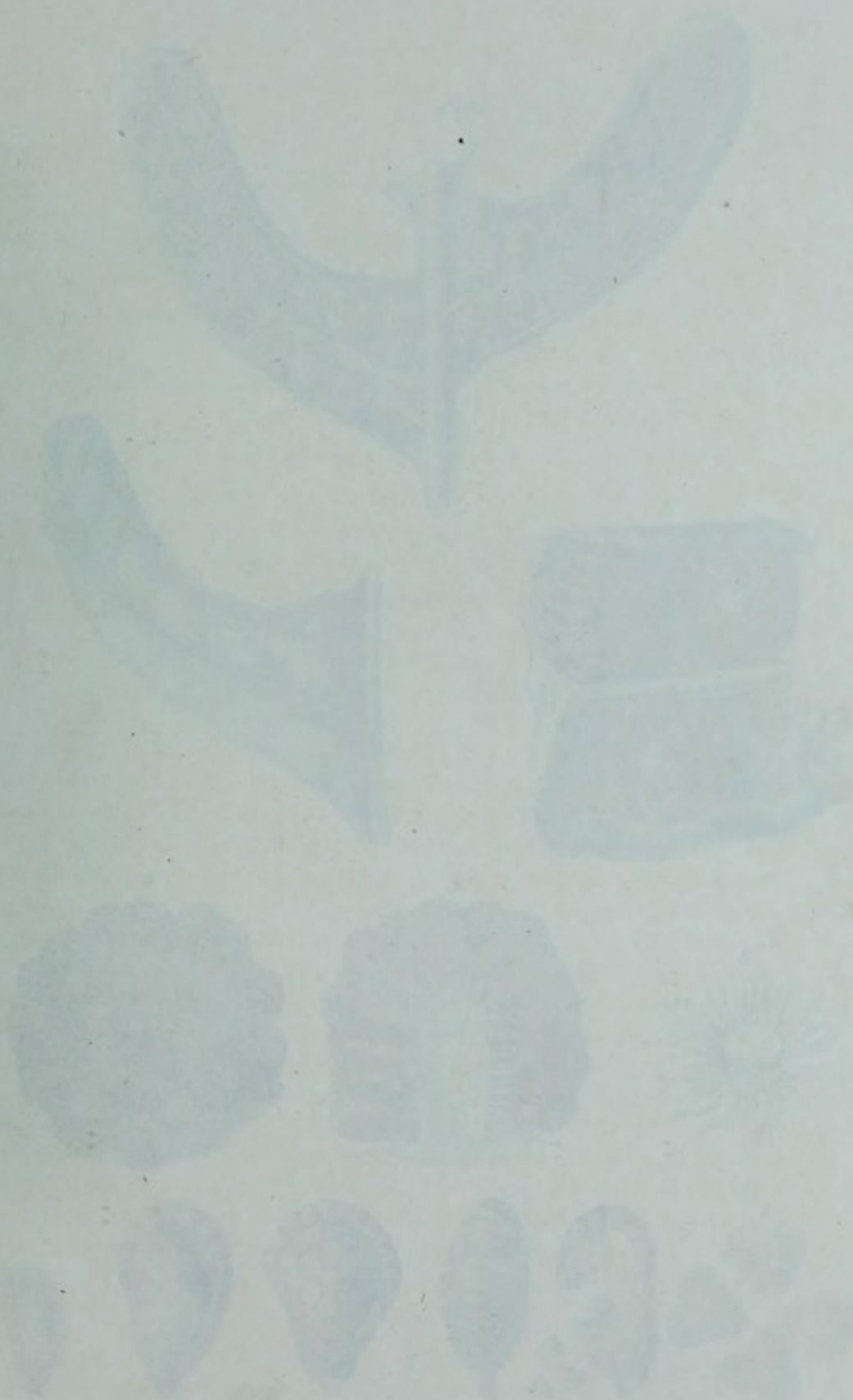
Sori in medio dorsi venarum simplicium, aut in ima basi (ala) furcaturæ venarum, globosi, nudi. Receptaculum globosum vel elongatum, pilosum. Sporangia densissime imbricata, pedicellata, parva.—Arbores (unica species herbacea, A. pruinata), præcipue tropicæ. Caudex teres aut irregulariter angulatus. Cicatrices stipitum in ordine spirali senario ( $\frac{1}{6}$ ), remotæ, ovato-oblongæ, in apicem acutum productæ, concaviusculæ; verrucis externis in orbem, internis in arcum semilunarem dispositis, superioribus binis, lacunis infra cicatricem maximis. Frondes herbacæ, supradecompositæ, amplæ. Venæ pinnatæ, infra prominulæ, inferiores uni-bifurcatæ, superiores simplices, aut omnes simplices, venis divergentibus. Capsulæ in soris adhuc clausis artissime imbricatim incumbentes, quemadmodum squamæ coni Coniferarum. Pedicelli capsularum demum excrescentes. Presl.

*Alsophila excelsa*. Br. Prodr. p. 158, in not. (TAB. IX.)—Endlich. Prodr. Fl. Norfolk, p. 16.

Specimens of this noble species, an inhabitant of Norfolk island, which I have received from Mr Allan Cunningham, were taken from trees which had attained a height of 50 feet.

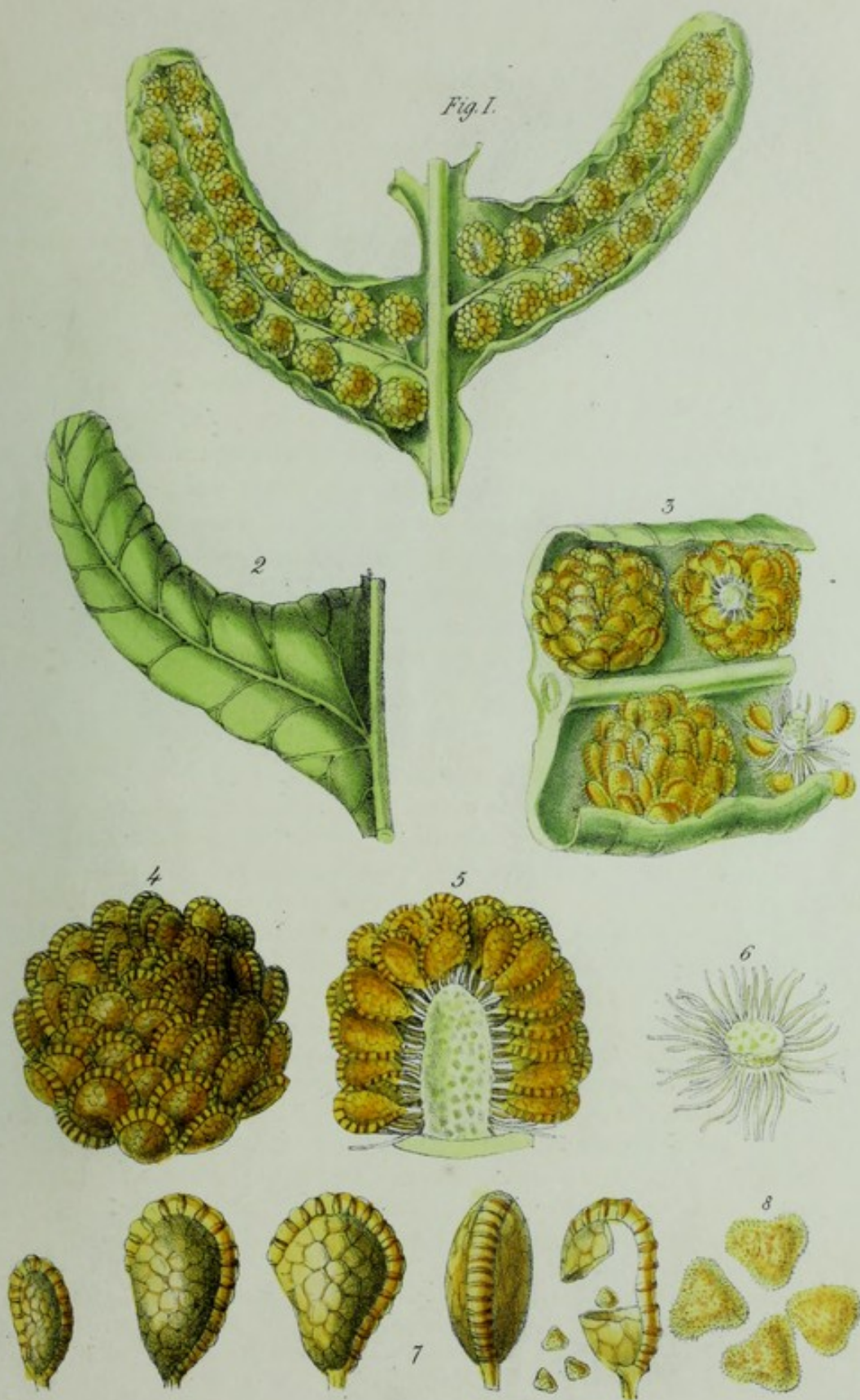
The genus is an extensive one, and many of the species, on account of the absence of an indusium, (as the genus is now restricted by Presl,) have been referred to *Polypodium*. Presl divides them into two groups: §. I. Venæ simplices, rarius una alterave furcata; sori in dorso medio venarum simplicium; including *A. atrovirens*, Pr.; *infesta*, Kze.; *armigera*, Kze.; *pyncocarpa*, Kze.; *compta*, Mart.; *procera*, Kaulf.; *arbuscula*, Pr.; *pungens*, Kaulf.; *radens*, Kaulf.; *Weigeltii*, Roem.; *multiflora*, Pr.; *gigantea*, Pr., and *australis*, Br.—§. II. Venæ uni-rarius bifurcatæ, superiores furcatæ, sori in basi (ala) furcaturæ; to which belong, besides our *A. excelsa*, Br., *A. villosa*, Kze.; *ferox*, Pr.; *Pohlii*, Pr.; *speciosa*, Pr.; *hirta*, Kaulf.; *tomentosa*, Kaulf.; *munita*, Kaulf.; *plagiopteris*, Mart.; *Schiediana*, Pr.; *aspera*, Hook. et Grev.; *armata*, Pr.; *Mexicana*, Mart.; *phalerata*, Mart.; *leucolepis*, Mart.; *nigra*, Mart.; *rigidula*, Mart.; *Manilensis*, Pr.; *Hænkei*, Pr.; *lunulata*, Br.; *Wallichiana*, Pr.; *latebrosa*, Pr.; *extensa*, Br.; and *pruinata*, Kaulf.—This last has indeed a very distinct habit: copious specimens are sent of it from Chili and Juan Fernandez, and I have received it also from Buenos Ayres and Jamaica. The other species have in many instances a great similarity one with another, so that their limits are difficult to be defined.

Fig. 1. Under side of a small portion of a frond; magn. 10 diam.—f. 2. Upper surface of a lacinia; do.—f. 3. Under surface of a small portion of the same; m. 30 diam.—f. 4. A perfect sorus; m. 60 diam.—f. 5. Vertical section of the same; do.—f. 6. Transverse section of the receptacle of the sorus; m. 60 diam.—f. 7. Sporangia in various stages; m. 100 diam.—f. 8. Sporules; m. 400 diam.













TAB. X.

ANGIOPTERIS WOLF.

200 in vertis ante apicem insertis, in lineam submarginatam confluentis, nudi. Sp-  
 rangia obovata, exannulata, emarginata, subrotunda, reticulata, duplici serie  
 disposita, primum conata, demum distincta, poro oblongo antice debiscuntia.  
 Sporangia globosa, laevia, obscure reticulata. Hecystocystes lineares, depressum, im-  
 bricato-pilorum.—Folices India Orientali, insularum adjacentium, et ex India  
 Portu. Canales perfectus maxime, depressus, punctiformis, peripheria 3 ad 6.  
 pedibus (Holl. Met.). Rongas stipitata, spinulata. Pinnis elongata, curvo-  
 sissima, serrata, secunda fragilis; costa striata prominente. Vena prima  
 angulata, vel fere recta, parviter, in dente angulata protracta, sine linea protracta  
 protracta (protraxit in A. longicollis, Hook. et Gray.) cum sit altissima.

Angiopteris novae. Hoffm. (Tab. X.) Hook. et Gray. J. Bot. L. 38 in Bot. Misc.  
 n. 2. p. 227.—A. latior Lam.—A. crispata Wolf. Cat. n. 187.

Two certain species only are at present known of this genus, the A. novae and A. latior.  
 Hook. et Gray. Bot. Misc. p. 227.

Fig. 1. Upper surface of a small portion of a pinna; magn. 4 diam.—A. 2. Another larger portion  
 of the same; magn. 12 diam.—A. 3. A series; magn. 22 diam.—A. 4. Longitudinal section of the same; magn.  
 A. 5. Transverse section of a nerve, showing two of the sporangia; magn. 40 diam.—A. 6. Hecystocystes from which  
 the sporangia are derived; magn. 40 diam.—A. 7. Root, leaf, and side view of sporangia; magn. 30 diam.—A. 8.  
 Sporangia; magn. 100 diam.—A. 9. Hairs from the receptacle of the sporangia (magn. 100 diam.).

TAB. X.

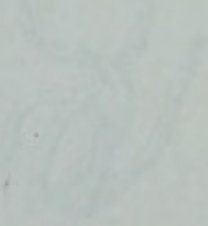
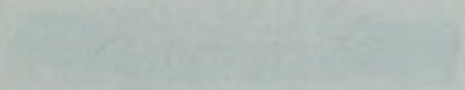
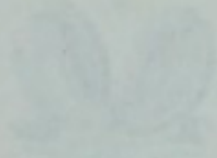
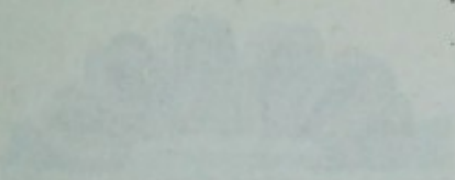
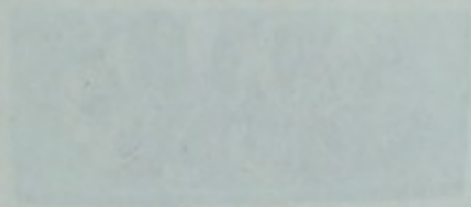
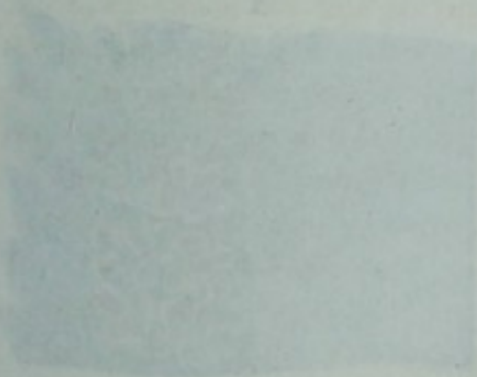
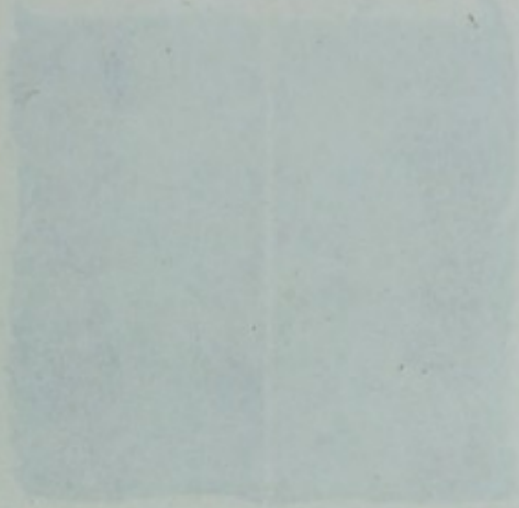
ANGIOPTERIS. Hoffm.

Sori in venis ante apicem inserti, in lineam submarginantem confluentes, nudi. Sporangia obovata, exannulata, emarginata, subcoriacea, reticulata, duplici serie disposita, primum connata, demum distincta, poro oblongo antice dehiscentia. Sporulæ globosæ, læves, obscure reticulatæ. Receptaculum lineare, depressum, fimbriato-pilosum.—Filices *Indiæ Orientalis, insularum adjacentium, et ex insulis Pacificis*. Caudex perfectus maximus, depressus, placentiformis, peripheria 3 ad 6-pedalem (Wall. Mst.). Frondes stipitatæ, bipinnatæ. Pinnæ elongatæ, carnosocoriaceæ, serratæ, siccitate fragiles; costa utrinque prominula. Venæ pinnatæ, simplices, vel furcatæ, parallelæ, in dentem marginis productæ, nunc linea gracilis pellucida (præcipue in *A. longifolia*, Hook. et Grev.) cum iis alternans.

*Angiopteris evecta*. Hoffm. (TAB. X.) Hook. et Grev. *Ic. Fil. t. 36. in Bot. Misc. v. 3. p. 227.*—*A. Indica*. Desv.—*A. crassipes*. Wall. *Cat. n. 187.*

Two certain species only are at present known of this genus, the *A. evecta* and *A. longifolia*, Hook et Grev. *Bot. Misc. p. 227.*

*Fig. 1.* Under surface of a small portion of a pinnule; magn. 4 diam.—*f. 2.* Another lesser portion of the same; m. 12 diam.—*f. 3.* A sorus; m. 25 diam.—*f. 4.* Longitudinal section of the same; do.—*f. 5.* Transverse section of a sorus, showing two of the sporangia; do.—*f. 6.* Receptacle, from which the sporangia are removed; do.—*f. 7.* Front, back, and side view of sporangia; m. 50 diam.—*f. 8.* Sporules; m. 400 diam.—*f. 9.* Hairs from the receptacle of the sporangia (at *f. 6.*); m. 50 diam.





TAB. X.

ANGIOPTERIS Bgsh.

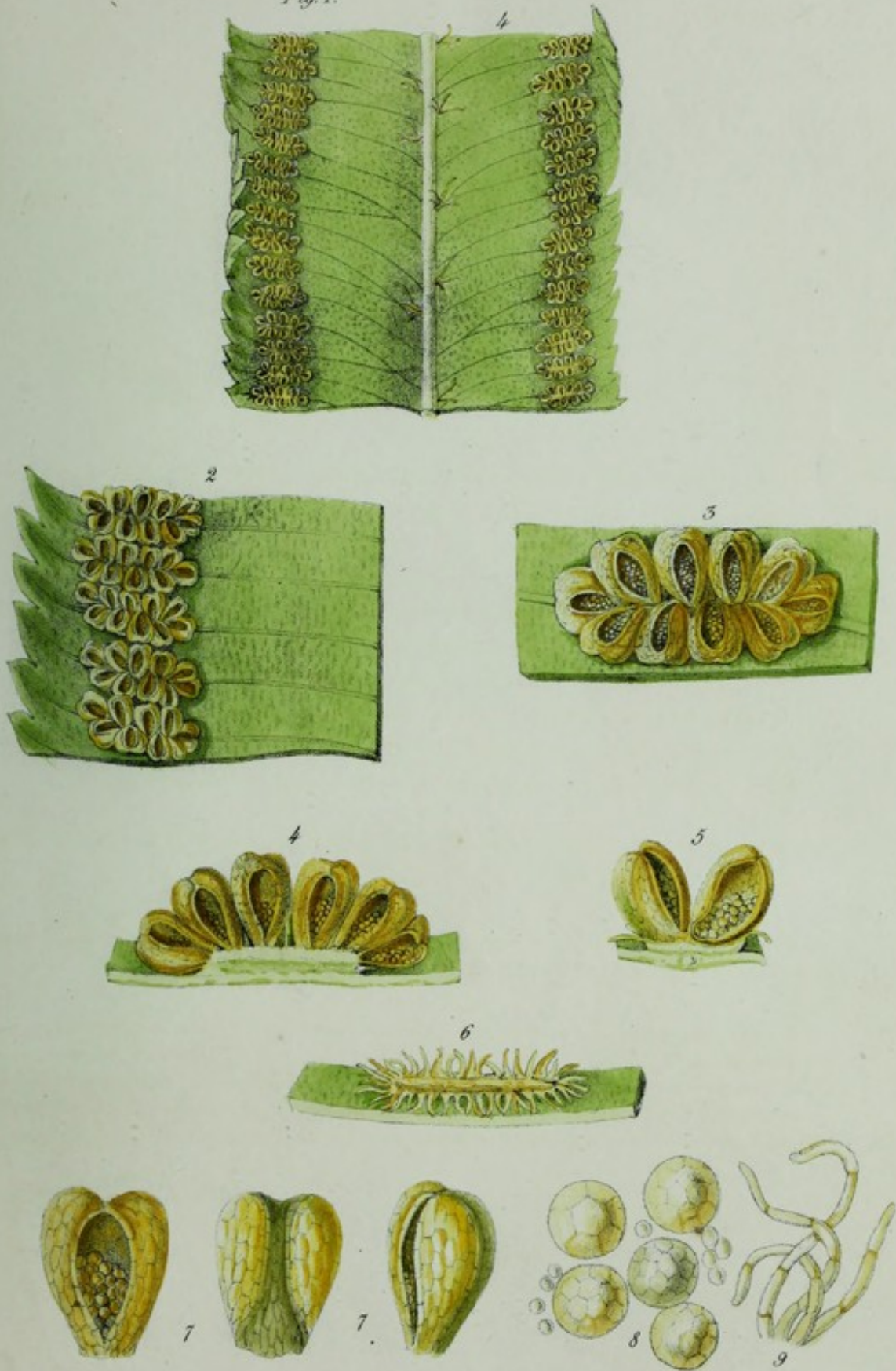
*Actis* is a species of the genus *Actis*, in the subgenus *actis*. It is characterized by its slender, upright, branched stems, which are densely covered with small, sessile, ovate leaves. The leaves are arranged in opposite pairs along the stems, and their venation is pinnate. The flowers are small and are borne in dense, terminal clusters. The fruit is a small, globose, nutlet, which is covered with a thin, warty, or scaly surface. The wood is hard and contains a resinous excretion. This species is found in the mountains of the Himalayas, where it grows in a temperate climate. It is cultivated in some botanical gardens, and it is also used in the preparation of some medicinal preparations.

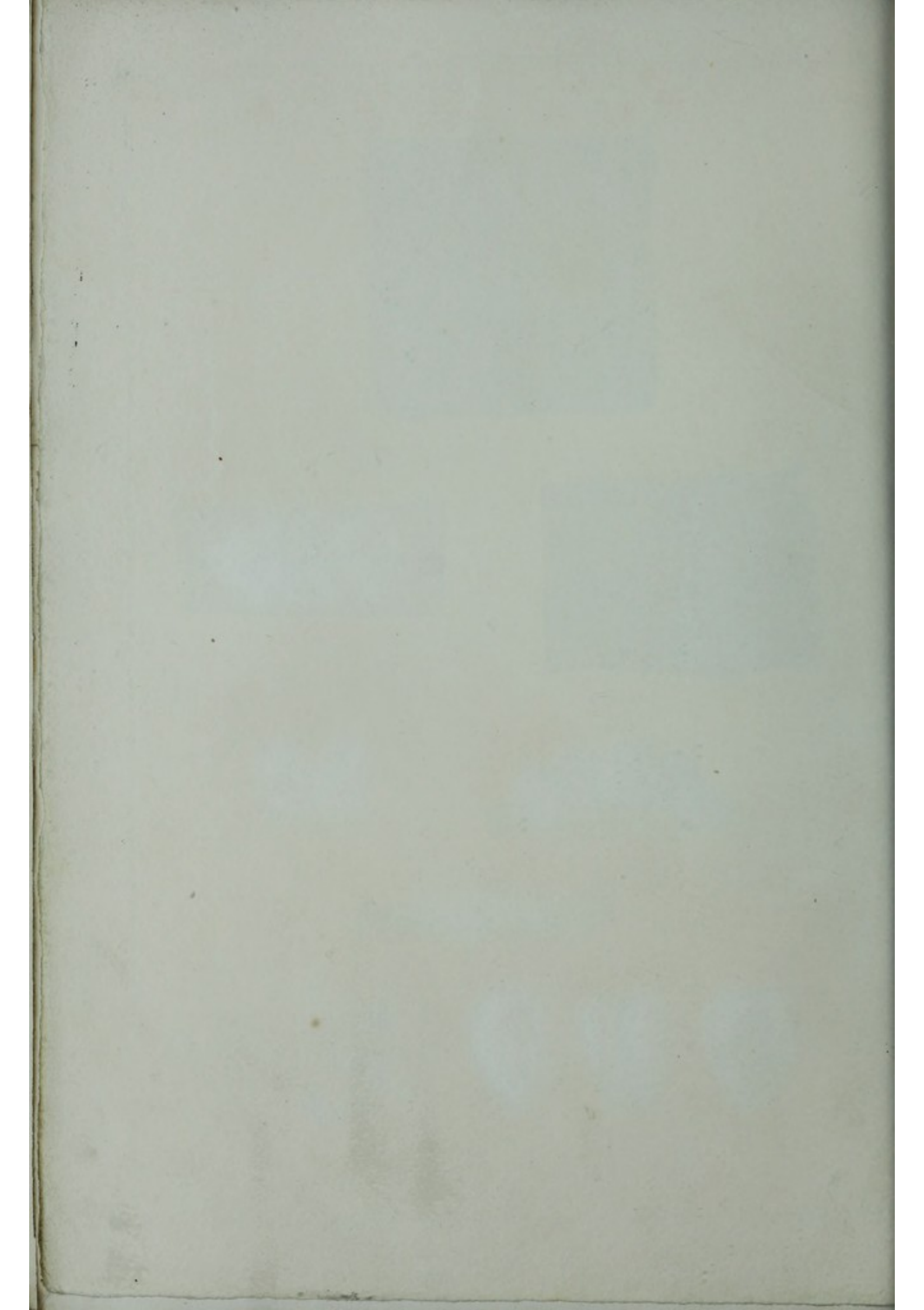
*Actis* Bgsh. (Tab. X.) Bot. Beech. B. 1843. p. 232. in Bot. Beech. B. 1843. p. 232. — *Actis*, Bgsh. Bot. Beech. B. 1843. p. 232.

This species is very rare at present, and is known only from a single specimen, which is preserved in the herbarium of the University of Cambridge.

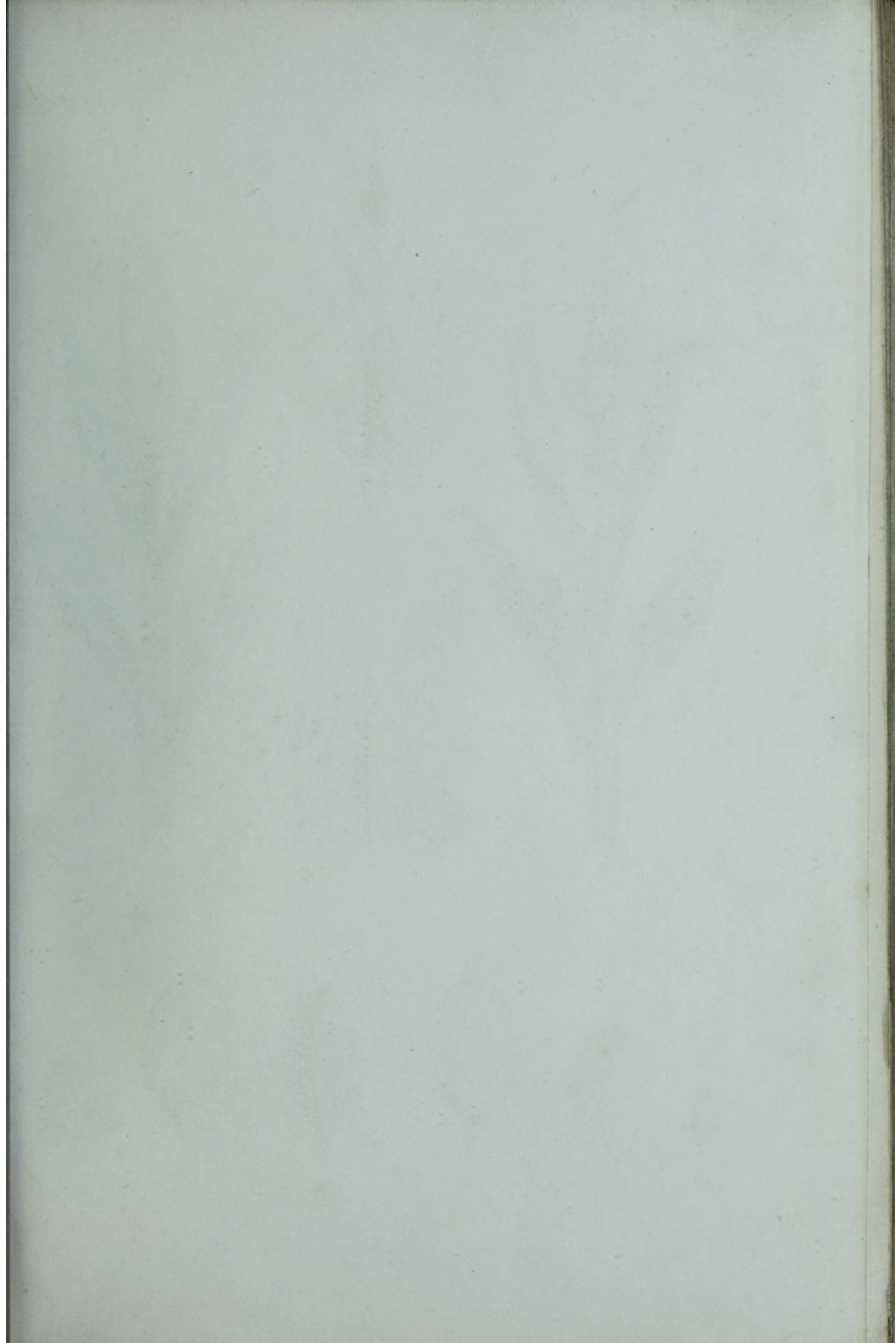
Fig. 1. Natural size of a small portion of a plantlet, showing the arrangement of the leaves and the flowers. — Fig. 2. Magnified view of a portion of the stem, showing the venation of the leaves and the arrangement of the flowers. — Fig. 3. Magnified view of a portion of the stem, showing the venation of the leaves and the arrangement of the flowers. — Fig. 4. Magnified view of a portion of the stem, showing the venation of the leaves and the arrangement of the flowers. — Fig. 5. Magnified view of a portion of the stem, showing the venation of the leaves and the arrangement of the flowers.

Fig. 1.











TAB. XI.

ONYCHIUM, Kaulf.

LEPTOTRICHUM, Des. ACLOSONIA, Spreng. Presl.

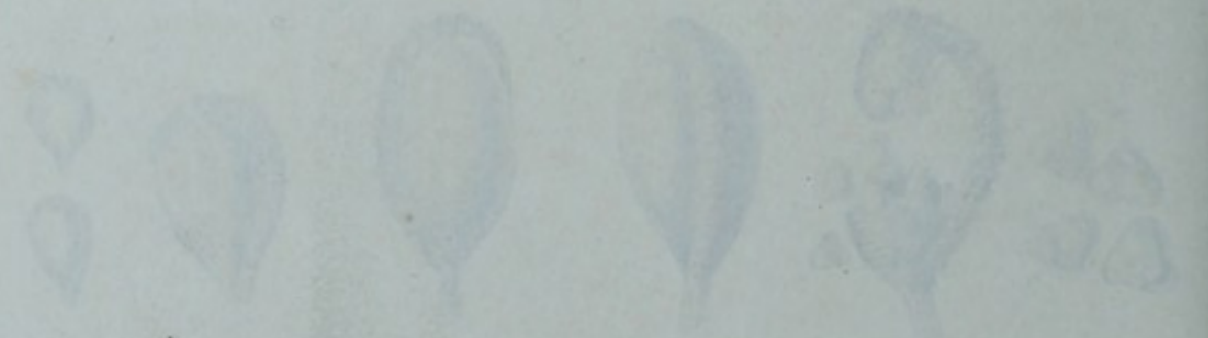
Sori lineares vel oblongi solitaria, in maculis dispositi, vel totam partem occupantes. Indusium lineare, membranaceum, marginale vel submarginale, per partem oppositam et contractilem, sutura longitudinali quasi dehiscens. Sporangia pedicellata, receptaculo marginali ad basin indusii inserta.—*Filices Indiae Orientalis, (insulae Capensis,) Lespedeza, gracilis.* *Fraxinus stipitata, descomoides, pinnatifida, lucida, angustata, macrocarpa, in partem fructificandam submarginale partem oppositam simpliciter vel variegatum integerrimum, et in confluentibus receptaculis quadrangulis firmantibus.*

*Onychium lucidum.* (Tab. XI.)—*Chilanthum lucida.* Wall. in Her. 3. 1828. Cat. p. 49.—*Lepidostegia lucida.* Des. *Prodr. Fl. Nep.* p. 14.

Other species of *On.* given are *Onychium acrostichum*, (probably the same with *Presl. Acrostichum*, Herb. in Herb. 3. Pl. 2. 1827, which is *Lespedeza macrocarpa*, Wall. Cat. p. 50, and *L. angustata*, Wall. Cat. p. 49; *Chilanthum angustatum*, Wall. Cat. p. 49; *Onychium Capense*, Kaulf. (Sida Kaulf.), and a species in Captain Carmichael's Herbarium, in my possession, marked *Lespedeza macrocarpa*, Hb. All these are united by a natural habit, although the fruited portions of *O. acrostichum* and *macrocarpa* are pinnated, and the pinnae wholly occupied by the sori, whilst the barren portions are pinnatifidly divided, like the entire plant in the other species, in which latter, moreover, the sori occupy but a portion of the lobes, and the indusium is inserted, partially at least, a little within the margin. Still Presl may be correct in uniting *Onychium*, or at least the *O. acrostichum*, with *Alloperis*. In all, I find the fruited portion to give out pinnated veins (apparently concluded in Mr. Hooker's otherwise excellent figure) as in *Alloperis crispus*, Fr. (*Cryptogramma*, Br.)—these, however, do not immediately bear the sporangia, but appear to unite at or very near the margin into a longitudinal receptacle or marginal vein, on which the sporangia are situated.

Fig. 1. Upper side of a portion of the Indusium, magn. 3 diam.—2. Detail of portion of the same, magn. 10 diam.—3. Upper side of the same, do.—4. Section of a lobe, with a portion of the sori, magn. 20 diam.—5. Sporangia in various stages, magn. 100 diam.—6. Sporangium, magn. 100 diam.





TAB. XI.

ONYCHIUM. Kaulf.

LEPTOSTEGIA. Don. ALLOSORI SPEC. Presl.

Sori lineares vel oblongi solitarii, in maculas dispositi, vel totam pinnulam occupantes. *Indusia* linearia, membranacea, marginalia vel submarginalia, per paria opposita et conniventia, sutura longitudinali quasi dehiscentia. *Sporangia* pedicellata, receptaculo marginali ad basin indusii inserta.—Filices *Indiæ Orientalis*, (*unica Capensis*), *cæspitosæ*, *graciles*. Frondes *stipitatæ*, *decomposito-pinnatifidæ*, *laciniis angustis uninerviis*, in partem fructificantem solummodo pinnatim venosæ, venis simplicibus ad marginem attingentibus et ibi confluentibus, receptaculum sporangiorum formantibus.

*Onychium lucidum*. (TAB. XI.)—*Cheilanthes lucida*. Wall. in Herb. 1823. Cat. n. 69.—*Leptostegia lucida*. Don, Prodr. Fl. Nep. p. 14.

Other species of this genus are *Onychium auratum*, (probably the same with *Pteris chrysocharpa*, Hook. et Grev. Ic. Fil. t. 107, which is *Lomaria aurea*, Wall. Cat. n. 38, and *L. caruifolia*, Wall. Cat. n. 39,) *Cheilanthes contigua*, Wall. Cat. n. 72, *Onychium Capense*, Kaulf. (fide Kaulf.), and a species in Captain Carmichael's Herbarium, in my possession, marked *Lomaria microptera*, Br. All these are united by a natural habit, although the fructified portions of *O. auratum* and *microptera* are pinnated, and the pinnæ wholly occupied by the sorus, whilst the barren portions are pinnatifidly divided, like the entire plant in the other species, in which latter, moreover, the sorus occupies but a portion of the lacinia, and the indusia are inserted, partially at least, a little within the margin. Still Presl may be correct in uniting *Onychium*, or at least the *O. auratum*, with *Allosorus*. In all, I find the fructified portion to give out pinnated veins (apparently overlooked in Mr Bauer's otherwise excellent figure) as in *Allosorus crispus*, Pr. (*Cryptogamma*, Br.)—these, however, do not immediately bear the sporangia, but appear to unite at or very near the margin into a longitudinal receptacle or marginal vein, on which the sporangia are situated.

Fig. 1. Under side of a portion of the frond; magn. 3 diam.—f. 2. Smaller portion of do; m. 10 diam.—f. 3. Upper side of the same; do.—f. 4. Section of a lacinia, with a portion of the sorus; m. 25 diam.—f. 5. Sporangia in various stages; m. 100 diam.—f. 6. Sporules; m. 200 diam.

TAB. XI.

ONYCHIUM KAM.

Platymeria, var. Altonensis, etc.

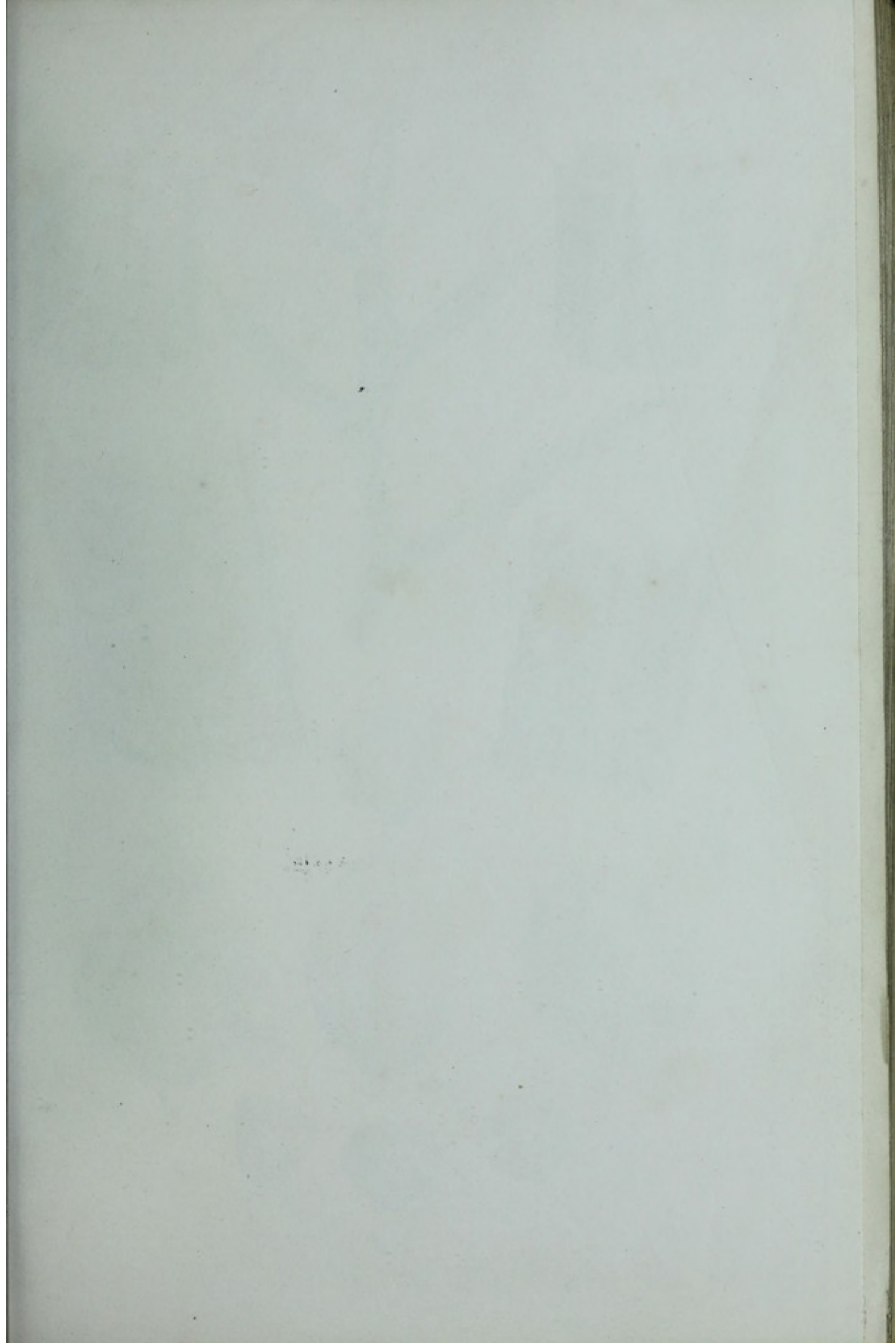
... linearis vel oblongi subulati, in circulo dispositi, vel totum periculum circum-

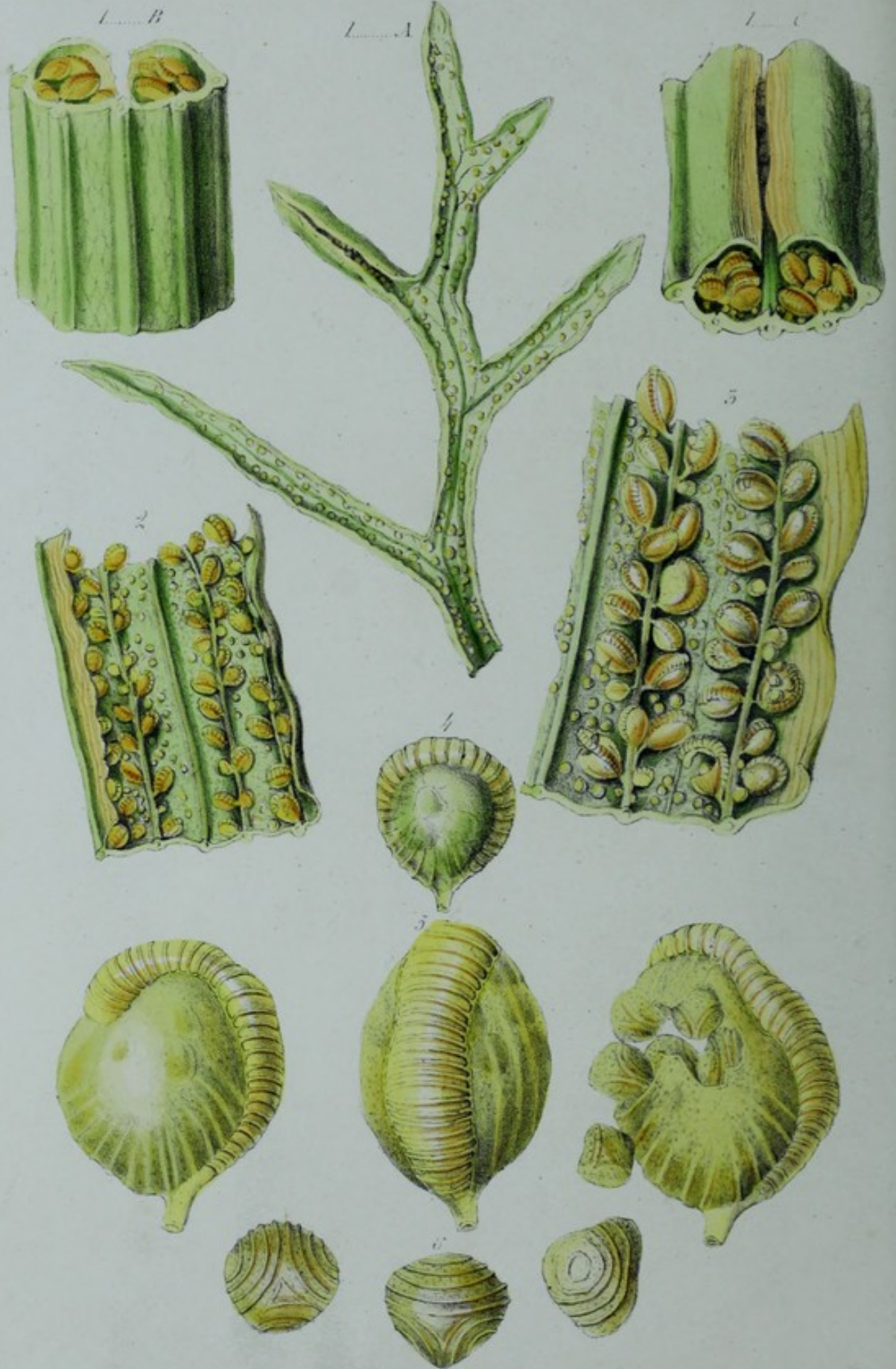
Onychium bicolor (Tab. XI).--Chilanthium bicolor. Wall. in Herb. Lond. Cat. n. 14.

Other species of this genus are Onychium imbricatum (perhaps the same with Platymeria) Hook. in Gray, Ic. Pl. t. 165, which is Onychium ovale, Wall. Cat. n. 28, and A. curvatum, Wall. Cat. n. 85; Chilanthium ovatum, Wall. Cat. n. 72; Onychium Capense, Kunt. (de Kunt.), and a species in Captain Cook's Herbarium, in my possession, which I have named Onychium Cookii. All these are united by a natural habit, although the divided portion of O. ovatum and Onychium imbricatum are pointed, and the entire wholly un-

Fig. 1. Upper side of a portion of the head; lower side of a portion of the head; upper side of the head; lower side of the head; upper side of the head; lower side of the head.







TAB. XII.

CRATOPTERIS, Sweg.

TELEOSTEUS, Br. - MALLINUS, Sweg. - FERRUGO, Desf. - ALBERTUS, Sweg. - LUNA, Prætorius, Sp. Natur.

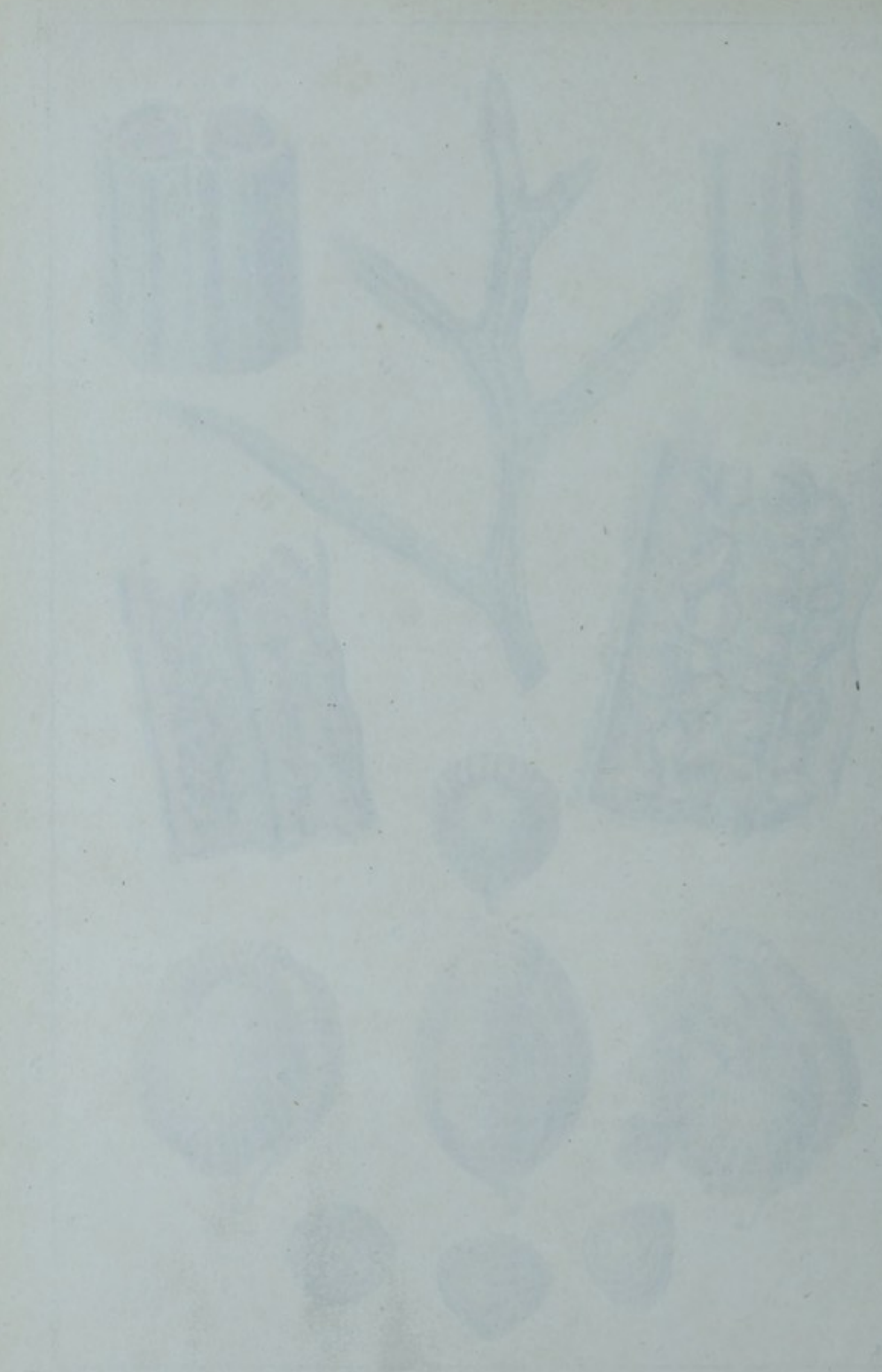
See column, lower longitudinal line, compound. Spines, and denticles, (glans, by the, which is the same as the one of the, ...)

Cratoptera, ... (Tab. XII.) - ...

It appears to me that the ... from the ... is not ...

Fig. 1. A. ... of a ... of a ...





TAB. XII.

CERATOPTERIS. Brongn.

TELEOZOMA. Br. ELLEBOCARPUS. Kauf. FURCARIA. Desv. ACROSTICHI Sp.  
Linn. PTERIDIS Sp. Beauv.

Sori continui, venas longitudinales frondis occupantes. Sporangia laxè disposita, globosa, hyalina, annulo latissimo incompleto  $\frac{2}{3}$  cincta. Indusium membranaceum, continuum, e margine frondis revolutæ ortum, sutura longitudinali dehiscens. Sporulæ obtuse triangulares, seriebus tribus striarum concentricarum notatæ.— Filices Indiæ Orientalis, aquaticæ, annuæ, succulentæ, molles. Frondes steriles (e fertilibus diversæ) bipinnatifidæ, segmentis ovatis, sinuato-pinnatifidis, costatis, cellulosis, pulcherrime reticulatim venosis;—fertiles majores (bi-tripedales) 3-4-pinnatifidæ, laciniis linearibus acutis, marginibus (indusia formantibus) revolutis, costatis, reticulatis; præter costam venis seu receptaculis sporangiorum 4, longitudinalibus filiformibus.

*Ceratopteris thalictroides*. Brongn. (TAB. XII.)—*Acrostichum siliquosum et thalictroides*. Linn.—*Pteris thalictroides*. Sw. Willd.—*Pteris cornuta*. Beauv. *Fl. d'Ow. et de Ben.* p. 63. t. 38.—*Ceratopteris Gaudichaudii*. Brongn. in *Freye. Voy. Bot.* v. 1. p. 393. t. 20.

It appears to me that the *C. Gaudichaudii*, from the Ladrões, is not in reality different from the *C. thalictroides*, which has a very extensive range in the East Indies and adjacent islands. Another species is described from Guiana, the *C. Richardii*, Brongn.:—but may not that be the *Parkeria pteridioides* of Hook. et Grev. *l.c.* Fil. t. 97? an undoubted native of Guiana, and which forms another genus, distinguished in this curious little group of aquatic Ferns by the obsolete annulus of the sporangium.

*Fig.* 1. A. Under side of a portion of a fertile frond, the indusia spread open; *magn.* 2 diam.—*f.* 1. B. Back; and *f.* 1. C. Front view of small portions of the same, the indusia covering the sori; *m.* 10 diam.—*f.* 2. Small portion of *f.* 1. A; *m.* 20 diam.—*f.* 3. One half of the same, including the costa and two receptacles; *m.* 20 diam.—*f.* 4. Young sporangium; and *f.* 5. Old sporangia; *m.* 100 diam.—*f.* 6. Sporules; *m.* 200 diam.

TAB. XII.

GERATOPTERIS, WAGNER

TITELBLATT. DR. ERNST BRONKHORST. KUNST. TECHN. HOCHSCHULE. DUISBURG ESSEN. SP. 1911.

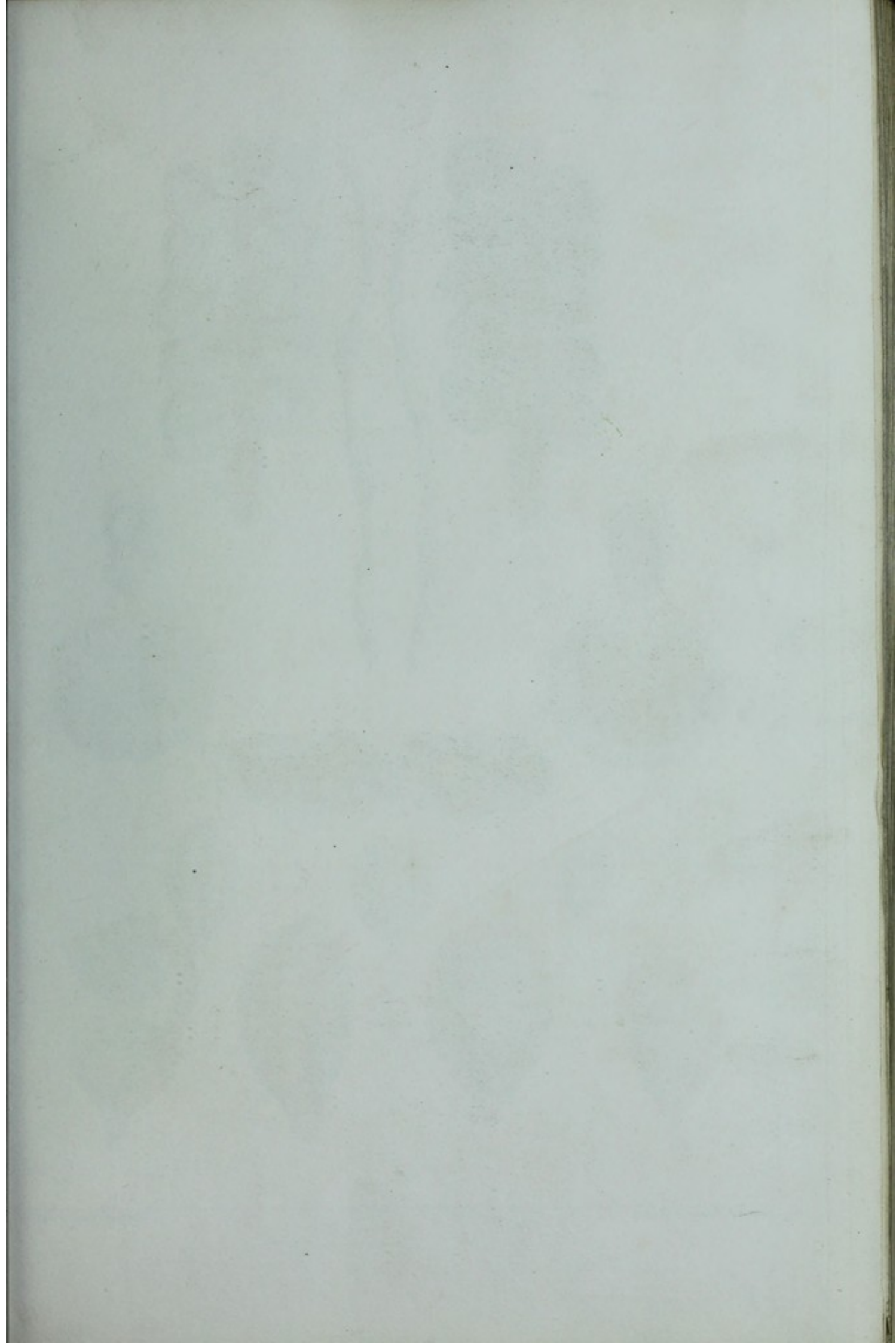
Das Buch enthält eine ausführliche Beschreibung der Geratopteris... (Faint German text describing the botanical specimen and its characteristics.)

Geratopteris (Tab. XII). — Beschreibung der Geratopteris... (Faint German text providing further details about the species.)

Es scheint mir, dass die Geratopteris... (Faint German text discussing the classification or relationship of the species.)

Fig. 1. A. Vorderansicht... (Faint German text describing the figures and their corresponding views of the specimen.)







TAB. XIII.

JAMESONIA, Hook. & Grev.

Pyrene, Cap. No. Alanson, Sp. Prod.

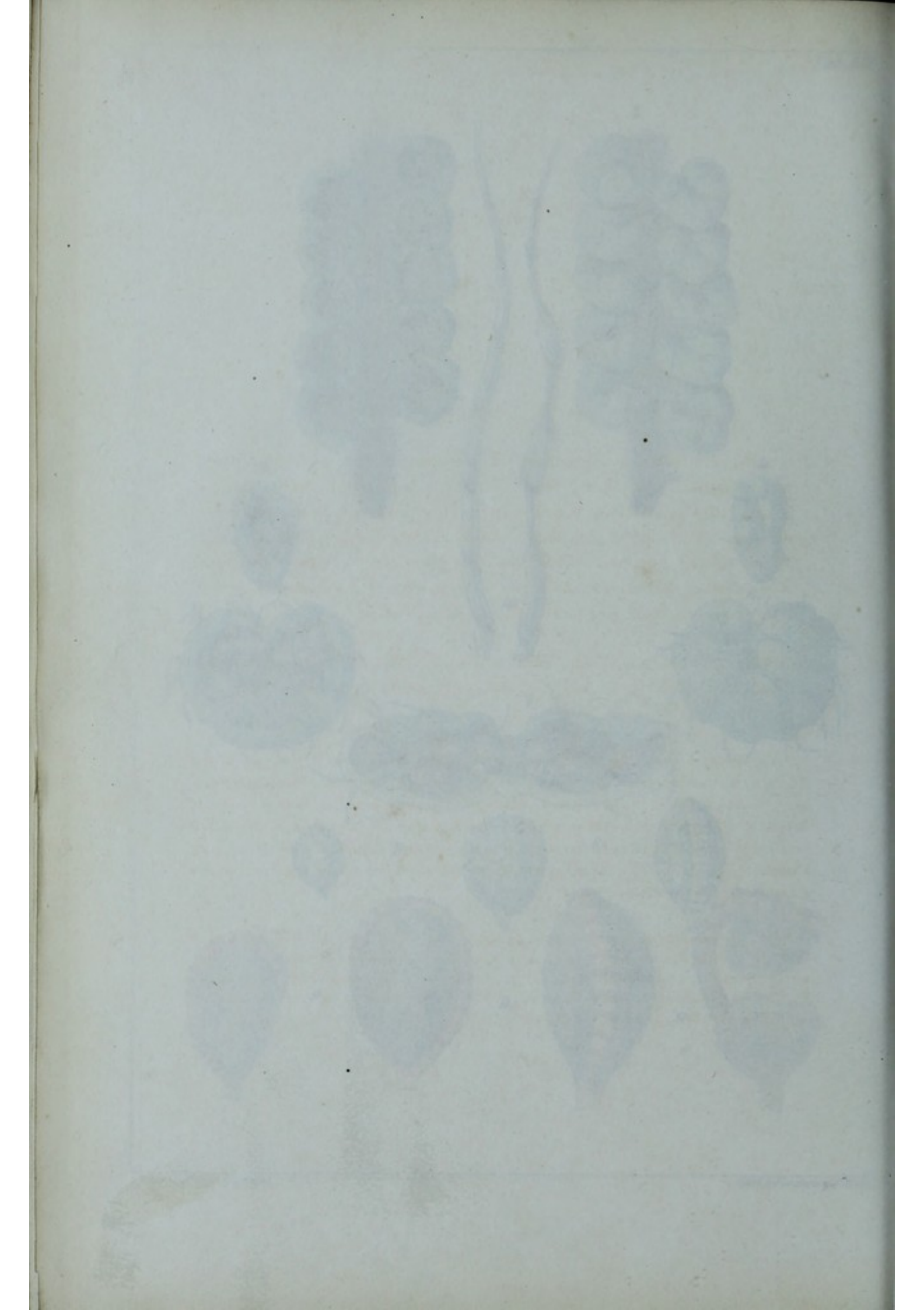
Sors parvi, parvi, in speciem vel rarissem prope basin vel domum confluentes. Spor-  
angia subsessile, pila pluribus atque fatis compressis levissimis. Sowers triangula-  
ria. Indusium continuum membranaceum & marginibus intrallicto fimbriatum, forte  
retrosum. Filix masculina, Antheris, masculis. Frondes laeviores, pubescentes. Radix  
fibrosa. Foliae ovatae, ovatis, suboblongatae, reticulatae, juniora vix pubescentia  
laevi-petiolata, basi petiolata, supra convexa, nervis reticulata, venis, venis,  
venis, nervis declivibus, venis ad marginem elongatis.

Jamestonia indivisa. — *J. pubera*. Hook. & Grev. Bot. Beech. 1, 175. — *J. indivisa*.  
"Cat. Hort. R. Hort. 1, Tab." Bot. Beech. p. 103. — *J. indivisa*. Bot. Beech.  
1, p. 110.

A single species only is known of this beautiful genus, which from the name of the  
Indians, without observing the situation of the sporangia, has been referred to *Polypodium*  
and *Adiantum*. The crowded sowers, mixed with creeping hairs, do indeed render it  
difficult to distinguish their precise mode of insertion, and Dr. Hillebrand and myself had  
been led to describe the variety as single even the contrary each plant; but Mr. Brown's  
dissections, and Mr. Smith's investigations, show that there are several species here, whose  
eventual names are evident.

Fig. 1. Portion of the under side of a frond, showing the sowers. — 2. Upper side of the frond, as  
seen. — 3. Under side of a young plant, as it grows. — 4. Upper side of the frond, as it grows.  
— 5. Under side of a plant with perfect sowers, as it grows. — 6. Upper side of the frond, as it grows.  
— 7. Transverse section of the sower, as it grows. — 8. Transverse section of a young plant, as it grows.  
— 9. The root as it grows, with its hairs.





TAB. XIII.

JAMESONIA. *Hook. et Grev.*

PTERIS. *Cav. Sw.* ALLOSORI *Sp. Presl.*

*Sori* pauci, parvi, in costam vel venarum prope basin siti demum confluentes. *Sporangia* subsessilia, pilis plurimis articulatis compressis immixta. *Semina* triangularia. *Indusium* continuum membranaceum e margine retroflexo pinnarum, soris remotum.—*Filix australi-Americana, andicola.* Frondes lineares, pinnatæ. Rachis villosa. Pinnæ numerosæ, arctæ, subimbricatæ, coriaceæ, juniores villosissimæ, brevi-petiolatæ, reniformi-cordatæ, supra convexæ, subtus concavæ, costatæ, venosæ, venis paucis dichotomis, ramis ad marginem attingentibus.

*Jamesonia imbricata.*—*J. pulchra.* *Hook. et Grev. Ic. Fil. t.* 178.—*Pteris imbricata.* “*Cav. Hort. R. Matr. 1. Tab.*” *Sw. Fil. p.* 102.—*Pteris orbiculata.* *Lam. Enc. 5. p.* 710.

A single species only is known of this beautiful genus, which, from the nature of the indusium, without observing the situation of the sporangia, has been referred to *Pteris* and *Allosorus*. The crowded capsules, mixed with copious hairs, do indeed render it difficult to distinguish their precise mode of insertion, and Dr Greville and myself had been led to consider the sorus to be single near the centre of each pinna; but Mr Bauer's dissections, and Mr Smith's investigations, show that there are several small sori, which eventually become confluent.

*Fig. 1.* Portion of the under side of a frond; *magn.* 5 diam.—*f. 2.* Upper side of the same; *m.* 5 diam.—*f. 3.* Under side of a young pinna; *m.* 10 diam.—*f. 4.* Upper side of the same; *m.* 10 diam.—*f. 5.* Under side of a pinna with perfect sori; *m.* 10 diam.—*f. 6.* Upper side of do.; *m.* 10 diam.—*f. 7.* Transverse section of the same; *m.* 20 diam.—*f. 8.* Sporangia in a young state; *m.* 100 diam.—*f. 9.* The same in a ripe state; *m.* 100 diam.

TAB. XIII.

JAMESONIA. Wood & Gray

FRUITING CANES. ALASKA. 1870.

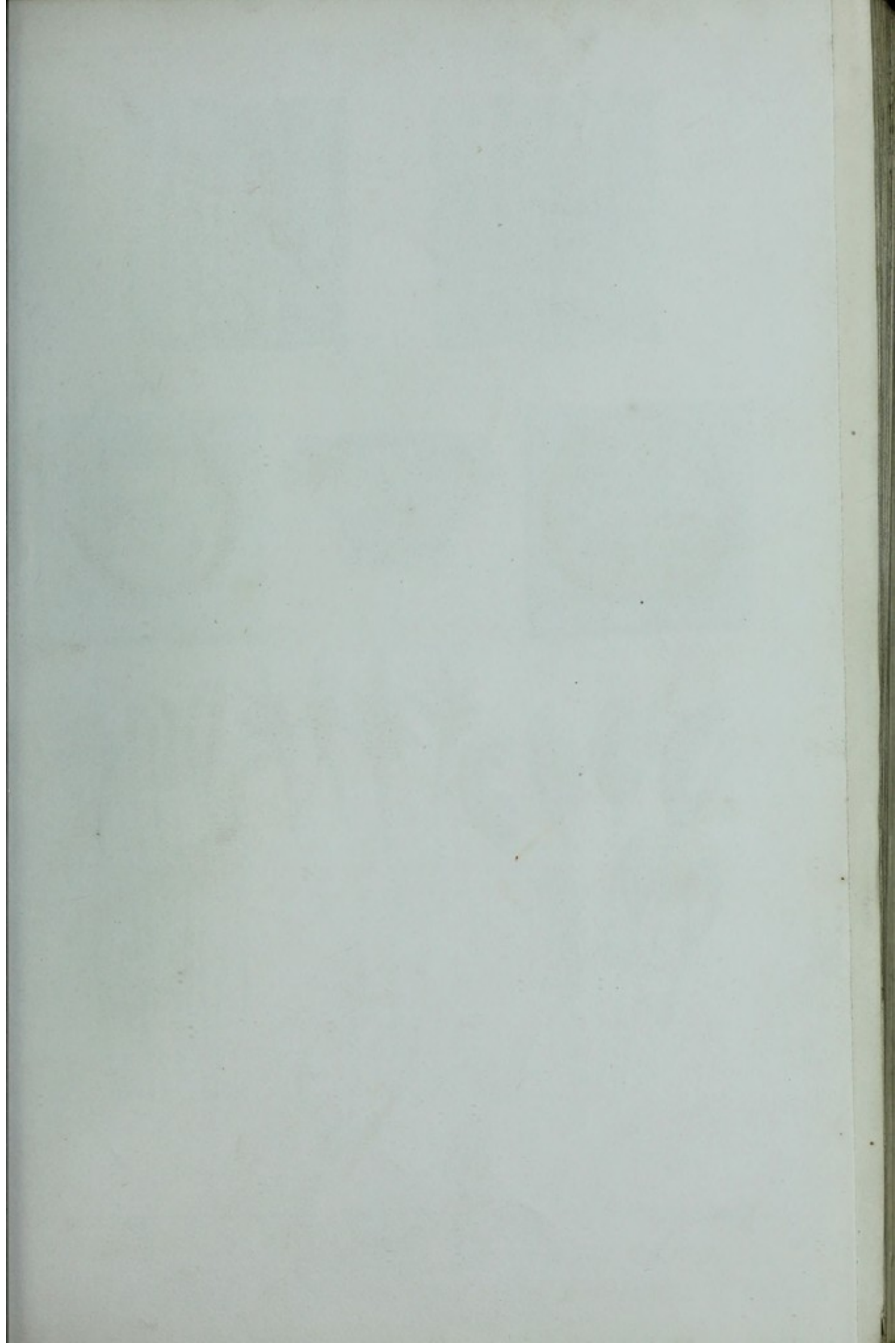
Two plants, *J. alaskaensis* and *J. alaskaensis*, were collected from the same locality. The former is a small, upright, branched shrub, with opposite, ovate leaves, and small, tubular flowers. The latter is a larger, more robust plant, with opposite, ovate leaves, and larger, tubular flowers. Both plants are characterized by their woody stems and their habit of climbing over other plants.

*J. alaskaensis*.—A. N. S. P. Bot. Alaska, No. 1178. Fruiting canes. Alaska, 1870. (See also No. 1179.)

A single species only is known of the beautiful genus, which from the nature of the inflorescence, without observing the situation of the sporophylls, has been referred to *J. alaskaensis*. The crowded capitula, mixed with copious hairs, do indeed render it difficult to distinguish their precise mode of insertion, and the Griseb. and myself had been led to consider the same to be single near the center of each plant; but Mr. Hooker's dissection and Mr. Smith's investigation show that there are several small ones, which eventually become confluent.

Fig. 1. Portion of the main stem of a fruiting cane, showing a node and a leaf. Fig. 2. Portion of a fruiting cane, showing a node and a leaf. Fig. 3. Portion of a fruiting cane, showing a node and a leaf. Fig. 4. Portion of a fruiting cane, showing a node and a leaf. Fig. 5. Portion of a fruiting cane, showing a node and a leaf.









TAB. XIV

MARONARIA, R. Br. Pres.

Polygonum sp. Long. & Pres.

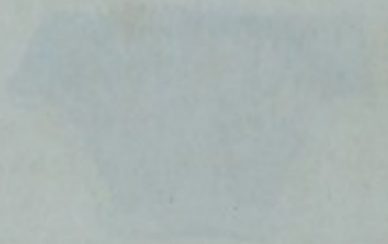
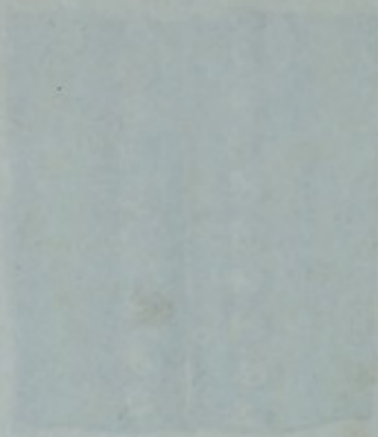
Seri globosi, radii (pilis stipulatis apice dilatatis vel pediculis armati), ramulis  
primariis vel secundariis liberis, in maculis hexagonoidibus terminantes, in series  
simplicem v. duplicem triplicemve dispositi. — Frondis ovatae, sessilibus vel  
pediculis, diffusis vel confertis. Suprae supra basi articulati. Venae primariæ  
rarius. Venæ secundariæ et terciaræ oppositis in series oppositas confluentibus  
et nervis hexagonoidibus articulatis inflexis v. basi et supra basi vena inflexione  
emarginata latera apice obtuse emarginata. Venæ terciaræ et quaternaræ  
rarius, apice obtuse emarginatae. Venæ quaternaræ et quaternaræ  
confertius et angustius distantes. (Pres.)

*Polygonum angustatum*. — *Polygonum angustatum*. Wall. Cat. n. 226.

The leaves here given were made by Mr. Hooker from a fine preserved Fern, found by  
Dr. Wullich at Poona and Singapore, with remarkable manner a single row of nodules  
into the veins, and the veins, such as a very deep depression showing prominent tubercles  
at right angles to the nerves, as if a central dot (Fig. 1) and the nerves, some long, some  
and others with faint dots (Fig. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

The leaves here given were made by Mr. Hooker from a fine preserved Fern, found by  
Dr. Wullich at Poona and Singapore, with remarkable manner a single row of nodules  
into the veins, and the veins, such as a very deep depression showing prominent tubercles  
at right angles to the nerves, as if a central dot (Fig. 1) and the nerves, some long, some  
and others with faint dots (Fig. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.





TAB. XIV.

MARGINARIA. *Bory, Presl.*

POLYPODII Sp. *Linn. et Auct.*

*Sori globosi, nudi, (pilis articulatis apice dilatatis vel peltigeris immixti), venulas primarias vel secundarias liberas in maculas hexagonoideas terminantes, in seriem simplicem v. duplicem triplicemve dispositi.—Frondes variæ, simplices aut pinnatæ, diffformes aut conformes. Stipites supra basin articulati. Venæ pinnatæ, ramosæ. Venulæ superiores cum proximis oppositis in arcus angulatos confluentes et maculas hexagonoideas efficientes, infima e basi v. supra basin venæ inferiores emergens libera apice globoso clavatove sorifera. Venulæ secundariæ ex apice arcuum exorientes solitariae, liberae, apice globuloso clavatove soriferae, supremæ (seu marginales) ex angulis duobus cujusbet hexagonii exorientes. (Presl.)*

*Marginaria verrucosa.—Polypodium verrucosum. Wall. Cat. n. 296.*

The figures here given were made by Mr Bauer from a fine pinnated Fern, found by Dr Wallich at Penang and Singapore, with lanceolate pinnæ, a single row of sori on each side the midrib, and these sori sunk in a very deep depression (forming prominent tubercles or warts on the opposite or upper side of the frond), and the sporangia upon long pedicels and mixed with jointed hairs (abortive sporangia?) with swollen apices, some terminated with an articulation formed of 2 or 3 cells, some with a rather large peltate and stellated oblique scale. All these circumstances are beautifully and correctly represented; but it is to be regretted that the venation of the fronds has not, in this instance, received that attention to which the investigations of Brown and Presl, &c. show that it is entitled. If this venation be attentively examined, it will be seen at once to indicate that of the genus *Marginaria* of Bory, a name indeed not very applicable, but whose characters are clearly defined by Presl. These chiefly reside in the hexagonoidal spots, in which is a free veinlet terminated by a sorus. "Sori uniseriales oriuntur (Presl further remarks) si solummodo venulæ in maculis costalibus axillares soriferæ sunt, aut bi-tri-quadriseriales, si quoque venulis secundariis ex apice hexagonii emergentibus insident." The genus is a very extensive one, and we may mention as belonging to it *Polypodium piloselloides*, L., and its allies; *P. amænum*, Wall. Cat. n. 290; *P. argutum*, Wall. Cat. n. 308, according to my specimens (but Presl refers it to *Polypodium*); *P. loriceum*, L., &c. &c.

*Fig. 1.* Portion of the under surface of a pinna; *magn.* 2 diam.—*f. 2.* Upper surface of the same; *do.*—*f. 3.* Small portion, seen from beneath, with a perfect sorus; *m.* 20 diam.—*f. 4.* Upper portion of the same; *do.*—(Obs. In this and the previous figure the veinlet seems to be continued beyond the sorus, which is not the case in my specimens.)—*f. 5.* Lateral view of a vertical section of the same; *do.*—*f. 6.* Sporangia in different stages; *m.* 100 diam.—*f. 7.* Hairs terminated by peltate scales from the sorus; *m.* 100 diam.—*f. 8.* Hairs from the sorus, slightly thickened upwards; *m.* 100 diam.—*f. 9.* Other hairs from the sorus; *m.* 100 diam.—*f. 10.* Sporules; *m.* 200 diam.



TAB. XLV.

MARSHALLIA, New York.

Plants of New York.

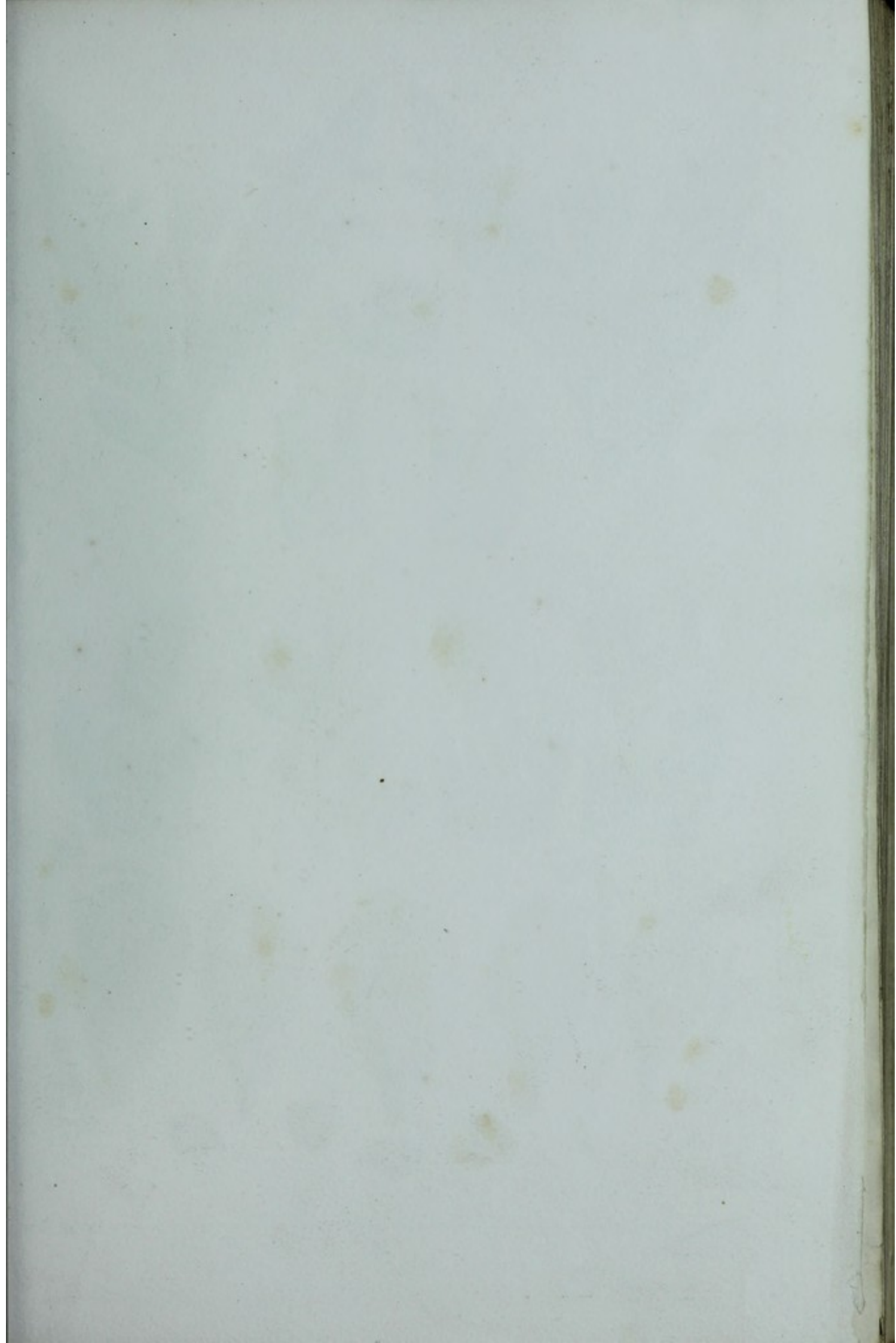
Two genera, each with several species distinct and fertile in habit, and  
primary or secondary likens in natural history. In certain  
simpliciter & dupliciter tripliciter dispositi.—Fertiles sessis, simpliciter aut pin-  
natis, diversis aut simpliciter. Simplices ex parte antica. Vires parvulae,  
resinae. Vires parvulae cum prostratis oppositis in circa opposita dispositis  
& simpliciter dispositis, simpliciter & pin- & simplices cum simpliciter  
compositis simpliciter simpliciter simpliciter. Vires simpliciter & pin-  
natis simpliciter simpliciter simpliciter simpliciter, simpliciter (res-  
inosa) ex parte antica simpliciter simpliciter simpliciter. (Vires.)

MARSHALLIA, New York. Wall. Cat. n. 304.

The figure here given was made by Mr. Hooker from a specimen of the plant  
Dr. Wallis at Albany and Georgia with lanceolate leaves, a single row of hair on each  
side the midrib, and these hair as a very deep depression (forming prominent tubercles  
or scars on the surface or upper side of the leaf), and the petioles upon leaf petioles  
and mixed with pointed hairs (Lobelia sparganthe?) with smaller spines, some tubercled  
with an indentation toward the 2 or 3 cells, some with a rather large petiole and tubercled  
oblong cells. All these circumstances are doubtless and correctly represented, but it  
is to be regretted that the position of the glands has not in this instance, except that  
attention to which the investigations of Brown and Presl do show that it is omitted. If  
this position be attentively examined, it will be seen at once to indicate that of the genus  
disposition of leaf, a name indeed not very applicable but whose characters are clearly  
defined by Presl. These chiefly reside in the hexagonal spots, in which is a few vertical  
tubercles by a row. In the tubercles situated (Presl further remarks) in tubercles  
reside in tubercles situated either entire and in the tubercles, in groups  
tubercles situated on each hexagonal tubercle. The genus is a very  
extensive one and we may mention as belonging to it *Vespadium pentandrum*, L., and its  
affinities, *V. americanum*, Wall. Cat. n. 304; *V. angustatum*, Wall. Cat. n. 308, according to my  
specimens (but Presl refers it to *Vespadium*); *V. americanum*, L., var. &c.

Fig. 1. Portion of the under surface of a flower, magnified 2 diam.—A. B. Upper surface of the same;  
the A. B. small portion seen from beneath, with a perfect view; at 30 diam.—C. D. Lower portion  
of the same, at 100 diam.—E. F. The same as the previous figure, the whole seen in its natural position  
and which is not the case in any of the figures.—G. H. External view of a single tubercle in the same;  
the same, at 120 diam.—I. H. Hair from the same, magnified 200 diam.—  
K. L. Hair from the same, at 100 diam.—M. N. Hair from the same, at 120 diam.—









TAB. II

LOXSOMA, A.

See Caudicetransformation in Cypripedium, Caudex vascular terminatus. In some  
varieties...  
Spiraea triangularis...  
Caudex...

Loxsoma...  
...  
...

The nature of this plant is perfectly...  
...  
...

Fig. 1. Portion of the outer...  
...  
...





TAB. XV.

LOXSOMA. *Br.*

*Sori* subintramarginales in sinibus dentium, frondis venulam terminantes. *Indusium* coriaceum suburceolatum, extus ad apicem dehiscens, ore truncato integro. *Sporangia* receptaculo filiformi longe exserto sita, obovata, oblique annulata, hinc gibbosa, longitudinaliter dehiscencia, pilis articulatis sæpe clavatis immixta. *Sporulæ* triangulares, hinc puncto triangulari impressæ.—*Filix pulcherrima* Novam Zelandiam habitans. Caudex horizontalis. Frons stipitata, coriacea, glabra, subtus glauca, decomposita, laciniis lanceolatis, dentato-pinnatifidis, marginibus in sinibus soriferis, costatis, oblique remote venosis, venis furcatis.

*Loxsoma Cunninghamii*. *Br. MSS.*—*A. Cunn. Bot. of N. Zeal. in Hook. Comp. Bot. Mag. v. 2. p. 366.* (where by an error it is printed *Loxoma*) tabs. 31 and 32.—*Davallia dealbata*. *A. Cunn. MSS.*—*Trichomanes cænopteroides*. *Harv. MSS.*

The aspect of this plant is perfectly *sui generis*; allied, however, on the one hand, to *Davallia*, and on the other to *Trichomanes*; so that Mr Allan Cunningham had, in his MSS., referred it to the former, and Mr Harvey to the latter of these genera. The admirable analysis of Mr Bauer, in the accompanying figure, will illustrate the nature of the fructification much better than can be done by words.

*Fig. 1.* Portion of the under surface of a fertile frond; *magn.* 3 diam.—*f. 2.* Upper surface of the same; *do.*—*f. 3. 4.* Under and upper side of a young sorus; *m.* 10 diam.—*f. 5.* Transverse section of the same, showing the base of the receptacle; *m.* 10 diam.—*f. 6.* Under side of a perfectly ripe sorus; *m.* 10 diam.—*f. 7.* The same with the indusium removed; *m.* 10 diam.—*f. 8.* Apex of the receptacle, with sporangia and hairs; *m.* 25 diam.—*f. 9.* Upper side of a ripe sorus; *m.* 10 diam.—*f. 10. 10.* Sporangia in different stages; *m.* 100 diam.—*f. 11.* Sporules; *m.* 200 diam.—*f. 12.* Hairs from among the sporangia; *m.* 100 diam.

### PLATE XXII

### PLATE XXII

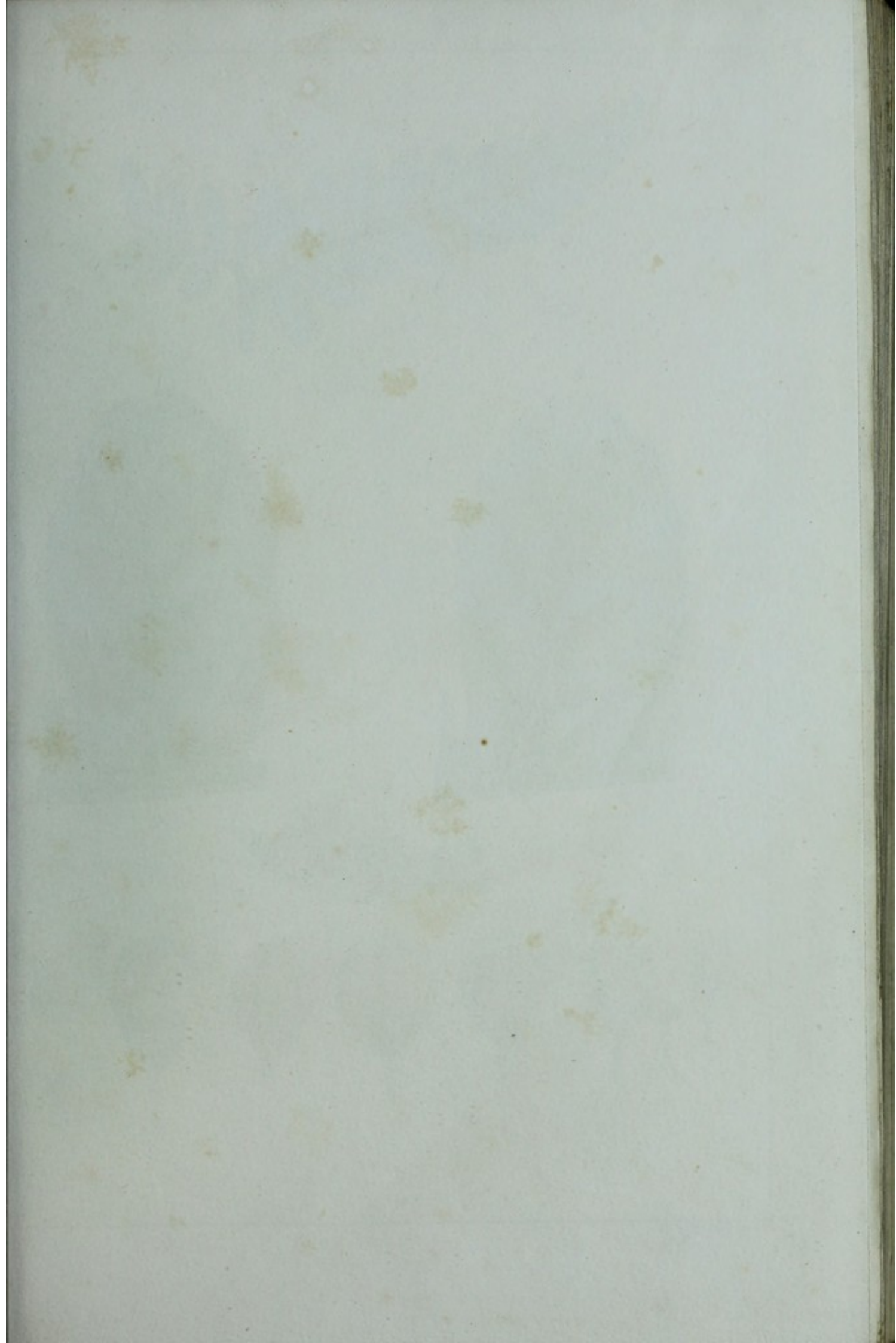
For a list of the plates in this volume, see the table of contents. The plates are arranged in two columns, the left column containing the plates numbered 1 to 10, and the right column containing the plates numbered 11 to 20. The plates are arranged in the order in which they were taken, and the order of the numbers is the same as in the table of contents. The plates are arranged in the order in which they were taken, and the order of the numbers is the same as in the table of contents.

PLATE XXII. 1. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 2. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 3. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 4. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 5. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells.

The object of this plate is to show the arrangement of the cells in the interior of the chamber of the ovary. The plates are arranged in the order in which they were taken, and the order of the numbers is the same as in the table of contents. The plates are arranged in the order in which they were taken, and the order of the numbers is the same as in the table of contents.

Fig. 1. Portion of the upper surface of a single cell, showing the arrangement of the cells. 2. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 3. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 4. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells. 5. A. View of the interior of the chamber of the ovary, showing the arrangement of the cells.









TAB. XVI.

ATHYGIUM, *Presl.*

ATHYGIUM Sp. Ross, *Presl.* ALLANTOBIUM B. Kaulf. DAVEN Sp. Ross.  
ATHYGIUM Sp. No. 14 Aust. NANNANTHUM Rich. & Mich.

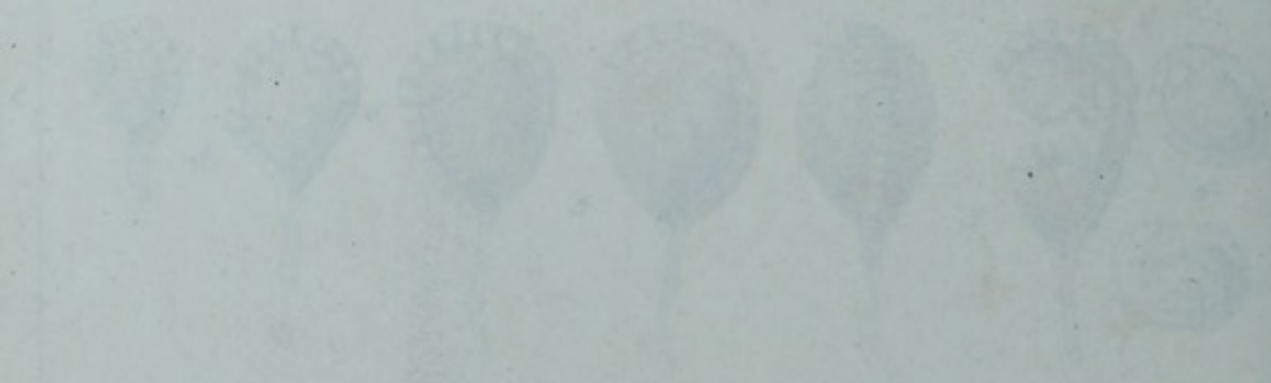
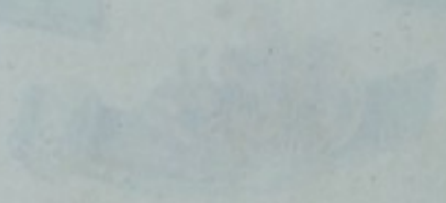
Stem oblong, branched, scabrous and inflated, rarely erect, usually teretibus, erectis. *Stipulae* oblongae, inflatae-convexae, dorsum reflexum.—*Rhizoma* subglobosum. *Frondis* fasciculatae, herbaceae, pinnatis divisis. Venae junctae, utraque latera simpliciter, medio nervo nervis. *Presl.*

*Athyrium australe*, *Presl. Florid. p. 98.*—*Alantobium australe*, *Dr. Presl. n. 110.*

The Australian plant here represented was together with another species from the same country (*A. curvum*), referred by Mr. Brown to his new genus *Allantobia*, the essential characters of which he considered to consist in the "Involucrum involucratum, non involucratum, etiam, etiam utraque margine incurvum, lateribus delincentibus." Kaulfuss has, however, perhaps with justice, referred it to *Athyrium*, along with *Athyrium junceum*, *Athyrium flexuosum*, *Athyrium spinulosum*, *Athyrium*, &c. of Presl. and several other species of other Authors. But the genus is perhaps not closely allied to *Athyrium*, differing notably in any thing but the shorter, inflated, and frequently curved involucre.

Fig. 1. Upper surface of a portion of a single frond, magn. 2 diam.—f. 2. Surface of a young frond, under water; m. 10 diam.—f. 3. Small portion of a ripe frond, m. 10 diam.—f. 4. Vertical section of a ripe frond, m. 20 diam.—f. 5. Epidermis in vertical section, m. 100 diam.—f. 6. Spongy tissue, m. 100 diam.





TAB. XVI.

ATHYRIUM. *Presl.*

ATHYRII Sp. *Roth, Presl.* ALLANTODIA. *Br. Kaulf.* DAREÆ Sp. *Willd.*  
ASPIDII Sp. *Sw. et Auct.* NEPHRODIUM. *Rich. in Mich.*

*Sori* oblongi, breves, incurvi aut inflexi, rarius recti, medio venarum inserti. *Indusium* oblongum, inflato-convexum, demum reflexum.—*Rhizoma subglobosum.* *Fronde* fasciculatæ, herbacæ, pinnatim divisæ. *Venæ* pinnatæ, internæ, tenues, simplices, medio dorso soriferæ. *Presl.*

*Athyrium australe.* *Presl, Pterid. p. 98.*—*Allantodia australis.* *Br. Prodr. p. 149.*

The Australian plant here represented was, together with another species from the same country (*A. tenerum*), referred by Mr Brown to his new genus *Allantodia*, the essential character of which he considered to consist in the "Involucrum fornicatum e vena lateraliter ortum, eique utroque margine insertum, interiore dehiscente." Kaulfuss has, however, perhaps with justice, referred it to *Athyrium*, along with *Aspidium fontanum*, *Filix fœmina*, *asplenioides*, *umbrosum*, &c. of Sw., and several *Asplenium* of other Authors. But the genus is perhaps too closely allied to *Asplenium*, differing scarcely in any thing but the shorter, inflated, and frequently curved indusium.

*Fig. 1.* Under surface of a portion of a fertile frond; *magn.* 2 diam.—*f. 2.* Segment of a young frond, under side; *m.* 10 diam.—*f. 3.* Similar portion in a ripe state; *m.* 10 diam.—*f. 4.* Vertical section of a ripe sorus; *m.* 20 diam.—*f. 5.* Sporangia in various states; *m.* 100 diam.—*f. 6.* Sporules; *m.* 400 diam.

### TAB VII

#### ATHELIIDAE

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

The *Atelides* found here represented was together with another species from the same country (A. novae), collected by Mr. Howe in his new expedition, the material of which he considered to consist in the "Athenian specimens" of the same genus, which species may be referred to the "Athenian specimens" of the same genus, but perhaps with justice, referred to the "Athenian specimens" of the same genus, but the genus is perhaps too closely allied to *Atelides*, differing scarcely in any thing but the shape, inflexion, and frequency of the tubular.

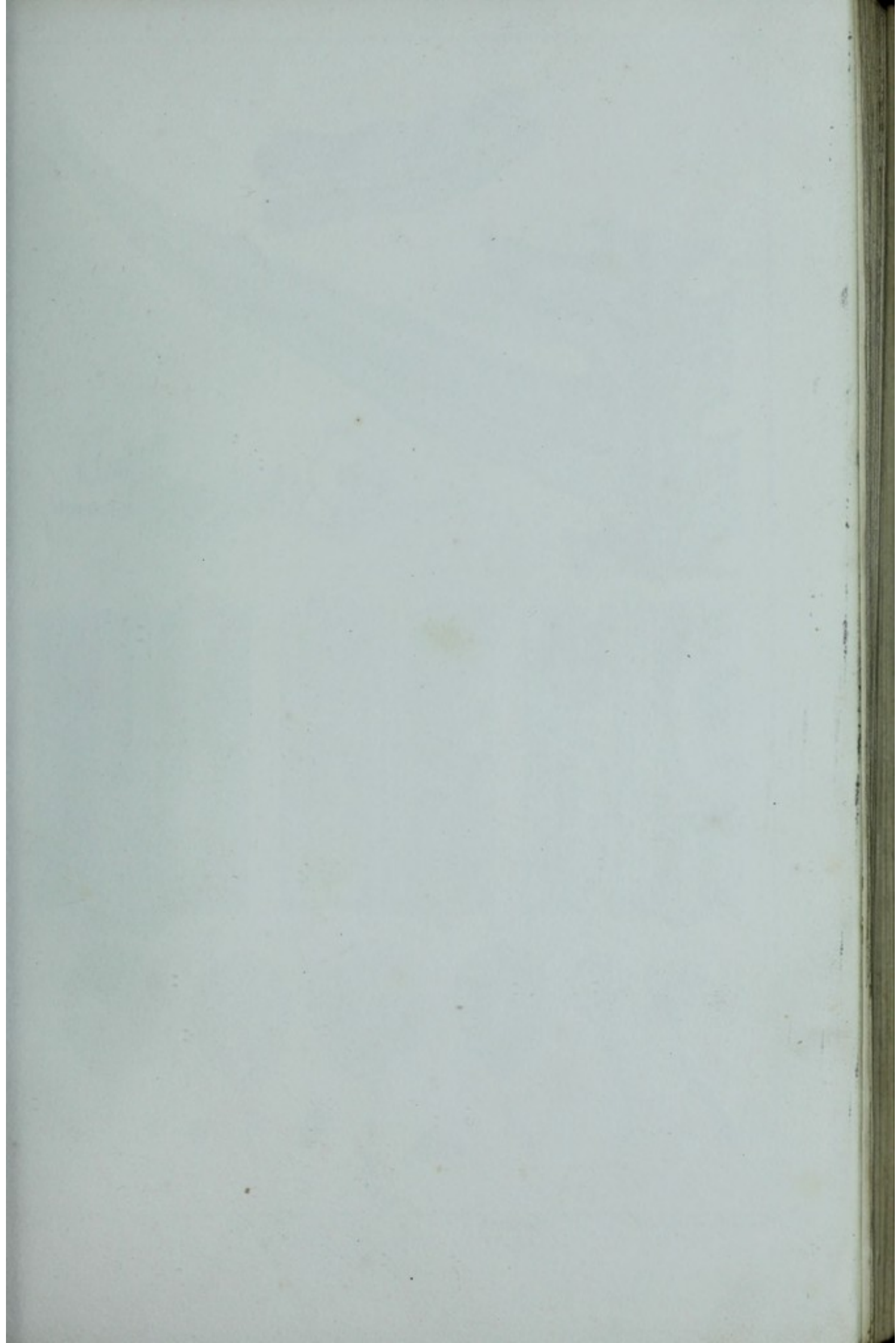
*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

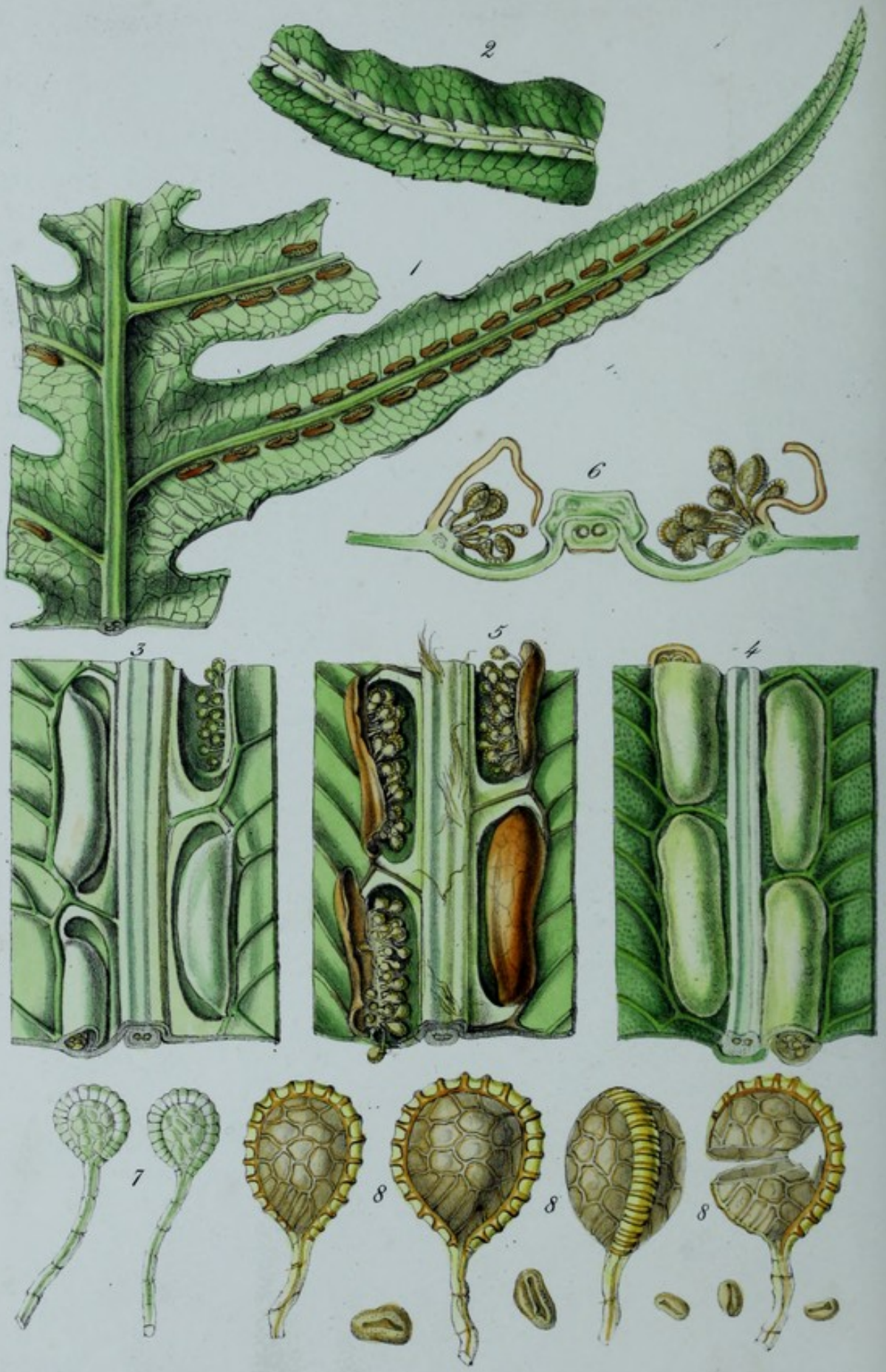
*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

*Atelides* sp. nov. - *Atelides* sp. nov. - *Atelides* sp. nov.

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TAB. XVII.

WORMWORMS.

Seri vana uterque mensura... (faded text)

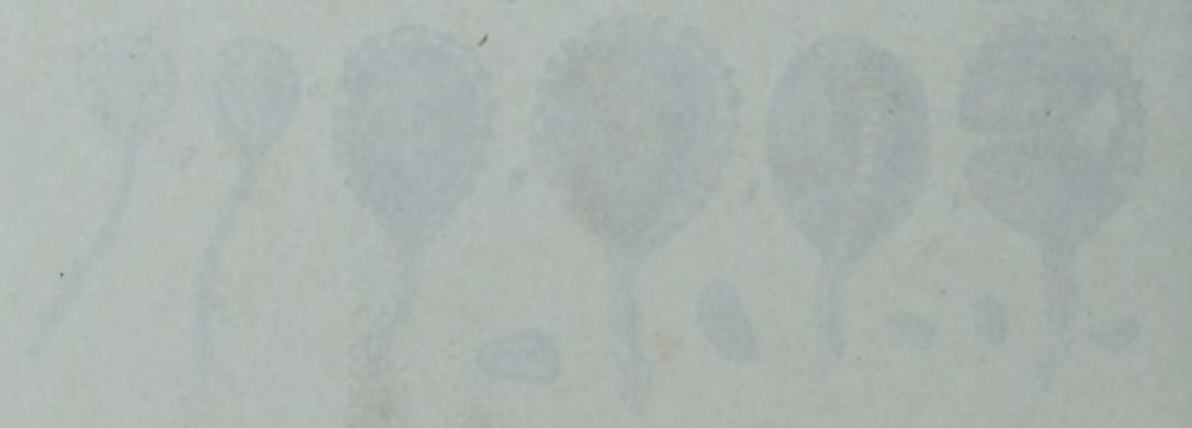
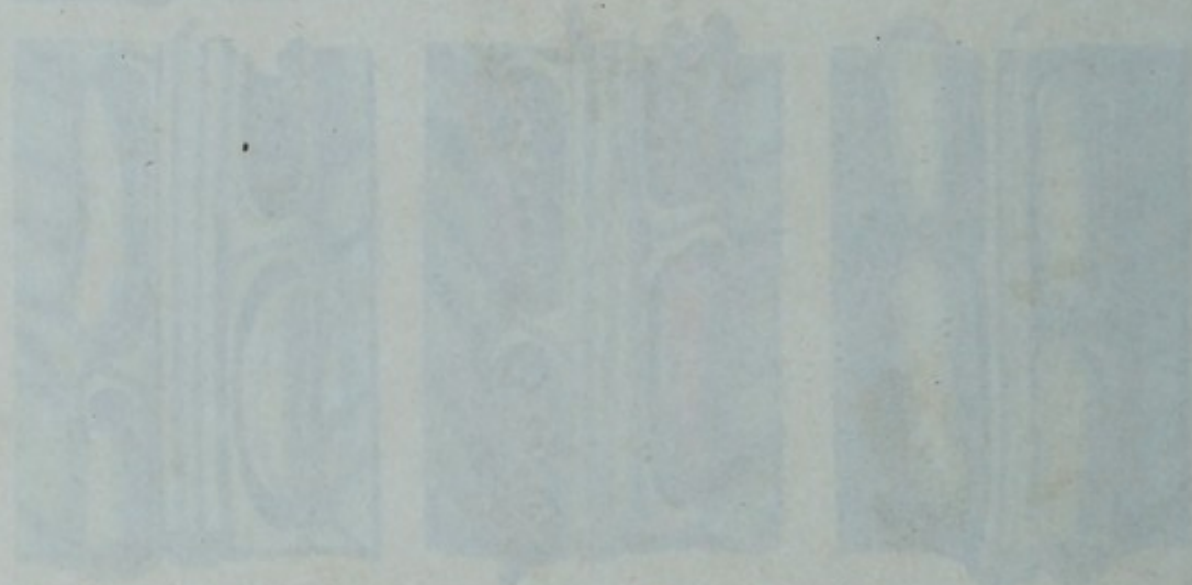
Wormworms... (faded text)

A small but very... (faded text)

W. Figures... (faded text)

Fig. 1. Section... (faded text)





TAB. XVII.

WOODWARDIA. Sm.

*Sori* venis transversis macularum costalium inserti, lineares, immersi, costæ contigui. *Indusium* lineare, fornicatum, coriaceum, sorum involvens.—*Rhizoma subglobosum*. *Fronde* fasciculatæ, coriaceæ aut herbaceæ, dissimiles. *Venæ internæ*, tenues, ramosissimæ, in maculas inæquales anastomosantes, maculis costalibus, elongatis, costæ parallelis, mediis hexagonoideis ad angulos superiores externos venulas liberas furcatas simplicesque gerentibus. Presl.

*Woodwardia radicans*. Sw. *Syn. Fil.* p. 117.

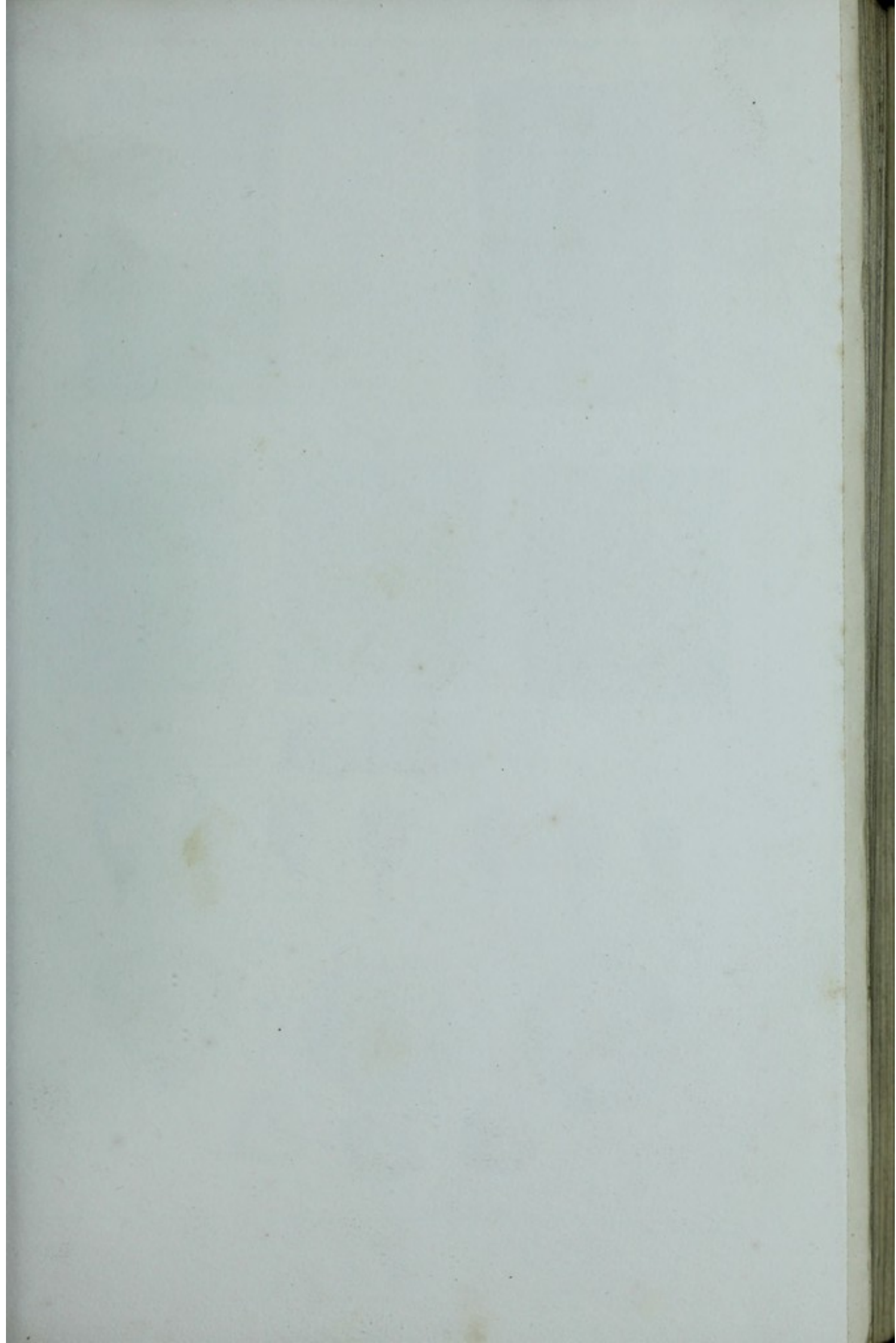
A small but very handsome genus, which, as circumscribed by Presl, nevertheless constitutes two groups with that author. § I. *Frons coriacea, fertilis non dissimilis*. *Sori breves*;—including, besides our *W. radicans*, Sw., *W. staus*, Sw.; to which may be added, *W. prolifera*, Hook. et Arn. in *Bot. of Beech. Voy.* p. 275. t. 57. §. II. *Frons herbacea, fertilis dissimilis*. *Sori longiores*;—including two N. American species, *W. angustifolia*, Sm. (*W. onocleoides*, Willd.), and *W. thelypteroides*, Ph.

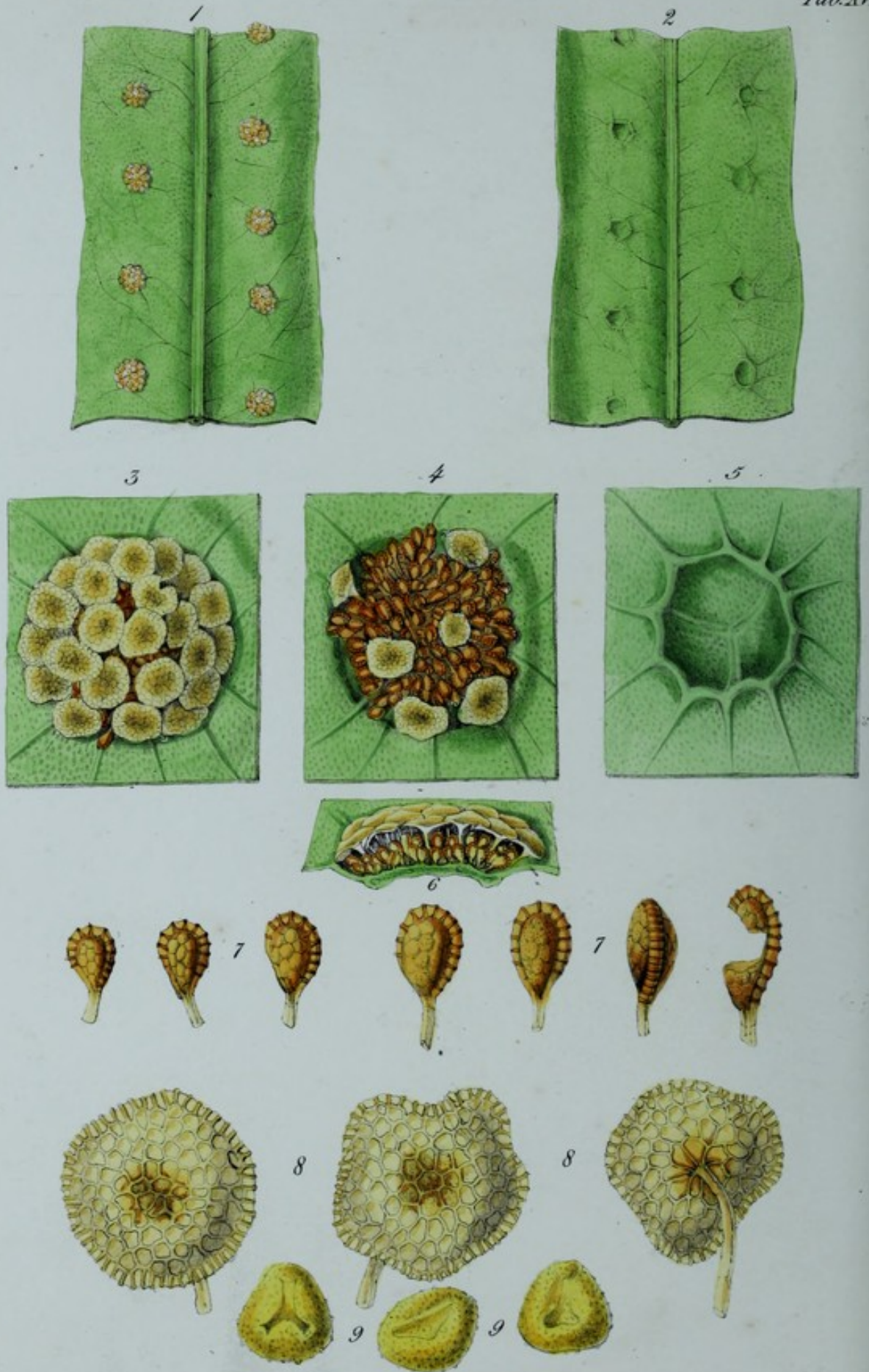
*W. Virginica*, Sw., is, by Presl, referred to *Doodia* of Brown, which, he observes, only differs from *Woodwardia* in the veins and veinlets being prominent on the under side, the sori rather remote from the costa, not immersed nor linear, and in the flat, not fornicate, indusium.

*Fig. 1.* Portion of the under side of a fertile frond; *magn.* 2 diam.—*f. 2.* Smaller portion of the upper surface; *m.* 2 diam.—*f. 3.* A very small portion of the under surface, with young sori;—*m.* 10 diam.—*f. 4.* Upper surface of the same; *m.* 10 diam.—*f. 5.* A similar portion of the under surface with ripe sori; *m.* 10 diam.—*f. 6.* A transverse section of the same made through the sori; *m.* 20 diam.—*f. 7.* Young sporangia.—*f. 8. 8.* Old sporangia and sporules; *m.* 100 diam.











TAB. XVIII.

FRAGARIA. *Rank. et. Syst.*

FRAGARIA *Sp. Solms.*

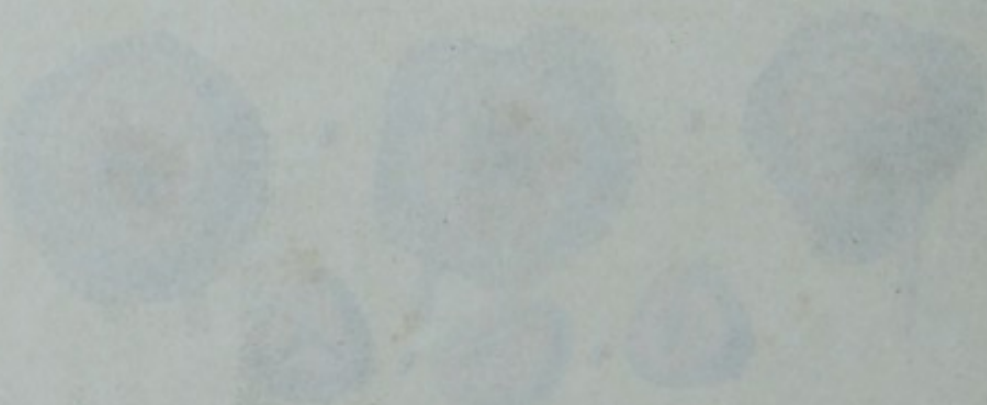
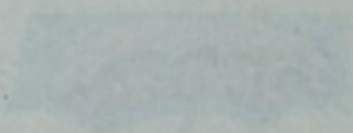
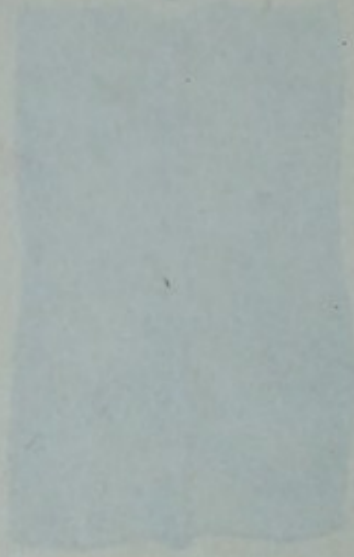
Not distinct, but, except in the case of *Fragaria vesicularis*, the species of the genus are distinguished by the shape of the leaves, the form of the fruit, the color of the petals, and the color of the seeds. The leaves are either ovate, ovate-oblong, or ovate-lanceolate, and are either entire, serrated, or lobed. The fruit is either globose, subglobose, or obovate, and is either solitary or aggregate. The petals are either white, pink, or red. The seeds are either black, brown, or white. The species of the genus are distinguished by the shape of the leaves, the form of the fruit, the color of the petals, and the color of the seeds.

*Fraxinosa* *Rank. Syst. 18.*

We have elsewhere remarked (*Jour. J. Bot. t. 11.*) that *Fraxinosa* *Rank.* is often taken for the so-called *fraxinosa* of the genus *Fraxinosa* are only particular varieties, such as are frequently found in the woods of the forest, and are distinguished from the rest, in the same way as the variegated leaves of *Fraxinosa* because particular among the rest, and which we have shown that the genus should merge into *Fraxinosa*. From this, however, returned the genus, and the character to depend mainly on the petals, which is independent of the leaves, and is extended to the whole of the plant. It is well represented in the *Fraxinosa* *Rank.* which we have shown, where the color is more dependent than in the present species. The species of the genus are numerous, and distinguished by the shape of the leaves, the form of the fruit, the color of the petals, and the color of the seeds. In many, the seeds are arranged in a row on the corresponding opposite side of the fruit, as beautifully shown in *Fraxinosa* *Rank.*

*Fig. 1.* Fraxinosa of the under surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds. *Fig. 2.* Fraxinosa of the upper surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds. *Fig. 3.* Fraxinosa of the under surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds. *Fig. 4.* Fraxinosa of the upper surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds. *Fig. 5.* Fraxinosa of the under surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds. *Fig. 6.* Fraxinosa of the upper surface of the leaf, showing the shape of the leaf, the shape of the fruit, the color of the petals, and the color of the seeds.





TAB. XVIII.

PLEOPELTIS. *Humb. et Bonpl.*

POLYPODI Sp. *Auctorum.*

*Sori* globosi, magni, uni-pluriseriales. *Sporangia* creberrima. *Pedicelli* sporangiis delapsis persistentes, pulvinulum magnum hemisphæricum efformantes. *Receptaculum* punctiforme, maximum.—*Rhizoma repens*. Frondes *sparsæ*, crasse coriaceæ immo carnosæ, aut simpliciter coriaceæ aut herbaceæ, simplices, rarius pinnatifidæ. Venæ internæ, persæpe tenuissimæ, ramosæ, venulisque apice obtuso libero aut maculis irregularibus desinentes. Venulæ in maculas hexagonoideas vel octogonoideas anastomosantes, maculis mediis magnis interne venulas secundarias duas-plures maculam oblongam simplicem vel e pluribus compositam apice soriferam efficientes continentibus. *Presl.*

*Pleopeltis nuda*. *Hook. Exot. Fl. t. 63.*

We have elsewhere remarked (*Icones Filicum*, t. 67, under *Pleopeltis percussa*, *Hook. et Grev.*), that the so-called involucre of the genus *Pleopeltis* are only pedicellated scales, such as are frequently found sessile on the under surface of the frond, remote from the sori, in the same way as the stellated scales of *Niphobolus* become pedicellated among the sori; and we had considered that the genus should merge into *Polypodium*. *Presl* has, however, retained the genus, making the character to depend mainly on the venation, which is unfortunately, in many species, so delicate, and so concealed within the thickened substance of the frond, as to be extremely obscure. It is well represented in the *Pleopeltis percussa*, *Hook. et Grev.*, above cited, where the veins are more apparent than in the present species. The species of the genus are numerous, chiefly tropical. In many, the sori are immersed, and form a scar on the corresponding opposite side of the frond, as beautifully shown in *Mr Bauer's* figures.

*Fig. 1.* Portion of the under surface of a fertile frond; *magn.* 2 diam.—*f. 2.* Upper surface of the same; *do.*—*f. 3.* Small portion of the under surface, with a ripe sorus; *m.* 15 diam.—*f. 4.* The same, with most of the pedicellate scales removed; *do.*—*f. 5.* Upper surface of the same; *do.*—*f. 6.* Vertical section of a ripe sorus; *m.* 15 diam.—*f. 7.* 7. Sporangia in different stages; *m.* 100 diam.—*f. 8.* 8. Peltate scales from the sorus; *m.* 50 diam.—*f. 9.* Sporules; *m.* 400 diam.

TAB XVIII

PLEOPETIS

Genus

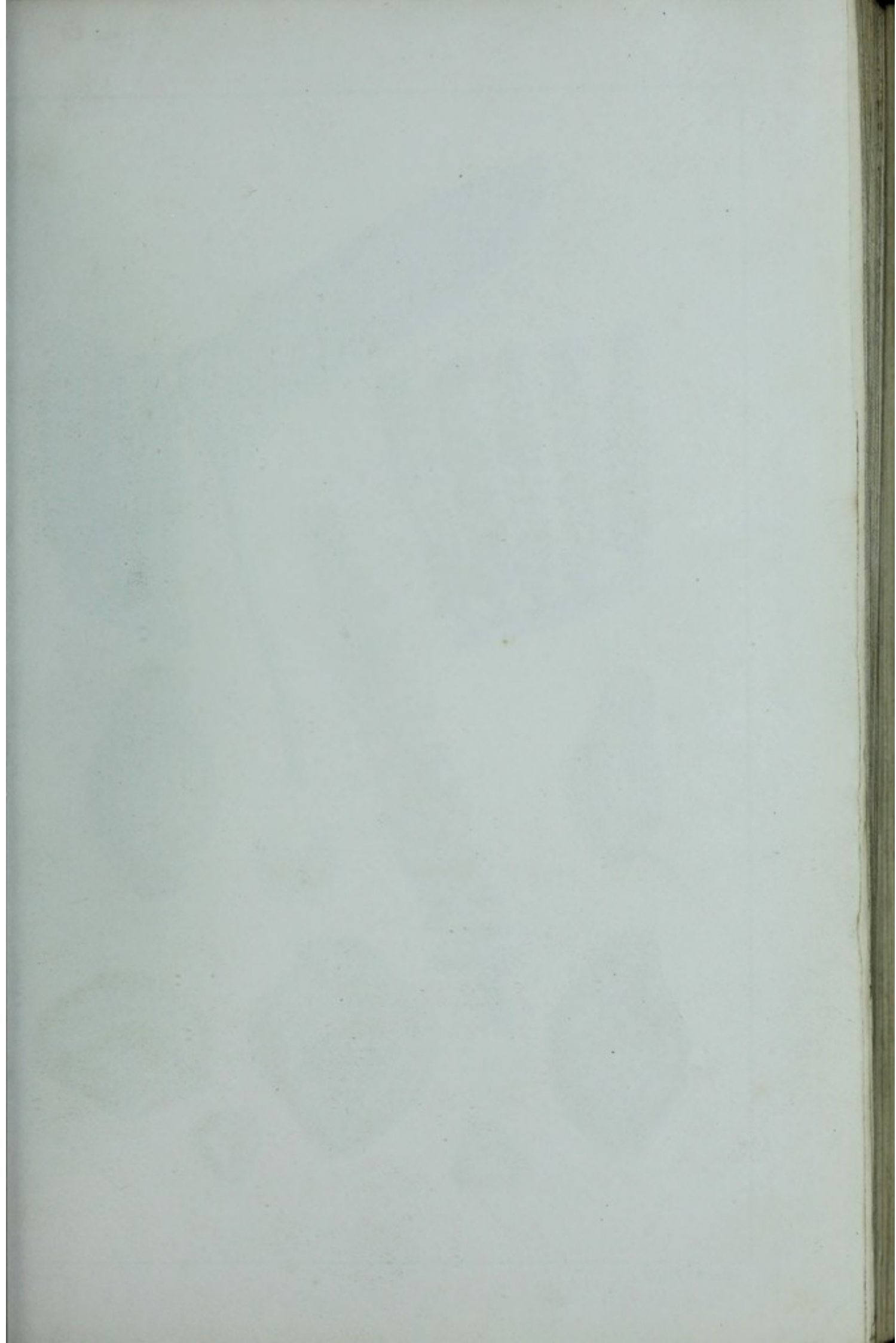
Two species, *Pleopetis* ... *Pleopetis* ...

*Pleopetis* ...

The first species ... *Pleopetis* ...

Fig. 1. ... *Pleopetis* ...









TAB. XIX.

SCHIZEA. Sw. Sw.

Sporangia ovalia, sessilia, fasciolo-reticulata, apice annulata vel radiata striata, hinc longitudinaliter dehiscens, multiseriis 4-6-8 quadrifloris, in appendicibus linearibus filiformibus vel pinnatis plerumque pinnatis disposita. Pediculis e marginibus inflexis brevissimis, intus liberum.—Frustra suspensa, lineari rotundis lobelliformis lata, simplicibus vel dichotomis, plerumque compressis, costata, vel in apicibus frondibus latioribus, sessile, tenuis numerosis parallelis elongatis, basi admodum dichotomis.

*Schizoa dichotoma*. Sw. Syn. Fil. p. 150. Br. Prodr. Fl. Nov. Holl. p. 162. Hook. et Grev. Ic. Fil. t. VI.—*Acrostichum dichotomum*. Linn. Sp. Pl. p. 1525.—*Rhipidnum dichotomum*. Bernh.

A singular and very beautiful and very distinct genus, of which the species have a very extensive range in both hemispheres. The most northern limit of any species is New Jersey in N. America. In the south, they extend to the Cape of Good Hope and Van Diemen's Land.

Fig. 1. Lateral view of a fertile frond, magn. 6 diam.—f. 2. Inner view of a portion of the apical part, magn. 10 diam.—f. 3. Outer view of a fertile portion of the frond.—f. 4. Single sporangium, inner view, magn. 20 diam.—f. 5. Transverse section of the same, do.—f. 6. 8. Sporangia in a ripe state, magn. 100 diam.—f. 7. Sporangia bearing, magn. 150 diam.—f. 8. 9. Spores, magn. 100 diam.





TAB. XIX.

SCHIZÆA. Sm. Sw.

*Sporangia* ovalia, sessilia, vasculoso-reticulata, apice annulata vel radiatim striata, hinc longitudinaliter dehiscentia, unilateralia bi-seu quadriselia, in appendicibus linearibus flabellatis vel pinnatis plerumque pilosis disposita. *Indusium* e marginibus inflexis formatum, intus liberum.—Frondes *cæspitosæ*, *lineares rarius flabelliforme latæ*, *simplices vel dichotomæ*, *plerumque compressæ, costatæ, vel, in speciebus frondibus latioribus, venosæ, venis numerosis parallelis elongatis, basi solummodo dichotomis.*

*Schizæa dichotoma.* Sw. *Syn. Fil.* p. 150. *Br. Prodr. Fl. Nov. Holl.* p. 162. *Hook. et Grev. Ic. Fil. t.* 17.—*Acrostichum dichotomum.* *Linn. Sp. Pl.* p. 1525.—*Ripidium dichotomum.* *Bernh.*

A singular and very beautiful and very distinct genus, of which the species have a very extensive range in both hemispheres. The most northern limit of any species is New Jersey in N. America. In the south, they extend to the Cape of Good Hope and Van Diemen's Land.

*Fig. 1.* Extremity of a fertile frond; *magn.* 5 diam.—*f. 2.* Inner view of a portion of the appendages; *m.* 10 diam.—*f. 3.* Outer view of a smaller portion of the same.—*f. 4.* Single appendage, inner view; *m.* 20 diam.—*f. 5.* Transverse section of the same; *do.*—*f. 6.* 6. Sporangia in a ripe state; *m.* 100 diam.—*f. 7.* Sporangia bursting; *m.* 100 diam.—*f. 8.* 8. Sporules; *m.* 400 diam.

TAB. XIX.

SCHIZURA 200 200

Schizura ovata, ovata, ovata-reticulata, ovata-nervata vel reticulata striata,  
 lineae longitudinalibus reticulatis, unilaterebus bis-ve quadrifidis, in appendicibus  
 lineatibus habentibus vel punctatis pluribus filis-hipocri. Inductio e nar-  
 gibus inflexis formata, latera liberata.—Fimbriae ovatae, latera curvata  
 fimbriatae late, angustae vel distinctae, fimbriatae angustae, costulae, vel, in  
 speciebus fimbriatis latioribus, rursus, rursus nervatae punctatis elongatis, basi  
 nervatae distinctae.

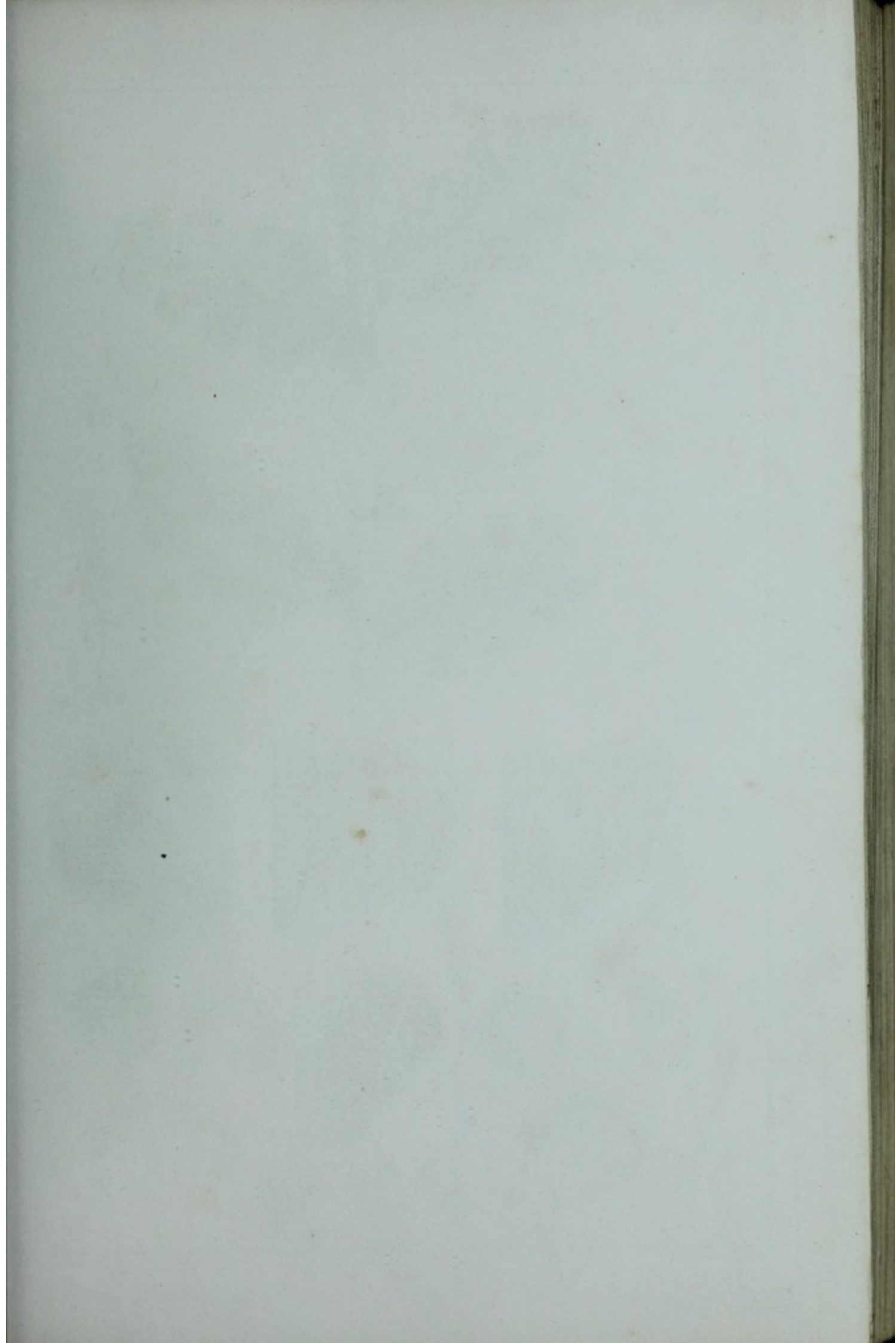
Schizura albicoma, Sch. Sp. Pl. p. 120. Pl. Nov. Pl. Nov. Pl. p. 102. Pl. Nov.  
 et Gen. Pl. Pl. p. 17.—Schizura distincta, Lat. Sp. Pl. p. 122.—Rip-  
 ides distincta, Lat. —

A singular and very beautiful and very distinct genus of which the species have a very  
 extensive range in both hemispheres. The most northern limit of any species is New  
 Jersey in N. America. In the south, they extend to the Cape of Good Hope and Van  
 Diemen's Land.

Fig. 1. Extent of a single head; magn. 5 diam.—2. Front view of a portion of the append-  
 ices; or 10 diam.—3. Under view of a similar portion of the same; 4. Single appendage, front  
 view; or 20 diam.—5. Transverse section of the same; or 2. 6. Schizura in a type state;  
 or 100 diam.—7. Schizura in a type state; or 100 diam.—8. Schizura; or 100 diam.

1877







TAB. XX.

BALANTIDUM, Prid.

BALANTIDIUM CIRCULUM Sp. Kauff. DICKSONIA Sp. L'Hér. DAVALLIA Sp. Br.

Coria globosa, marginata, apice rotata, subterea imbricata. Adhaerens cartilagineum, coriaceum, vel firmum, fissile, valvulae distinctissimae patentibus, rotas semi-lunares, utrinque oppositas, aperturas, inaequales. Porepores globosum, saepe, bipolares. — Virescit fructuosa aut testate coriacea, simple, pinnis decompunctis. Vires pinnis, supra lanata, lobis, lobis, orbiculatis, inflexis (supra) fimbriatis, valvulae oppositas apice reflexis. Prid.

Balantium orbiculatum. — B. orbiculatum, Kauff. Exot. Fl. p. 228. t. 1. f. 12. Prid. Nord. p. 156. DICKSONIA orbiculata, L'Hér. Bot. Voy. p. 51. Wall. Cat. n. 64. — D. lobata, Sp. Sp. Fl. p. 126.

The species corresponding with the above characters, as given by Prid. loc. cit. include the above, B. orbiculatum, Fr. (Dichonia orbiculata, Bory de St. V. & Haime), B. orbiculatum, (Dichonia orbiculata, L'Hér.), D. lobata, Kauff.; B. orbiculatum, Fr. (Dichonia orbiculata, Br. Dichonia lobata, Kauff.) — They are common all the Islands, New Holland, and Brazil.

Fig. 1. Under surface of a portion of a single frond; magn. 4 diam. — f. 1. Upper surface of the same; do. — f. 2, 3. Sides with the valves opening; do. 15 diam. — f. 4. Upper side of a valve; do. — f. 5. Various modes of a valve; do. — f. 6, 7. Porepores in different views; do. 10 diam. — f. 8. Porepore; do. 200 diam. — f. 9, 10. Rays with the receptacle of the sporogonium; do. 200 diam. — f. 11. Rays from the sides of the frond; do. 200 diam.





TAB. XX.

BALANTIUM. *Presl.*

BALANTII et CIBOTII Sp. *Kaulf.* DICKSONIÆ Sp. *L'Herit.* DAVALLIA Sp. *Br.*

*Sori* globosi, marginales, apice venæ venulæve insidentes. *Indusium* cartilagineum, coriaceum vel herbaceum, bivalve, valvulis dissimilibus patentibus; *verum* semilunare; *accessorium* operculiforme, convexum. *Receptaculum* globosum, magnum, hispidum.—Frondes *fasciculatæ aut tenuiter coriaceæ, amplæ, pinnato-decompositæ.* Venæ *pinnatæ, supra immersæ, subtus elevatæ, crassiusculæ, inferiores (sæpe) furcatæ, venulisque superioribus apice soriferæ.* *Presl.*

*Balantium arborescens.*—*B. auricomum.* *Kaulf. Enum. Fil. p. 228. t. 1. f. 12. Presl. Pterid. p. 184. Dicksonia arborescens. L'Herit. Sert. Angl. p. 31. Wall. Cat. n. 64.*—*D. integra. Sw. Syn. Fil. p. 136.*

The species corresponding with the above character, as given by *Presl*, are, besides the above, *B. Sellowianum*, *Pr.* (*Dicksonia riparia*, *Beyrich Herb.*), *B. antarcticum*, (*Dicksonia antartica*, *Labill.*, *Cibotium Billardieri*, *Kaulf.*), *B. Brownianum*, *Pr.* (*Davallia dubia*, *Br. Dicksonia fallax*, *Kaulf.*)—They are natives of *St Helena*, *New Holland*, and *Brazil*.

*Fig. 1.* Under surface of a portion of a fertile frond; *magn. 4 diam.*—*f. 2.* Upper surface of the same; *do.*—*f. 3. 4.* *Sori*, with the valves spreading; *m. 16 diam.*—*f. 5.* Upper side of a sorus; *do.*—*f. 6.* Vertical section of a sorus; *do.*—*f. 7. 7.* Sporangia in different stages; *m. 50 diam.*—*f. 8.* Sporules; *m. 200 diam.*—*f. 9. 9. 9.* Hairs from the receptacle of the sporangia; *m. 200 diam.*—*f. 10.* Hairs from the rachis of the frond; *m. 200 diam.*

TAB. XX.

BALANTIDIA.

Illustrations of Balantidia sp. nov. Thrombus sp. nov. Dactylus sp. nov.

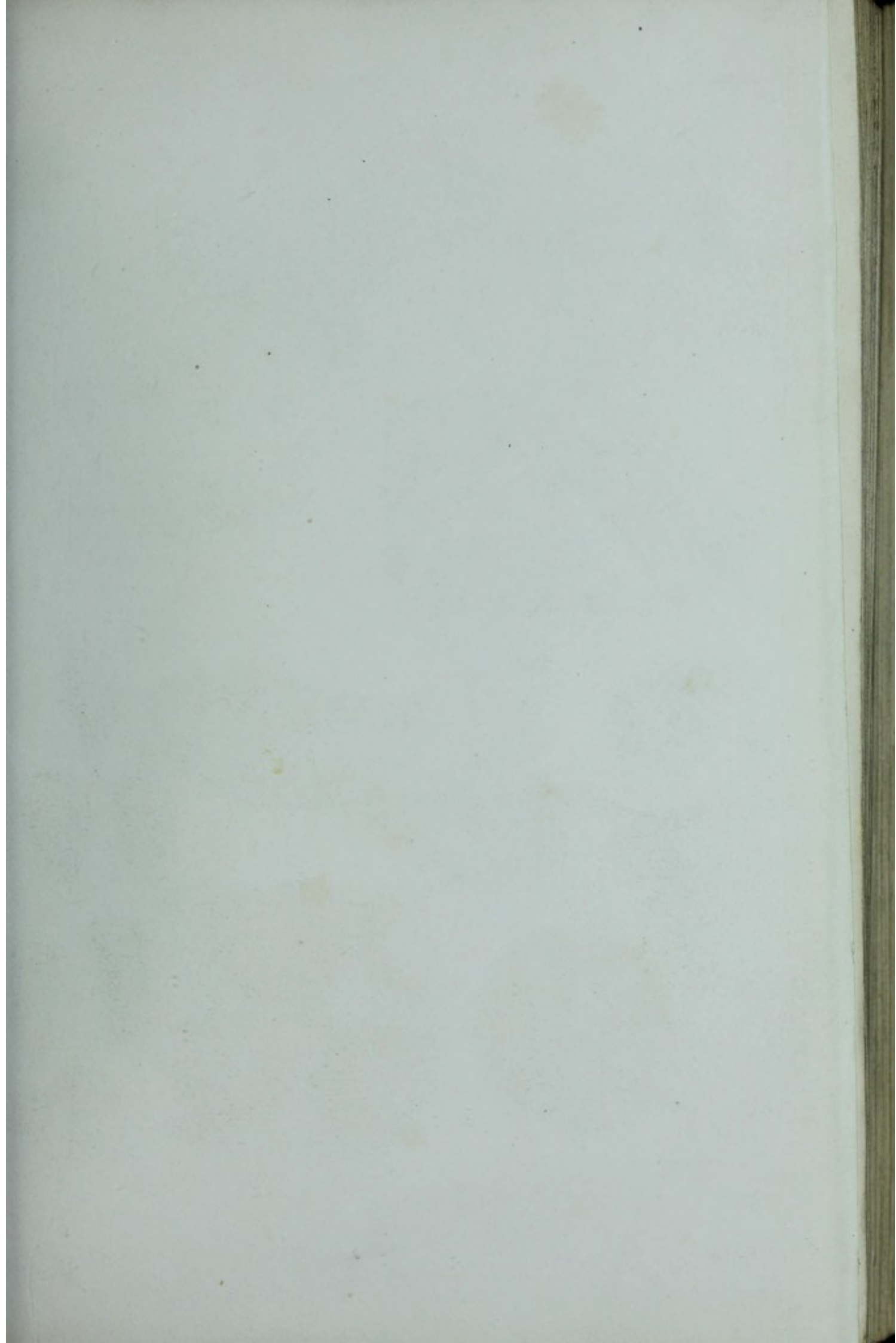
Fig. 1. Balantidia sp. nov. showing the pear-shaped body, the large nucleus, and the contractile vacuole. Fig. 2. Thrombus sp. nov. showing the pear-shaped body and the large nucleus. Fig. 3. Dactylus sp. nov. showing the pear-shaped body and the large nucleus.

Balantidia sp. nov. Thrombus sp. nov. Dactylus sp. nov. Plate 189. Balantidia sp. nov. Thrombus sp. nov. Dactylus sp. nov.

The species corresponding with the above characters, as given by Ford, are Balantidia sp. nov. Thrombus sp. nov. Dactylus sp. nov. Balantidia sp. nov. Thrombus sp. nov. Dactylus sp. nov.

Fig. 1. Balantidia sp. nov. showing the pear-shaped body, the large nucleus, and the contractile vacuole. Fig. 2. Thrombus sp. nov. showing the pear-shaped body and the large nucleus. Fig. 3. Dactylus sp. nov. showing the pear-shaped body and the large nucleus.









TAB. XXI.

ALSOPHILA. *Ev. Presl.*

CYATHA. Sp. Nov. CHYTHORHIZA. *Kauff. Exsicc. Pl. (Catal. Herb. et part.)*  
 ALSOPHILA. *Ev. H. Hartmanniana, et III. Dicksoniana. Mart.*

Sp. in medio dors. ventrum simpliciter aut in una basi (ali) furcata ramulorum  
 globos. radi. *Receptaculum globosum, pilosum. Setae longae, setae radiatae,  
 pedicellatae, parvae.*—Arbores, velut species herbaceae (A. prostrata), setis radiatis.  
*Crocha fissi aut irregulariter capillatae. Crocha simpliciter in spirale spirali aequata  
 (A), radiata, radiis oblongis, in spirale aequata prostrata, aequata (A); setae radi-  
 atae in aequata, lateralis in aequata multilobata, aequata, aequata, aequata,  
 infra circulares ramulorum. Frons lobata, aequata, aequata, aequata. Vires  
 pilosae, infra prostratae, inferiores multilobatae, superiores simpliciter, aut aequata  
 aequata, radiis divergentibus. Presl.*

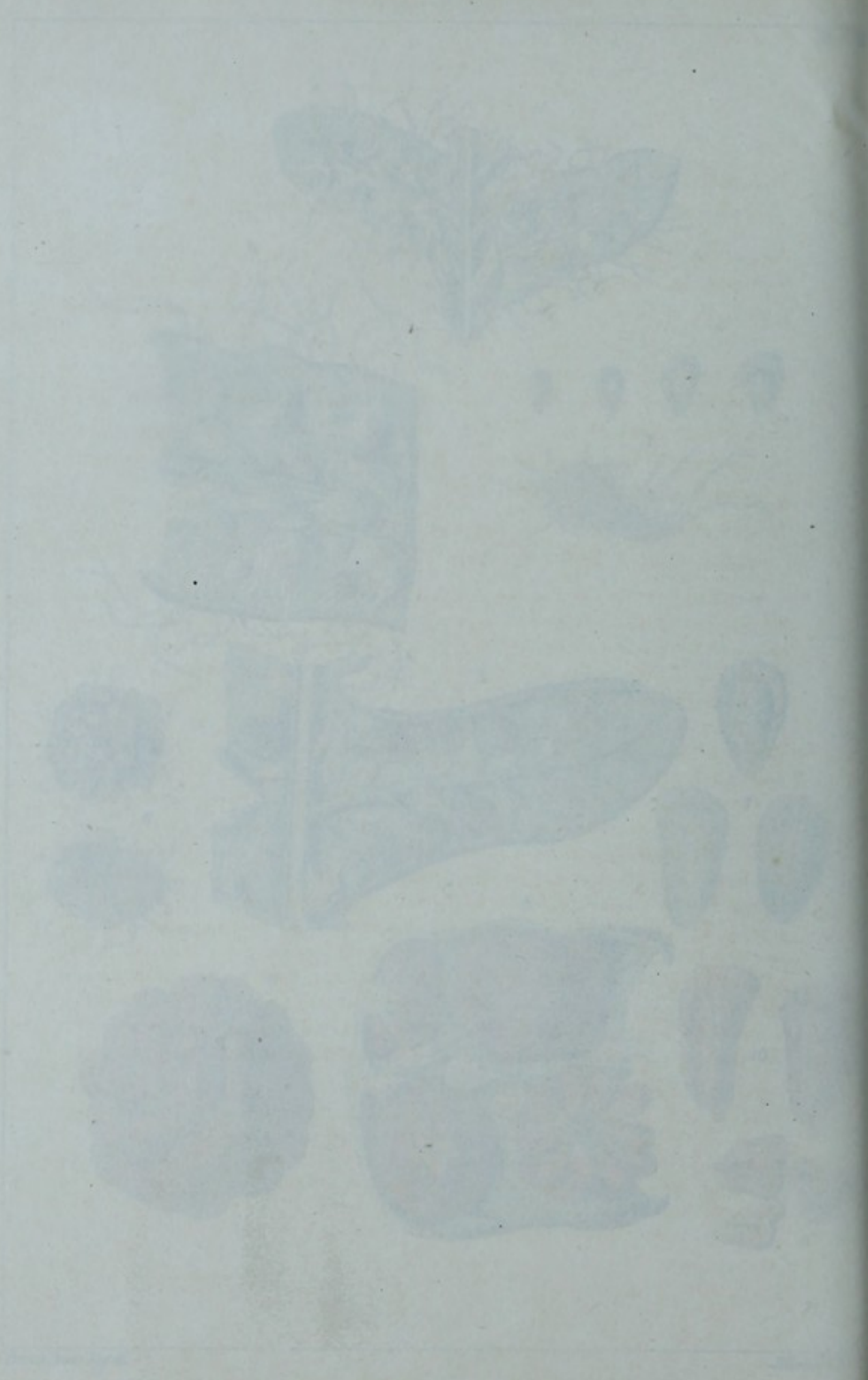
*Alsophila aegypti, Ev. Hook. et Grev. K. Fil. t. 213, 214, and 217 (fr. caps. male).*—*Cyathia, Sw. Polypodium, L. Sw.*

The Genus *Alsophila*, as now circumscribed by Presl, is a very natural one. The radical  
 rounded ear, at first sight, gives the appearance of a *Polypodium*; but the elevated compo-  
 sition and the different nature of the spongiae, setae, and veins, mark the group of  
*Cyathium*. Martius writes with *Alsophila Trichostema, Presl.* and *Polypodium multilobum*  
 Willd., which latter, together with *P. Fendleri, Hook. et Grev. L. Fil. t. 202*, constitutes  
 the Genus *Heteros, Presl. (Allophlebium, Schott.)*—but these, though agreeing with  
*Alsophila* in the description, differ in the venation, in the disposition of the ear, and,  
 above all, in habit.

The species of this genus are numerous, chiefly confined to the tropics, and very difficult  
 to be distinguished in the Herbarium specimens, which exhibit so small a portion of the  
 plant. Mr. Hausskn's observations made from a living individual, growing in the Royal  
 Gardens of Kew, which was raised by seeds taken by Mr. J. Smith from a Jamaica speci-  
 men, and which is now (1838) a fine healthy plant, with a slender stem four high, and fronds  
 four feet in length. "The ear," Mr. Smith observes, "in the early stage, set with com-  
 plex, and the whole frond densely covered with water; but these are deciduous, falling  
 off long before the ear is perfected. Sometimes a few scales remain, and appear as if  
 they were attached under the ear, but it is evident that they are only held there by the en-  
 largement of the spongiae, and that they cannot be considered in the light of an induratum."  
 Another species of this group of *Cyathia*, has been already figured in this work (Tab. IX.)

Fig. 1. *Alsophila*, seen from behind (examined in August, 1837); magn. 10 diam.—f. 2. Another  
 portion of the ear, examined in September of the same year; m. 10 diam.—f. 3. Young spongia, with  
 radiatae—the scales; m. 10 diam.—f. 4. Young spongia, from the same; m. 10 diam.—f. 5. A  
 small portion from the same plant (examined in October, 1837); m. 10 diam.—f. 6. Ear, seen from the same; m. 10  
 diam.—f. 7. Young spongiae from the same; m. 10 diam.—f. 8. A small portion from the same  
 plant (examined in February, 1838); m. 10 diam.—f. 9. Ear, from the same; m. 10 diam.—f. 10.  
 Two spongiae from the same; m. 10 diam.—f. 11. Spongia; m. 10 diam.





## ALSOPHILA. Br. Presl.

CYATHEÆ. Sp. Auct. CHNOOPHORA. Kaulf. Enum. Fil. (Catal. Herb. ex parte).

ALSOPHILÆ Sect. II. HAPLOPHLEBIA, et III. DICRANOPHLEBIA. Mart.

Sori in medio dorsi venarum simplicium aut in ima basi (ala) furcaturæ venarum, globosi, nudi. *Receptaculum* globosum, pilosum. *Sporangia* densissime imbricata, pedicellata, parva.—Arbores, *unica species herbacea* (A. pruinata), sæpe aculeatæ. *Caudex* teres aut irregulariter angulatus. *Cicatrices stipitum in ordine spirali senario* ( $\frac{1}{6}$ ), *remotæ, ovato-oblongæ, in apicem acutum productæ, concaviusculæ*; *verrucis externis in orbem, internis in arcum semilunarem dispositis, superioribus binis, lacunis infra cicatricem maximis*. Frondes herbacæ, supradecompositæ, amplæ. Venæ pinnatæ, infra prominulæ, inferiores uni-bifurcatæ, superiores simplices, aut omnes simplices, venulis divergentibus. Presl.

*Alsophila aspera*. Br.—Hook. et Grev. Ic. Fil. t. 213, 214, and 215? (Ic. caps. malæ).—*Cyathea*. Sm.—*Polypodium*. L.—Sw.

The Genus *Alsophila*, as now circumscribed by Presl, is a very natural one. The naked rounded sori, at first sight, give the appearance of a *Polypodium*; but the elevated receptacle, and the different nature of the sporangia, annulus, and seeds, mark the group of *Cyatheaceæ*. Martius unites with *Alsophila*, *Trichopteris*, Presl, and *Polypodium rostratum*, Willd., which latter, together with *P. Parkeri*, Hook. et Grev. Ic. Fil. t. 232, constitute the Genus *Metaxya*, Presl, (*Amphidesmium*, Schott)—but these, though agreeing with *Alsophila* in the fructification, differ in the venation, in the disposition of the sori, and, above all, in habit.

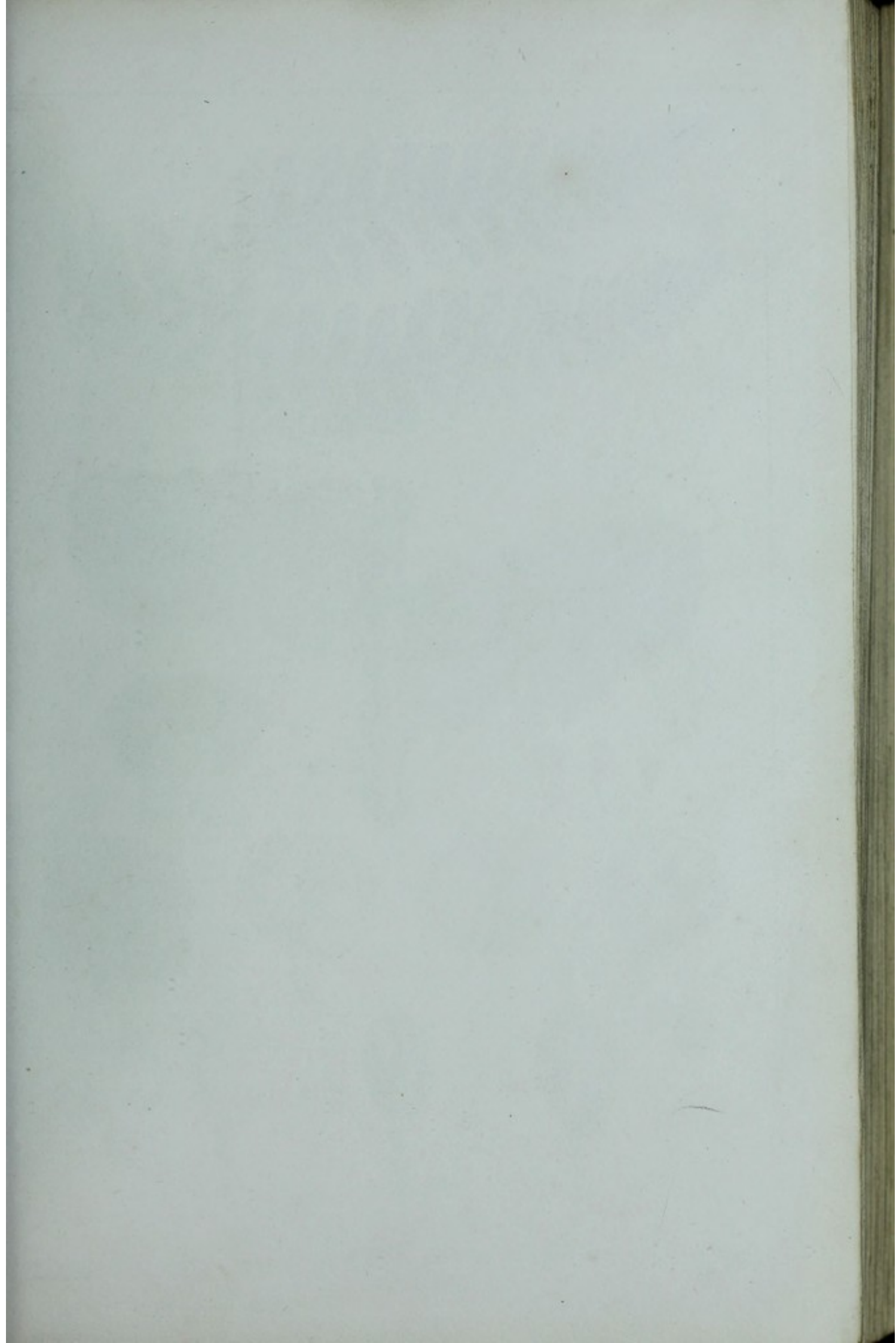
The species of this genus are numerous, chiefly confined to the tropics, and very difficult to be distinguished in the Herbarium specimens, which exhibit so small a portion of the plant. Mr Bauer's figures were made from a living individual, growing in the Royal Gardens of Kew, which was raised by seeds taken by Mr J. Smith from a Jamaica specimen, and which is now (1838) a fine healthy plant, with a caudex one foot high, and fronds four feet in length. "The sori," Mr Smith observes, "in the early stage, are quite confluent, and the whole frond densely covered with scales; but these are deciduous, falling off long before the sori are perfected. Sometimes a few scales remain, and appear as if they were attached under the sori, but it is evident that they are only held there by the enlargement of the sporangia, and that they cannot be considered in the light of an indusium."—Another species of this genus (*A. excelsa*) has been already figured in this work (Tab. IX.).

Fig. 1. Pinnules, seen from beneath (examined in August, 1834); magn. 10 diam.—f. 2. Smaller portion of the same (examined in September of the same year); m. 10 diam.—f. 3. Young sorus, with an indusium-like scale; m. 30 diam.—f. 4. Young sporangia, from the same; m. 100 diam.—f. 5. A small portion from the same plant (examined in October, 1834).—f. 6. Two sori from the same; m. 30 diam.—f. 7. Three sporangia from the same; m. 100 diam.—f. 8. A small portion from the same plant (examined in February, 1835); m. 30 diam.—f. 9. Sorus from the same; m. 50 diam.—f. 10. Two sporangia from the same; m. 100 diam.—f. 11. Sporules; m. 400 diam.













TAB. XXII.

SPHÆROPTERIS. *Wall. B.*

PRELIMINA. *Des.*

Seri e medio venularum orti. *Indusium gloeosum, subterreum, involucrans, clavatum, demum verticaliter deflexum, bivalve.* — *Sporangia pedicellata, receptacula communia convexa, sessilibus.* — *Filix Nepalesis; Arizonicæ glaberrimæ, scopulorum, bivalve, nulla. Fossilis æthere, Arizonicæ, septuaginta, (septem radiis peristoma), trispinosa. Vasa peristoma, filices, etiam inter peristoma terminata, clausa, velut extra apertæ, plurilobata.*

*Ephedra, Arizonicæ, Wall. in Herb. Soc. Mart. Jul. 1825 (Ann. Burserianæ, p. 10) (Nepes. sp.). Schott, Gen. Ed. cur. L. — Mr. Ariz. Her. v. p. 48. — *Terrestrial epiphytic, Des. Prodr. 78. No. p. 12.**

This remarkable genus is confined to a single species, and that of such rare occurrence, that no person appears to have found it but the Kolyshnikov and professor Wallach, and he only on the summit of some of the highest mountains, near the great valley of Nepal. Mr. Brown, in the *Annals* just referred to, notices the affinity of this genus with *Asplenium* of Blume, but that has a round indusium, opening irregularly, having scarcely pedicellated sporangia, and a more obsolete receptacle. Nearly the same characters will also distinguish it from *Hymenophyllum*, C. A. Meyer (figured at Tab. III. of the present work), and in which, the indusium is in two, plus pedicellated, and they arise from the apex of a venose.

*Fig. 1.* Partes of the under side of a frond, supra. *Fig. 2.* Partes of the under side of the same, supra. *Fig. 3.* Partes of the under side of the same, supra. *Fig. 4.* Partes of the under side of the same, supra. *Fig. 5.* Partes of the under side of the same, supra. *Fig. 6.* Partes of the under side of the same, supra. *Fig. 7.* Partes of the under side of the same, supra. *Fig. 8.* Partes of the under side of the same, supra. *Fig. 9.* Partes of the under side of the same, supra. *Fig. 10.* Partes of the under side of the same, supra.





TAB. XXII.

SPHÆROPTERIS. *Wall. Br.*

PERANEMA. *Don.*

*Sori* e medio venulæ orti. *Indusium* globosum, coriaceum, involucrans, clausum, demum verticaliter dehiscens, bivalve. *Sporangia* pedicellata, receptaculo communi convexo insidentia.—*Filix Nepalensis*; *rhizomate* globoso, magno; *caudice* nullo. *Fronde* erectæ, herbacæ, stipitatæ, (*stipite rachique paleaceis*), tripinnatæ. *Venæ* pinnatæ, tenues; *venulæ* intra marginem terminantes, clavatæ, subtus infra apicem glanduliferæ.

*Sphæropteris barbata*. *Wall. in Herb. Soc. Merc. Ind. Or.* 1823 (*haud Bernhardtii, quæ Cyatheæ sp.*). *Schott, Gen. Fil. cum Ic.—Pl. Asiat. Rar.* 1. p. 42. t. 48.—*Peranema cyathoides*. *Don, Prodr. Fl. Nep.* p. 12.

This remarkable genus is confined to a single species, and that of such rare occurrence, that no person appears to have found it but the indefatigable and generous Wallich, and he only on the summit of two of the highest mountains, near the great valley of Nepal. Mr Brown, in the *Icones* just referred to, notices the affinity of this genus with *Diacalpe* of Blume, but that has a sessile indusium, opening irregularly, having scarcely pedicellated sporangia, and a more obsolete receptacle. Nearly the same characters will also distinguish it from *Hymenocystis*, C. A. Meyer (figured at Tab. III. of the present work); add to which, the indusia are in that plant pellucid, and they arise from the apex of a veinlet.

*Fig. 1.* Portion of the under side of a frond; *magn.* 2 diam.—*f. 2.* Smaller portion of the same; *m.* 10 diam.—*f. 3. 4.* Frond, and back view of an unripe sorus; *m.* 20 diam.—*f. 5. 6.* Side and front view of a ripe sorus; *do.*—*f. 7.* Vertical section of the same; *do.*—*f. 8.* Sporangia in various stages; *m.* 100 diam.—*f. 9.* Sporules; *m.* 200 diam.

TAB. XXII.

SPHEROPTERIS, NEW GEN.

FRUITING STAGE.

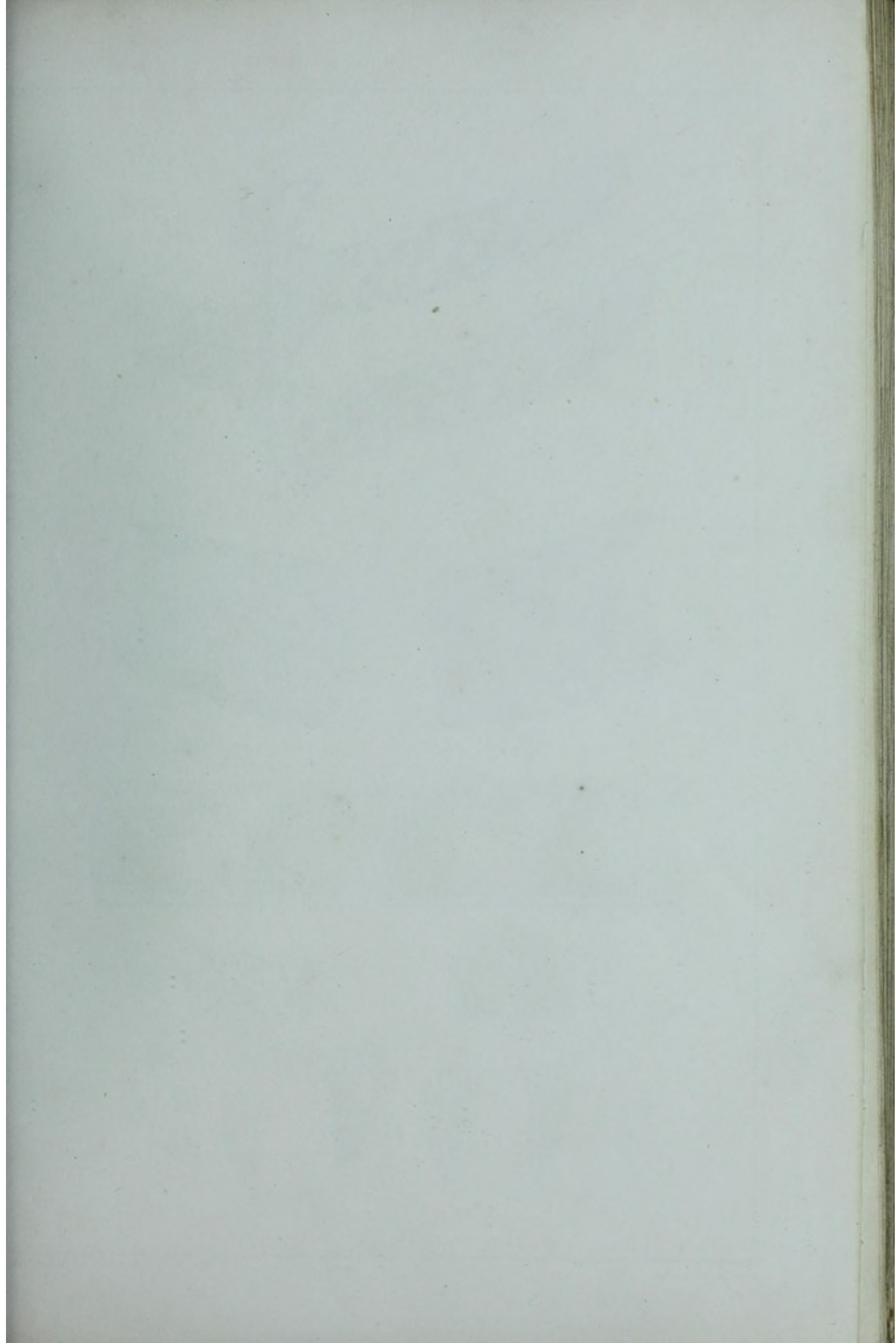
Spore 2-celled, reniform, etc. ...

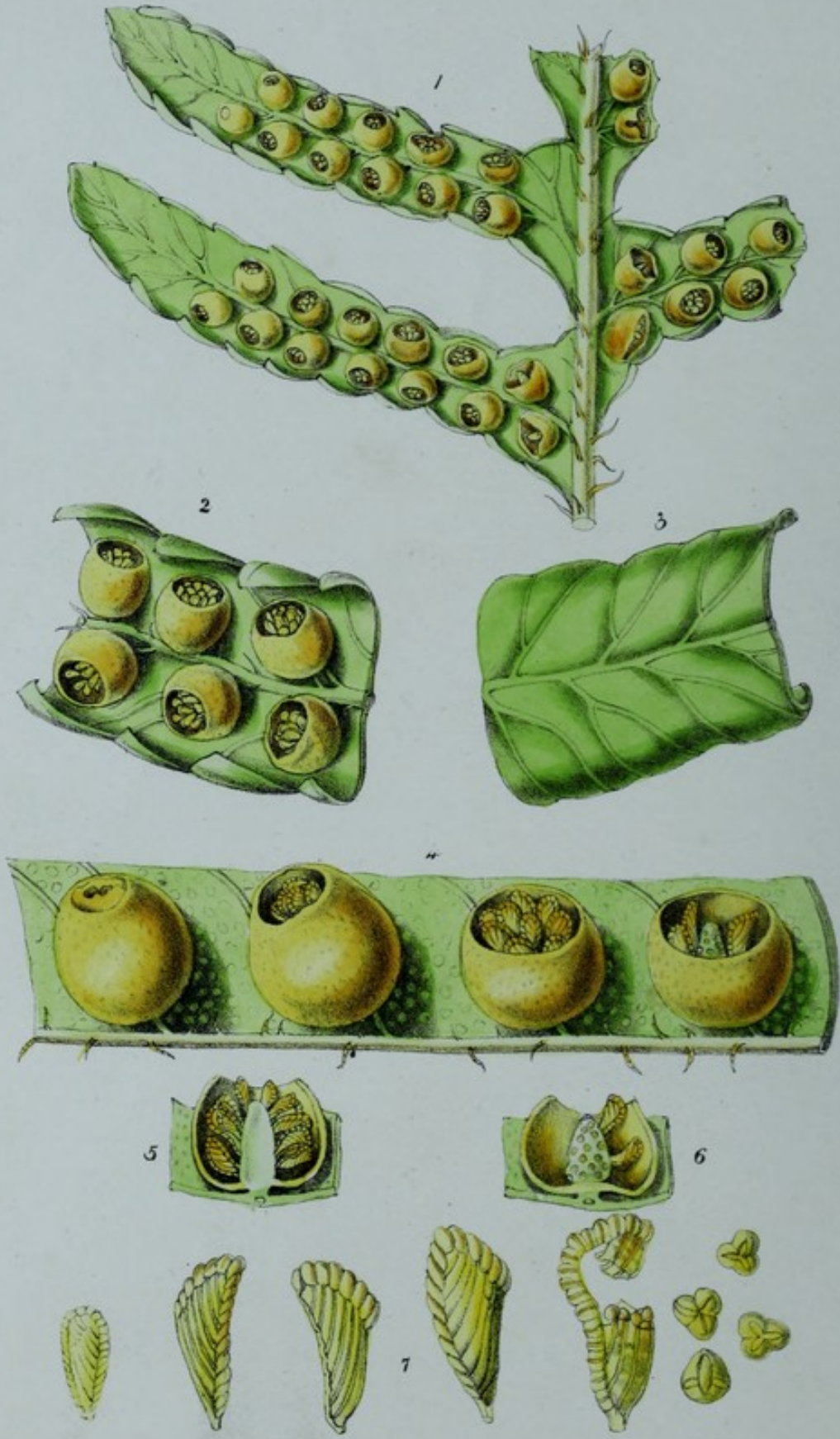
Spore 2-celled, reniform, etc. ...

This reniform spore is confined to a single species, and that of such rare occurrence, that no person appears to have found it but the ichthyologist and geologist ...

Fig. 1. Portion of the under side of a fruit; magn. 2 diam. ...







TAB. XXIII.

CYATHODES. Sw. (in part). D.

CYATHODES. Sect. II. CYATHODES. Presl. *Dissectio* 2. Presl.

Swi globosa, in basi (alia) furcatae basi: Tuberosa inferius, decliviter, majore, serrata, apice debilitata, sine dentibus cincta truncata integro vel magis in parte profunda irregulariter partita. Spinescentia sessilis v. subsessilis, receptaculo clavato-globoso v. clavato super lacinia effusa.—Habitus Anacardi. Young pin-nate; rindles fissate.

*Cyathodes alpestris*, *Humboldt in Mus. of Nat. Hist. Sept. 1808, p. 106.*

Presl, as has been already noticed, divided his *Cyathodes* into two primary sections—1. *Nereocarpia*, which corresponds with the genus *Nereocarpus*, already described in Tab. II. of this work. 2. *Cyathodes* sensu of Beauv. by which the latter includes the leading of the rubrae. Here belong, according to Presl, *C. ovata* and *C. integrifolia* Sw., *C. lucida* and *C. scabra* Mart., *C. Zeyheri* and *C. Strudveitii* Presl, *C. elliptica* Presl, *C. Schottiana* Mart., *C. hypericifolia* Presl, *C. uliginosa* and *C. angustata* Mart., *C. aspera* Sw., *C. pinnata* Beauv., *C. angustata* Willd., *C. acuta*, as applied to *C. ovata* Beauv., *C. mucronata* Willd., and *C. densata* Sw., by which name he called *C. globosa* Beauv. Mart. and the species here represented, among them *dissecta* specimens, also collected by Mr. Howard at Mr. J. Smith and Mr. Deane. These two principal *Cyathodes* here mentioned it also, what exists also in at least one other language *Cyathodes*, namely, that there is at the apex of the young tuberosity, a papilla surrounded by a circular line, (the the operation of a tube) of a diameter rather than the size, and somewhat flattened. This gradually breaks away, and leaves a regular white mouth, which constantly enlarges as only becoming wider in age, with the laciniate mass in parallel and retaining that beauty fully regular form long after the expansion of the spongy part.

The present species seems to agree with the figures and description of *C. cubensis* Sw., except that the receptacle is there described as bipartite, whereas Presl has mentioned it as the *Genus Dissectum*—but, as it appears to me, on the slight grounds.

Fig. 1. Portion of the under side of a leaf, magnified 10 times. Fig. 2. Another portion of the same magnified 10 times. Fig. 3. The same, seen on the upper side, magnified 10 times. Fig. 4. The same, magnified 10 times. Fig. 5. The same, magnified 10 times. Fig. 6. The same, magnified 10 times. Fig. 7. The same, magnified 10 times. Fig. 8. The same, magnified 10 times. Fig. 9. The same, magnified 10 times. Fig. 10. The same, magnified 10 times.

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## TAB. XXIII.

CYATHEA. Sm. (*ex parte*). Br.

## CYATHEÆ Sect. II. CYATHEA. Presl. DISPHENIA? Presl.

Sori globosi, in basi (ala) furcaturæ inserti. *Indusium* inferum, involucrans, magnum, scariosum, apice dehiscens, ore demum exacte truncato integro vel magis minusve profunde irregulariter partito. *Sporangia* sessilia v. subsessilia, receptaculo elevato globoso v. clavato sæpe hirsuto affixa.—Habitus *Alsophilæ*. Venæ *pin-natæ*; venulæ *furcatæ*.

*Cyathea elegans*. Heward in *Mag. of Nat. Hist. Sept.* 1838, p. 466.

Presl, as has been already noticed, divides his *Cyathea* into two primary sections— I. NOTOCARPIA, which corresponds with the Genus *Schizocænea*\*, already described at Tab. II. of this work. II. CYATHEA *vera* of BROWN, in which the sori spring from the forking of the veinlets. Here belong, according to Presl, *C. equestris* and *C. divergens*, Kze., *C. hirtula* and *C. vestita*, Mart., *C. Delgadii* and *C. Sternbergii*, Pohl, *C. Sellowiana*, Presl, *C. Schanschii*, Mart., *C. Beyrichiana*, Presl, *C. oligocarpa* and *C. cuspidata*, Kze., *C. aspera*, Sw., *C. glauca*, Bory, *C. canaliculata*, Willd., *C. excelsa*, *C. affinis*, and *C. medullaris*, Sw., *C. muricata*, Willd., and *C. dealbata*, Sw.; to which may be added *C. Grevilleana*, Mart., and the species here represented, drawn from Jamaica specimens, communicated by Mr Heward to Mr J. Smith and Mr Bauer. These two accurate observers have remarked in this, what exists also in at least one other Jamaica *Cyathea*, namely, that there is, at the apex of the young indusium, a portion circumscribed by a circular line (like the operculum of a moss) of a thinner texture than the rest, and somewhat plaited. This gradually breaks away, and leaves a regular entire mouth, which constantly remains so, only becoming wider in age, with the involucre more cup-shaped, and retaining that beautifully regular form long after the dispersion of the sporangia.

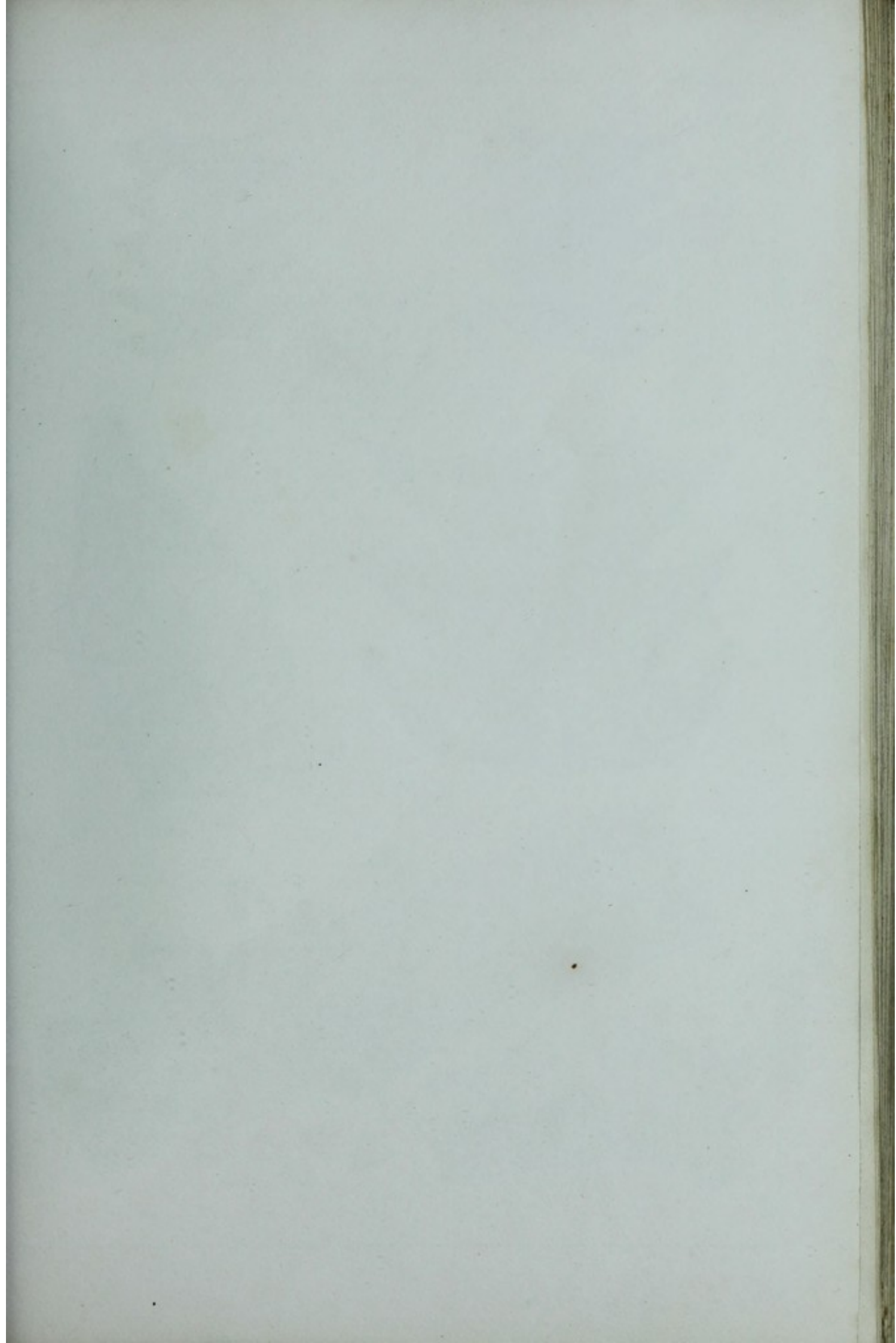
The present species seems to agree with the figures and descriptions of *C. arborea*, Sm., except that the receptacle is there described as bipartite, whence Presl has constituted of it the Genus *Disphenia*: but, as it appears to me, on too slight grounds.

*Fig. 1.* Portion of the under side of a frond; *magn.* 5 diam.—*f. 2.* Smaller portion of the same; *m.* 10 diam.—*f. 3.* The same, seen on the upper side; *do.*—*f. 4.* Sori, in different stages; *m.* 20 diam.—*f. 5. 6.* Vertical sections; *do.*—*f. 7.* Sporangia, in different stages; *m.* 100 diam.—*f. 8.* Sporules, nearly ripe; *m.* 200 diam.

\* By mistake printed *Schizocæna*.











TAB. XXIV.

SPIEROSTEPHANOS.\* J. Smith, nat.

Setae filices, oblongae, parallelae, utraque simplici ter prope medium inserta, dentium  
confluente, subradi. *Respirationis* elongatae, medio-clivato-erectissimae suban-  
guiformis, glandulae sphaericae pedicellatae, pediculis immixtae.  
*Spiracula* parva, brevi-pedicellata, in utroque latere occupantia sita. — *Filis*  
*India Orientalis*. — *Formae* *striatulae*, *pubes*, *pubes* *pubes*, *pubes*  
*pubes*, *pubes*. *Vires* *pubes*, *pubes* *pubes*, *pubes*, *pubes*. J. Smith.

*Spirostephanos* *tridactylus*, J. Smith, nat. — (*Indonesia*? W.S.)

Having never had the opportunity of seeing this Fly, I adopt entirely the description  
(which accompanied the drawing) of Mr J. Smith, who further adds, that "the legs  
and the thorax were made from an East Indian specimen of the Fly which given him by  
Mr Lambert, without either number or name or particular locality, and that it is a very  
distinctly marked genus, the last told repeatedly distinguishing it from its allies, which are  
*Pterostephanos* of Mr Deane, and *Stephanos* of Deane; of these, the first has entirely  
red legs, while the latter is distinguished by possessing a very thin membranous epinotum  
in the middle of the thorax, resembling like that of *Spirostephanos*, but destitute of the spheri-  
cal bodies of the legs. — It may, however, be observed that *India* has, in the *Fly* of  
Jung, now reduced this genus to *Gonostephanos*, though *Smith* retains it, on account of  
its peculiar venation. (W. J. B.)

Fig. 1. Thorax of the male of a fly, oblong, tapering. — 2. The same, seen by the upper  
surface. — 3. *Stratula* *pubes* (considerable), as it appears. — 4. *Pubes* *pubes*, as it appears.  
— 5. *Pubes* *pubes*, as it appears, with *pubes*, as it appears. — 6. *Pubes* *pubes* of the glandular  
part of the thorax. — 7. *Pubes* *pubes* of the same, with *pubes*, as it appears. — 8. *Pubes* *pubes*,  
as it appears, with *pubes*, as it appears. — 9. *Pubes* *pubes*, as it appears, with *pubes*,  
as it appears. — 10. *Pubes* *pubes*, as it appears, with *pubes*, as it appears.

\* *Smith* says, in his *nat. hist.*, that the setae were found on the thorax of a fly which was  
found in the island of Java.





TAB. XXIV.

SPHÆROSTEPHANOS.\* *J. Smith, mst.*

*Sori* simplices, oblongi, paralleli, venulis simplicibus prope medium inserti, demum confluentes, subnudi. *Receptaculum* elongatum, medio elevato-cristatum subindusiiforme, glanduliferum, glandulis sphaericis pedicellatis, pedicellis ramosis. *Sporangia* pauca, brevi-pedicellata, in utroque latere receptaculi sita.—*Filix Indiæ Orientalis*. Frondes *bi-tripedales*, *pinnatæ*, *pinnis pinnatifidis*, *laciniis acutis, villosis*. Venæ *pinnatæ*, *venulis simplicibus, subarcuatis, parallelis*. *J. Smith.*

*Sphærostephanos asplenioides*. *J. Smith, mst.*—*Polypodium?* *Wall.*

Having never had the opportunity of seeing this Fern, I adopt entirely the description (which accompanied the drawing) of Mr J. Smith; who further adds, that "the figure and his remarks were made from an East Indian specimen of Dr Wallich, given him by Mr Lambert, without either number or name or particular locality, and that it is a very distinctly-marked genus, the indusoid receptacle distinguishing it from its allies, which are *Pleurogramma* of Mr Brown, and *Stegnogramma* of Blume: of these, the first has entirely naked sori, while the latter is distinguished by possessing a very thin membranous appendage in the centre of the sorus, something like that of *Sphærostephanos*, but destitute of the spherical bodies of the apex."—(It may, however, be observed, that Blume has, in his *Flora of Java*, now reduced this genus to *Gymnogramma*, though Presl retains it, on account of its peculiar venation. W. J. H.)

*Fig. 1.* Portion of the under surface of a frond; *magn.* 3 diam.—*f. 2.* The same, seen on the upper surface; *do.*—*f. 3.* Smaller portion (under side); *m.* 6 diam.—*f. 4.* Lesser portion; *m.* 12 diam.—*f. 5.* Section from the same, with sporangia; *m.* 100 diam.—*f. 6.* Small portion of the glandular crest of the receptacle; *do.*—*f. 7.* Transverse section of the receptacle, with its crested and glandular summit, and with two lateral sporangia; *do.*—*f. 8.* Sporules, scarcely mature; *m.* 200 diam.

\* From *σφαίρα*, a globe, and *στειφανος*, a crown, the sori having a central pseudo-indusium, bearing numerous spherical bodies at its apex. *J. Smith.*

TAB. XXIV.

SPHEROSTEPHANOS, A. SMITH, 1890.

Two simple, oblong, parallel, venous simplices, prope medium fronti, hemis-

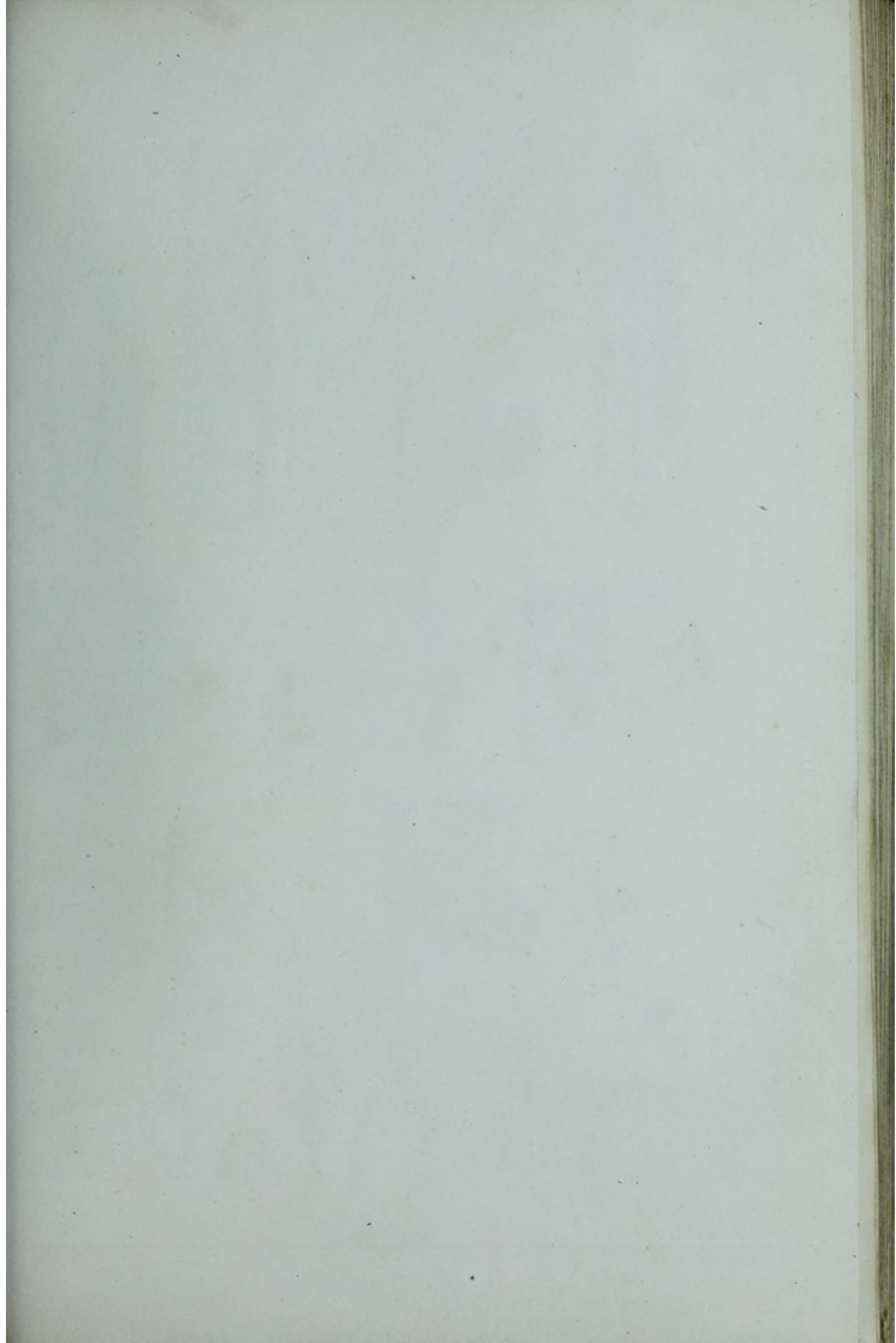
Spherostephanos apicatus, A. Smith, 1890. - Pteropoda? H. M.

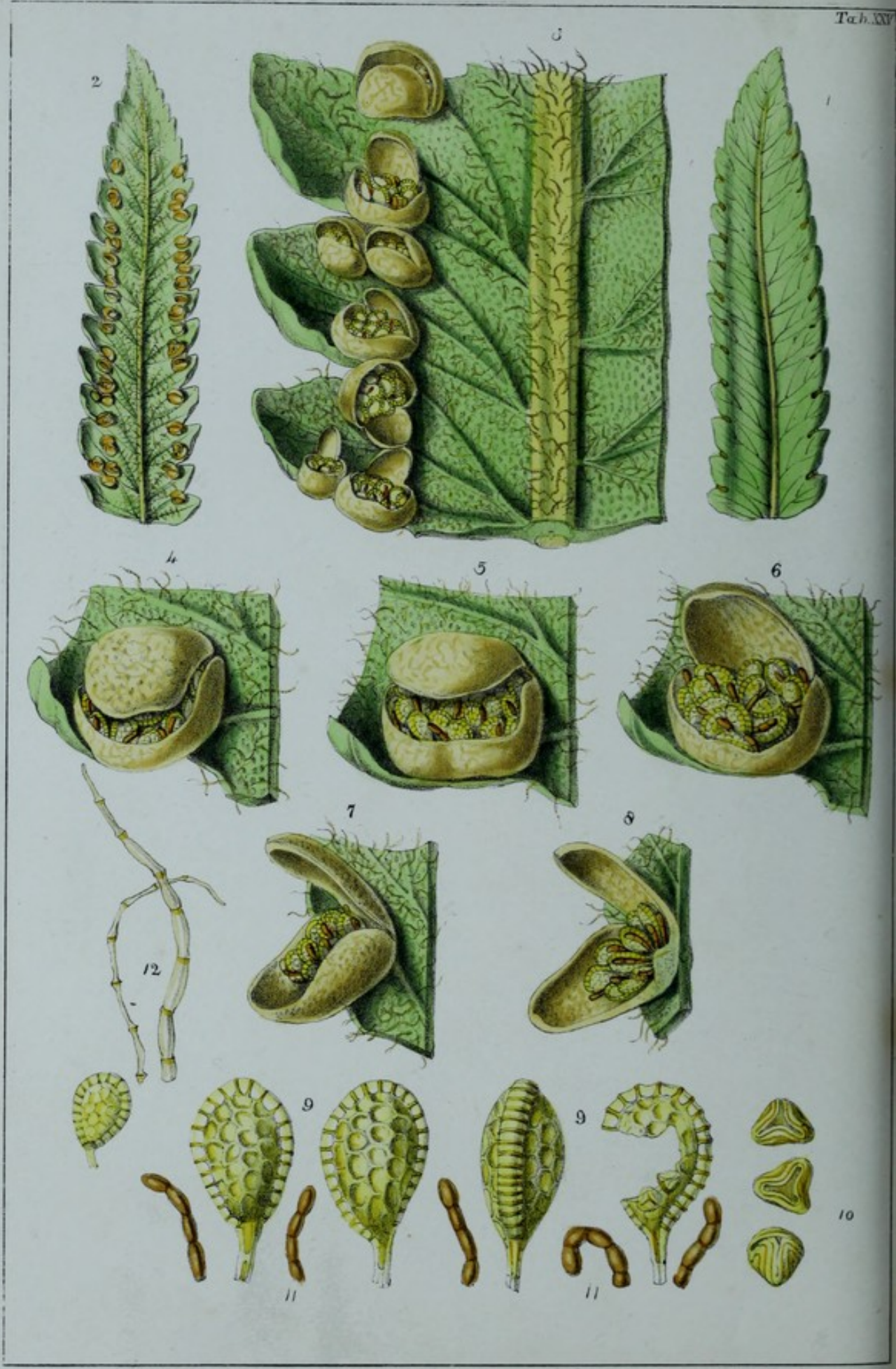
Having never had the opportunity of seeing this form, I adopt entirely the description (which accompanied the drawing) of Mr. A. Smith, who further adds that "the spec-

Fig. 1. Portion of the outer surface of a foot; magn. 3 diam. - A. 2. The same, seen on the upper surface; do. - A. 3. Another portion (under side); do. 5 diam. - A. 4. Inner portion; do. 12 diam. - A. 5. Section from the base, with spines; do. 100 diam. - A. 6. Small portion of the granular coat of the rostrum; do. - A. 7. Transverse section of the rostrum, with its central and granular coat, and with two lateral spines; do. - A. 8. Rostrum, nearly entire; do. 200 diam.

1. From a single, white, and opaque, mass, the rest having a central granular, brown, nucleus, separated from it by a thin, white, layer.









TAB. XXV.

CIBOTIUM Kaulf. Presl (in part).

Presl in Gaudich.

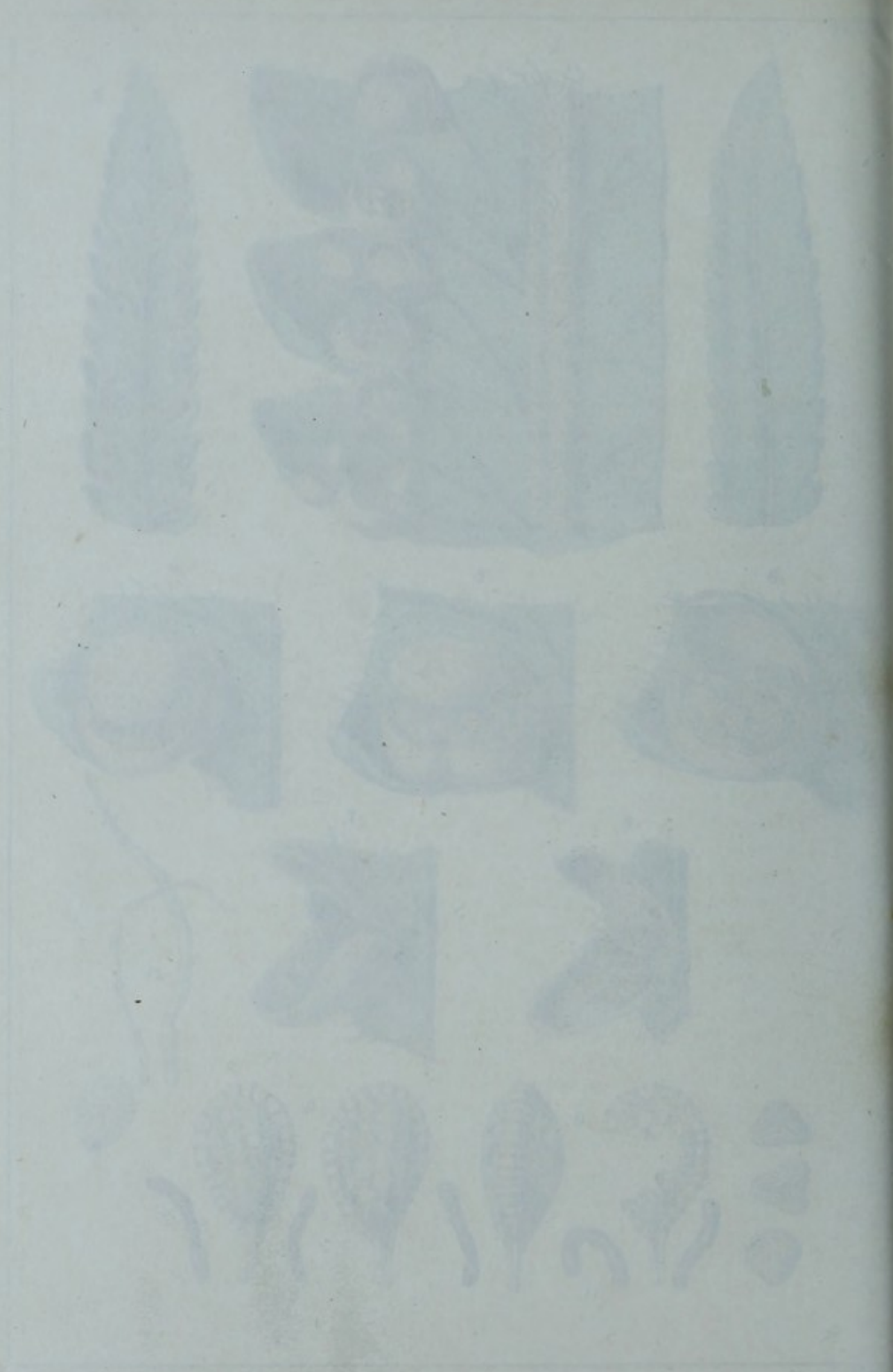
Stem depressed-globose, intravaginally, ad apicem contractum. Radices bivalves, cariosae, durae, valvulisaequalibus (rariusae aequales) v. subaequalibus. Acropetala parva, ovata. Filices in partibus aequales v. in latere subaequalibus, ovales in parte apice (C. Chamaepitys) ad basin, pinnatis vel bipinnatis. Frenulae ovatae, apicibus, rigidae, dichotomae-pinnatae, valvulae septi glabrae. Vaginae pinnatae, ovatae, fissuratae.

Cibotium Schoddi. Schacht, in Linnæus, v. 2, p. 616.

The thick and bispinulose (together with a very rigid and perfoliate habit) separates Cibotium from Dichomania. Its generic distinction from Polypodium (shown by plate of Tab. XXV) though the two genera are placed widely apart by Presl, is of a more distant nature. According, as it does, glabrous wholly in the distal part of the frond and inner margin of the involucre in Dichomania, the opposite one being hairy and bispinulose, in other words, formed by a lobule of the margin of the frond; but in *D. Schoddi* Presl, there is scarcely any difference in the colour and texture of the two valves. Presl refers to his Genus *Cibotium*, *C. glabrum*, Hook. et Arn. (*Dichomania glabra*, Sw.), *C. Chamaepitys*, Kaulf., *Polypodium apiculata*, Gaudich. & *C. Schoddi*, Schacht (the species here figured, from specimens gathered in Mexico by Deppoy); *C. adhaerens*, Presl (*Chamaepitys*, Sw.), *C. ? pinnatifidum* and *C. pinnatum*, Presl, which last is *Dichomania* Marten, Hook. et Arn. in *Fl. v. 2*, 184, and, as we still continue to consider, both by its habit and bispinulose, quite a distinct genus.

Fig. 1. Small portion of a frond, upper surface; magn. 2 diam.—2. The same, lower surface; do.—3. Small portion of the stem, of 10 lines.—4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. Here found under the species of 10 lines.—11. Small portion of the frond, and stem, of 10 lines.





TAB. XXV.

CIBOTIUM. Kaulf. Presl (ex parte).

PINONIA. Gaudich.

Sori depresso-globosi, intramarginales, ad apicem venularum. *Indusium* bivalve, coriaceum, durum, valvis inæqualibus (interiore minore) v. subæqualibus. *Receptaculum* parvum, convexum.—Filices *tropico-Americanæ* v. *ex Insulis Sandvicensibus*, caudice in unica specie (C. Chamissoi) arboreo, plerumque rhizomate globoso. Frondes amplæ, speciosæ, rigidæ, decomposito-pinnatæ, subtus sæpe glaucæ. Venæ pinnatæ, simplices furcatæve.

*Cibotium Schiedii*. Schlecht. in *Linnæa*, v. 5. p. 616.

The thick and horny indusia (together with a very rigid and peculiar habit), separate *Cibotium* from *Dicksonia*. Its generic distinction from *Balantium* (already given at Tab. XX.), though the two genera are placed widely apart by Presl, is of a mere dubious character, depending, as it does, almost wholly on the dissimilar nature of the outer and inner valves of the indusium in *Balantium*, the exterior one being green and herbaceous, in other words, formed by a lobule of the margin of the frond; but in *B. Sellowianum*, Presl, there is scarcely any difference in the colour and texture of the two valves. Presl refers to his Genus *Cibotium*, *C. glaucum*, Hook. et Arn. (*Dicksonia glauca*, Sm., *C. Chamissoi*, Kaulf., *Pinonia splendens*, Gaudich.), *C. Schiedii*, Schlecht. (the species here figured, from specimens gathered in Mexico by Deppe), *C. adiantoides*, Presl (*Davallia*, Sw.), *C. ? glaucophyllum* and *C. proliferum*, Presl, which last is *Deparia Macraei*, Hook. et Grev.  *Ic. Fil. t. 154*, and, as we still venture to consider, both by its habit and fructification, quite a distinct genus.

*Fig. 1.* Small portion of a frond, upper surface; *magn.* 2 diam.—*f. 2.* The same, under surface; *do.*—*f. 3.* Smaller portion of the same; *m.* 10 diam.—*f. 4. 5. 6. 7.* Sori in different states; *m.* 20 diam.—*f. 8.* Vertical section of a sorus; *do.*—*f. 9.* Sporangia in different states; *m.* 100 diam.—*f. 10.* Ripe sporules; *m.* 200 diam.—*f. 11.* Hairs found among the sporules; *m.* 100 diam.—*f. 12.* Hairs from the frond and stipes; *m.* 100 diam.

TAB. XXV.

LIBOTIUM. (Klein, 1792) (see page 1)

FIGURAE. (Linn.)

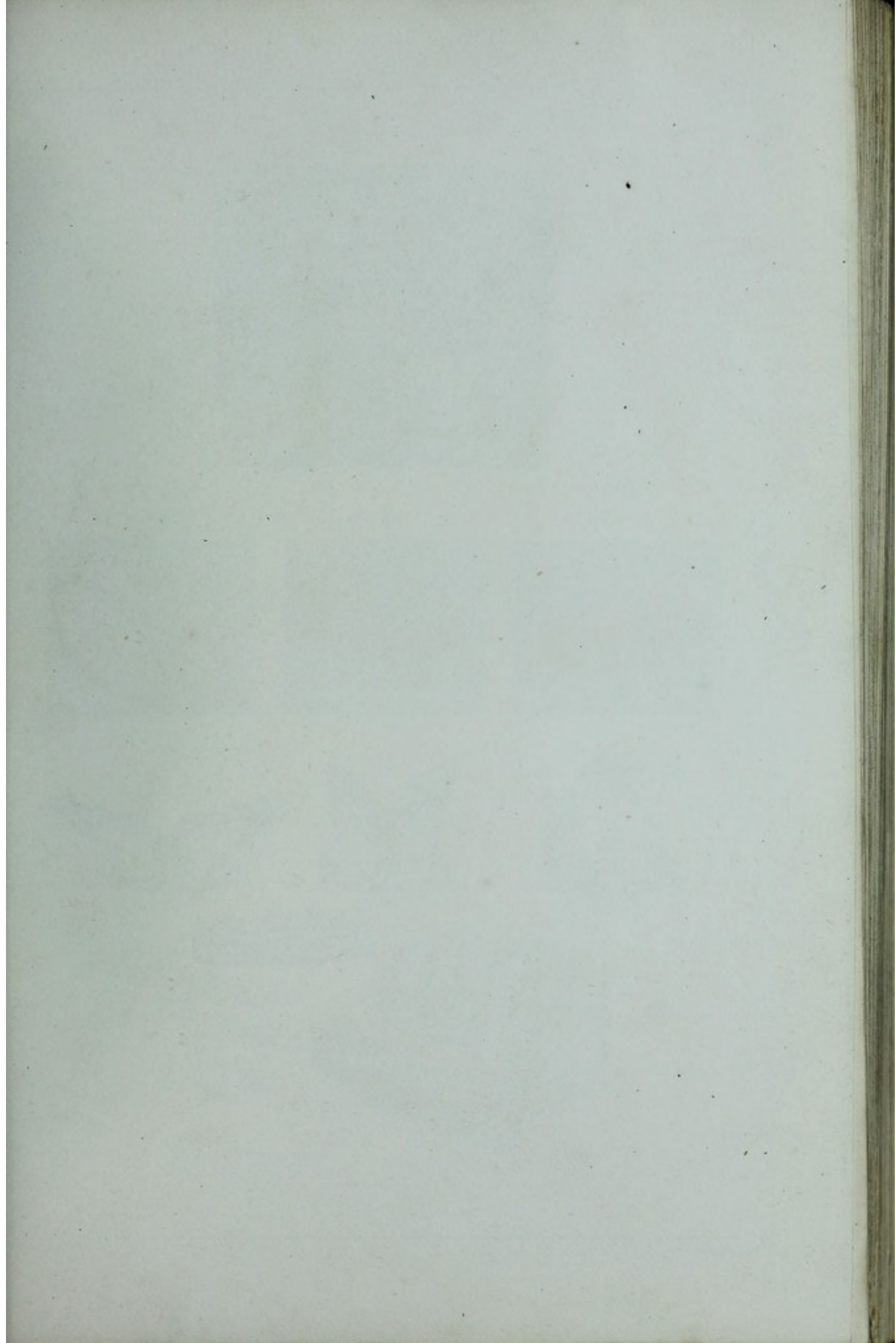
Libotium, a genus of the family Libotiaceae, is characterized by its... (The text is extremely faint and difficult to read.)

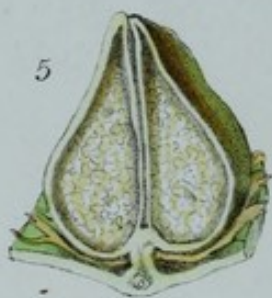
Libotium, a genus of the family Libotiaceae, is characterized by its... (The text is extremely faint and difficult to read.)

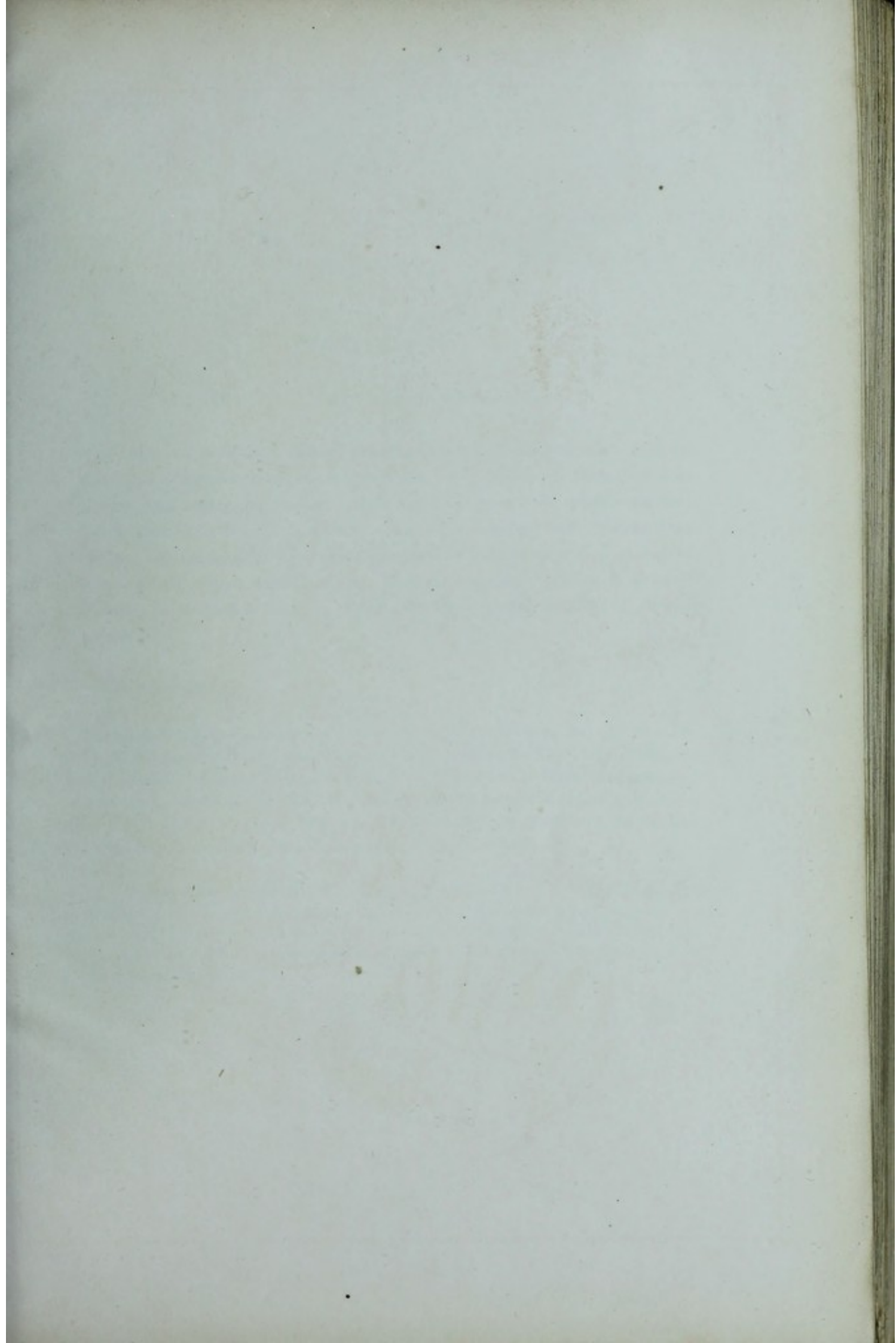
The thick and bony indurated (together with a very rigid and porous... (The text is extremely faint and difficult to read.)

Fig. 1. A small portion of a fruit, upper surface; magn. 2 diam. — Fig. 2. The same, lower surface; magn. 2 diam. — Fig. 3. A smaller portion of the same; magn. 10 diam. — Fig. 4, 5, 6, 7. Fruit in different states; magn. 20 diam. — Fig. 8. Vertical section of a fruit; magn. 10 diam. — Fig. 9. Horizontal section of a fruit; magn. 10 diam. — Fig. 10. Fruit from the same species; magn. 200 diam. — Fig. 11. Fruit from another species; magn. 100 diam. — Fig. 12. Fruit from the same species; magn. 100 diam.

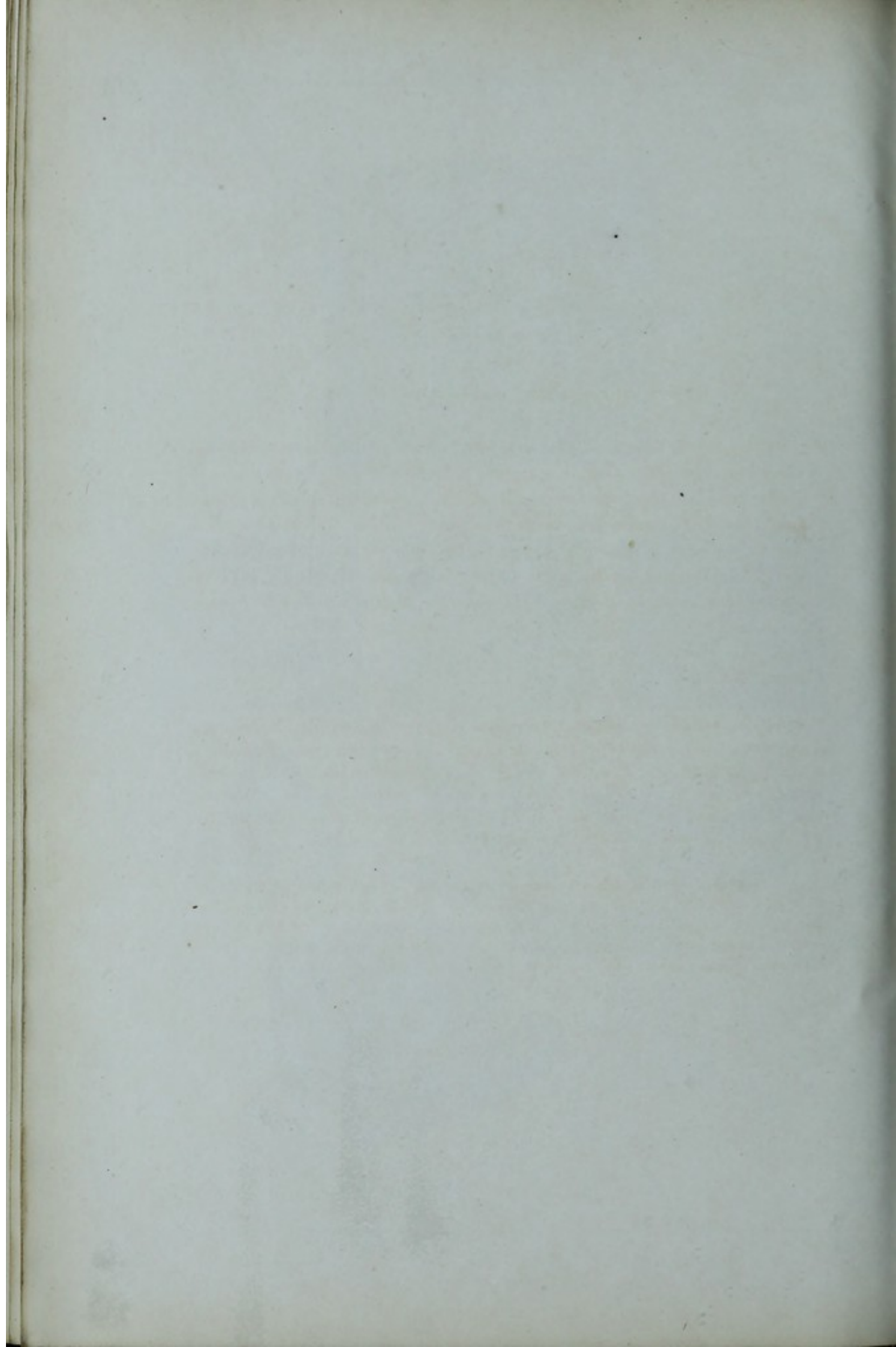












TAB. XXVI.

MARATTIA. Sm.

MYRIOTHECA. Comm. CELANTHERA. Thouin.

Sori oblongi, venulæ furcatæ simplici serie margine approximata inserti. *Indusium* valvis lamelliformibus coriaceis e sporangiis coadunatis quasi formatum, intus planis extus convexis, demum magis minusve patentibus, plurilocularibus; loculis transversis demum rima longitudinali intus dehiscentibus. *Sporulæ* minutissimæ, copiosissimæ, subreniformes, granulosa. *Receptaculum* lineare, fimbriatum.—Filices *tropicæ*, *caudice erecto*. Rhizoma *crassum*. Frondes *decompositopinnatæ*, *membranaceæ*, *serratæ*. Venæ *pinnatæ*; venulæ *simplices v. furcatæ, parallele*.

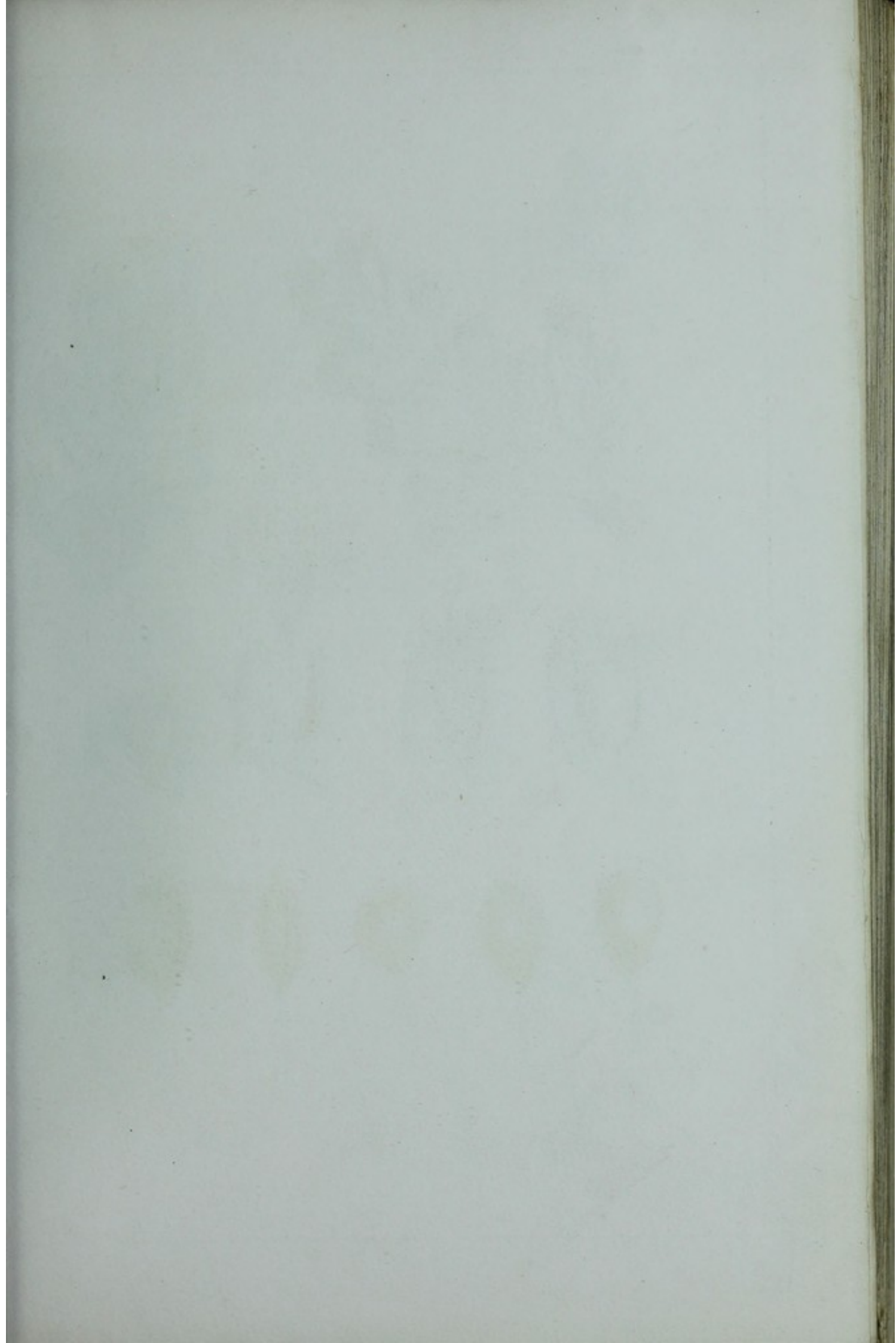
Marattia *alata*. Sm.

The species hitherto enumerated of this curious genus are, *M. alata*, Sm. (*M. lævis*, Sm. var.), *M. Kaulfussii*, J. Smith, mst. (pinnulis oblongo-ovatis pinnatifidis lobis bi-tridentatis, soris stipitatis!—*M. alata*, Raddi, Fil. Bras. p. 74. t. 83. 84. et in Herb. nostr. non Sm.) *M. sambucina* and *M. sylvatica*, Bl., *M. fraxinea*, Sm. (*M. salicifolia*, Schrad.), *M. cicutæfolia*, Kaulf. Mart. (Ic. Crypt. Brasil. p. 119. t. 69—72.—*M. Raddiana*? Schott, Gen. Fil. cum. Ic.), *M. sorbifolia*, Sw., *M. attenuata*, Labill., *M. salicina*, Sm.

*Fig. 1.* Portion of the under surface of a pinnule; *magn.* 4 diam.—*f. 2. 3. 4.* Sori in different ages; *m.* 12 diam.—*f. 6. 7. 8.* Transverse section of the same; *do.*—*f. 8.* Longitudinal and transverse section of a sorus, to show the cavities or cells (in other words, the sporangia combined with the indusium); *m.* 25 diam.—*f. 9.* The receptacle, with its scaly or fimbriated margin; *m.* 12 diam.—*f. 10.* Nearly ripe sporules; *m.* 400 diam.









TAB. XXVII

DIAPYLLIA, Sw. Ind.

Diapyllia Sw. Ind. prostrata. Diapyllia et Wislizeni. Benth.

Herb. prostrata, (s. ovalis) herbam prostrata, non densis densum est, illius semina semina... Diapyllia prostrata, Wislizeni (s. ovalis) diuina superior illius, non densis densum est, illius semina semina... Diapyllia prostrata, Wislizeni (s. ovalis) diuina superior illius, non densis densum est, illius semina semina...

Diapyllia prostrata. Cav.

Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina... Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina... Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina...

Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina... Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina... Diapyllia, et a Sw. Ind. prostrata, non densis densum est, illius semina semina...

Fig. 1. Venter pediculi et apiculus, et de fructu: magn. 1 lineae. 2. Venter pediculi, et apiculus, et de fructu: magn. 1 lineae. 3. Venter pediculi, et apiculus, et de fructu: magn. 1 lineae...





## DAVALLIA. Sm. Presl.

DAVALLIA Sp. Auct. plurim.—DAVALLIA et WIBELIA. Bernh.

Sori globosi (v. ovales) inframarginales, aut dentis dorsum aut illius sinum occupantes. Indusium scariosum, orbiculatum (v. ovale) dimidio superiori libero, aut semiorbiculatum margine superiori rectilinee truncato vel latissime obtuso. Receptaculum punctiforme, minutum.—Rhizoma repens. Frondes sparsæ, coriaceæ aut herbaceæ, simplices, lobato-pinnatifidæ aut pinnatim compositæ, nonnumquam steriles dissimiles. Venæ in fronde fertili pinnatæ, simplices aut furcatæ, venulatum superiore sorifera, internæ, tenues aut apicem versus crassescentes, in fronde sterili apice acuto ante marginem frondis terminatæ. Presl.

Davallia pyxidata. Cav.

*Davallia*, as it has been considered by most authors, constitutes a Section "*Davallieæ*" of Presl, including four Genera—1. *Microlepidia*, Presl, of which *Davallia flaccida*, Br. (*Dicksonia polypodioides*, Sw.), is an example; 2. *Saccoloma*, Kaulf., to which *Davallia flagellifera*, Wall.—Hook. et Grev. Ic. Fil. v. 2. t. 183, belong; 3. *Stenolobus*, including *Davallia solida*, Sw.; and 4. *Davallia* itself: while *Davallia contigua*, Sw., and its allies, are placed by the same author in a very different cohort, and next to *Vittaria*, under the Genus *Prosaptia*, Presl.

*Davallia*, thus circumscribed, contains four groups, according to Brown and Presl. The latter adopts the following arrangement:—§ I. HUMATA. Cav. Frondes coriaceæ, steriles simplices, venis uni-bifurcatis venulisque parallelis tenuibus, fertiles dissimiles pinnatifidæ, venis simplicibus crassiusculis apicem versus crassescentibus. Sori in dorso dentium. Indusium orbiculatum, dimidio superiori libero. *D. pinnatifida* and *D. heterophylla* of Smith, *D. lobulosa*, Wallich. § II. PACHYPLEURIA. Frondes coriaceæ, conformes; venæ creberrimæ apicem versus lineari-clavatæ, inferiores angulo acutissimo furcatæ, venulis tenuioribus. Sori in sinu dentium. Indusium orbiculatum aut reniformi-orbiculatum, dimidio superiori liberum. *D. pedata*, Sw., *D. serrata*, Willd., *D. lepida*, Presl, *D. pectinata*, Sm., *D. Gaimardiana*, Presl. § III. COLPOSORIA. Frondes coriaceæ, conformes; venæ creberrimæ, tenues, æquales, inferiores angulo acuto furcatæ. Sori in sinu dentium immersi. Indusium semiorbiculatum, margine superiori recto vel latissime obtuso. *D. angustata*, Wall., *D. Belangeri*, Bory, *D. elegans*, Sw., *D. epiphylla*, Sw., *D. elata*, Sw., *D. patens*, Sw., *D. pyxidata*, Cav., *D. Canariensis*, Sw., *D. thecifera*, H. B. K., *D. chærophylla*, Wall., *D. falcinella*, Presl, *D. parvula*, Wall. § IV. ODONTOSORIA. Frondes coriaceæ vel herbaceæ, conformes; venæ internæ, tenuissimæ, simplices aut furcatæ, steriles apice punctiformi instructæ. Sori in dorso dentium, infra apicales, superficiales, minuti. Indusium semiorbiculatum, margine superiori truncato. *D. biflora*, Kaulf., *D. retusa*, Cav., *D. cuneiformis*, Sw., *D. gibberosa*, Sw., *D. remota*, Kaulf., *D. Chinensis*, Sw., *D. tenuifolia*, Sw., *D. meifolia*, H. B. K., *D. bifida*, Kaulf., *D. divaricata*, Blume, *D. Schlechtendalii*, *D. clavata*, Sw., *D. flexuosa*, Spr., *D. thalictroides*, *D. dumosa*, Sw., *D. aculeata*, Sw., *D. fumarioides*, Sw.

Fig. 1. Under surface of a portion of the frond; magn. 5 diam.—f. 2. Upper surface of a portion of the same; do.—f. 3. Young sorus; m. 10 diam.—f. 4. Old sorus; do.—f. 5. Vertical section of the indusium; do.—f. 7. The same, the sporangia being removed to f. 6; do.—f. 8. Transverse section of a sorus; do.—f. 9. 10. Sporangia in different states; m. 100 diam.—f. 11. Sporules; m. 400 diam.



DAVALIA & Yoda

DAVALIA Sp. Nov. — DAVALIA W. WIDMANN, 1846

Gen. char. (v. ovalis) infundibulata, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis...

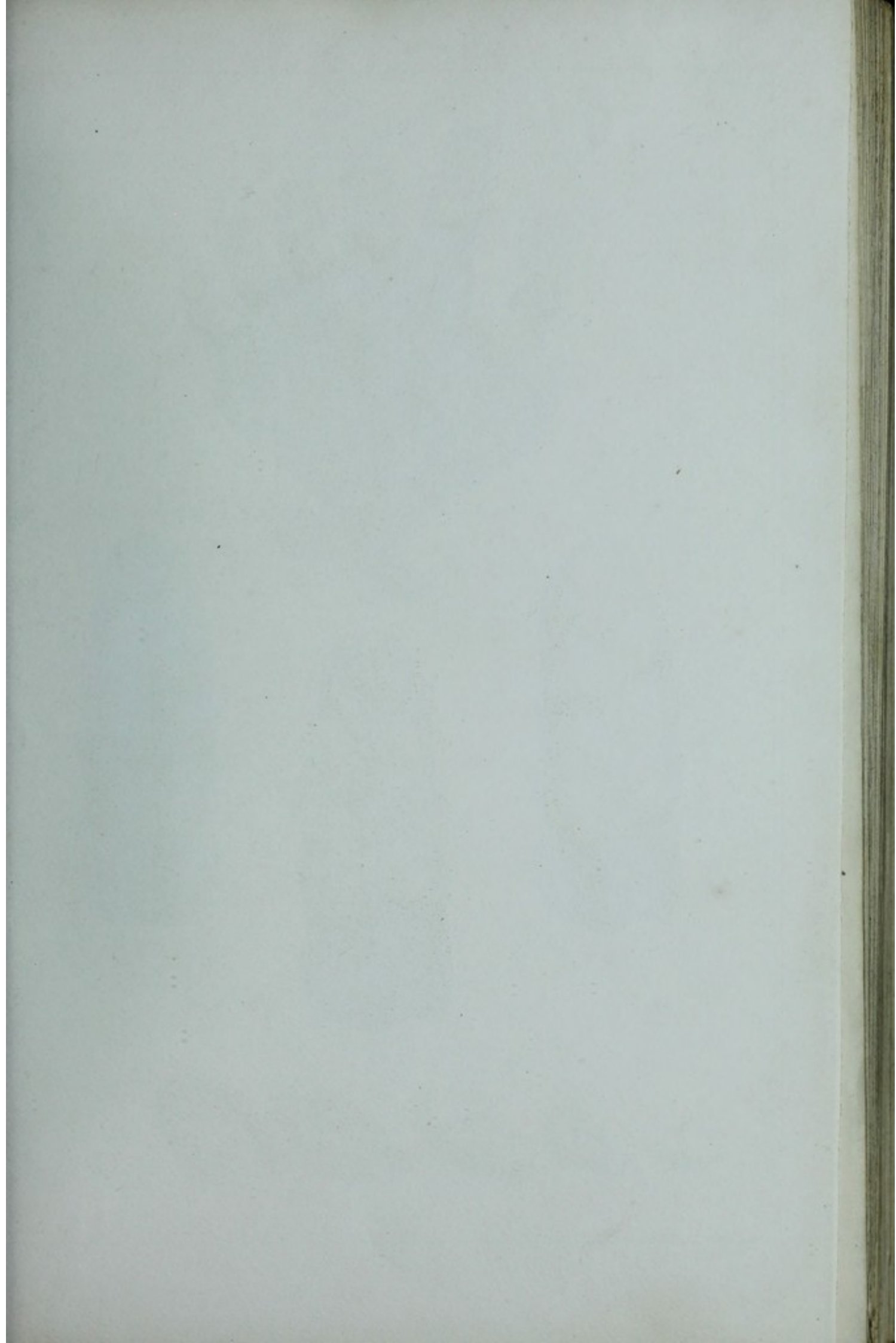
DAVALIA punctata, Cav.

Altera, ut si has non consideret, uti videtur, continetur a DAVALLIA... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis...

Altera, uti videtur, continetur a DAVALLIA... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis...

Fig. 1. Habitus... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis... (v. ovalis) dimidia superioribus, ant. haecibus duobus aut tribus albis ovatis...







TAB. XXVIII.

LYGODIUM. Sw.

Urbana. Cap. : Hydrocotyle, FIRM. C. G. M. M. M.

Sporophylla ovata vel breviter stipitata, ovata, reticulata, retusata, apice radiata  
retusa, medio mucosa : in apiculis simplicibus a margine pinnatis, dichotomis in  
fronde caudata) dorsalis, liberibus. Jachosus. Sporangia capsulae distigantibus, a  
ventre apiculis ovata, supra libera. — Stipes reticulata. Frondes caudatae, distigantibus  
a caudate. D.

Lygodium reticulatum

Of this very distinct genus, which is distinguished by Mr. Brown, twenty-eight species  
are taken up by Sprengel; but there is good reason to believe that many of these are more  
varieties. They are chiefly of tropical origin, both in the new and old world; one species,  
*L. palmatum*, however, extending to the parallel of 41° in N. America.

Fig. 1. Small portion of the frond, under the magn. of 10 diam. — f. 2. Fronds expanded from the same under  
water at 20 diam. — f. 3. Upper side of the spore. — f. 4. The lower side of the same, the water of  
which being removed, to show the regular texture of the spore. — f. 5. A young frond in its  
earliest stage, 10 diam. — f. 6. Spore, at 20 diam.





TAB. XXVIII.

LYGODIUM. Sw.

UGENA. Cav. HYDROGLOSSUM. Willd. CTEISIUM. Mich.

*Sporangia* sessilia vel brevissime stipitata, ovata, reticulata, resupinata, apice radiatim striata, medio inserta : in spiculis (simplicibus e margine pinnæ v. dichotomis in fronde mutata) dorsalia, biseriata. *Indusium* : *Squamæ* capsulas distinguentes, e venis spiculæ ovatæ, supra liberæ.—Stipes *volubilis*. Frondes *conjugatæ*, *divisæ* v. *compositæ*. Br.

*Lygodium volubile*.

Of this very distinct genus, admirably characterized by Mr Brown, twenty-eight species are taken up by Sprengel ; but there is good reason to believe that many of these are mere varieties. They are chiefly of tropical origin, both in the new and old world ; one species, *L. palmatum*, however, extending to the parallel of 41° in N. America.

*Fig. 1.* Small portion of a frond, under side ; *magn.* 8 diam.—*f. 2.* Fertile segment from the same, under side ; *m.* 20 diam.—*f. 3.* Upper side of the same ; *do.*—*f. 4.* The same, under side ; the scales or indusia being removed, to show the singular insertion of the sporangia ; *do.*—*f. 5.* Sporangia in different stages ; *m.* 50 diam.—*f. 6.* Sporules ; *m.* 200 diam.

TAB. XXVIII.

LYGODIUM &c.

JOHANNES GÖTTLICH HYGODIUM. WILHELM GÖTTLICH. 1864.

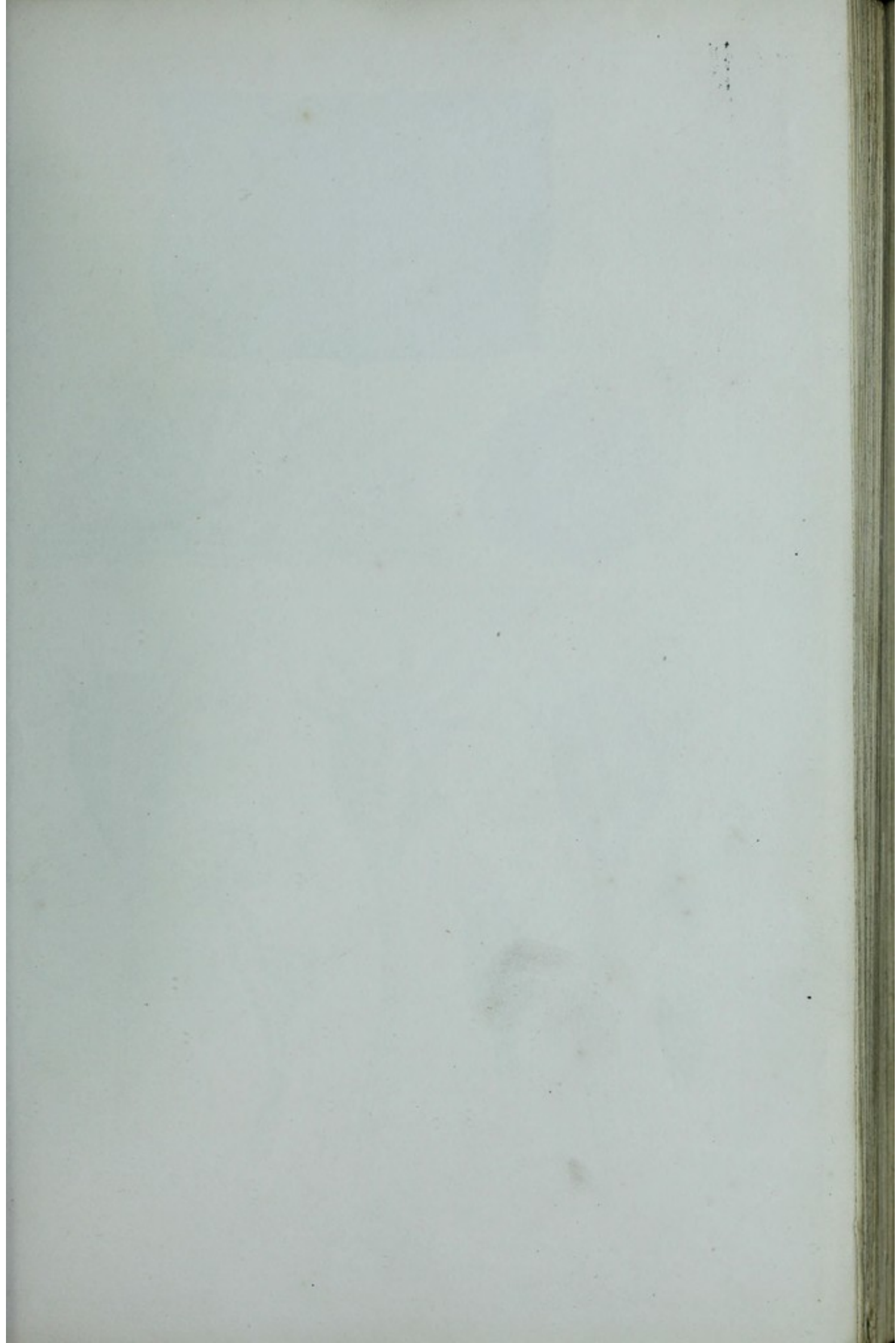
Sporangia sessile vel breviter stipitata, ovata, reticulata, trispinata, apice radiatum  
acutum, medio inserta: in spiculis simplicibus et marginis pinnis et dichotomis in  
frons (marginis) dorsalis, hirsuta. Indusium: Sporangia capsulae distichae, et  
venis spiculis ovatis, supra libera. — Superiora reticulata. Pinnulae trispinatae, ciliatae  
et crispatae. &c.

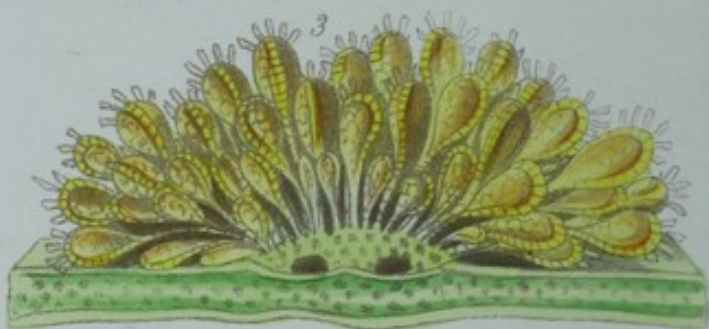
*Lycopodium reticulatum*

Of this very distinct genus, admirably characterized by Mr. Brown, twenty-eight species  
are taken up by Sprengel; but there is good reason to believe that many of these are mere  
varieties. They are chiefly of tropical origin, both in the new and old world: one species,  
*L. pubescens*, however, extending to the parallel of 41° in N. America.

Fig. 1. Small portion of a leaf, under side; magn. 8 diam. — Fig. 2. Little expansion from the same under  
side; m. 20 diam. — Fig. 3. Upper side of the same; m. 4. — Fig. 4. The same, under side; the veins on  
which being removed, to show the regular insertion of the sporangia; m. 4. — Fig. 5. Sporangia in detail.  
magn. 20 diam. — Fig. 6. Sporangia; m. 200 diam.







HYMENOPTERA

PLATE I. THE GENUS *Phaenocarpa*. FIGS. 1-10. THE GENUS *Phaenocarpa* FROM THE  
MOUNTAINS OF THE ANDES, PERU.

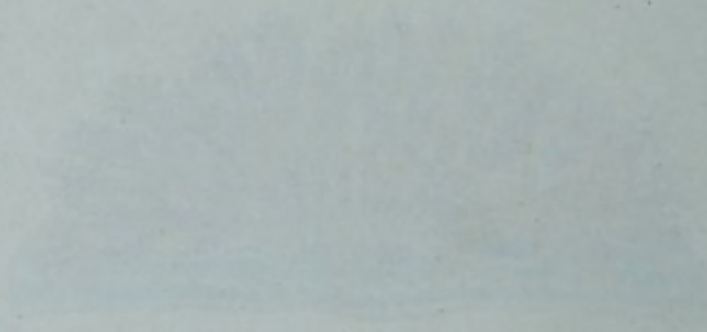
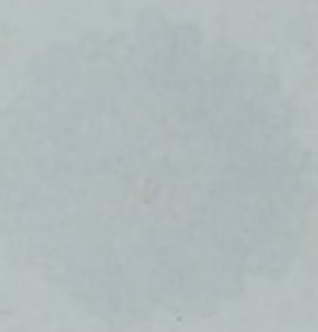
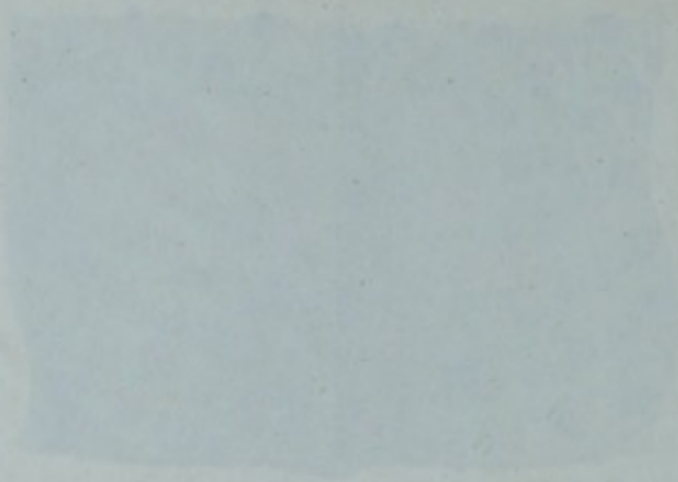
FIG. 1. Head, dorsal view. FIG. 2. Head, lateral view. FIG. 3. Head, ventral view. FIG. 4. Head, dorsal view, showing the arrangement of the setae. FIG. 5. Head, lateral view, showing the arrangement of the setae. FIG. 6. Head, ventral view, showing the arrangement of the setae. FIG. 7. Head, dorsal view, showing the arrangement of the setae. FIG. 8. Head, lateral view, showing the arrangement of the setae. FIG. 9. Head, ventral view, showing the arrangement of the setae. FIG. 10. Head, dorsal view, showing the arrangement of the setae.

FIG. 11. Head, dorsal view, showing the arrangement of the setae.

The present work is a reprint of the paper of the author in the *Annals of the Entomological Society of America*, Vol. 10, No. 1, 1919, pp. 1-10. The author is indebted to Mr. H. G. Hagen for the loan of the type material of the genus *Phaenocarpa* from the collection of the University of California at Berkeley. The author is also indebted to Mr. H. G. Hagen for the loan of the type material of the genus *Phaenocarpa* from the collection of the University of California at Berkeley. The author is also indebted to Mr. H. G. Hagen for the loan of the type material of the genus *Phaenocarpa* from the collection of the University of California at Berkeley.

PLATE II. THE GENUS *Phaenocarpa*. FIGS. 1-10. THE GENUS *Phaenocarpa* FROM THE  
MOUNTAINS OF THE ANDES, PERU.





## TAB. XXIX.

PHYMATODES. *Presl.*

POLYPODII Sp. *L. et Auct.* DIPTERIS. *Reinw.* POLYPODII Sect. *Drynaria.* *Bory. Br.*  
MICROSORUM. *Link.* ANAXETUM. *Schott.*

Sori globosi, nudi, aut anastomosi venularum aut apici venularum (venulis sæpe obscuris) inserti.—Rhizoma *repens v. nodosum.* Frondes *simplices pinnatifidæ v. pinnatæ.* Venæ *pinnatæ, internæ, tenues v. elevatæ, costæformes, ramosissimæ.* Venulæ *primariæ in maculas hexagonoideas subrotundas aut irregulariter parallelogrammas lateribus curvatis anastomosantes, secundariæ in maculas minores hexagonoideas aut parallelogrammas aut subquadratas aut irregulariter angulatas confluentes aut liberæ apice globuloso-incrassatæ clavatæve, simplices aut furcatæ, rectæ, aut hamatæ.* *Presl.*

*Phymatodes crassifolia.* *Presl.*—*Polypodium.* *L.*—*Anaxetum.* *Schott, Gen. Fil. cum Ic.*

Mr Brown's original views respecting the value of the venation in Ferns, first employed in the *Prodr. Fl. Nov. Holl.*, and upon a far more extended scale as relates to the old Genus of *Polypodium*, (but which, it is to be greatly regretted, have only lately met the public eye in the invaluable "*Plantæ Javanicæ Rariores*" of Dr Horsfield,) have been, in a great measure carried out by Dr Presl, in his "*Tentamen Pteridographiæ*," with this difference, that what Mr Brown considers as sectional divisions or subgenera of *Polypodium*, Presl raises to the rank of genera. Thus *Phymatodes*, Presl, is the section *Drynaria* of *Polypodium*, with Bory and Brown, essentially distinguished by the very much branching and anastomosing veinlets, with the sori seated at the point of confluence of these veinlets, or at the apex of a free veinlet, hence, I presume, including Mr Brown's subgenus *Phlebodium*. The species thus ranking under *Phymatodes* are numerous, and Presl has three primary groups. § I. EUPHYMATODES. Venæ internæ aut elevatæ, nunquam costæformes. Maculæ omnes aut saltem primariæ hexagonoideæ:—of which *Pol. phymatodes*, L. (*Phymatodes vulgaris*, Presl,) is an example. § II. PLEURIDIUM. Venæ valde elevatæ, costæformes. Venulæ internæ, tenuissimæ, sæpe obscuræ et post repetitum macerationem conspicuæ, maculas hexagonoideas v. parallelogrammas v. irregulares efficientes:—to which is referred our *P. crassifolia*. The character of this division will account for the venulation not being represented in our figure; it is wholly internal. § III. DRYNARIA. Venæ sæpissime valde elevatæ, costæformes. Maculæ primariæ transversim parallelogrammæ, lateribus (venulis) curvato-arcuatis; maculæ secundariæ parvæ, subquadratæ aut parallelogrammæ aut irregulariter hexagonoideæ. Frondes coriaceæ.—This contains, in two sub-sections, *Pol. irioides*, Lam., *P. Wallichii*, Hook. et Gr., *P. quercifolium*, L., &c.

Fig. 1. Portion of the under surface of a frond; *nat. size.*—*f.* 2. Sorus; *m.* 10 diam.—*f.* 3. Vertical section of the same; *m.* 20 diam.—*f.* 4. Sporangia in a young state; and *f.* 5. in a ripe state; *m.* 100 diam.—*f.* 6. Sporules in a young state; *m.* 200 diam.

PHYMATODES

Phymatodes ...

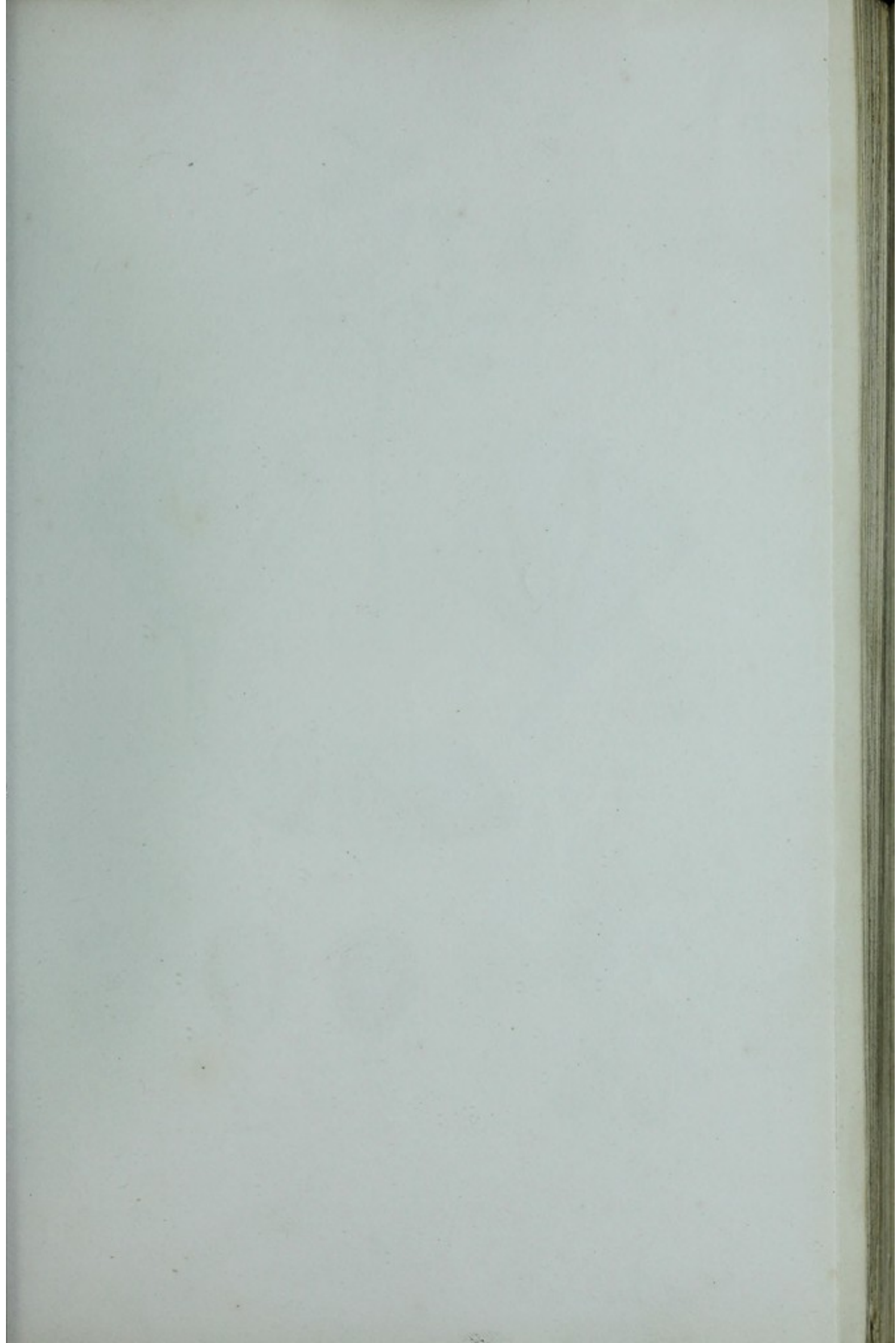
Phymatodes ...

Phymatodes ...

The figure's original view ...

Fig. 1. Portion of the ...







TAB. XXX.

ASPLENIUM. *Presl.*

ASPLENIUM Sp. L. et Presl. DARRA. Sp. CANADENSE. Hook.

Sori dimidiata, effigata. Inductum elongatum a basi latiusculum, in sua longitudine  
plumbeolum, marginis superioris lobatis. — Inductum subglobosum. Tabulae sori  
rotundae, simplices lobatae vel varie divisa. Yungis pinnulis, submutatis, et  
lobis, lobulis parallelis, et apice lobis pinnatifidis lobulis, utriusque lobis  
lobulisque cuneatis (ut in A. Nidus).

Asplenium *Asa maxonii*. *L.*

— Tab. VI. repandens in Asplenium sibi very narrow segments, each segment bearing  
only one sori which thus appears to arise centrally, thus is parallel to the main  
rib (DARRA. Sp. CANADENSE, Hook.). The oval kidney shaped *Asa maxonii*, now represented,  
exhibits the more usual disposition of the sori, while, on the other hand, the venation  
quite obscure, but surely to be seen by the dissection or after maceration.

Fig. 1. A small plant of *Asplenium Asa maxonii*, sori on the back of a leaf. — 2. The upper side of a leaf  
with sori on the veins, as in *Asa*. — 3. Another plant, sori on the back of a leaf. — 4. The  
back of a leaf of *Asa*, as in *Asa*. — 5. A young plant of *Asa*, sori on the back of a leaf.  
— 6. A young plant of *Asa*, sori on the back of a leaf. — 7. A young plant of *Asa*, sori on the back of a leaf.





TAB. XXX.

ASPLENIUM. *Presl.*

ASPLENIUM Sp. *L. et Auct.* DAREA. *Sm.* CÆNOPTERIS. *Bernh.*

Sori lineares, elongati. *Indusium* elongatum e vena lateraliter ortum ducens, planiusculum, margine superiore libero.—*Rhizoma subglobosum.* Frondes *fasciculatæ, simplices lobatæ aut varie divisæ.* Venæ *pinnatæ, simplices aut uni-bifurcatæ, venulis parallelæ, aut apice libero punctiformi acutove terminatæ, aut arcu transverso conjunctæ (ut in A. Nidus).!*

*Asplenium Ruta muraria. L.*

Our Tab. VI. represents an *Asplenium* with very narrow segments, each segment bearing only one sorus, which thus appears to open outwardly, that is, towards the margin, (*Darea, Sm., Cænopteris, Bernh.*). The well known *Aspl. Ruta muraria*, now represented, exhibits the more usual character of the genus, while, on the other hand, the venation is quite obscure, and scarcely to be seen but by dissection or after maceration.

*Fig. 1.* A small plant of *Asplenium Ruta muraria*; *magn.* 2 diam.—*f. 2.* Under side of a pinna, with scarcely ripe sori; *m.* 10 diam.—*f. 3.* Another pinna, more advanced; *m.* 10 diam.—*f. 4.* Vertical section of a sorus; *m.* 20 diam.—*f. 5.* Sporangia in a young state; *m.* 100 diam.—*f. 6.* Sporangia in a ripe state; *do.*—*f. 7.* Sporules; *m.* 200 diam.

TAB. XXX

APPENDIX

SECTION I. In the District of Columbia.

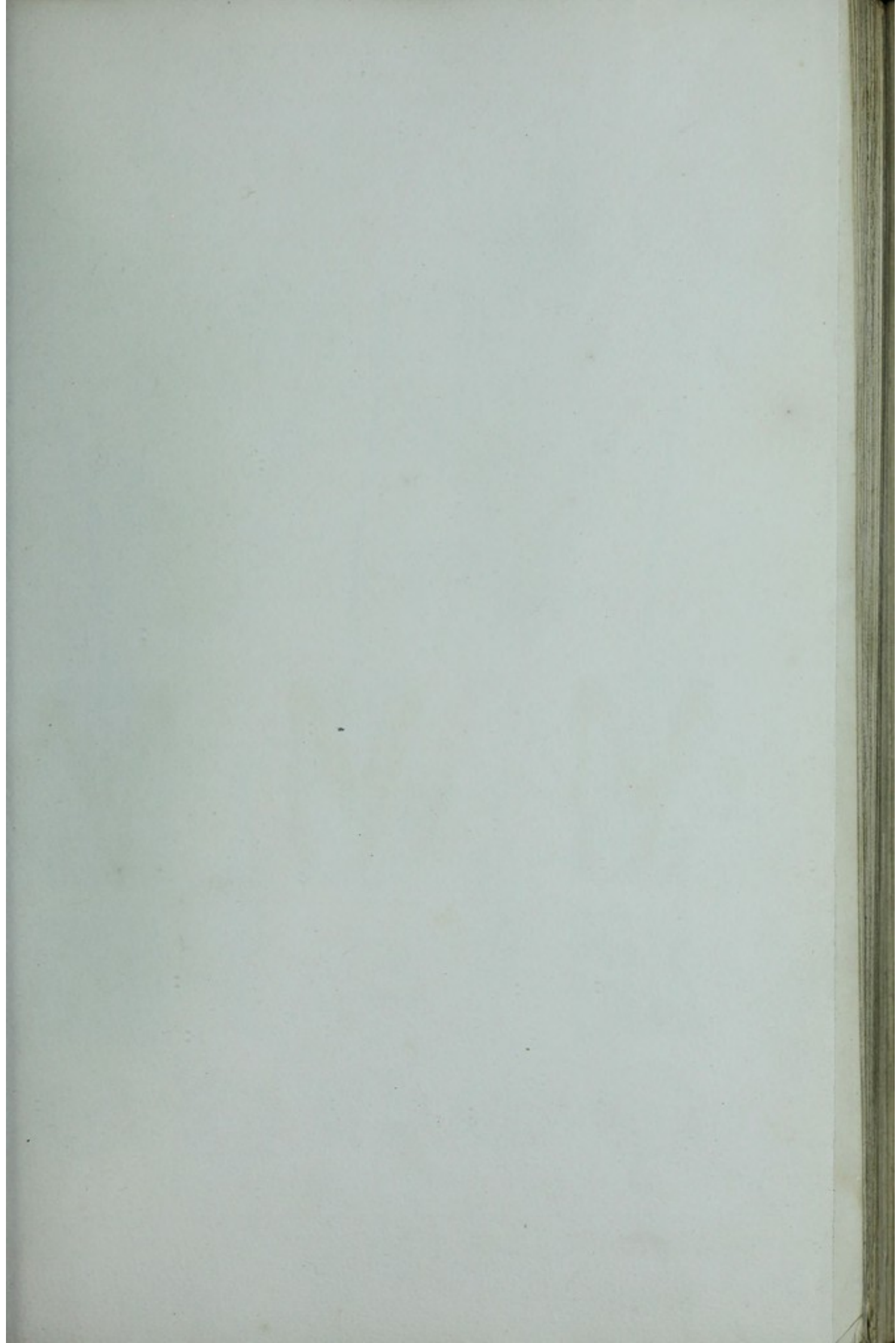
very minute, elongated, cylindrical, with a very distinct transverse striation. The striations are very distinct, and are arranged in a regular, parallel, and equidistant manner. The striations are very distinct, and are arranged in a regular, parallel, and equidistant manner. The striations are very distinct, and are arranged in a regular, parallel, and equidistant manner.

Appendix to the Report.

On the VI. specimens are deposited with very narrow segments, each segment being of only one color, which thus appears to give variety, that is towards the middle (from the Cephalic base). The well known fact that the segments are separated exhibits the same basal character of the ground, while on the other hand the segments in quite obscure, and scarcely to be seen, but by attention to their position.

Fig. 1. A small part of the cephalic base, showing a single segment, and a part of a joint, with the cephalic base, in 10 diam. - Fig. 2. Another part, showing a single segment, and a part of a joint, in 20 diam. - Fig. 3. Another part, showing a single segment, and a part of a joint, in 40 diam. - Fig. 4. Another part, showing a single segment, and a part of a joint, in 60 diam. - Fig. 5. Another part, showing a single segment, and a part of a joint, in 80 diam. - Fig. 6. Another part, showing a single segment, and a part of a joint, in 100 diam.









TAB. XXXI.

TRICHOMANES, Linn.

DIVISIONES. Des. HYPHENOMANES of FERR. BOZ.

Leaf morphology. Sporangia sessile (antheridia tetrasporous) exserted on long stalks or pedicels erect, later involucre cylindrical monophyllous, rarely furcate. Filices pluricaulis epiphytes, caulis non rhizomate fibrosus, raris capillis, principalis teres. Frondes caespites, vix dignae vel decussatae, vix binateae, palmatae, ovatae, polychaetae vel calata, non cordatae, non raris nervis rugulosis; fertilee quaedam difformis apitata. Pubes e pilis simplicibus aut stellatis, involucri "a bulbis conopsea lobulata linearum lateralem confluentem oritur," (Mart.) Rhizomaculis e vix elongata frondium basi gemmiferum. Sporula lobata quae e vix longioribus filamentis.

Trichomanes abietis, Des.—non Hook. in H. Lindl. (Tab. XXXI.) Hook. et Grev. in Fl. Ind. XI.

The present and the following Genus (*Gymnophyton*) are excluded from the true Ferns as they do not walk, and Swartz had previously established of some the true *Gymnophyton*, easily distinguished by the non-transverse ring in the opening of the lobes inserted externally and the lobes typical of the head, but we prefer Swartz's arrangement in making them part of *Polypodiaceae*, ranking near *Dioscorea* and *Lycopodium*. Mr. J. Smith well observes—"In *Dioscorea*, the pedicels of the sporangia are long, and rise vertically from the apex of the tube; in *Lycopodium* (see Tab. 30) they are united (or are quite their whole length), and form a continuous receptacle, the sporangia being placed low along another, and inclining a little upwards, which, according to my view, indicates for the obliquity of the ring in that Genus,—but in *Gymnophyton* and *Trichomanes* the sporangia are sessile around the tubular receptacle in an indented manner, the upper edge inclining a little upwards, their attachment being slightly exserted, with the ring placed vertically (as regards the receptacle) on the exterior side of the base or point of attachment; and this is quite analogous to the fastened sporangia of the ferns seen in *Alseodora* and *Cyathea*, and other Genera which fasten their sporangia on an elevated receptacle, upon which character Presl has formed a very singular and natural's sub-Order, which he calls "Polypodiaceae."

The species of the present Genus are very numerous and highly beautiful; one species, and one alone (the *T. abietis*) is found in the British botanic as an inhabitant of high rocks in the County of Wicklow, at Fawcassart, near Dublin, and about the Lakes of Killarney, Ireland.

Fig. 1. 2. Outer and inner side of a portion of a head; magn. 2 diam.—f. 3. A single side view, and f. 4. do. lower side; as, 10 diam.—f. 5. Under surface of the head, with part of the lobes removed; as, 10 diam.—f. 6. Part of the involucre, with serrations; as, 10 diam.—f. 7. do., with the sporangia removed in front; as, 10 diam.—f. 8. Head surface of the involucre, and f. 9. do. of the head; as, 100 diam.—f. 10. Sporangia in different stages; as, 100 diam.—f. 11. Sporula; as, 200 diam.





## TAB. XXXI.

## TRICHOMANES. Linn.

## DIDYMOGLOSSUM. Desv. HYMENOSTACHYS et FEEA. Bory.

*Sori* marginales. *Sporangia* sessilia (annulo completo transverso) *receptaculo* communi filiformi producto inserta, intra *indusium* cyathiformem monophyllum textura frondis.—*Filiculæ* *plerumque* *repentes*, *caudice* *seu* *rhizomate* *filiformi*, *rarius* *cæspitosæ*, *præcipue* *tropicæ*. *Fronde* *simplices*, *varie* *divisæ* *vel* *decompositæ*, *membranaceæ*, *pellucidæ*, *costatæ*, *pulcherrime* *reticulatæ*, *atro-virides*, *non* *raro* *siccitate* *nigrescentes*; *fertiles* *quandoque* *difformes* *spicatæ*. *Pubes* *e* *pilis* *simplicibus* *aut* *stellatis*. *Indusium* “*e* *bullata* *compagine* *lobulorum* *binorum* *lateralium* *confluentium* *ortum*.” (Mart.) *Receptaculum* *e* *vena* *elongata* *frondium* *basi* *sporangiferum*. *Sporulæ* *lobatæ* *quasi* *e* *tribus* *seu* *quatuor* *formatæ*.

*Trichomanes alatum*. Sw.—non Hook. in *Fl. Lond.* (TAB. XXXI.) Hook. et Grev.  *Ic. Fil. tab. XI.*

The present and the following Genus (*Hymenophyllum*) are excluded from the true Ferns in Presl's able work, and Endlicher had previously constituted of them the Order *Hymenophylleæ*, chiefly distinguished by the complete transverse ring to the sporangia, the filiform exserted receptacle, and the delicate texture of the frond; but we prefer Brown's arrangement in making them part of *Polypodiaceæ*, ranking near *Davallia* and *Loxsonia*. Mr J. Smith well observes—“In *Davallia*, the pedicels of the sporangia are free, and rise vertically from the apex of the vein; in *Loxsonia* (see Tab. 15), they are united (but not quite their whole length), and form a columnar receptacle, the sporangia being placed one above another, and inclining a little outwards, which, according to my view, accounts for the obliquity of the ring in that Genus:—but in *Hymenophyllum* and *Trichomanes*, the sporangia are sessile around the columnar receptacle in an imbricated manner, the upper edge inclining a little outwards, their attachment being slightly excentric, with the ring placed vertically (as regards the receptacle) on the exterior side of the base or point of attachment; and this is quite analogous to the flattened sporangia of the compact sori in *Alsophila* and *Cyathea*, and other Genera which have sessile sporangia on an elevated receptacle, upon which character Presl has formed a very unnatural and untenable Sub-Order, which he calls “*Helicogyrateæ*.”

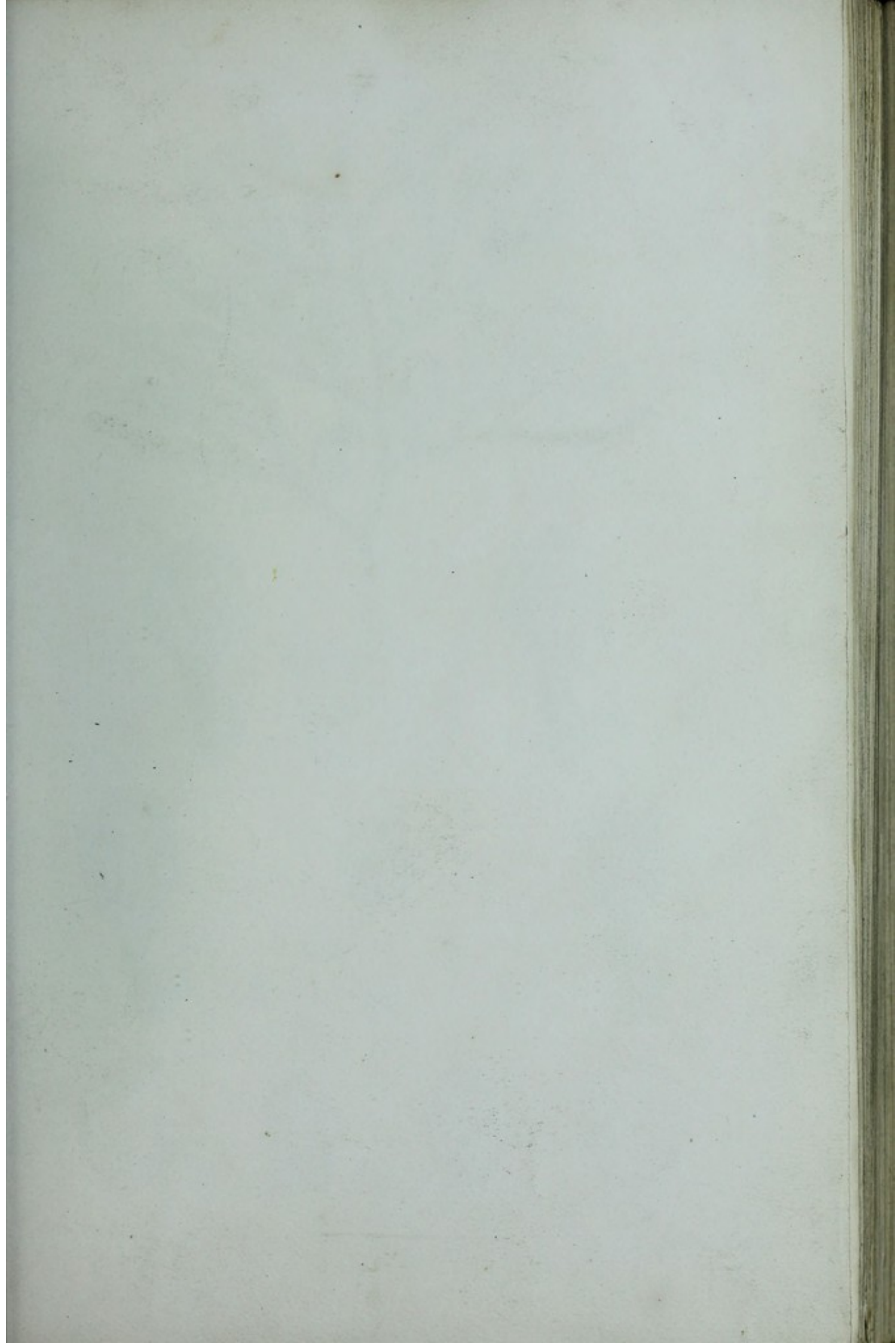
The species of the present Genus are very numerous and highly beautiful; one species, and one alone (the *T. brevisetum*), is familiar to the British botanist as an inhabitant of moist rocks in the vicinity of cascades at Powerscourt, near Dublin, and about the Lakes of Killarney, Ireland.

*Fig.* 1. 2. Under and upper side of a portion of a frond; *magn.* 5 diam.—*f.* 3. A sorus, under side, and *f.* 4. do. lower side; *m.* 15 diam.—*f.* 5. Under surface of the same, with part of the indusium removed; *m.* 15 diam.—*f.* 6. Base of the receptacle, with sporangia; *m.* 25 diam.—*f.* 7. do., with the sporangia removed in front; *m.* 25 diam.—*f.* 8. Small portion of the indusium, and *f.* 9. do. of the frond; *m.* 100 diam.—*f.* 10. Sporangia in different stages; *m.* 100 diam.—*f.* 11. Sporules; *m.* 200 diam.











TAB. XXXII.

HYMENOPHYLLUM, Sw.

*Sori marginata.* Sporangia sessilia vel subsessilia (annulo completo plerumque transverso) retrosculo conoconi cylindrico plerumque inclinato inserta, extra induratum. *Utrique monophyllae*, costata fronsis areolis planis. — Filiculis *Asplenio* five *Asplenio* et in *Trichomanis*, in regionibus tropicis, tropicis. — Sporangia (in *H. Trichomanis*) *triangulata*, *Asplenio* *trichomanis* *disposita* in *Asplenio*.

*Hymenophyllum Trichomanis*, Sw. (TAB. XXXII.) — *Engl. Bot.* tab. 108. *Hook. H. Lond.* *tab. 1.*

A *Demon.* was separated from *Trichomanis* by Sir James Smith, chiefly on account of the two-lipped lobes and the peculiarly hooked sporangia. The spores of the present species, however, are considerably different from those of the *Trichomanis* variety (Tab. next XXXI.), and we may observe that the sporangia here given, in Mr. Hooker's figure of *H. Trichomanis*, exhibit a more declivous apex, and a more eccentric point of attachment, and consequently a more oblique opening than we have ourselves observed in this species. This appearance may have been owing to the very crowded state of the sporangia in Mr. Hooker's specimens.

The species of this Genus are likewise numerous, and chiefly confined to the tropics. Two, however, are found as far north as the British Isles—namely, the subject of the present plate and *H. Hibern.* Hook.

Fig. 1. Upper side of a portion of a frond, magn. 9 diam. — f. 2. Under side of a frond, f. 3. A side view of the same, f. 4. A longitudinal section; f. 5. do. through the sporangia; and f. 6. Transverse section of a sori, through the sporangia; m. 10 diam. — f. 7. Sporangia; m. 10 diam. — f. 8. Sporangia; m. 100 diam. — f. 9. Small portion of the frond, m. 10 diam.





TAB. XXXII.

HYMENOPHYLLUM. *Sm.*

*Sori* marginales. *Sporangia* sessilia vel subsessilia (annulo completo plerisque transverso) receptaculo communi cylindraceo plerumque incluso inserta, intra indusium bivalve monophyllum, textura frondis areolis planis.—*Filiculæ habitu fere omnius ut in Trichomani, in regionibus tropicis præcipue.* Sporulæ (*in H. Tunbridgense*) *triangulares, linea triradiata depressa in disco.*

*Hymenophyllum Tunbridgense. Sm. (TAB. XXXII.)—Engl. Bot. tab. 162. Hook. Fl. Lond. cum Ic.*

A Genus, first separated from *Trichomanes* by Sir James Smith, chiefly on account of the two-lipped involucre and the generally included receptacle. The sporules of the present species, however, are considerably different from those of the *Trichomanes alatum* (Tab. nostr. XXXI.), and we may observe that the sporangia here given, in Mr Bauer's figure of *H. Tunbridgense*, exhibit a more decided stipes, and a more excentric point of attachment, and consequently a more oblique annulus than we have ourselves observed in this species. This appearance may have been owing to the very crowded state of the sporangia in Mr Bauer's specimens.

The species of this Genus are likewise numerous, and chiefly confined to the tropics. Two, however, are found as far north as the British isles—namely, the subject of the present plate and *H. Wilsoni*, Hook.

*Fig. 1.* Upper side of a portion of a frond; *magn.* 6 diam.—*f. 2.* Under side of a sorus; *f. 3.* A side view of the same; *f. 4.* A longitudinal section; *f. 5.* do. through the receptacle; and *f. 6.* Transverse section of a sorus, through the receptacle; *m.* 10 diam.—*f. 7.* Sporangia; *m.* 50 diam.—*f. 8.* Sporules; *m.* 200 diam.—*f. 9.* Small portion of the frond; *m.* 50 diam.

TAB. XXII.

HYMENOPHYLLUM.

Two marginal. Sporangia sessile vel subsessile (annule complete pterisq trans-  
verso) receptaculo communi ex latere pterisq inserta, intra inclusionem  
interia monophylla, testura fibrilla arctata planis.—Fibrilla arctata  
in to Fichonia, in regionibus tropicis praevalens. Sporulae (in H. Tubridigenae)  
triangulares, basi truncatae depressae in disco.

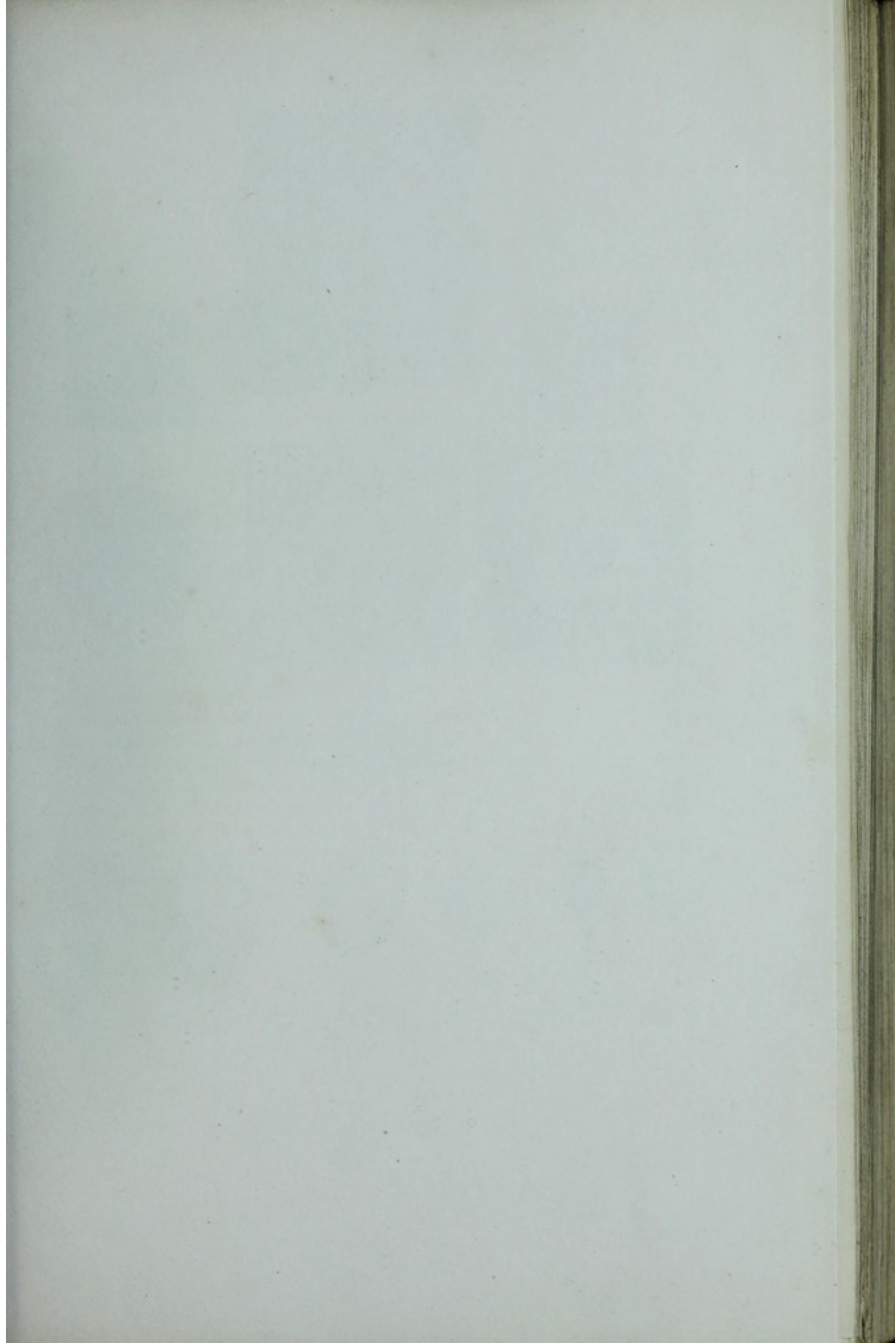
Hymenophyllum Tubridigenae. No. (Tab. XXII).—Kew Bot. tab. 102. Wood.  
H. Kew. con. 16.

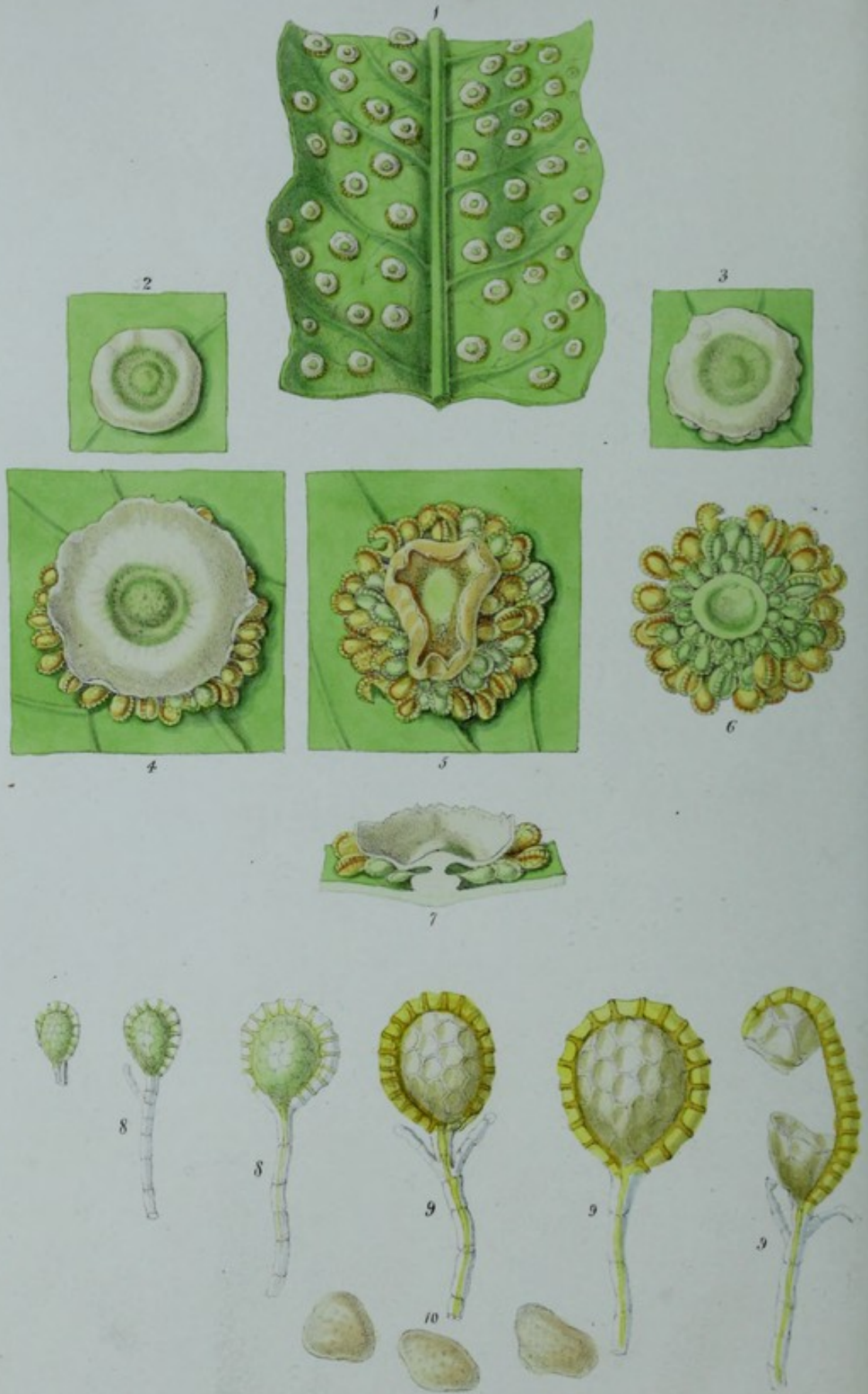
A Genus first separated from Fichonia by Sir James Smith, chiefly on account of  
the two-tipped rays and the generally included receptacle. The sporulae of the pre-  
sent species, however, are considerably different from those of the Fichoniae genus  
(Tab. con. XXII), and we may observe that the sporangia here given in Sir James's  
figure of H. Tubridigenae, exhibit a more decided apex, and a more eccentric point of  
attachment, and consequently a more oblique nucleus than we have ourselves observed in  
this species. This appearance may have been owing to the very crowded state of the  
sporangia in Sir James's specimens.

The species of this Genus are likewise numerous, and chiefly confined to the tropics.  
Two however, are found as far north as the British Isles—namely, the subject of the pre-  
sent plate and H. Wilsoni, Hook.

Fig. 1. Upper side of a portion of a head; magn. 5 diam.—A. B. Under side of a cone; A. B. A  
side view of the cone; A. A longitudinal section; A. B. the through the receptacle; and A. B.  
Transverse section of a cone, through the receptacle; ac. 40 diam.—A. C. Sporangia; ac. 50 diam.—  
A. D. Sporangia; ac. 50 diam.—A. E. Small portion of the head; ac. 50 diam.







TAB. XXXIII

ASPIDIUM. Sect. Presl.

Aspidium spec. det. Nomenclaturae Dep. Herbariorum, Bot.

Sect. det. Aspidium aut rugulis vascularibus inerti, globosis, cingit. Inductum  
orbiculatum, politum. — Rhizoma subglobosum. Flosculi fasciculati, stipitati,  
sericeo, lobatis, micropylis distinctis. Vena plerumque distincta, uniseriata, pila  
pila sericea, reniformis. Vena primaria et secundaria (peripherica) bipar-  
ticulata simpliciter et simpliciter aut simpliciter et simpliciter simpliciter, com-  
posita in marginalibus simpliciter et simpliciter aut simpliciter et simpliciter  
simpliciter. Radix (et) stipites simpliciter, cum aut simpliciter et simpliciter  
simpliciter. Sect. det. Nomenclaturae. — Species duplex, det. det. det. det.

Aspidium trichotomum. Sect. (Tab. XXXIII)

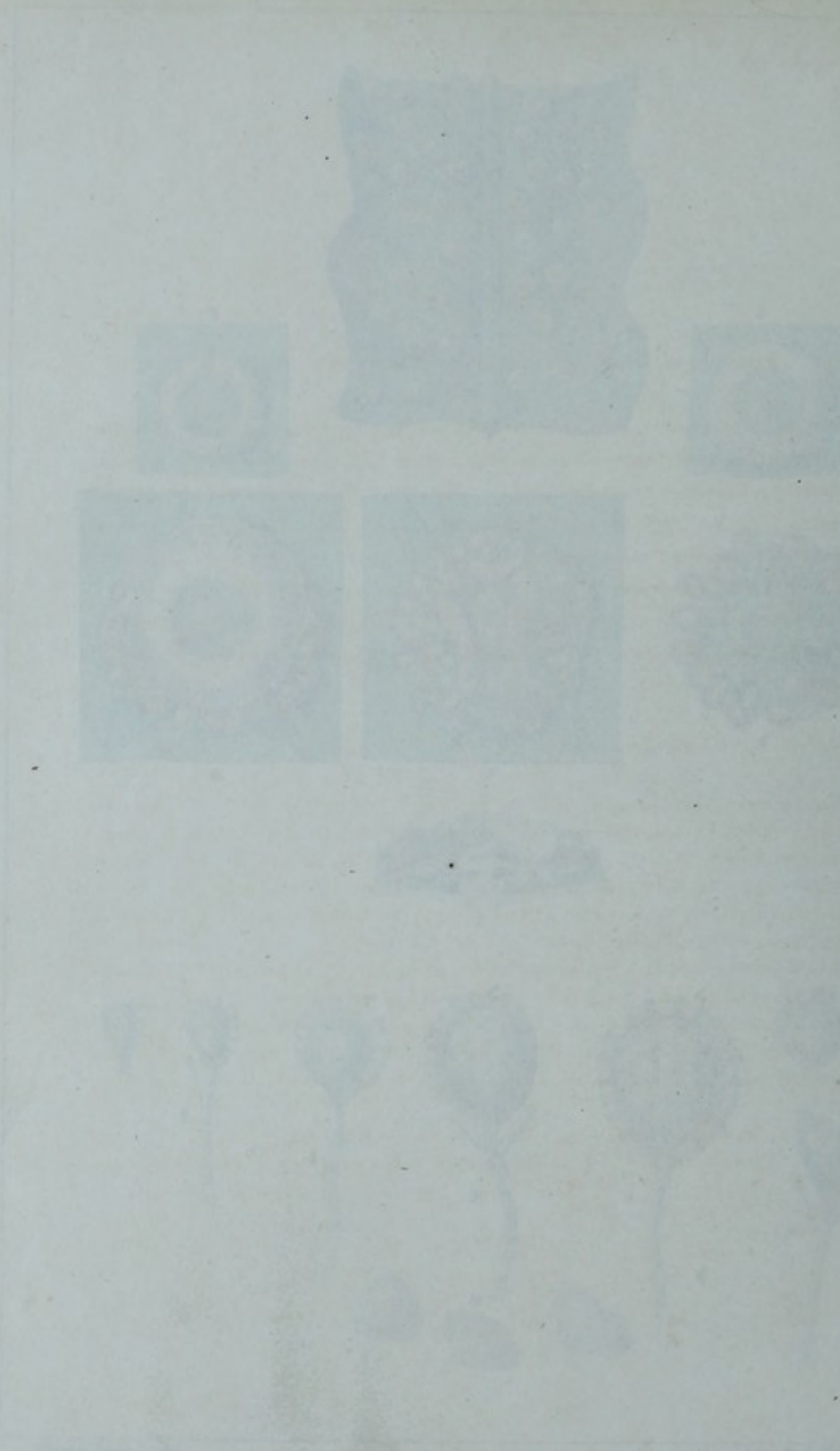
Various have been the opinions of botanists as to the limits of the Genus Aspidium.  
Of the propriety of separating those species with palmate lobes from those with the ren-  
form ones, held by the genus, there was some controversy; and hence the two  
genera adopted by Beauv. of *Aspidium* and *Nephrolepis*. These again, are by Presl  
subdivided according to the nature of the venation. In this present instance, Presl's views  
are adopted, and the *Aspidium* divides itself into two groups.

§ 1. *Aspidium* (verum), *Marsipha primaria* heterophylla — quatuor. §. Presl.  
Presl: *A. trichotomum* and *heterophyllum* (Ver.), and *A. heterophyllum*, Willd.

§ 2. *Aspidium*. *Marsipha propria* parallelonervia, lobis lobatis et palmatis ser-  
vatis — including *Asp. detense* and *heterophyllum*, Willd.; *A. detense*, *heterophyllum*, and  
*Aspidium*, Presl; and *A. repens* and *heterophyllum*, Willd.

Fig. 1. Under surface of a small portion of a frond; width, 3 lines. — *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*, *k*, *l*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *v*, *w*, *x*, *y*, *z*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, 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*ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*, *ccc*, *ddd*, *eee*, *fff*, *ggg*, *hhh*, *iii*, *jjj*, *kkk*, *lll*, *mmm*, *nnn*, *ooo*, *ppp*, *qqq*, *rrr*, *sss*, *ttt*, *uuu*, *vvv*, *www*, *xxx*, *yyy*, *zzz*, *aaa*, *bbb*,





TAB. XXXIII.

ASPIDIUM. Schott. Presl.

ASPIDIUM spec. Auct. NEPHRODIUM sp. Bory. HYPOPELTIS. Rich.

Sori dorso venularum aut angulis macularum inserti, globosi, magni. *Indusium* orbiculatum, peltatum.—*Rhizoma subglobosum*. Frondes *fasciculatæ, stipitatæ, herbacæ, lobatim pinnatimque divisæ*. Venæ *pinnatæ, distantes, costæformes, plus minus flexuosæ, ramosissimæ*. Venulæ *primariæ in maculas (primarias) hexagonoideas inæquales et acutangulas aut parallelogrammas lateribus curvatis, secundariæ in maculas minores hexagonoideas vel inæqualiter angulatas interne ramuliferas anastomosantes*. Ramuli *liberi simplices ramosique, recti aut incurvi, apice acutiusculo desinentes*. Sori *multiseriales*.—Species *tropicæ Americanæ et Asiaticæ*. Presl.

*Aspidium trifoliatum*. Sw. (TAB. XXXIII.)

Various have been the opinions of botanists as to the limits of the Genus *Aspidium*. Of the propriety of separating those species with peltate indusia from those with the reniform ones, fixed by the sinus, there can now be scarcely a question; and hence the two Genera adopted by Brown, of *Aspidium* and *Nephrodium*. These, again, are by Presl subdivided according to the nature of the venation. In this present instance, Presl's ideas are adopted, and his *Aspidium* divides itself into two groups.

§ 1. ASPIDIUM (verum). Maculæ primariæ hexagonoideæ;—embracing *A. Plumieri*, Presl; *A. trifoliatum* and *macrophyllum* of Sw.; and *A. heracleifolium*, Willd.

§ 2. BATHMIUM. Maculæ primariæ parallelogrammæ, latere interiore et posteriore curvato;—including *Asp. alatum* and *Singaporianum*, Wall.; *A. decurrens*, *Menyanthes*, and *Hænkei*, Presl; and *A. repandum* and *polymorphum*, Willd.

*Fig. 1.* Under surface of a small portion of a frond; *magn.* 5 diam.—*f. 2. 3.* Sori in a young state, and *f. 4. 5.* in a more advanced state; *m.* 20 diam.—*f. 6.* The same sorus as at *f. 5*, seen from beneath; *do.*—*f. 7.* A vertical section through the sorus; *do.*—*f. 8. 9.* Sporangia in different states; *m.* 100 diam.—*f. 10.* Sporules; *m.* 200 diam.

TAB. XXXIII.

ASPIDIUM. See Tab. XXXIII.

Aspidium spec. var. *Neuridium* sp. Hook. *Hypolepis* Hook.

For details regarding the classification of the genera *Aspidium*, *Hypolepis*, and *Neuridium*, see the text on the following page.

Tab.

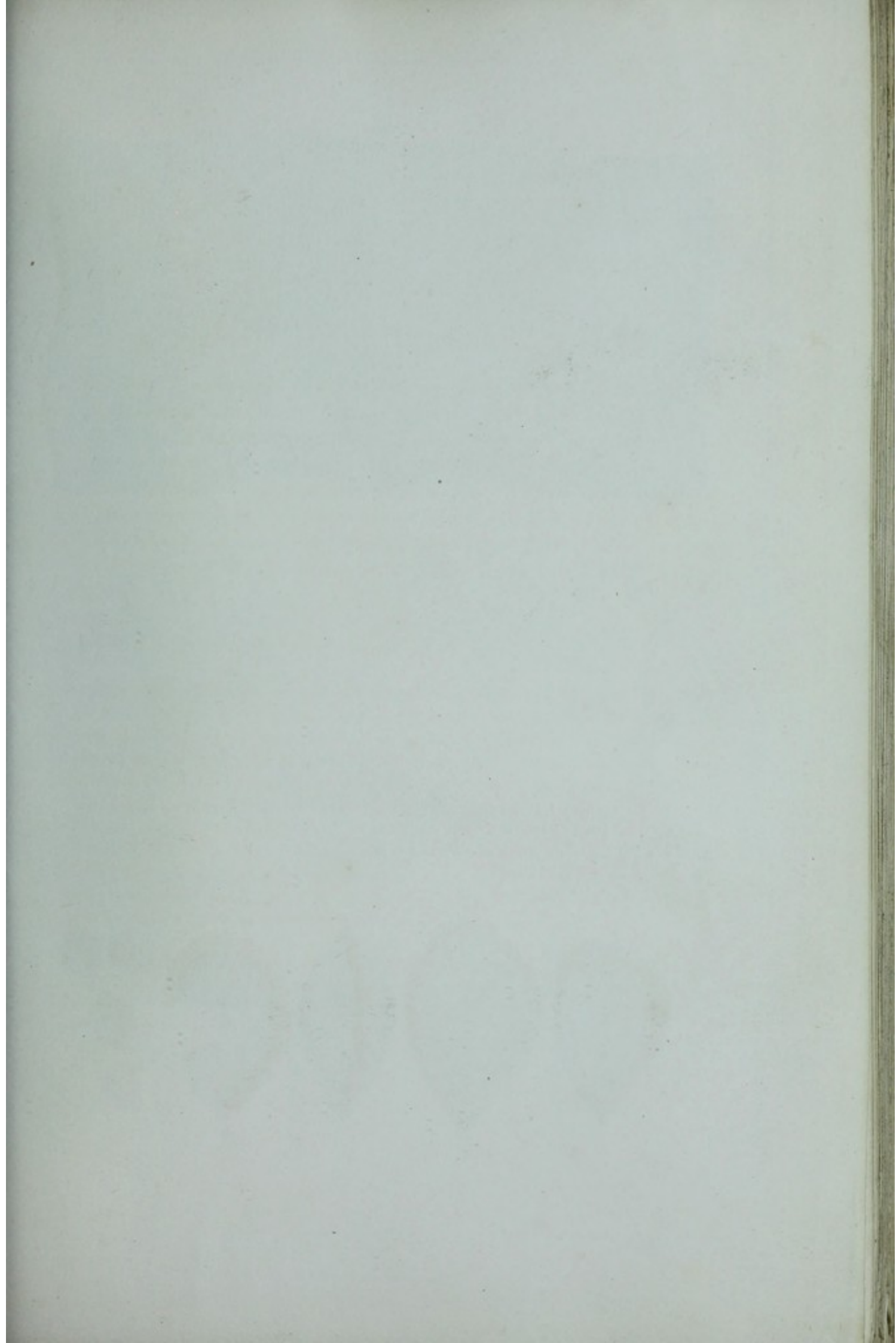
Aspidium (Tab. XXXIII.)

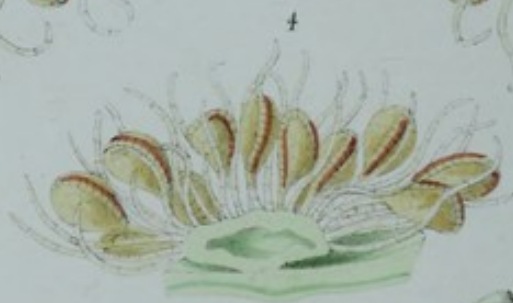
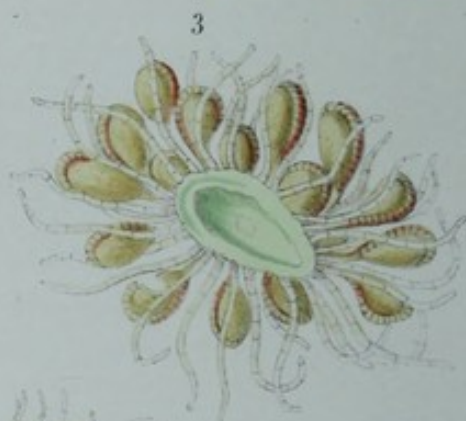
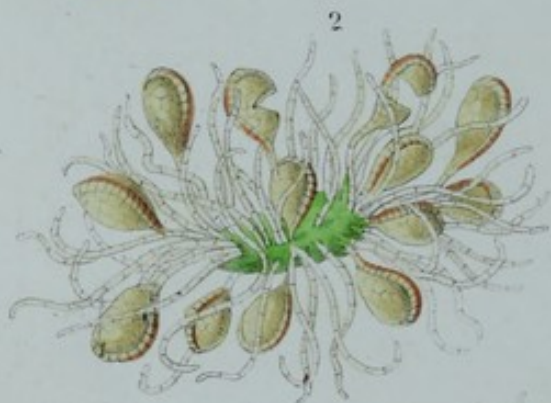
Various have been the opinions of botanists as to the limits of the genus *Aspidium*. Of the propriety of separating those species with pedate lobes from those with the lobes...

- § 1. *Aspidium* (var.) *Melasma* *primaria* *hypolepis*—including *A. planifolium*, *A. hypolepis*, and *A. hypolepis* of Willd.
- § 2. *Aspidium* *alacris* *primaria* *hypolepis*, *latius* *latius* et *posterior* *latius*—including *A. alacris* and *hypolepis* of Willd.; *A. latius*, *hypolepis*, and *latius* of Presl; and *A. hypolepis* and *hypolepis* of Willd.

Fig. 1. Under surface of a small portion of a frond, magnified 10 times. Fig. 2. Spores of *Aspidium* in a more advanced state; magnified 100 times. Fig. 3. The same spores as in Fig. 2, seen from the north; magnified 100 times. Fig. 4. A vertical section through the spore; magnified 100 times. Fig. 5. Spores of different sizes; magnified 100 times.

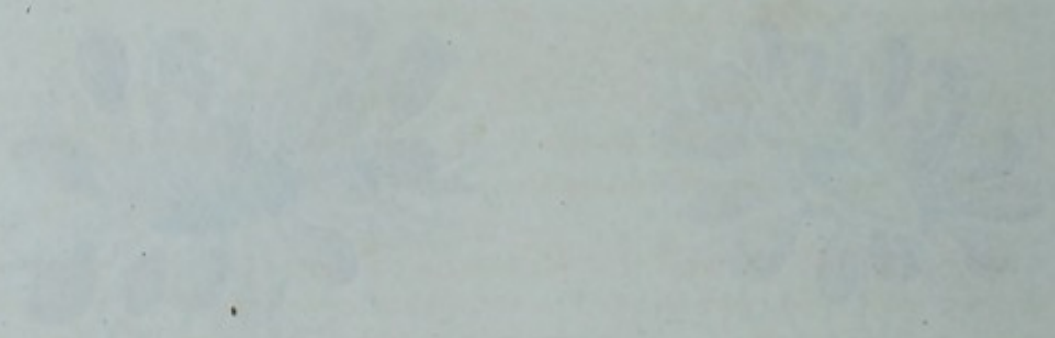
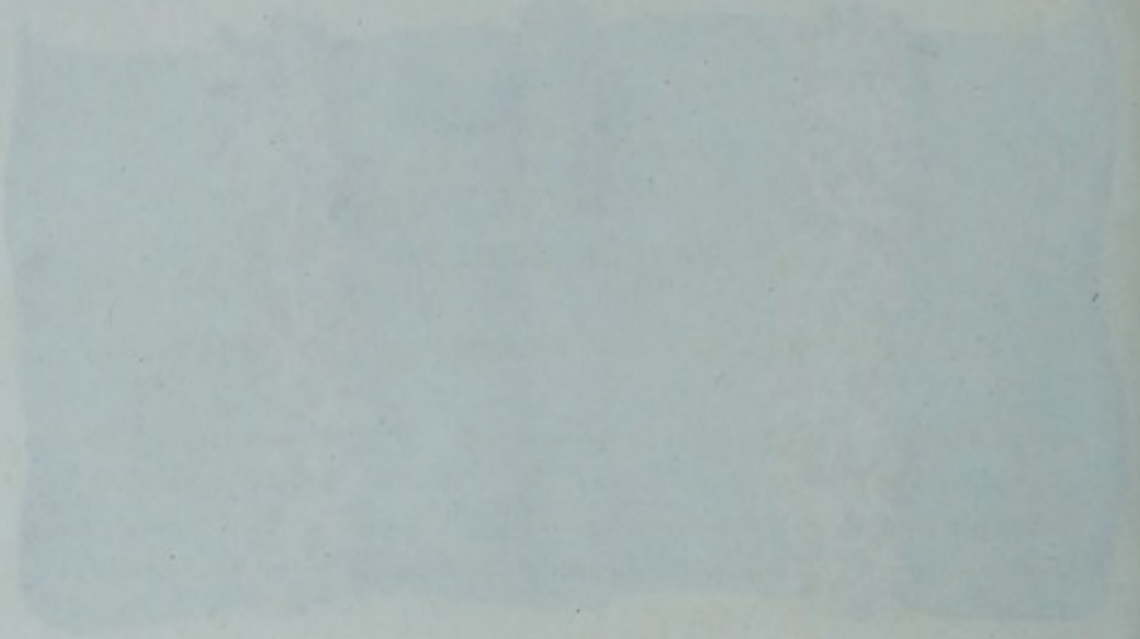












TAB. XXXIV.

TRICHOPTERIS. Presl.

CHNOOPHORÆ sp. Kaulf. ALSOPHILÆ sp. Kunze et Mart.

Sori in medio dorsi venæ venulæque globosi nudi. Receptaculum sessile, globosum, areolatum, pilis longis crinitum. Capsulæ subsessiles.—Arbores *aculeatæ, excelsæ*. Caudex 8-angularis, duodecim-octodecempedalis. Insertio stipitum in ordine spirali duodenario ( $1/12$ ), cicatricibus contiguis rhombeis planis, verrucis externis in rhombum dispositis, centralibus sparsis. Frondes coriaceæ, bipinnatæ, pinnis pinnulisque petiolatis. Venæ pinnatæ, crebræ, utrinque prominulæ, simplices aut fere a basi furcatæ, venulisque parallelæ ac apice incrassatæ. Presl.

Trichopteris *excelsa*. Presl. (TAB. XXXIV.)—Alsophila (§ Chnoophora) *excelsa*. Mart.  *Ic. Pl. Crypt. Bras. p. 63. tab. 27. 29. f. 1. 2. and tab. 37.*—Polypodium Tænitis. Roth, Kaulf.—P. Corcovadense. Raddi.

*Alsophila*, Br. (see Tab. 9 and 21 of this work), is the Genus to which the present is the most nearly allied, and from which its author (Presl) has distinguished it in consequence of the different insertion of the stipites, and the form and closeness of the cicatrices, the dissimilarity of consistence of the frond, and in having the sori affixed to the middle of the parallel veins and veinlets, prominent on both sides, and incrassated at the apex. The species have indeed a very peculiar habit; the petiolated pinnules are always lanceolate, dark green above, pale, but dull and opaque below: the fructifications so copious that they form an uninterrupted line from the base, about equidistant between the costa and the margin, but always stopping short of the point. The hairs of the receptacles are equally present upon one species of *Alsophila* (Presl), namely, *A. pruinata*, which is however abundantly different in other respects.

The species are *T. excelsa*, *denticulata*, and *elegans*, Presl.

Fig. 1. Portion of a pinnule, under side; magn. 5 diam.—f. 2. Sorus; f. 3. Sorus seen from the under side; and f. 4. a vertical section of a sorus; m. 30 diam.—f. 5. Sporangia; m. 100 diam.—f. 6. Sporules not quite ripe; m. 400 diam.—f. 7. Recent hair, and f. 8, one in a dry state, taken from the receptacle; m. 100 diam.

TAB. XXIV.

TRICHOPTERIS

Genus of the family Trichopterisaceae, order Trichoptera.

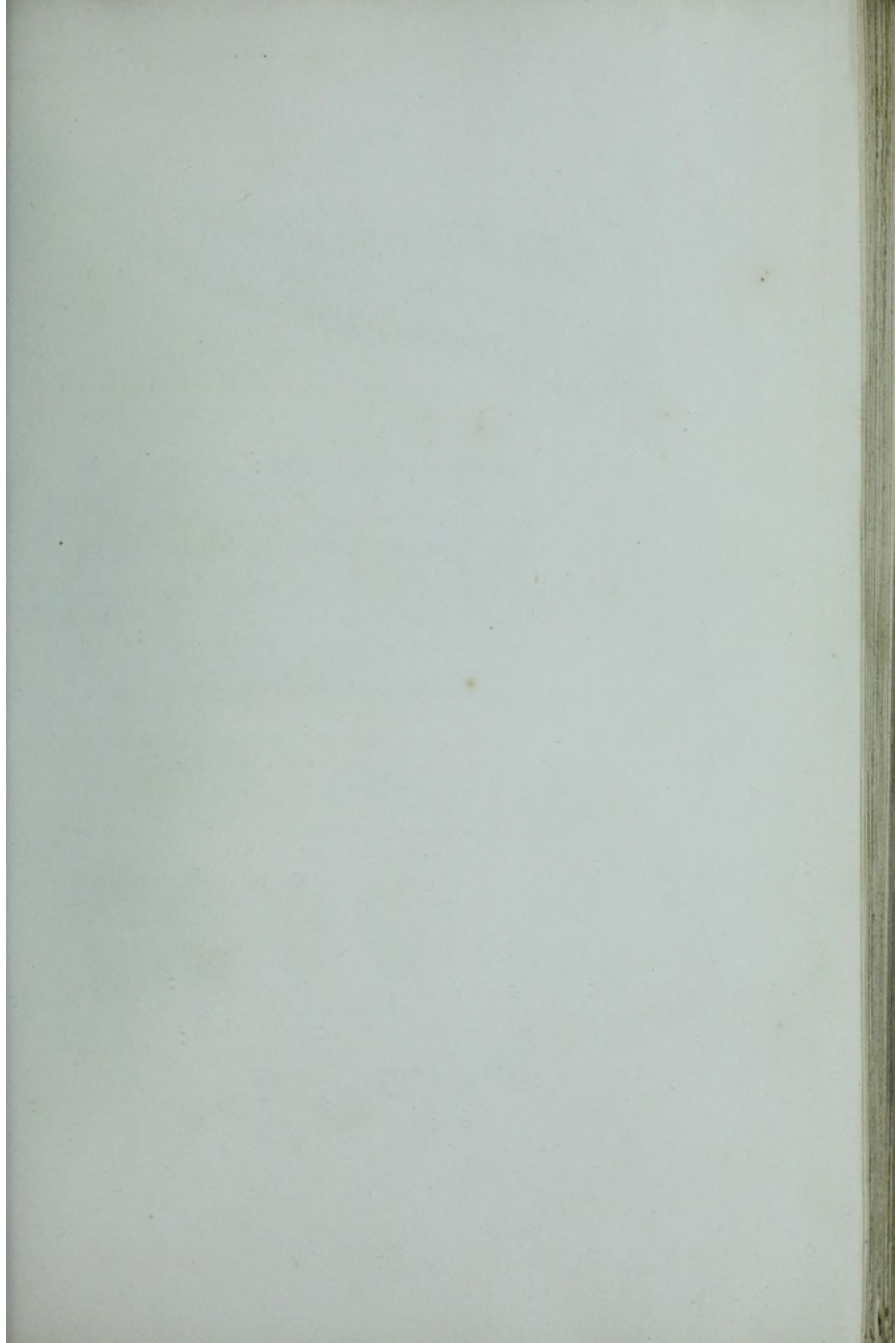
It is a small fern with a creeping rhizome. The fronds are bipinnate, the rachis being densely covered with scales. The sori are arranged in a regular pattern on the underside of the leaflets. The spores are small and have a distinct ornamentation.

Trichopteris (L.) Presl. (Tab. XXIV.)—A small fern with a creeping rhizome. The fronds are bipinnate, the rachis being densely covered with scales. The sori are arranged in a regular pattern on the underside of the leaflets. The spores are small and have a distinct ornamentation.

The fronds are bipinnate, the rachis being densely covered with scales. The sori are arranged in a regular pattern on the underside of the leaflets. The spores are small and have a distinct ornamentation. The fronds are bipinnate, the rachis being densely covered with scales. The sori are arranged in a regular pattern on the underside of the leaflets. The spores are small and have a distinct ornamentation.

Fig. 1. Frond of a female, under side; scale 2 diam. — Fig. 2. Spore, 100 diam. — Fig. 3. Spore, 100 diam. — Fig. 4. Spore, 100 diam. — Fig. 5. Spore, 100 diam. — Fig. 6. Spore, 100 diam. — Fig. 7. Spore, 100 diam. — Fig. 8. Spore, 100 diam. — Fig. 9. Spore, 100 diam. — Fig. 10. Spore, 100 diam.









TAB. XXXV.

NEPHROLEPIS. Schott.

NEPHROLEPIS sp. Auct. HUMATÆ sp. Cav. ASPIDIUM sp. Sw. HYPOPELTIDIS sp. Bory.

Sori subglobosi apici venulæ superioris insidentes. Indusium reniforme sinu sub-centrali affixum. Sporangia parva longe pedicellata, pedicellis persistentibus pulvinulum efficientibus.—Rhizoma repens. Frondes sparsæ, tenuiter coriaceæ, simpliciter pinnatim divisæ. Pinnæ revera cum rachide articulatæ et facile deciduæ. Venæ pinnatæ, densissimæ, internæ, apice punctiformi longe a margine frondis terminatæ, bifurcatæ, venula superiori breviori sorifera ab ima basi venæ exoriens. Sori margine frondis pinnarum approximati.—Species tropicæ et extratropicæ Americanæ, Indicæ, Novo-Hollandicæ, &c.; jam steriles venis venulisque puncto opaco terminatis et pinnis deciduis dignoscendæ. Presl.

Nephrolepis exaltata. Schott, Gen. Fil. cum Ic.—(TAB. XXXV.)—Aspidium. Sw.  
—Nephrodium. Br.

An extremely natural and well-marked Genus, clearly defined by Schott and Presl, and comprising about 20 species, nearly allied in general habit.

Fig. 1. Under side of a pinna; magn. 5 diam.—f. 2. Portion of the same; m. 10 diam.—f. 3. Indusium turned back from a young sorus; m. 10 diam.—f. 4. Vertical section of a ripe sorus; do.—f. 5. Indusium turned back from a ripe sorus; do.—f. 6. Transverse section of a rachis of the frond, and f. 7. Vertical section of a portion of the same; m. 10 diam.—f. 8. Very young sporangia; m. 100 diam.—f. 9. Ripe sporangia; do.—f. 10. Ripe sporules; m. 400 diam.



TAB. XXXI

NEPHROLEPIS Schob.

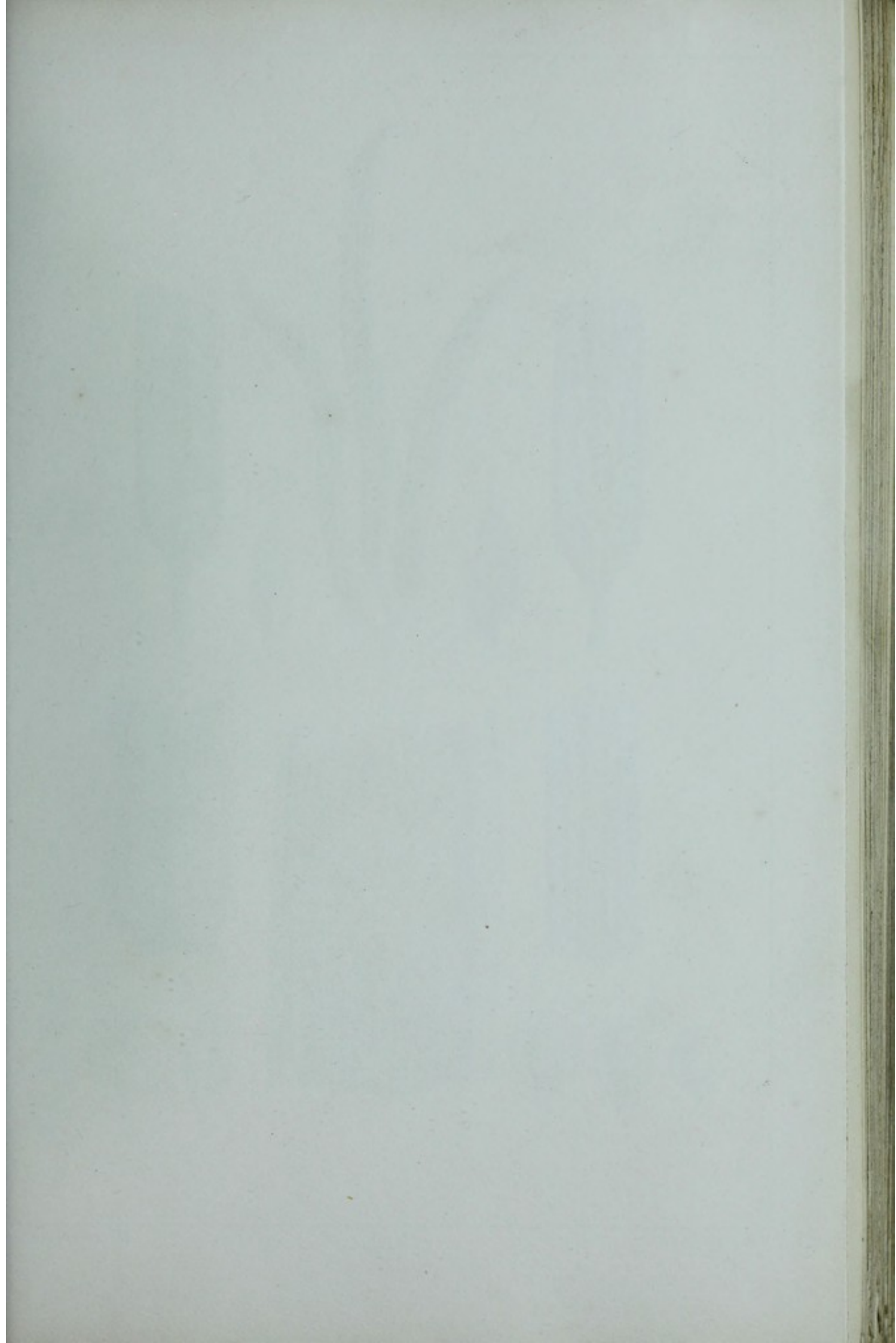
NEPHROLEPIS sp. nova. HEMATA sp. nov. Acanth sp. nov. HYPOLEPIDIS sp. nov.

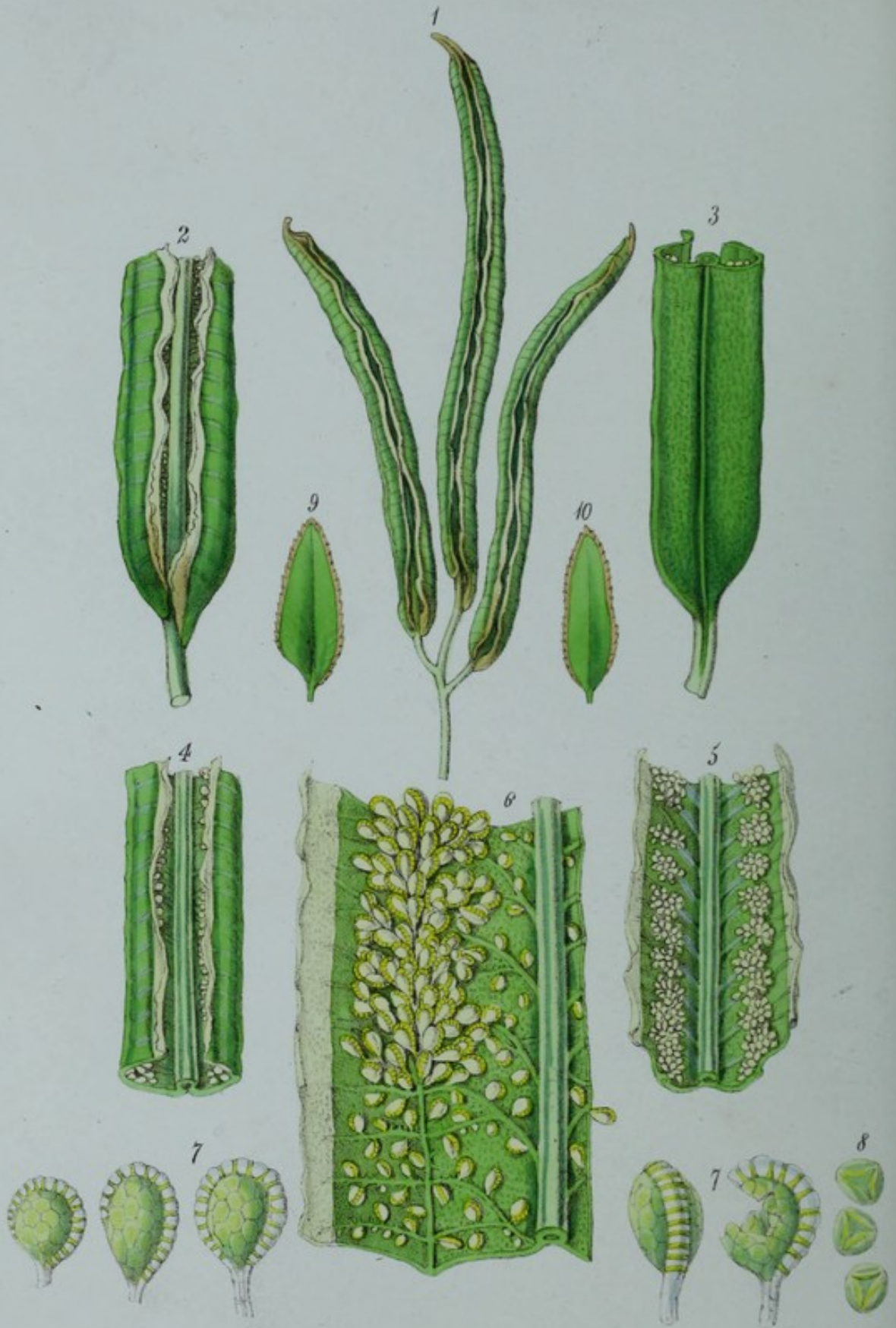
Genus subgenus epici tenuis superioris insidentes. Tubulum tenuissimum sine sub-  
centro alioque. Sporocystis parva longe pedicellata, pedicellis peristomatibus  
peristomatibus effluantibus.—Heterocystis ovata. Tubulus sporae, tenuiter coriacea,  
simpliciter punctata dicitur. Tubulus sporae tenuis crassitie et facile decidua.  
Vasa parva, tubulosa, interna, epici parvis longe a simplici fructu ter-  
minata. Sporocystis, tenuis superioris, epici ad hanc non esse exortem.  
Genus subgenus Jiranda parva ovata.—Species tropica et extratropica  
habitat, India, Nova-Hollandia, etc. Genus tenuis tenuis venis venis  
specie tenuis et parva decidua ligandis. J. sp.

Nephris extensa Schob. Gen. Tab. cum A.—(Tab. XXXV)—Acanth. Schob.  
—Nephris. Jir.

An extremely natural and well-marked genus, clearly defined by Schob and Presl, and  
comprising about 20 species, nearly allied to general habit.

Fig. 1. Upper side of a female, magn. 5 diam.—A. 2. Portion of the same, magn. 10 diam.—A. 3.  
Tubulum tenuis, long. 2 diam.—A. 4. Vertical section of a ripe sporocyst; do.  
—A. 5. Tubulum tenuis, long. 2 diam.—A. 6. Transverse section of a ripe sporocyst;  
do. and A. 7. Vertical section of a portion of the same, magn. 10 diam.—A. 8. Very young sporocyst;  
magn. 100 diam.—A. 9. Ripe sporocyst; do.—A. 10. Ripe sporocyst; magn. 400 diam.







TAF. XXXVI

CRATIDOSTYLE, A NEW GEN.

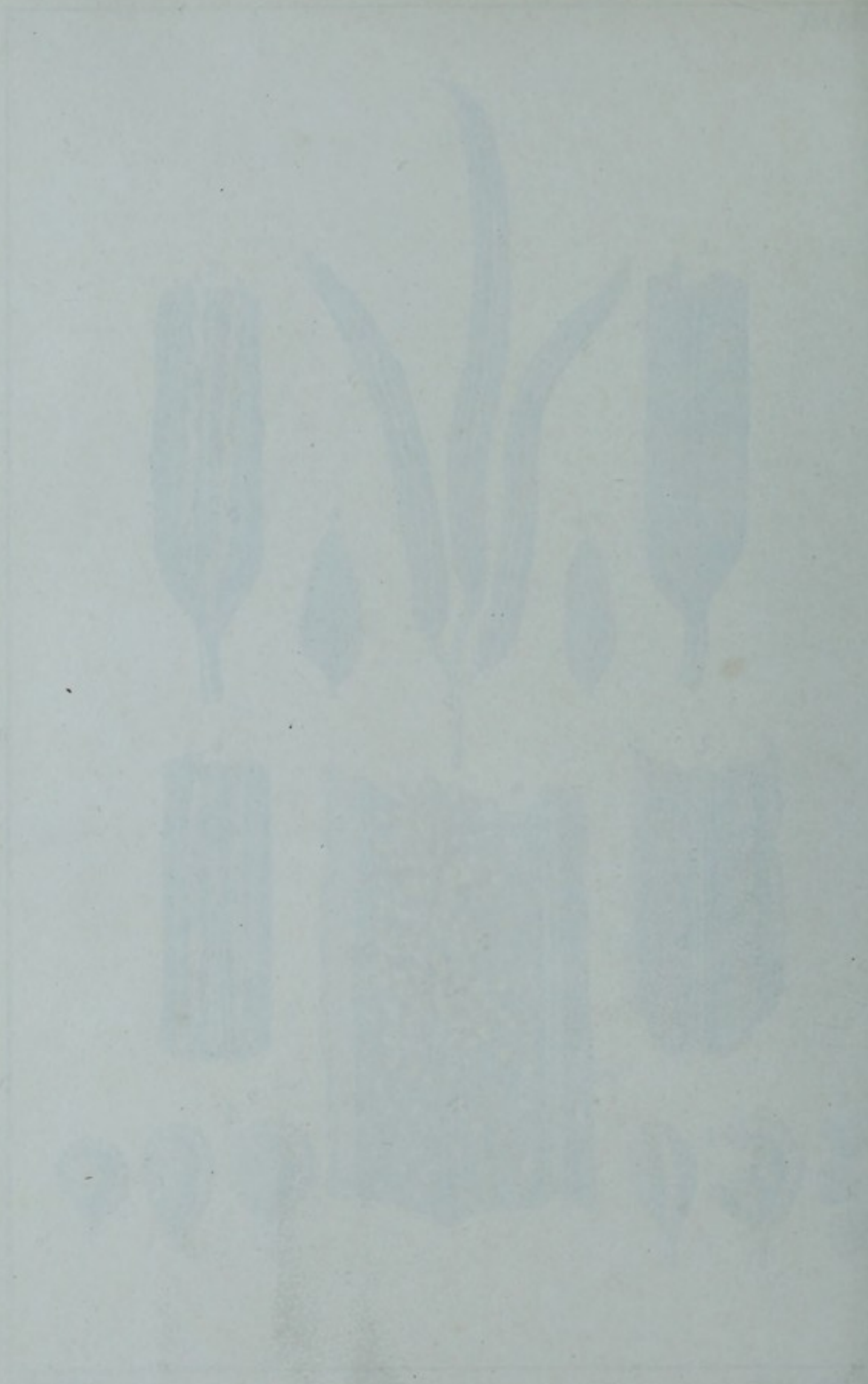
*Pinnule* broad, triangular, strongly revolute, marginate, lobes  
formid, dense, very minute, appressed. ...

*Cratidostyle* ... (TAF. XXXVII)

The above character of ...

What is here stated ...

Fig. 1. ...



TAB. XXXVI.

CERATODACTYLIS. *J. Smith, mst.*

*Pinnulæ* fertiles mutato-contractæ; marginibus revolutis membranaceis indusiæ-formibus, dorsum totum pinnulæ tegentibus. *Sori* lineares, furcatæ. *Sporangia* venas parallelas furcatas per totam longitudinem occupantia.—*Filix Mexicana*. Frondes stipitatæ 2½-pedales, glabræ, tripinnatæ. Pinnæ superiores mutato-contractæ, fertiles. Pinnulæ steriles, alternæ, petiolatæ, oblongo-ellipticæ, basi obliquæ, serrulatæ, venosæ, venis subsimpliciter dichotome ramosæ: fertiles contractæ, lineares, subfalcatæ, non raro ternatim divisæ. *J. Smith, mst.*

*Ceratodactylis osmundioides*. *J. Sm.* (TAB. XXXVI.)

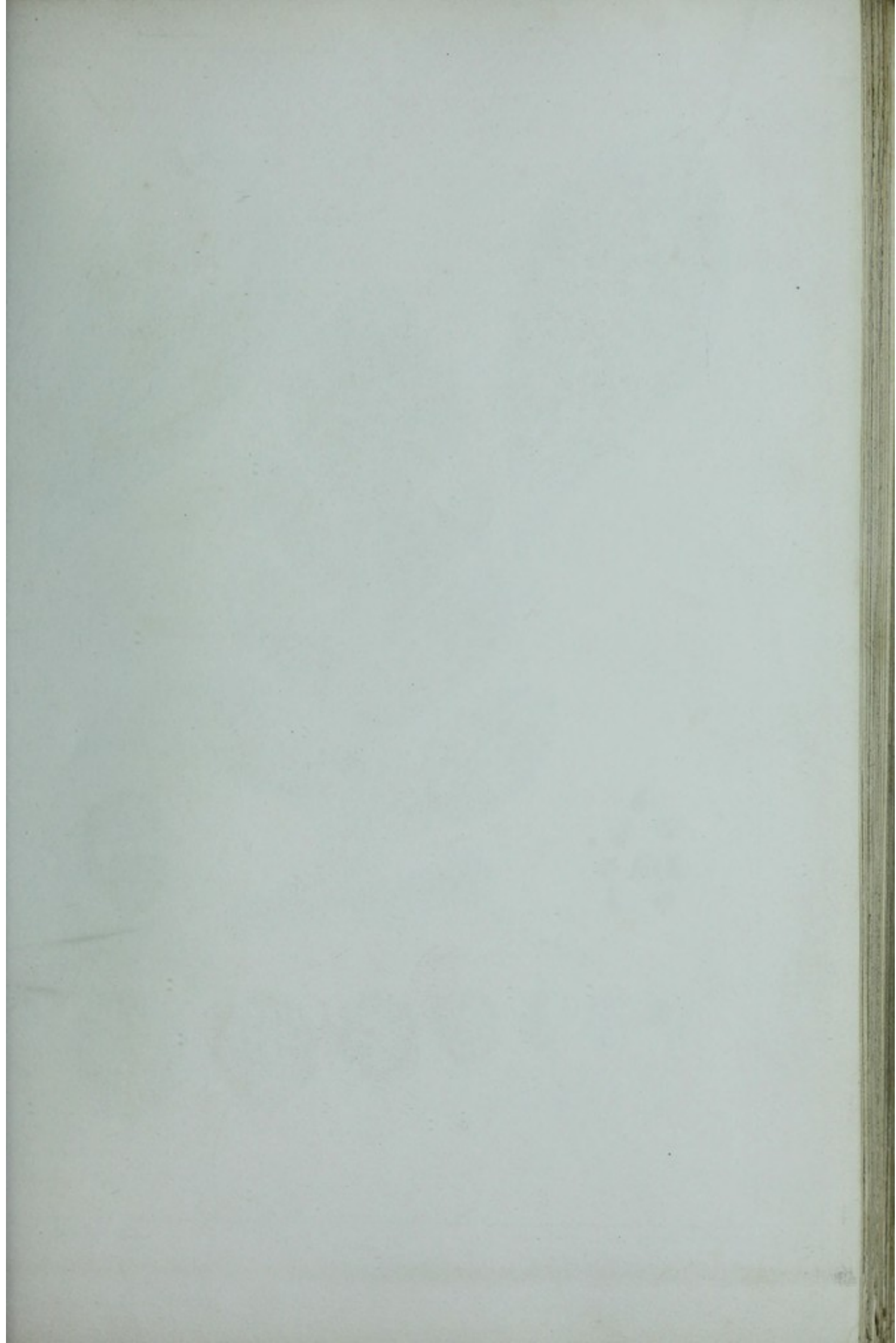
“The above character is drawn up from a single specimen of a Fern from Mexico, given to me by Mr Lambert. The sterile portion of the frond agreeing with *Osmunda* in habit, and the fertile pinnules with *Ceratopteris*, and the position of the sporangia and form of the sori with *Cryptogramma*, it is difficult to say what is its nearest affinity. In my own mst. arrangement, I place it with those Genera which have an universal marginal indusium, formed by the revolute margin of the frond, which is always contracted; as *Ceratopteris*, *Struthiopteris*, *Cryptogramma*, &c.”

What is here stated is entirely from Mr Smith's mst., the plant being wholly unknown to me. Mr Smith further observes, that the apparent longitudinal vein, crossing the whole of the nerves between the costa and the margin (as seen at *f. 6*), is in reality occasioned by the sudden duplicature of that part of the pinna.

*Fig. 1.* Under surface of a fertile portion of the frond; *magn.* 3 diam.—*f. 2.* A portion of the under side, and *f. 3.* of the upper side of the same; *f. 4.* Portion of the under surface, with the margins (naturally) a little more spreading, and *f. 5.* with the margins forced open; *m.* 10 diam.—*f. 6.* Smaller portion of the same, with the margin quite spread open; *m.* 30 diam.—*f. 7. 8.* Sporangia in different states; *m.* 100 diam.—*f. 9. 10.* Separate pinnules from the sterile portion of the frond; *nat. size.*









Francis Bauer Esq. del.

Allan & Ferguson, Zincog.







TAB. XXXVII.

GYMNOGRAMMA. *Desv.*

*Sori* nudi, dorso venarum venularumque insidentes, tenues, demum confluentes et totam paginam frondis inferiorem obtegentes. *Capsulæ* breviter pedicellatæ aut subsessiles.—Fronde*s fasciculatæ, simplices v. varie divisæ, nunc subtus tomento farinaceo colorato.* Venæ *pinnatæ, internæ, tenuissimæ, aut creberrimæ, flabellato-multifurcatæ, aut distantes, venulis divergentibus.* Venulæ *apice libero punctiformi aut acutissimo desinentes.*—Species *pleræque tropicæ.*

*Gymnogramma calomelanos. Kaulf.* (TAB. XXXVII.)—*Acrostichum. Linn.*

Of the limits of this Genus I do not at present attempt to speak. Presl includes a very heterogeneous mixture, some of which have no natural affinity with the generally acknowledged *Gymnogramma*, such as *Cryptogramma Bruniona*, and *acrostichoides*, Br., (thus widely separated from *C. crispa*, Br., *Allosorus*, Presl,) the *Grammitis Ceterach* of Swartz, &c.; the latter of which may perhaps, with more justice, be placed very near to, if not united with, *Asplenium*. (See Hook. Ic. Pl. t. 105, under *Aspl. Dalhousiæ*.)

*Fig. 1.* Under surface of a pinna; *magn.* 10 diam.—*f. 2.* Smaller portion of do.; *m.* 20 diam.—*f. 3.* The same, with most of the sporangia removed; *m.* 20 diam.—*f. 4.* Sporangia in different stages; *m.* 100 diam.—*f. 5.* Ripe sporangium, bursting; *do.*—*f. 6.* Ripe sporules; *do.*—*f. 7.* Some clusters of the white powdery excretion from the under surface of the frond; *m.* 100 diam.



TAB. XXXVII

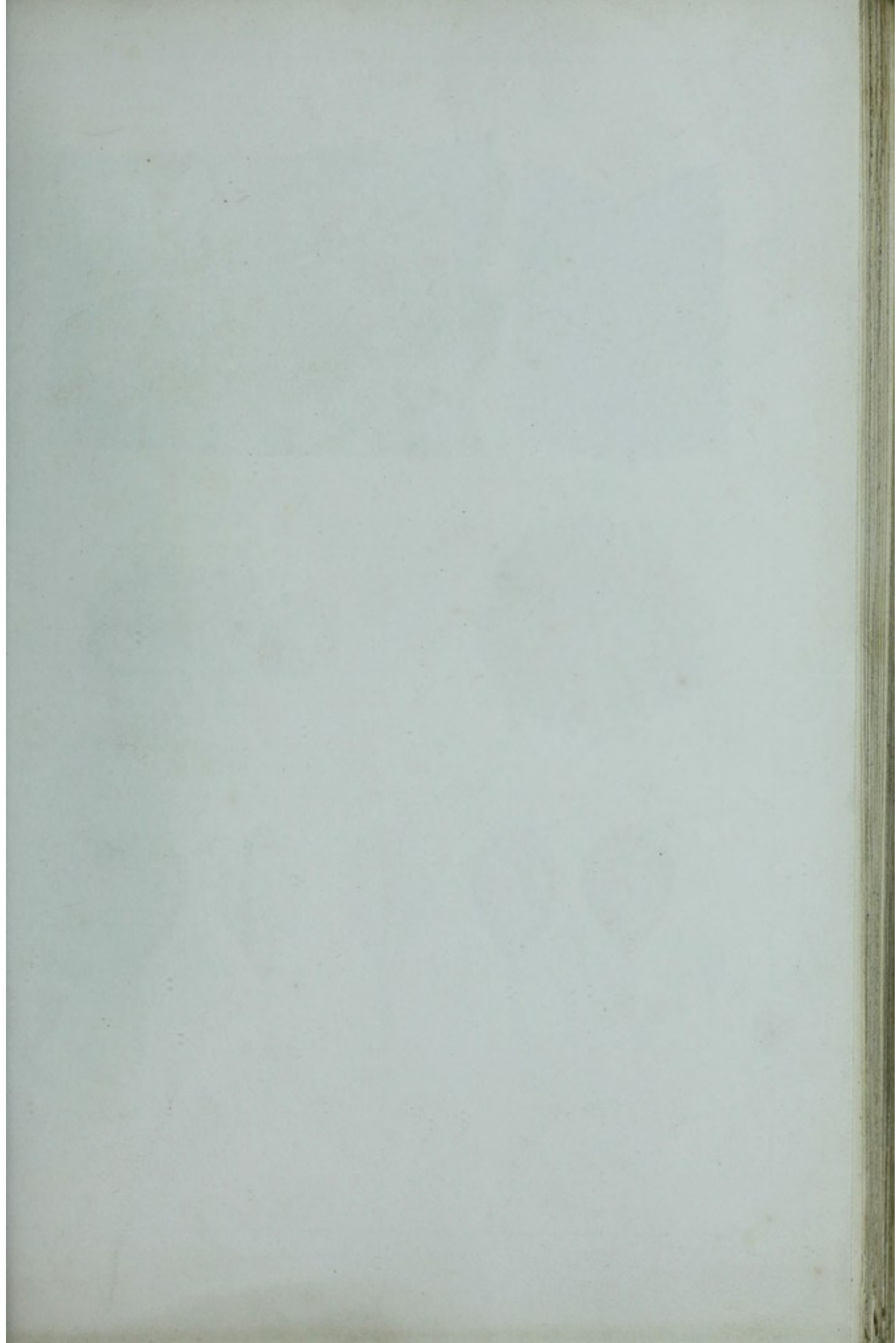
GYMNOGRAMMA, Desv.

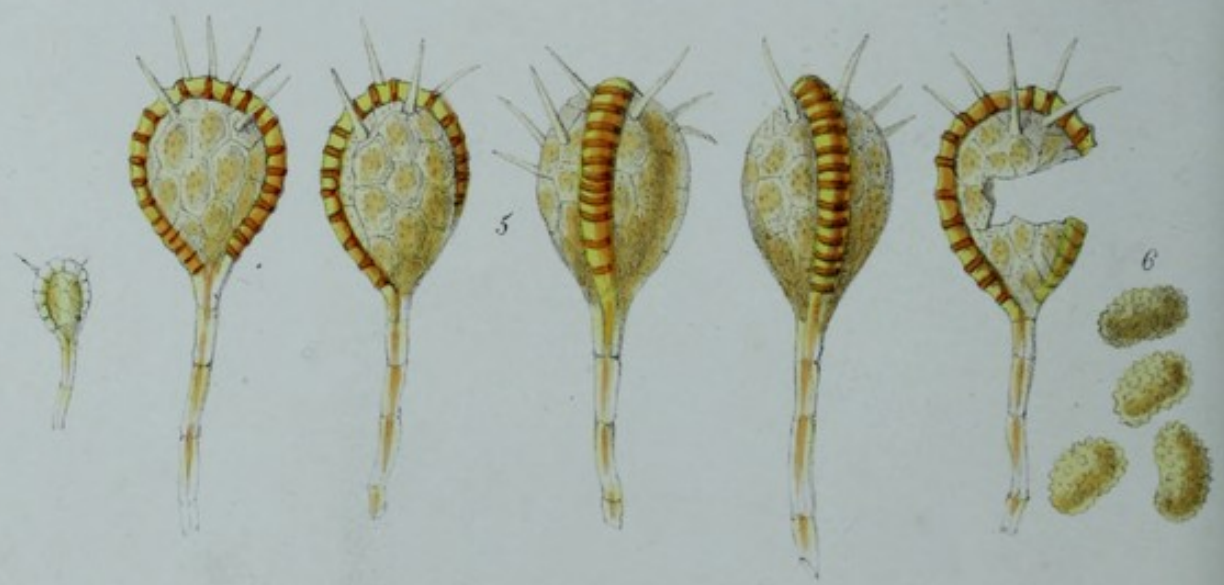
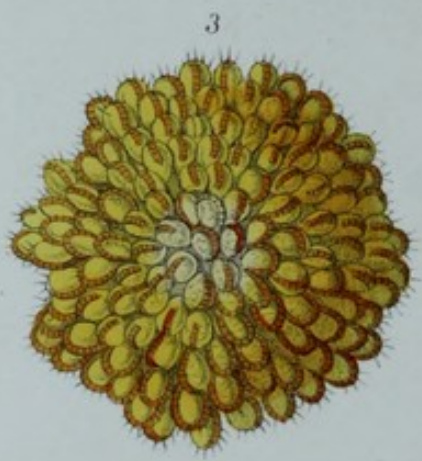
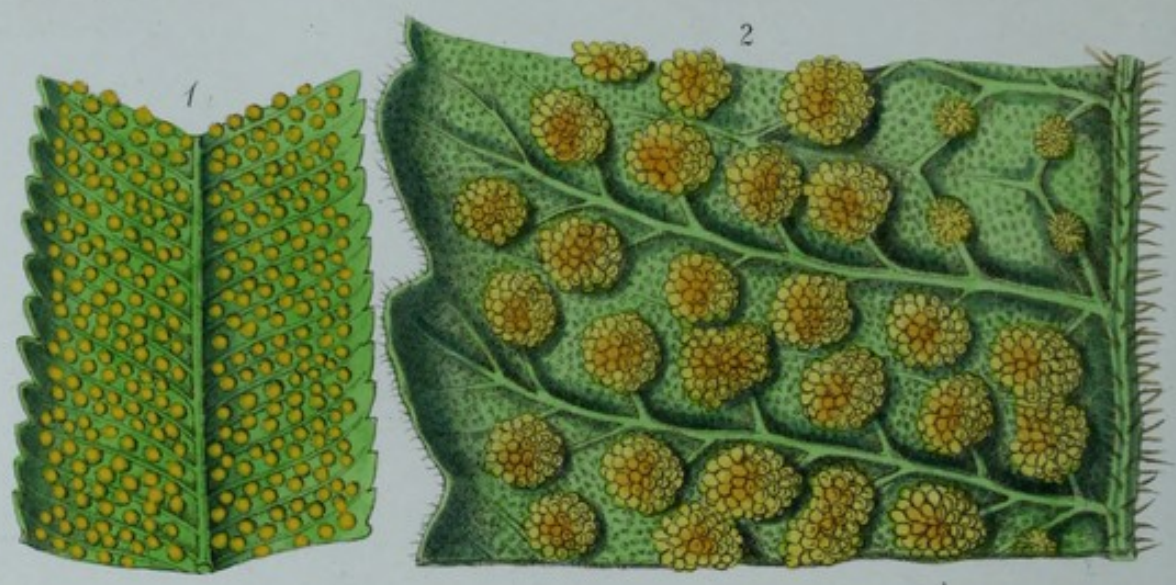
Genus nudi, domo venarum venaque indistincta, tenuis, densum confertis et  
totam paginam fere impletis. (Cassida breviter pedicellata aut  
subsessilis.—Frondes fasciculatae, stipitatae et totis distis non minus tumidae  
fasciatae. Venae pinnae, lobae, venulae, et nervulae, fere  
multiplicatae, aut distantes, raris interstitiis. Venulae quae lobos pariter  
aut carinae distantes.—Species parvae frugiferae

Gymnogramma columbiana, Kuhn. (Tab. XXXVII.)—Horticulturae, Lima.

Of the limits of this Genus I do not at present attempt to speak. Fries includes a very  
heterogeneous mixture, some of which have no natural affinity with the generally acknow-  
ledged Gymnogrammae, such as *Cyrtogramma forsteri*, and *gymnogramma*, Fr. (this  
widely separated from *G. crispum*, Fr. *albicans*, Fries), the *Gymnogramma* of Desv.  
the latter of which may perhaps, with more justice, be placed very near to, if not  
united with, *Alphitonia*. (See Hook. in Pl. t. 105, under *Alph. Dalmatica*.)

Fig. 1. Under surface of a pinna; magn. 10 diam.—2. Smaller portion of do.; m. 20 diam.—  
3. The same, with most of the spongy substance; m. 20 diam.—4. Spongy part of do.;  
m. 100 diam.—5. Ripe spongia, bursting; do.—6. Ripe spongia; do.—7. Some chambers  
of the white powdery excretion from the under surface of the hand; m. 100 diam.







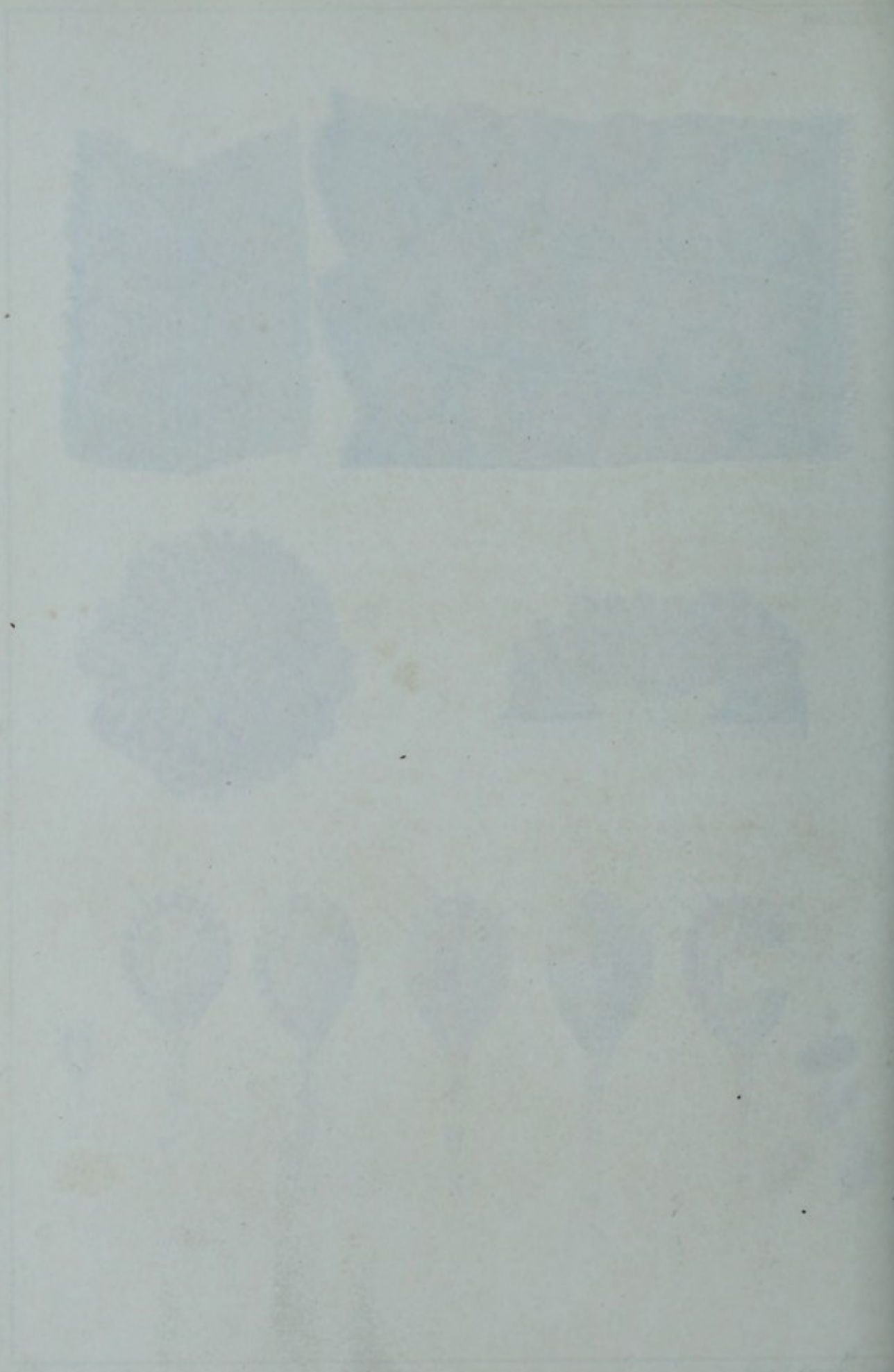
TAB XXXVII

CONIOPTERIS, Moq.

See also... (faint text describing botanical details)

Coniopteris... (faint text)

- 1. This genus... 2. The... 3. The... 4. The...



TAB. XXXVIII.

GONIOPTERIS. *Presl.*

*Sori* subrotundi, nudi, medio dorsi venarum insidentes, parvi.—*Rhizoma* subrotundum. *Fronde* fasciculatæ, herbacæ, aut tenuiter coriacæ, pinnatæ. *Venæ* pinnatæ, simplices, supra immersæ, subtus elevatæ, frondem lineantes, apice obtuso libero breviter ante marginem frondis desinentes, infima una quatuor superiores et tot oppositæ inferiores in arcum acutangulum anastomosantes, venula ex apice anguli in sinum laciniarum frondis aut in sinum anguli mox superiores excurrente, subinde apice clavatæ.—Species omnes intratropicæ, Asiaticæ et Americanæ, genus distinctissimum cum *Nephrodio* *Aspidiacearum* et cum *Meniscio* *Grammitidearum* cognatum efficientes; a priore differt *Goniopteris* sori nudis, a posteriore sori globosis. *Sporangia* sæpe hispida. *Presl.*

*Goniopteris crenata. Presl.* (TAB. XXXVIII.)—*Polypodium. Sw.*—*Lastræa. Bory.*

This Genus, well distinguished by the naked globose sori, and peculiar nervation, together with a certain natural character, is divided into two groups by *Presl.*

§ I. *Vena* utrinque infima in arcum anastomosans; *venula* ex apice anguli in sinum laciniarum frondis excurrente;—comprising about 20 species.

§ II. *Venæ* utrinque inferiores plures (duo-tres-quatuor) in arcus anastomosantes, *venula* ex apice anguli in sinum arcus superioris excurrente vel subinde libera, illa ex angulo supremo in sinum laciniarum frondis excurrente;—to which belongs our present species, and, according to *Presl.*, about 8 others.

*Fig. 1.* Under side of a portion of the frond; *nat. size.*—*f. 2.* Small portion of the same; *magn. 5 diam.*—*f. 3.* Perfect sorus; *m. 20 diam.*—*f. 4.* Vertical section of the same; *m. 20 diam.*—*f. 5.* *Sporangia* in various stages; *m. 100 diam.*—*f. 6.* Ripe sporules; *m. 200 diam.*



TAB. XXXVIII.

GONIOPTERIS Fries

Soni subrotundi, basi tædii floris venarum insidentes, parvi.—Hilixima subrotunda. Frons fasciculata, barbata, cut. tenax coriacea, punctata. Vena supra-nata, simpliciter, supra immixta, subna elata, frons hinc inde, apice obtuso libero præter cæca marginem frons distincta, infra non distincta superiora et inferiora in crura aculeata distincta, venula ex apice supra in sinum laciniatum frons est in sinu supra non superiora excurrens, subinde apice elata.—Species omnes in tropicis, Asiaticis et Americis, quæ distincta frons cum Psychodis Aspidacanthæ et cum Plebeis Grammitidæ cognatas efficitur; a partibus Goniopteris tædii nulli, a posterioribus tædii globosis. Sporangia tædii hispida. Fries.

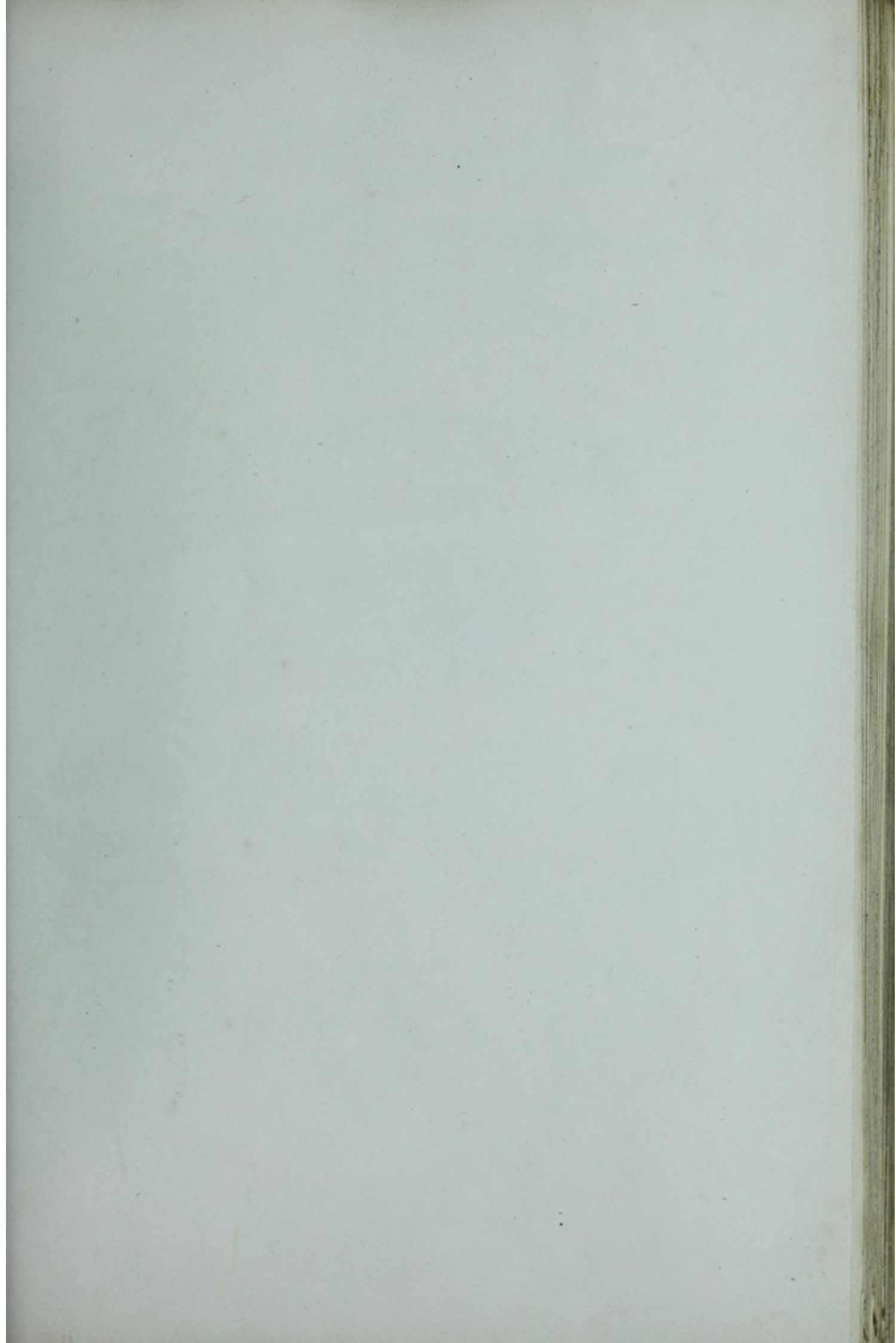
Goniopteris ovata Fries. (TAB. XXXVIII.)—Psychodum. Sm.—Larva. Fries.

This Genus, well distinguished by the naked globe and peculiar derivation, together with a certain natural character, is divided into two groups by Fries.

§ I. Vena atropis infima in crura aculeata; venula ex apice supra in sinum laciniatum frons excurrens.—comprising about 20 species.

§ II. Vena atropis infima (non-true part) in crura aculeata; venula ex apice supra in sinum supra superiora excurrens vel subinde libera, illa ex apice supra in sinum laciniatum frons excurrens.—to which belongs our present species, and, according to Fries, about 5 others.

Fig. 1. Under side of a portion of the head; nat. size.—2. Small portion of the same; magn. 5 diam.—3. Frontal view; nat. size.—4. Vertical section of the same; nat. size.—5. Sporangia in various stages; nat. size.—6. High magnification; nat. size.







TAB XXXIX.

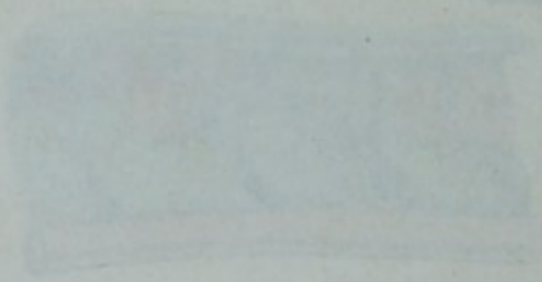
MERTENSIA, Willd. Prodr.

Siliqua dorsa media connata superioribus (rariusime et inferioribus) insertis, glabris, erectis-  
ciliatis, tri-axillaribus. Sporocarpia globosa-syntherisma, sessilibus, circumscissis, lacinis,  
rectangulis parvis, insertis. — Rhizoma repens. Flosculi papilionacei,  
papilionibus stipularibus, peltatis, supraciliatis distinctis, repandis, peltatis  
marginibus ciliatis. Viciae peltatis, sessilibus, erectis, peltatis, et in cymis  
numerosis, sessilibus aut breviter pedicellatis (in stipularibus fuscatis) et parvis. The  
style and all other characters identical with the preceding species (see above).

Mertensia repens, Prodr. (Tab. XXXIX.) — Glehniana, Willd.

Flowers and other parts Mertensia with Glehniana, but the two flowers differ in habit  
as well as in fruit, and we have no hope to exhibit by figures. The species of Mer-  
tensia are usually accepted, and the recorded species are with difficulty to be distinguished  
one from another.

Fig. 1. Umbelliferous part of a branch of a flower, magnified 10 times. — 2. Silica of a young specimen of the same,  
magnified 10 times. — 3. A small portion of the same, magnified 10 times. — 4. The same in different stages of maturity,  
and 5. A small portion of the same, magnified 10 times. — 6. A specimen of the same, magnified 10 times.



TAB. XXXIX.

MERTENSIA. Willd. Presl.

*Sori* dorso medio venulæ superioris (rarissime et inferioris) inserti, globosi, superficiales, tri-sexcapsulares. *Sporangia* globoso-pyriformia, sessilia, citissime decidua, receptaculo punctiformi elevato inserta.—*Rhizoma repens*. Frondes *sparsæ*, rarissime simpliciter pinnatæ, sæpissime dichotomæ, ramis bipinnatis, pinnulis angustis coriaceis. Venæ pinnatæ, uni-bi-trifurcatæ, subtus prominulæ, in marginem excurrentes, venulis aut divergentibus (in simpliciter furcatis) aut parallelis. Pinnulæ aut ad basin pinnarum desinunt aut in rachide quoque adsunt (decurrunt).

*Mertensia gigantea*. Presl. (TAB. XXXIX.)—*Gleichenia*. Wall.

Brown and others unite *Mertensia* with *Gleichenia*; but the two Genera differ in habit as well as in fructification, as we shortly hope to exhibit by figures. The species of *Mertensia* are mostly tropical, and the recorded species are with difficulty to be distinguished one from another.

*Fig. 1.* Under side of a portion of a frond; *magn.* 4 diam.—*f. 2.* do. of a small portion of the same; *m.* 8 diam.—*f. 3.* A small portion of do.; *m.* 20. diam.—*f. 4.* Sporangia in different stages of maturity, and in different points of view; *m.* 100 diam.—*f. 5.* Sporules; *m.* 200 diam.



TAB XXXIX

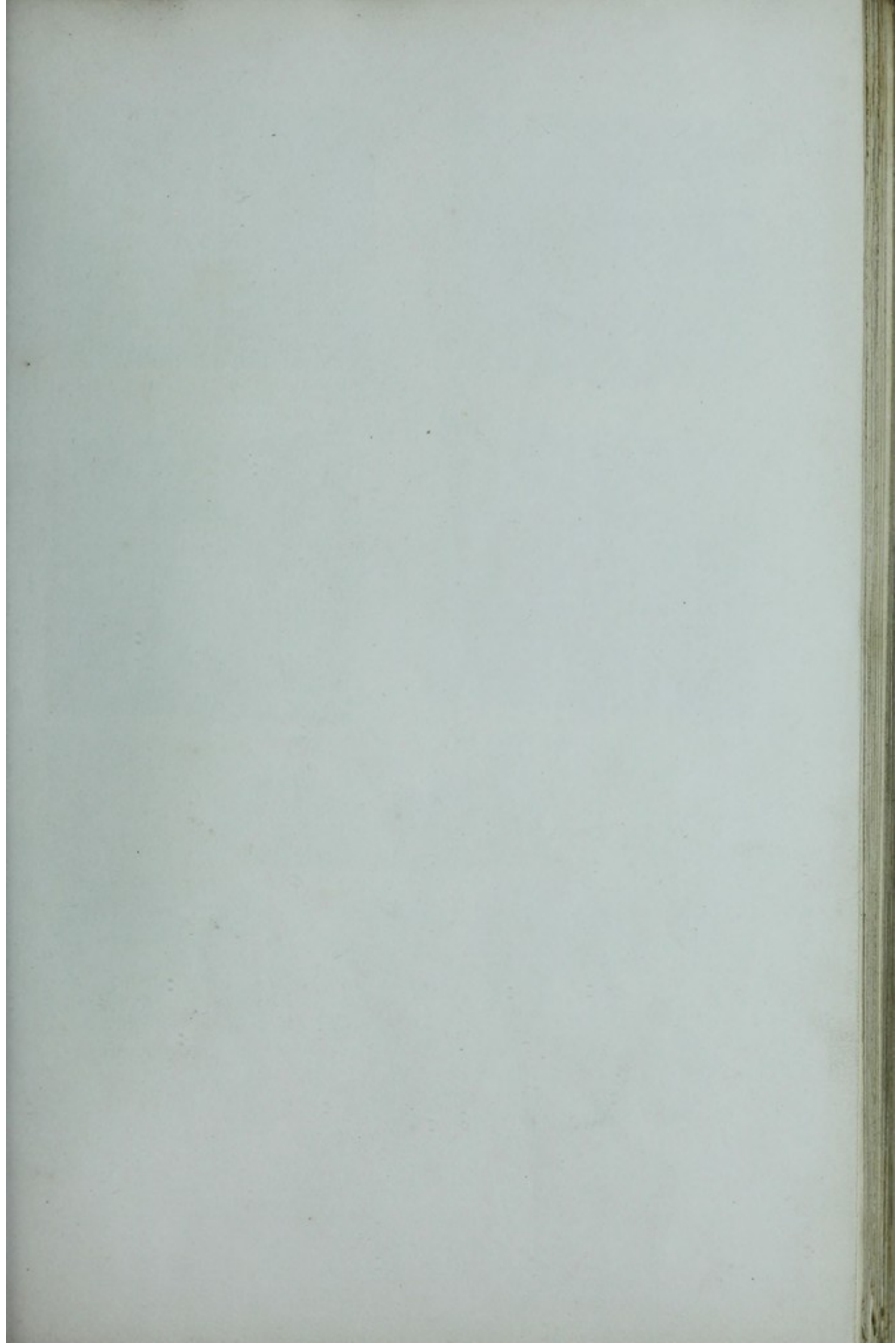
MERTENSIA, WERN. TAB.

non datus media tenuis superioris (artus) inerti, gibbus, apertus.  
 calyx tri-lobatus. Sporogium gibbo-pylorale, sessile, filiforme, flexuosum.  
 receptaculo panchlorum elevato locata.—Hibiscus, speciosus.—Linnæus, speciosus.  
 receptaculo simplici, pinnato, apertum, dichotomum, vixis stipitata, pinnata  
 angusta convexa. Vixis pinnata, non dichotoma, lobis pinnatis, in angustis  
 receptaculo, sessile non dichotoma (in simplici) (artus) non pinnata. (In  
 non et ad basin pinnarum distinctum in vixis pinnatis distinctum).

Mertensia pinnata. Vixis. (Tab. XXXIX.)—Gilchrist, Wall.

Brown and others name Mertensia with Gilchrist; but the two figures differ in habit  
 as well as in disposition, as we shortly hope to exhibit by figures. The species of Mertensia  
 shown are mostly tropical, and the recorded species are with difficulty to be distinguished  
 one from another.

Fig. 1. Lower side of a portion of a branch; magn. 4 diam.—Fig. 2. do. of a small portion of the same.  
 do. do.—Fig. 3. A small portion of do.; magn. 25 diam.—Fig. 4. Sporogium in different stages of maturity,  
 and in different points of view; magn. 100 diam.—Fig. 5. Sporogium; magn. 200 diam.







TAB. XL

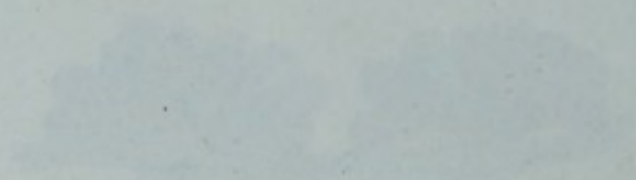
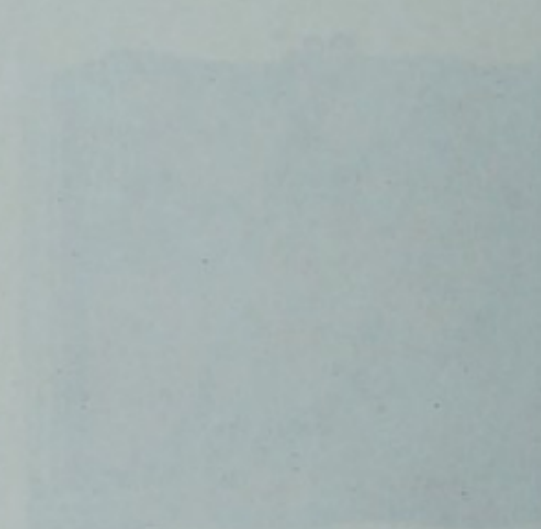
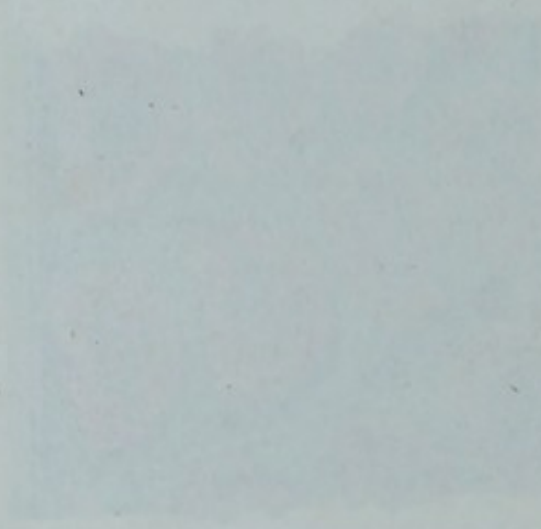
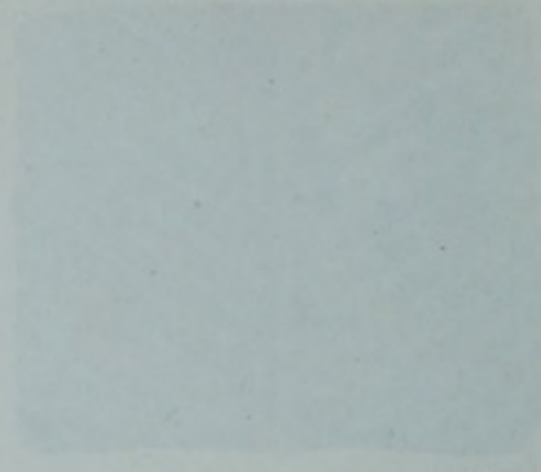
MENTIONIUM

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Mentioniolum

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TAB. XL.

MENISCIUM. *Schreb.*

*Sori* dorso venularum transversarum insidentes, breviter lineares aut oblongo-lineares, demum subinde confluentes.—Caulis arborescens aut rhizoma subrotundum. Frondes fasciculatæ, tenuiter coriaceæ, pinnatæ. Venæ pinnatæ, creberrimæ costæ-formes, parallelæ, apice obtuso incrassato libero desinentes, ramosæ. Venulæ pinnatæ, elevatæ, oppositæ in arcum triangularem plus minus acutum anastomosantes, venulam secundariam liberam clavatam ex apice cujuslibet arcus emittentes.—Species intratropicæ, Asiaticæ et Americanæ. *Presl.*

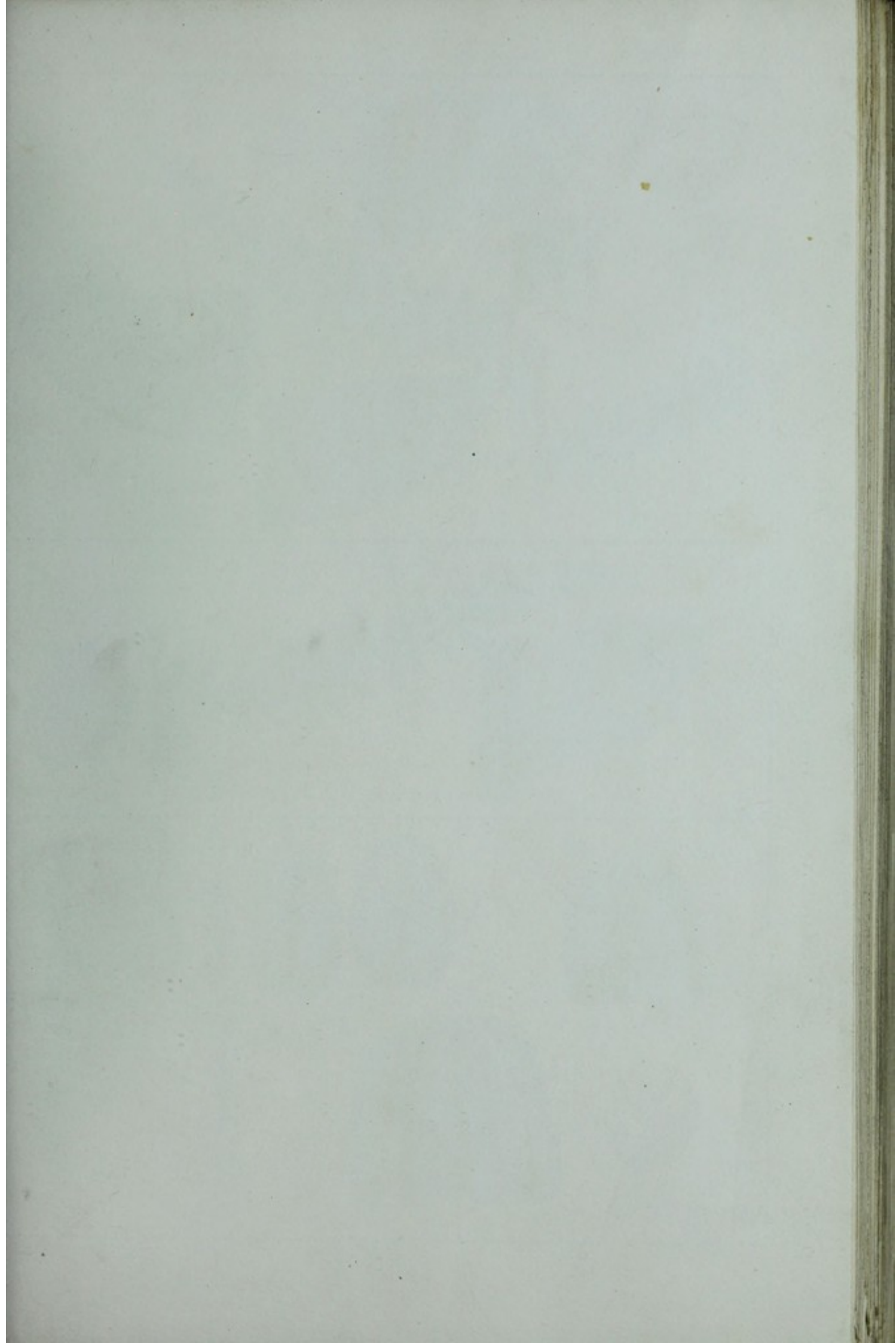
*Meniscium palustre.* *Raddi.* (TAB. XL.)

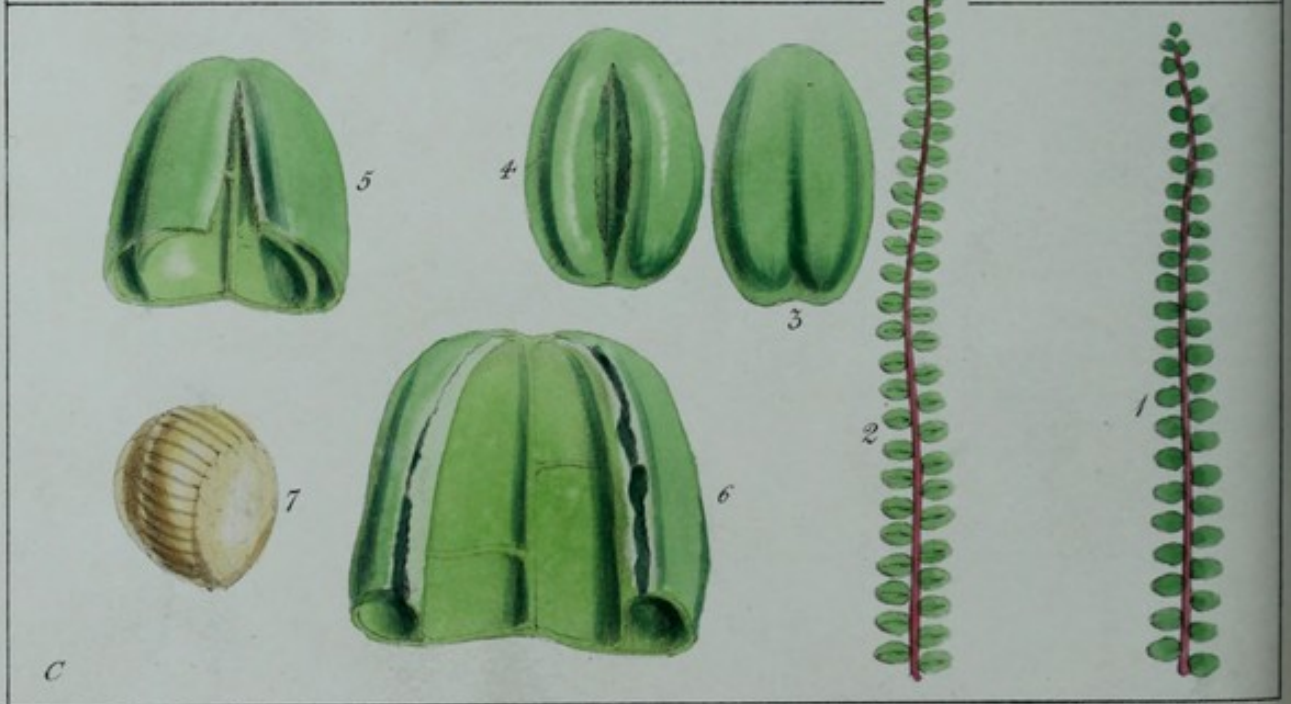
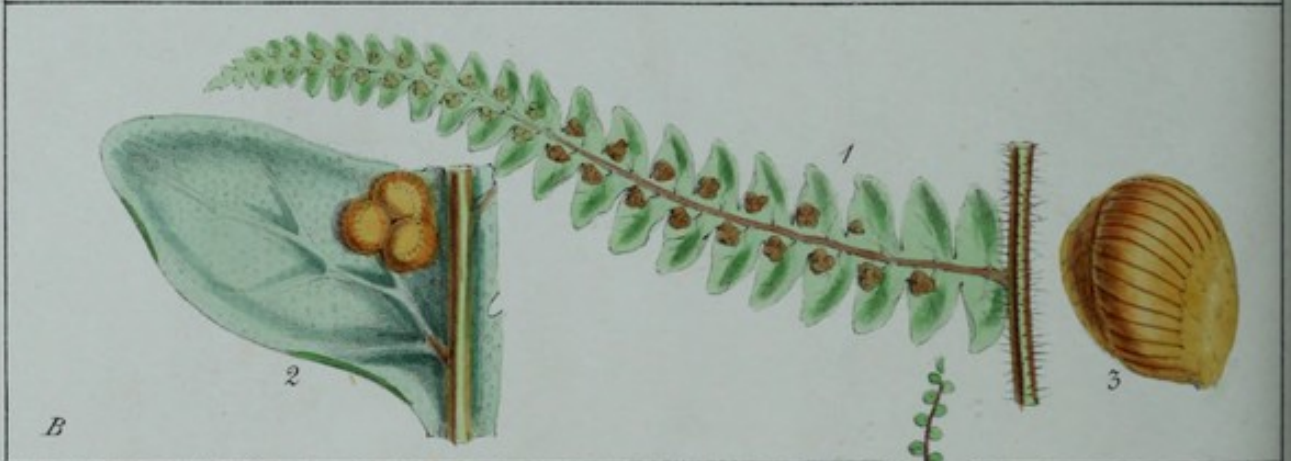
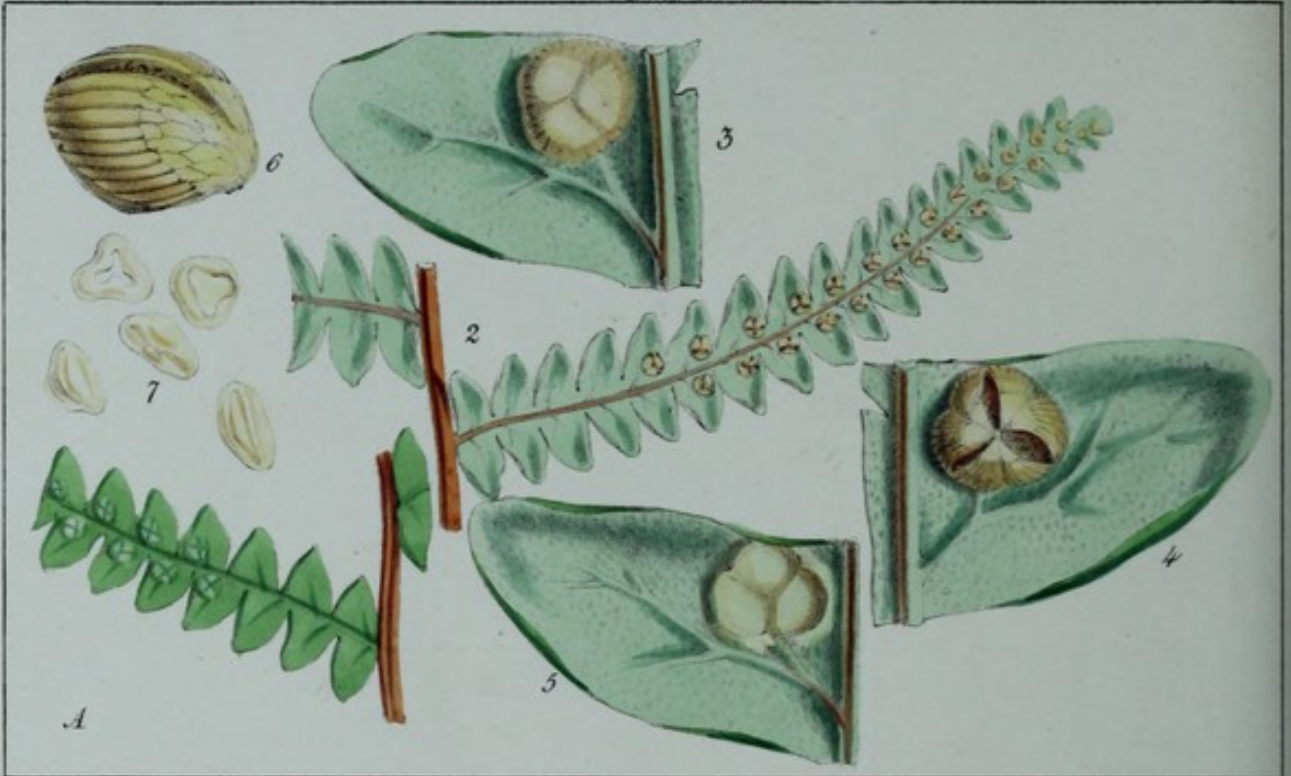
*Meniscium triphyllum*, Sw., *M. angustifolium*, Willd., *M. serratum*, Cav., *M. cuspidatum*, Bl., *M. reticulatum*, Sw., and *M. arborescens*, Humb., besides the one here figured, are the species of this Genus enumerated by *Presl.*

*Fig. 1.* Under surface, and *f. 2.* upper surface of a portion of a frond; *magn.* 2 diam.—*f. 3.* Under surface of a smaller portion; *m.* 10 diam.—*f. 4.* The same, with most of the sporangia removed; *m.* 10 diam.—*f. 5.* Vertical section of two sori; *m.* 20 diam.—*f. 6.* 6. Sporangia in various stages; *m.* 100 diam.—*f. 7.* Sporules; *m.* 200 diam.











TAB. XII. A. B.

GLEICHENIA. Sw.

GLEICHENIA & CALYMELLA. Presl. — GLEICHENIA sp. Br.

Sorus solitarius, superficialis vel subterraneus, depresso-globosus, tri-quadrilaterus, apice vixus lobis superioribus fissus. Sporidia sessile subglobosa, oblique latissimo-annulata, verticaliter et regulariter decurrentia. Sporula subtrigona. — Rhizoma repens. Frondes dichotomae, rarius bipinnatis, pinnae subciliatae, sessile, orbiculatae, ciliis ciliatis vel crispis apertis. Vena pinnata, simplicis, ciliata, vix marginem circumscissans, inflexo superioris arciformi. — Filices Capensis et Novae Hollandicae.

Subgen. I. EUGLEICHENIA. Sorus subterraneus. — Gleichenia. Presl.

*Gleichenia polypodioides*, Sw. (TAB. NOVA. XII. A.)

Subgen. II. CALYMELLA. Sorus superficialis, non immerse. — Calymella. Presl.

*Gleichenia microphylla*, Br. (TAB. NOVA. XII. B.)

The learned Brown has included in one Genus the *Mercurialis* of Willd. (TAB. NOVA. XXXIX.), *Gleichenia*, Sw., and *Calymella* of Presl; and indeed it must be confessed that the latter Genus seems to unite the three, having the structure (or superficial) sporangia of *Mercurialis*, and the habit of *Gleichenia*.

TAB. XII. A. *Gleichenia polypodioides*. Fig. 1. Portion of the frond, and f. 2. underside of a frond; f. 3. Pinnae with young sori; f. 4. do. with ripe sori; f. 5. do. with the sori white frond shows the sori here below; f. 6. Single Sporangium; f. 7. Spore. — all seen in low magnification. — TAB. XII. B. *Gleichenia microphylla*. — Fig. 1. Frond seen from beneath; f. 2. Pinnae with sori; f. 3. Sporangium. — all seen in low magnification.

TAB. XII. C.

PLATYRHOA. Br.

Sporangia in loco punctiformi dorsali solitaria definita sessile, pubere immixta. Involucrum e marginibus revolutis pinnae. — Filix Novae Hollandiae, plerumque Rhizoma repens, cespitosa. Scapulae baccatae, Pinnae pinnatae, pinnae ciliatae, distinctae, orbiculatae, integerrimae, sessile, ciliis palmatis simplicibus ciliatis. Sporangia in vix parvis. Sporula angustata. Frondes ex caulis rhizomate compresso-sufformes, divisa. Br.

*Platyrrhoa microphyllum*, Br. (TAB. NOVA. XII. C.)

A Genus of one species, a native of the tropical parts of New Holland. Mr Brown observes its close affinity to *Gleichenia*, from which it differs, not by the undivided stipites than by very difference in the frondification. Presl says that the sori are placed at the extremity of the horizontal pinnated veins; but I have failed to discover their point of insertion. The sporangia are very deciduous, and I have only found them loose in the pinnae. I observe the folded margin of the frond to be double.

TAB. XII. C. *Platyrrhoa microphyllum*. Fig. 1. Portion of the frond; f. 2. Pinnae; f. 3. 4. Section of do.; f. 5. Sporangium. — all seen in low magnification.





TAB. XLI. A. B.

GLEICHENIA. Sw.

GLEICHENIA et CALYMELLA. Presl.—GLEICHENIÆ sp. Br.

*Sorus solitarius, superficialis vel subimmersus, depresso-globosus, tri-quadricapsularis, apici venæ infimæ superioris insertus. Sporangia sessilia subgibbosa, oblique latissimo-annulata, verticaliter et regulariter dehiscentia. Sporulæ subtrigonæ.*—*Rhizoma repens. Frondes dichotomæ, ramis bipinnatis, pinnulis subcoriaceis, ovatis, rotundatis, subtus concavis vel etiam saccatis. Venæ pinnatæ, simplices, alternæ, ante marginem evanescentes, infimo superiore sorifero.*—*Filices Capenses et Novæ Hollandicæ.*

Subgen. I. EUGLEICHENIA. *Sorus subimmersus.*—*Gleichenia. Presl.*

*Gleichenia polypodioides. Sw. (TAB. NOSTR. XLI. A.)*

Subgen. II. CALYMELLA. *Sorus superficialis, non immersus.*—*Calymella. Presl.*

*Gleichenia microphylla. Br.—(TAB. NOSTR. XLI. B.)*

The learned Brown has included in one Genus the *Mertensia* of Willd., (TAB. NOSTR. XXXIX.), *Gleichenia*. Sw., and *Calymella* of Presl; and indeed it must be confessed that the latter Genus seems to unite the three, having the exserted (or superficial) sporangia of *Mertensia*, and the habit of *Gleichenia*.

TAB. XLI. A. GLEICHENIA POLYPODIOIDES. *Fig. 1.* Portion of the upper, and *f. 2.* underside of a frond; *f. 3.* Pinnule with young sorus; *f. 4.* do. with ripe sorus; *f. 5.* do. with the pit or hollow from whence the sorus has fallen; *f. 6.* Single Sporangium; *f. 7.* Sporules:—all more or less magnified.—TAB. XLI. B. GLEICHENIA MICROPHYLLA.—*Fig. 1.* Pinna seen from beneath; *f. 2.* Pinnule with sorus; *f. 3.* Sporangium:—all more or less magnified.

TAB. XLI. C.

PLATYZOMA. Br.

*Sporangia in soro punctiformi dorsali solitaria definita sessilia, pulvere intermixta. Indusium e marginibus revolutis pinnæ.*—*Felix Novæ Hollandiæ, glabra. Rhizoma repens, squamosum. Stipites indivisi. Frondes pinnatæ, pinnis numerosissimis, distinctis, orbiculatis, integerrimis, minutis, subtus pulvere sulphureo tectis. Sporangia in soro pauca. Sporulæ majusculæ. Frondes ex eodem rhizomate compresso-filiformes, divisæ. Br.*

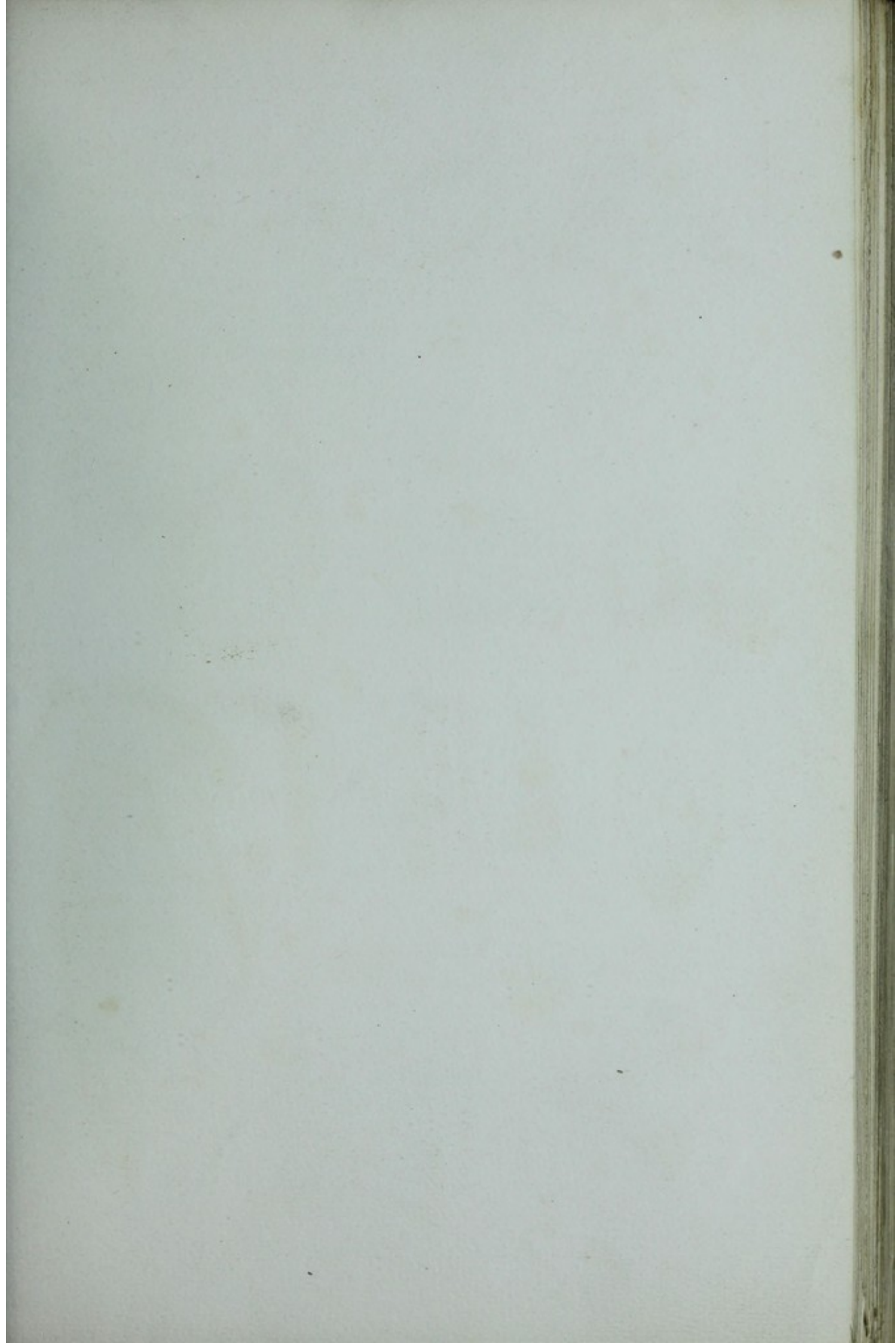
*Platyzoma microphyllum. Br.—(TAB. NOSTR. XLI. C.)*

A Genus of one species, a native of the tropical parts of New Holland. Mr Brown observes its close affinity to *Gleichenia*, from which it differs more by the undivided stipites than by any difference in the fructification. Presl says that the sori are placed at the extremity of the horizontal pinnated veins; but I have failed to discover their point of insertion. The sporangia are very deciduous, and I have only found them loose in the pinnule. I observe the folded margin of the frond to be double.

TAB. XLI. C. PLATYZOMA MICROPHYLLUM. *Fig. 1, 2.* Portions of the frond; *f. 3, 4.* Pinnules; *f. 5, 6.* Sections of do.; *f. 7.* Sporangium:—all more or less magnified.













TAB. XLII. A.

HEMITELLIS. Prod.

Hemitellis. Prod. Craynka in. stud.

Species in singulis lateribus adhaerens, ad basem... (text describing species characteristics)

Hemitellis Capensis, Br. (Tab. XLII. A.)

Fig. 1. Pinnula; f. 2. Partes of the... f. 3. Spongia; f. 4. & 5. Spongiae; f. 6. Part of the... (descriptive text for figures)

TAB. XLII. B.

METAXIA. Prod.

Seri 1-4, pinnulae, adhaerens... (text describing species characteristics)

Metaxia ruficornis, Br. (Tab. XLII. B.) Polypodium... (text describing species characteristics)

A very handsome Genus of the American Ferns, allied in habit to Trichoparia... (descriptive text)

Tab. XLII. B. METAXIA ruficornis Br. - Fig. 1. Pinnula, etc. (descriptive text for figures)



TAB. XLII. A.

HEMITELIA. *Presl.*

HEMITELIA sp. *Br.*—CYATHEÆ sp. *Auct.*

*Sorus* in singula lacinia solitarius, ad basin venæ infimæ superioris insertus. *Indusium* ? squama ovata, concava, lacera, ad basin inferiorem sita. *Sporangia* numerosa, imbricata, sessilia, late annulata : annulo verticali. *Receptaculum* elongatum, villosum. Filix *arborescens* Capensis. Frondes *amplæ, tripinnatæ; pin-nulæ profunde pinnatifidæ, oblongæ, inciso-serratæ*; venæ *pinnatæ simplices, infe-riores squamulosæ.*

*Hemitelia Capensis. Br.*—(TAB. XLII. A.)

*Fig.* 1. Pinna; *f.* 2. Portion of do.; *f.* 3. Sorus; *f.* 4. Receptacle; *f.* 5, 6, 7. Sporangia; *f.* 8. Scale or indusium (?) from the sorus.

TAB. XLII. B.

METAXYA. *Presl.*

*Sori* 2—4, globosi, nudi, ad basin venarum prope costam vel infra medium venarum sita. *Sporangia* sessilia, pilis longis articulatis immixta. *Receptaculum* puncti-forme.—Filix *arborescens*. Frondes *pinnatæ*. Pinnæ *subcoriaceæ, nitidæ, acuminatæ, acumine serrato*. Venæ *simplices vel furcatæ ad marginem attingentes.*

*Metaxya rostrata. Pr.*—(TAB. XLII. B.) *Polypodium rostratum. Willd. P. Hum-boldtii. Poir. P. blechnoides. Sw. Aspidium rostratum. H. B. K. Alsophila rostrata. Mart.*

A very handsome Genus of S. American Ferns, allied in habit to *Trichopteris.*  
(TAB. NOSTR. XXXIV.)

TAB. XLII. B. METAXYA ROSTRATA.—*Fig.* 1. Pinna, with fructification; *f.* 2. Portion of a pinna; *f.* 3. Sorus; *f.* 4, 5. Sporangia; *f.* 6. Hairs from among the capsules; *f.* 7. Sporules:—more or less magnified.



TAB. XIII. A.

HÉMITELLA. YVES

HÉMITELLA sp. nov. - CATHAK sp. nov.

Form. in cingula latius aequilata, ad basin vena infima superioris inserta. Lateralis 7 spinae otata, convexa, facies, ad basin inferiorem sita. Spinae superiores, imbricatae, sessile, base annulata; annulo verticali. Heterostoma clon-gium, album. Filiae arborescentes Capensis. F. obovata, angusta, triangulari, pila-recta, profunde planifolia, oblonga, facies convexa; vena parvula, angusta, sig-nata, vena superior.

Hémittella Capensis, n. sp. (Tab. XIII. A.)

Fig. 1. Thallus; X 2. Portio de base; X 3. Spina; X 4. Heterostoma; X 5. F. obovata; X 6. F. triangulari; X 7. Spinae; X 8. F. pila-recta; X 9. F. angusta; X 10. F. angusta (2) non in vena.

TAB. XIII. B.

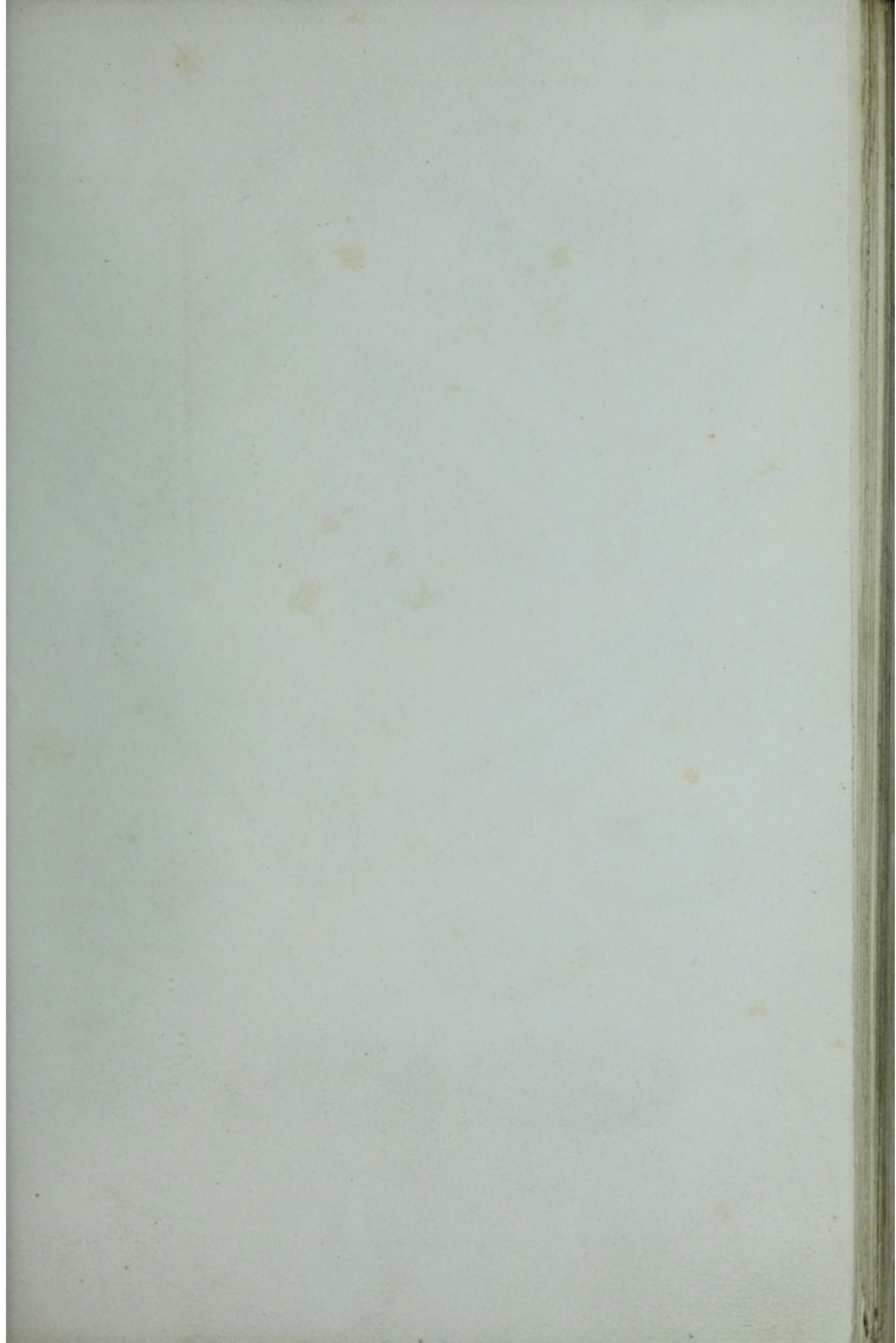
MELAZYA. YVES

Fig. 1-4. Globosae, ovales, ad basin venarum prope costam vel infra medium venarum sitae. Spinae sessile, pila longis circumstante imbricata. Heterostoma puncti-forme. Filiae arborescentes. F. obovata, angusta, triangulari, pila-recta, profunde planifolia, oblonga, facies convexa; vena parvula, angusta, sig-nata, vena superior.

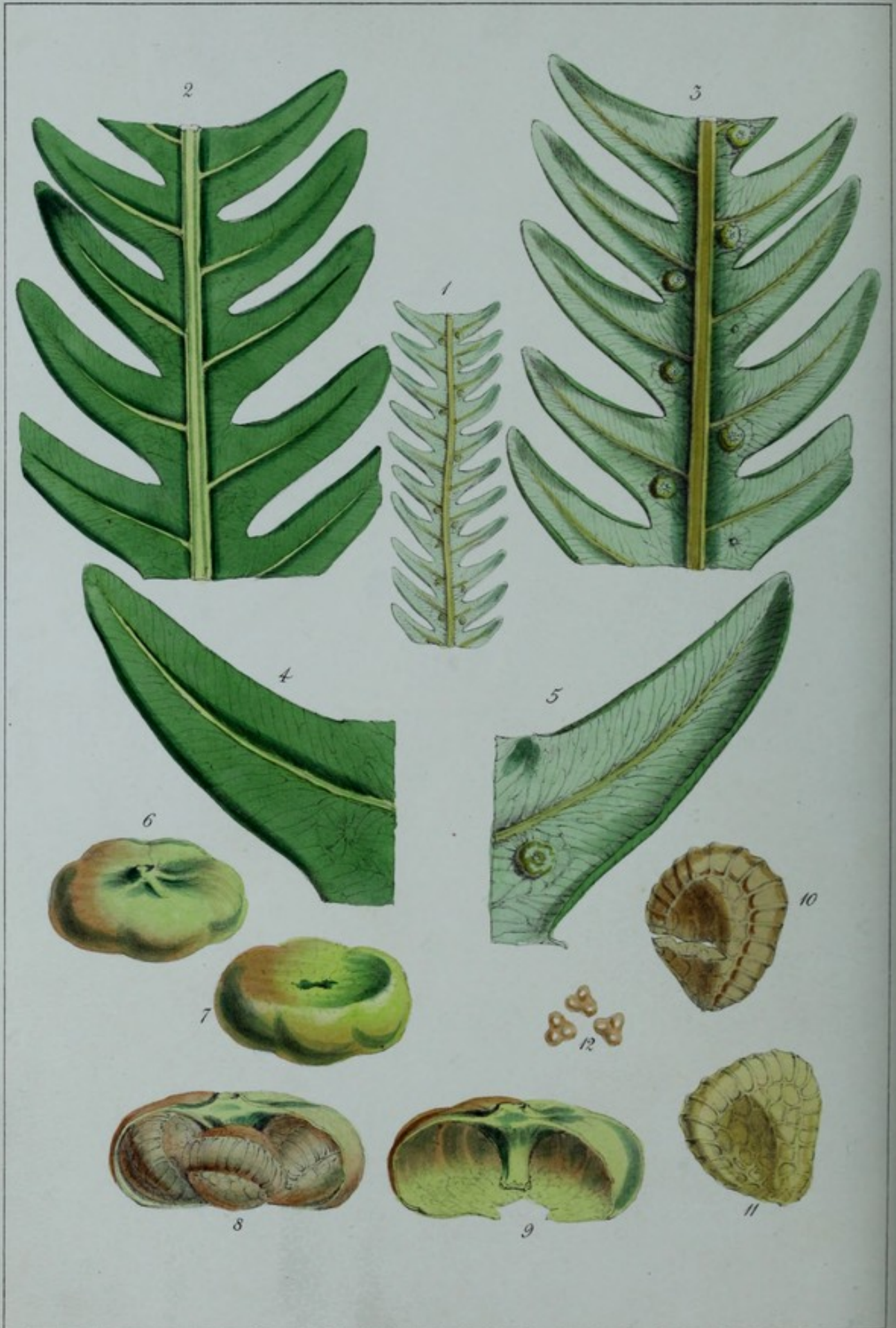
Melazya costata, n. sp. (Tab. XIII. B.) Polypodium costatum, Willd. P. Ham-brolicum, Poir. P. blechnoides, Sw. Aquidium costatum, M. B. K. Altophila costata, Mart.

A very handsome Genus of S. American Ferns allied in habit to Yriopogon. (Tab. XIII. B.)

TAB. XIII. B. MELAZYA COSTATA. - Fig. 1. Thallus, with localization; X 2. Portion of a plant; X 3. Spina; X 4. F. obovata; X 5. F. triangulari; X 6. F. pila-recta; X 7. Heterostoma; X 8. F. angusta; X 9. F. angusta (2) non in vena.









TAB. XLIII.

MATONIA, B.

Sori dorsales, subrotundi, rarius lineari, ad basin inferiorem (nunc superiorem) laciniis sili-  
rotundis, & punctis confluentibus venularum plerum orth. *Polypodium calcicola*,  
polystachium, cataginis insigniter inflexura, subglobosum-hemisphaericum, depressum,  
medio umbilicatum, stipitata. *Sporangia* subrotunda, ad basin superioris lacinae, sessilia,  
late oblique annulata, sessibus fere completis. — *Sporidia* tetrasia trigona. — *Fructus*  
Malaccensis: *Fructus* *Himalayensis* circinnus, *Fructus* *Siamesis*, *Fructus* *Indicus* profunde pin-  
natisiliis; *Fructus* *Indicus*. *Fructus* *Indicus* striatus prominentibus, simplicibus ad  
marginem, ad marginem alligatis, basi striatis umbilicatis, et ad basin lacinae  
convergentibus, punctis *Indicis* confluentibus.

*Matonia patens*, Fr. in *Wald. Fl. Asiat. Bor.* 1: 18. (Tab. XLIII.)

One of the rarest and most interesting of Ferns known to us. It has been hitherto  
only found near the summit of Mount Ophir, about thirty-six miles from the town of  
Malacca, by Col. W. Douglas; and the specimen described by Dr. Wallich is still, we  
believe, the only specimen stated to be, the only one in Europe. Dr. Wallich procured  
me with a single piece of that plant, from which our figures are made. I find the indusium  
to be pretty regularly, but obscurely, 6-lobed, and containing six sporangia: the margin  
is completely involute at its reach the base of the sipes, and seems to be closed  
with it, thus closed on every side, and when removed, only exhibiting a slightly  
triangular aperture where it joined the sipes (as shown at f. 7.) The sporangia, with the broad  
and slightly oblique annulus, resemble those of the *Cyclopteris*: the indusium it, as far  
as I know, quite peculiar to this Genus.

Fig. 1. Portion of a fertile plant, seen from beneath. — *Fig. 2.* Lower portion, upper side;  
*Fig. 3.* Do. under side; *Fig. 4.* Segment of the upper side; *Fig. 5.* do. Under side; *Fig. 6.* Upper end; *Fig. 7.*  
under view of a sipes; *Fig. 8.* Section of a sipes showing the location of the sporangia; *Fig. 9.* Section  
of indusium; *Fig. 10.* Sporangia; *Fig. 11.* Sporidia — some at low magnification.



TAB. XLIII.

MATONIA. Br.

*Sori* dorsales, solitarii, rarius bini, ad basin inferiorem (nunc superiorem) laciniaë siti, rotundi, e puncto confluentiaë venularum plurium orti. *Indusium* orbiculatum, peltatum, margine insigniter inflexum, subgloboso-hemisphæricum, depressum, medio umbonatum, stipitatum. *Sporangia* subsex, ad basin stipitis inserta, sessilia, late oblique annulata, annulo fere completo.—*Sporulæ* obtuse trigonæ.—*Filix* Malaccensis; *fronde* bipinnata coriacea, *subtus glauca*; *pinnis secundis profunde pinatifidis*; *laciniis obtusis*. *Venæ pinnatæ utrinque prominentes, simplices vel furcatæ, ad marginem attingentes, basin versus anastomosantes, et ad soros radiatim convergentes, punctoque insertionis confluentes.*

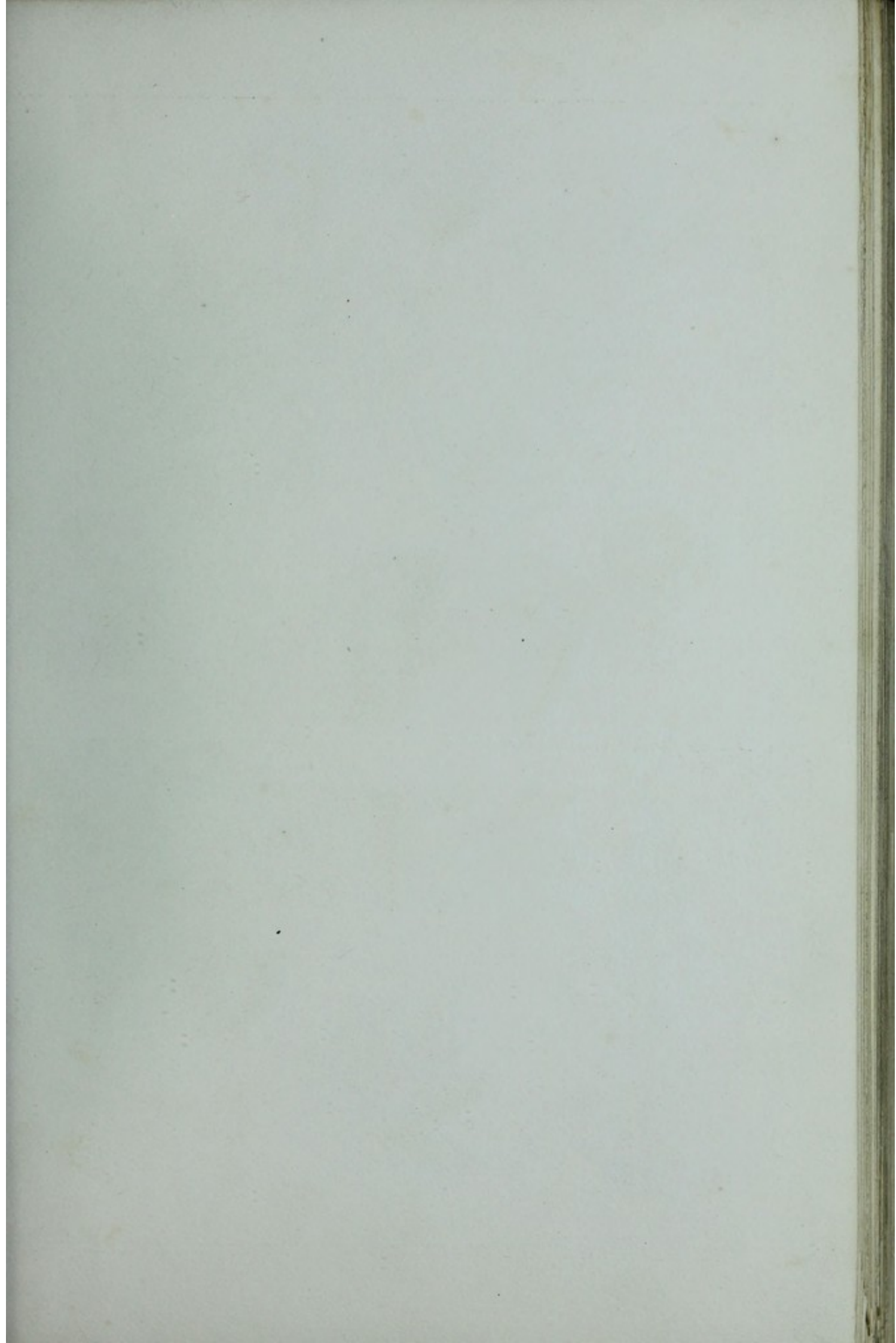
*Matonia pectinata*. Br. in *Wall. Pl. Asiat. Rar.* I. t. 16.—(TAB. XLIII.)

One of the rarest and most interesting of Ferns known to us. It has been hitherto only found near the summit of Mount Ophir, about thirty-six miles from the town of Malacca, by Col. W. Farquhar; and the specimen described by Dr Wallich is still, we believe, as that gentleman stated it to be, the only one in Europe. Dr Wallich favoured me with a single pinna of that plant, from which our figures are made. I find the indusium to be pretty regularly, but obscurely, 6-lobed, and containing six sporangia: the margin so completely involute as to reach the base of the stipes, and even to be united with it, thus closed on every side, and when removed only exhibiting a slightly torn aperture where it joined the stipes (as shown at *f. 7.*) The sporangia, with the broad and slightly oblique annulus, resemble those of the *Cyatheaceæ*: the Indusium is, as far as I know, quite peculiar to this Genus.

*Fig. 1.* Portion of a fertile pinna, seen from beneath: *nat. size*; *f. 2.* Lesser portion, upper side; *f. 3.* Do. under side; *f. 4.* Segment of do. upper side; *f. 5.* do. Under side; *f. 6.* Upper, and *f. 7.* under view of a sorus; *f. 8.* Section of a sorus showing the insertion of the sporangia; *f. 9.* Section of indusium; *f. 10, 11.* Sporangia; *f. 12.* Sporules:—more or less *magnified*.





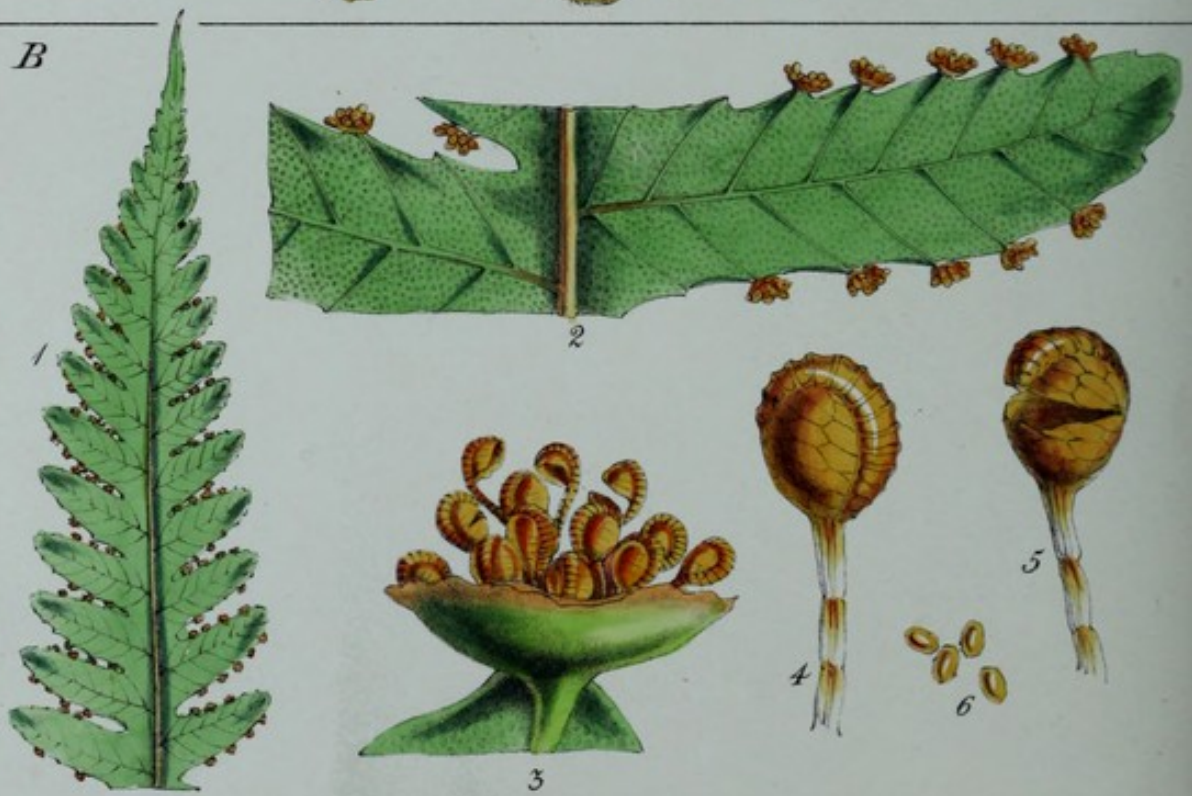




A



B











TAB. XLIV. A.

THYRSOPTERIS. *Kunze.*

*Pinnæ* steriles a fertilibus dissimiles. *Sori* in rachibus portionis frondis fertilibus, bi-tripinnati, pedunculati, globosi, subsecundi. *Indusium* inferum, globoso-hemisphæricum, coriaceum, ore apertum, margine subintegerrimo. *Receptaculum* magnum, globosum, spongiosum. *Sporangia* sessilia, imbricata, annulo magno, compresso, subobliquo, incompleto cincta. *Sporulæ* trilobæ.—*Filix arborescens*, *Ins.* Juan Fernandez. *Frons supra-decomposita, coriacea, nitida.* *Pinnæ steriles fertilesque in eadem stirpe, bi-tripinnatifidæ, laciniis ultimis cuneato-lanceolatis obtuse serratis.* *Venæ internæ, immersæ, simplices vel furcatæ, paullo ante apicem evanescentes.* *Pinnæ fertiles similiter compositæ.* *Rachis compressa, linea media exarata, ramis angustis, ultimis apice soriferis, ita sori quasi pedunculati.*

*Thyrsopteris elegans.* *Kunze.*—(TAB. XLIV. A.)

In my specimens of this very elegant Fern, the fertile and sterile portions are on the same plant, and sometimes the lower half of a branch or primary pinna is fertile, the upper half sterile. If the *Cyatheaceæ* be retained as a group or Tribe, this plant seems to have as strong a claim to rank with them as with the *Polypodiaceæ*.

TAB. XLIV. A. THYRSOPTERIS ELEGANS. *Fig.* 1. Sterile, and *f.* 2. fertile portion of a plant, slightly magnified:—*f.* 3, 4. *Sori*; *f.* 5. Section of an indusium; *f.* 6, 7, 8. *Sporangia*; *f.* 9. *Sporules*: more or less magnified.

TAB. XLIV. B.

DEPARIA. *Hook. et Grev.*

*Sori* hemisphærici, marginales, exserti, in dentibus venas terminantibus siti. *Indusium* inferum, pateriforme, membranaceum (textura frondis), ore patulo, sublacero. *Receptaculum* parvum. *Sporangia* plurima, longe stipitata exserta annulo incompleto cincta. *Sporulæ* subovales.—*Filix Insulas Sandvicences hospitans.* *Frondes amplæ, (simpliciter) pinnatæ, pinnis elongatis profunde pinnatifidis tenui-membranaceis, minute reticulatis, dentatis.* *Venæ elevatae pinnatæ, simplices, vel rarius furcatæ, apice ultra marginem frondis soriferæ.*

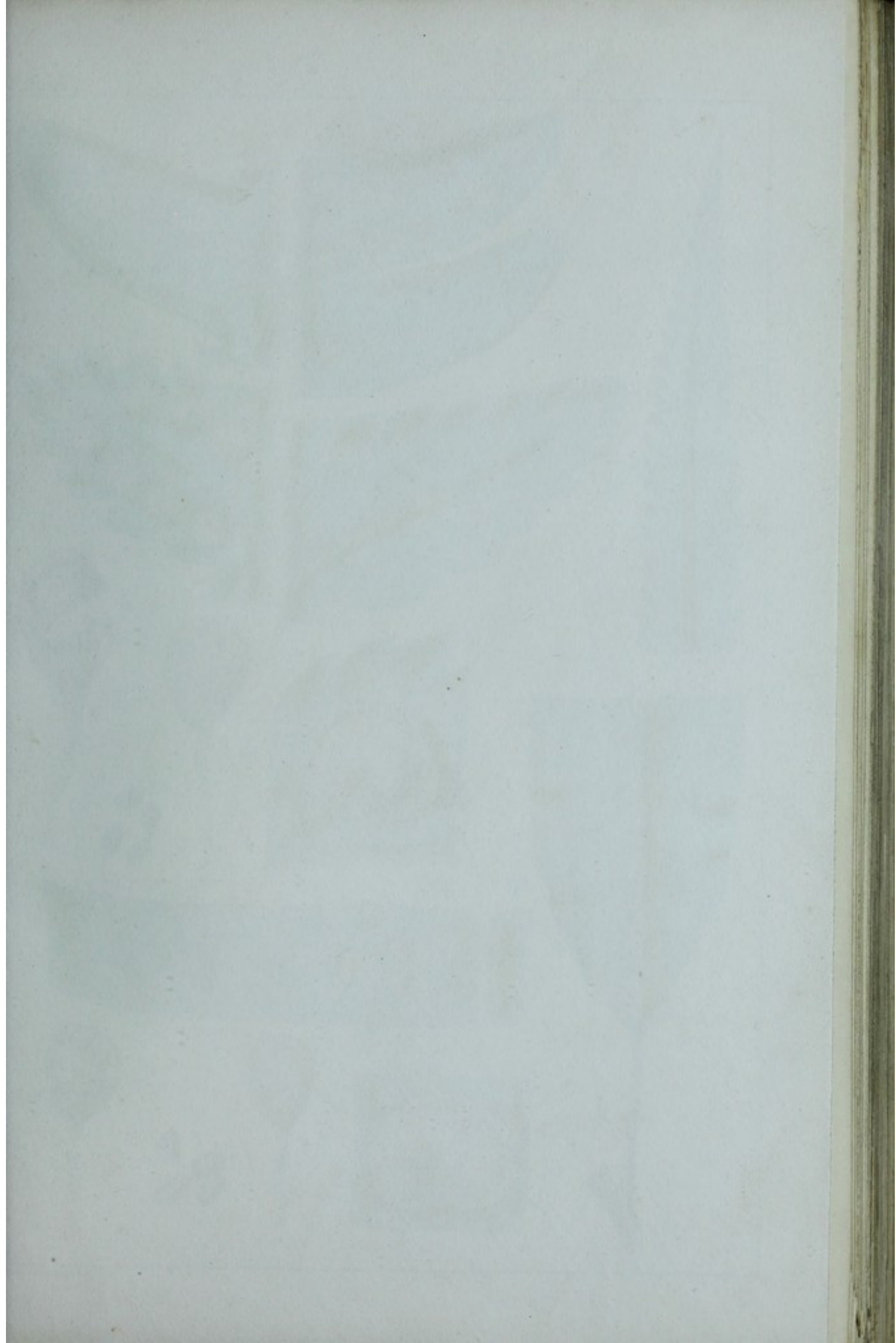
*Deparia prolifera.*—(TAB. XLIV. B.) *Deparia Macraei.* *Hook. et Grev. Ic. Fil. t.* 154. *Dicksonia prolifera.* *Kaulf.* *Cibotium proliferum.* *Presl.*

*Presl* has referred this remarkable plant to the Genus *Cibotium*, (TAB. NOSTR. XXV.), but such an alliance appears to me quite contrary to nature: for in the whole habit of our *Deparia*, in the texture of its frond, in the structure of its indusia, and in their insertion with respect to the nerve, it is quite at variance with *Cibotium*.

TAB. XLIV. B. DEPARIA PROLIFERA.—*Fig.* 1. Portion of a fertile pinna: *nat. size*; *f.* 2. Smaller portion; *f.* 3. *Sorus*; *f.* 4, 5. *Capsules*; *f.* 6. *Seeds*:—magnified.



















TAB. XLV. A.

LASTREA. Presl.

ASPIDII sp. Sw. et Auct. NEPHRODII sp. Mich.

Sori in medio dorsi venarum simplicium vel venulæ superioris inserti, globosi. Indusium reniforme, sinu affixum.—Frondes fasciculatæ, herbacæ, pinnatim divisæ. Venæ pinnatæ, internæ, aut subtus prominulæ, supra immersæ, ante marginem apice obtuso terminatæ, liberæ, simplices, vel furcatæ, vel pinnatum ramosæ. Presl.

I. Venæ omnes simplices infimæ in sinum laciniarum excurrentes. Presl.

Lastrea patens, Presl.—(TAB. XLV. A.)—Aspidium patens. Sw.

Fig. 1. Portion of fertile pinna: nat. size; f. 3. Smaller portion of the same:—magnified.

II. Venæ omnes aut inferiores furcatæ, infimæ in sinu laciniarum excurrentes. Presl.

Lastrea Thelypteris. Presl.—(TAB. XLV. A.)—Aspidium. Sw.

Fig. 2. Segment of a pinna:—magnified.

III. Venæ inferiores pinnatim ramosæ sori in venulæ infima superiori. Presl.

Lastrea cristata.—Presl.—(TAB. XLV. A.)—Aspidium cristatum. Sw.

Fig. 4. Sterile segments of a pinna; f. 5. Fertile do.; f. 6. Sorus; f. 7, 8. Capsules; f. 9. seeds:—magnified.

An extensive Genus, even as now limited by Swartz; and very nearly allied to *Nephrodium*.

TAB. XLV. B.

OLEANDRA. Cav. Presl.

Sori globosi dorso venæ venulæve præcipue basin versus siti. Indusium reniforme, sinu affixum.—Filices tropicæ. Rhizoma repens. Frondes sparsæ, simplices, lanceolatæ, acuminatæ, integerrimæ, membranaceo-coriacæ; stipite nodoso-articulato. Venæ pinnatæ, arcte approximæ, horizontales, simplices vel prope basin furcatæ ad marginem attingentes.

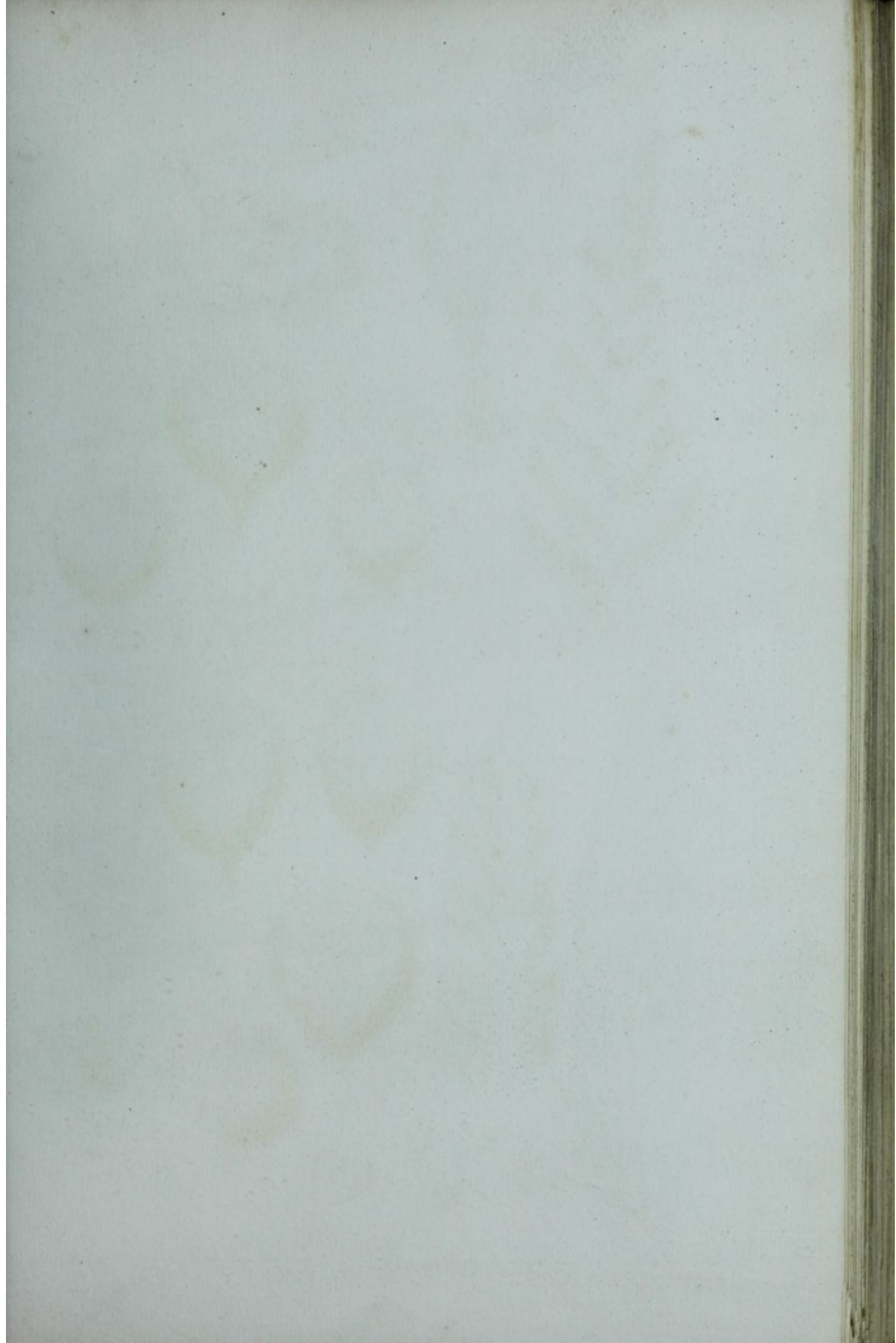
Oleandra pilosa (n. sp.); stipite ad basin articulato, fronde subtus pubescenti-hirsuta, indusiis longe ciliatis.—(TAB. XLV. B.)

Fig. 1. Lower portion of a fertile frond, nat. size; f. 2. Smaller portion of the same; f. 3. Sorus; f. 4, 5. Capsules; f. 6. Seeds.

HAB. Berbice, British Guiana. Schomburgk. n. 416.—A highly beautiful and a very natural Genus, of few species. The fronds present a singularly satiny appearance. In one species (*O. Wallichii*, Hook. Exot. Bot. t. 5.), the sori form a single series in a compact line, close to the costa, and even in those species where the sori are several on each nerve, upon looking at the general mass, they will be seen to lie in two or more irregular and undulating series.









A



B











## TAB. XLVI. A.

## OSMUNDA. Sw.

*Sporangia* globosa laxè reticulata pedicellata dorso annulo obsoleto transversali gibbosa hinc (facie externa) a basi ad gibberem dorsalem longitudinaliter dehiscencia, in pinnas mutato-contractas laterales terminalesve coacervata. *Sporulæ* ovales, puncto impressæ.—Frondes *fasciculatæ pinnatæ, pinnis magis minusve coriaceis integris v. pinnatifidis vel iterum pinnatis. Venæ pinnatæ simplices vel varie furcatæ utrinque prominulæ, ad marginem excurrentes.*

*Osmunda regalis*. L.—(TAB. XLVI. A.)

A Genus of few species, inhabiting both temperate and tropical climates.

TAB. XLIV. A. Fig. 1, 2. Fertile portions, *slightly magnified*; f. 3. Section of a fertile rachis; f. 4, 5, 6. Sporangia; f. 7. Sporules more or less *magnified*.

## TAB. XLVI. B.

## TODEA. Willd.

*Sporangia* globosa, laxè reticulata, pedicellata, dorso annulo obsoleto transversali gibbosa hinc (facie externa) a basi ad gibberem dorsalem longitudinaliter dehiscencia, subtus in venas simplices vel furcatas frondium insidentes. *Sporulæ* ovales puncto impressæ.—Frondes *fasciculatæ? membranaceæ vel coriaceæ. Venæ subtus elevatæ, pinnatæ, simplices vel furcatæ, ad marginem vel dentium apicēs allingentes.*

I. EUTODEA. *Frondes coriaceæ. Sporangia densissima in maculas oblongas demum totam inferiorem paginam pinnularum vel laciniarum obtegentia. Species Africanæ vel Australasicæ.*

*Todea Africana*, Willd. (TAB. XLVI. B.)

Fig. 1. Small portion of a fertile frond from which the sporangia are removed; f. 2. Another portion with the sporangia; f. 3, 4, 5. Sporangia; f. 6. Sporules:—more or less *magnified*.

Of this division, there is, besides, *T. rivularis*, Sieb., and Kunze, *Analect. Pterid. p. 7. t. 4.*

II. HYMENOPHYLLOIDES. *Frondes herbaceæ, subpellucidæ. Sporangia sparsa. Species Novæ Zelandiæ.*

*Todea hymenophylloides*, Rich.—(TAB. XLVI. B.)—*T. pellucida*. *Carm in Hook. Bot. Misc. t. 232.*

Fig. 7. Fertile pinna; f. 8. Capsule; f. 9. Sporules.

Of this division, so different in habit from the previous one, yet according so well in the structure of the sporangia, and in their insertion, there is also *T. Fraseri*, Hook. et Grev.  *Ic. Fil. t. 101.*—Brown unites *Todea* with *Osmunda*, and makes the following observation. “Quoniam in *Todea*, Willd., capsulæ vere pedicellatæ et cum porro alia species existit iisdem pariter dorsalibus, at fronde pellucida *Trichomanis* instar donata, consultius duxi ambas ad *Osmundam* emandare.” *Prodr. p. 163.*



TAB. XLVI. A.

OSMUNDA 2a.

Sporangia globose, late reticulate, pedicellate, dorsum annulo obliquo transversali... (text is mirrored and difficult to read)

Osmonda sp. 1. (Tab. XLVI. A.)

A Group of two species, inhabiting both temperate and tropical climates.

Fig. 1. Small portion of a fertile frond, slightly magnified; X 4. Section of a fertile frond... (text is mirrored)

TAB. XLVI. B.

TODEA. Willd.

Sporangia globose, late reticulate, pedicellate, dorsum annulo obliquo transversali... (text is mirrored)

Todea sp. 1. (Tab. XLVI. B.)

Fig. 1. Small portion of a fertile frond, showing the sporangia on the underside... (text is mirrored)

Of this division there is another, T. vivipara Willd., and hence, Tab. XLVI. B.

II. Heterosporous. Fronds bipinnate, subpinnate. Sporangia four, borne on the underside.

Todea heterosporous Willd. (Tab. XLVI. B.)—T. bellucida. Cuv. in Hook. Bot. Beech. t. 232.

Fig. 1. Fertile frond, X 4. Cuv. in Hook. Bot. Beech. t. 232.

Of this division, so different in habit from the previous one yet according to Willd. in the... (text is mirrored)









TAB. XLVII. A.

ROTTBOHMIA, L.

Ornithog. sp. Linn.

Herbarium ... glabris, ...

Herbarium ...

Fig. 1. ...

TAB. XLVII. B.

HELMINTHOSIACHYS, L.

Herbarium ...

Herbarium ...

Notice the figure of ...

Tab. XLVII. B. ...

The ...





TAB. XLVII. A.

BOTRYCHIUM. Sw.

OSMUNDÆ sp. Linn.

*Sporangia* sessilia, distincta, globosa, coriaceo-carnosa, transversim dehiscentia, in spicam disticham secundam bitripinnatam disposita. *Sporulæ* subrotundæ trilobæ.—*Filices extratropicæ*. Radix *fasciculata*. Stipes *basi membranaceo-squamosus*. Frons *solitaria, herbacea, varie pinnatim divisa*. Venæ *pinnatæ vel radiatæ, simplices vel furcatæ*. Spica *composita, pinnata, pedunculata : pedunculus e basi frondis ortus*.

Botrychium *Lunaria*, Sw. (TAB. XLVII. A.)

Fig. 1, Frond and fertile spike: *nat. size*; f. 2. Pinna; f. 3. Spike; f. 4. Section of the rachis showing the insertion of the Sporangia; f. 5. Sporangium; f. 6. Sporules:—more or less *magnified*.

TAB. XLVII. B.

HELMINTHOSTACHYS. Kaulf.

*Sporangia* globosa, coriaceo-carnosa, extus a basi ad medium verticaliter dehiscentia, verticillatim glomerata, rarius solitaria, verticillis appendicibus cristatis pedicellatis in spicam elongatam distiche dispositis. *Sporulæ* subglobosæ.—*Filix Zeylanica, Austro-Caledonica, Indiæ Orientalis, et Mexicana*. (Presl.) Radix *repens, fibrosa*. Frons *solitaria, stipitata, digitato-pedata, laciniis elongatis, costatis, venosis*. Venæ *pinnatæ, bi-trifurcatæ, horizontales, densæ, ad marginem attingentes*. Spica *composita pedunculata*. Pedunculus *e basi frondis ortus*.

Helminthostachys *Zeylanica*.—(TAB. XLVII. B.) H. dulcis. Kaulf.—*Wall. Cat. n. 54. Botrychium. Sw. Osmunda Zeylanica. L. Ophioglossum laciniatum. Rumph. Amb. VI. t. 68. f. 3. Botryopteris Mexicana. Presl, Reliq. Hænk. p. 76. t. 12. f. 1.*

Neither the figures of Kaulfuss, nor of Presl, accord well with the fructification of this beautiful plant, for very splendid specimens of which from Ceylon, I am indebted to Colonel and Mrs Walker. The entire figure, however, and the description of Presl's *Botryopteris Mexicana*, leave me no reason to doubt of its being not only generically, but specifically, the same as our plant; thus affording another remarkable instance of Ferns, which have been esteemed extremely rare and circumscribed as to their place of growth, being at length found in widely different localities.\*

TAB. XLVII. B. Fig. 1. Portion of a sterile frond; f. 2. Spike; f. 3—7. Sporangia; f. 8. Sporules:—*magnified*.

\* Two instances of this kind I have had elsewhere occasion to record. The *Ophioglossum palmatum*, long considered peculiar to Martinique, has been sent to me from Brazil and the Mauritius! and the Australian *Tmesipteris truncata*, has lately been detected in California!



TAB. XLVII. A.

BOTRYCHIUM.

Genus of Fungi

Spores globose, distinct, coriaceous, transparent, lobulate, in apices distinct, elongated, elliptical, spores subovoid, ...

TAB. XLVII. B.

HELMINTHOSPORIUM.

Genus of Fungi

Spores globose, coriaceous, distinct, transparent, lobulate, in apices distinct, elongated, elliptical, spores subovoid, ...

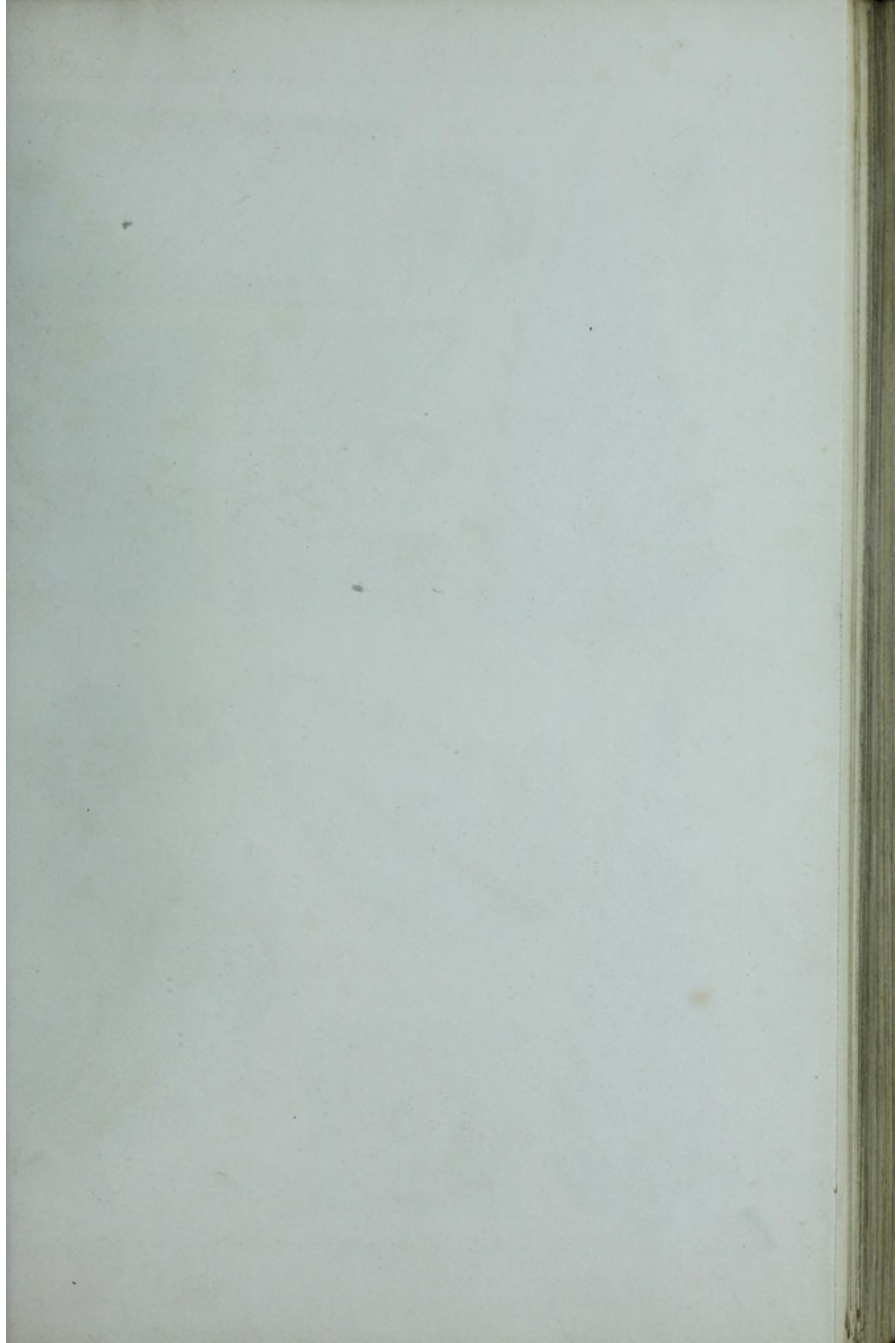
TAB. XLVIII. A.

HELMINTHOSPORIUM.

Genus of Fungi

Spores globose, coriaceous, distinct, transparent, lobulate, in apices distinct, elongated, elliptical, spores subovoid, ...

The specimens of this kind I have had elsewhere examined to find ...















TAB. XLVIII. A.  
NEPHROLEPIS. Schott.

Fig. A. represents a portion of a pinna of *NEPHROLEPIS PUNCTULATA*, Pr., to show the venation described at our TAB. XXXV, but which the figures there do not so distinctly exhibit.

TAB. XLVIII. B.  
NEPHRODIUM. Schott. Presl.  
NEPHRODII sp. Br. ASPIDIUM sp. Auct.

*Soriglobosi*, medio vel apicem versus dorsi venarum inserti. *Indusium* reniforme, sinu affixum.—*Filices pleræque tropicæ*. Frondes *pinnatæ* (*rarius simplices*), *pinnis dentatis, serratis vel sæpius pinnatifidis*. Venæ *pinnatæ, simplices, subtus elevatæ, infima (rarius plures inferiores) superior cum infima inferiori proxima in angulum plus minus acutum anastomosans, venula ex angulo superiore in sinum angulorum superiorum vel sæpius in sinum laciniarum excurrente*.

I. *Venæ tantum utrinque infimæ in arcum anastomosantes, seu arcus unicus*. Presl.

*Nephrodium molle*. Schott. (TAB. XLVIII. B.)

Fig. 1. Portion of a fertile pinna; f. 2. Lesser portion of the same; f. 3. Sorus; f. 4. Sporangium; f. 5. Sporules:—more or less magnified.

II. *Venæ plures inferiores in arcum anastomosantes, seu arcus plures supra se positi*. Presl.

*Nephrodium unitum*. Hook. et Arn. in Bot. of Beech. Voy. p. 256. (TAB. XLVIII. B.)

Fig. 6. Small portion of a pinna:—magnified.

As now limited by Schott and Presl, the character of this Genus among the *Aspidium* group depends on the union of one or more opposite pairs of the lower veins, so as to form an angle, and the combined nerves are thus continued upwards, so as to reach the sinus of the lobes of the pinna. It includes several exotic species.

TAB. XLVIII. C.  
POLYSTICHUM. Schott. Presl.  
ASPIDIUM sp. Auct. TECTARIA, Cav.

*Sori* subrotundi medio dorsi venarum venalarumque siti. *Indusium* orbiculatum, substipitatum.—*Frondes fasciculatæ plerumque coriaccæ varie pinnatimque divisæ lobatæque, serratæ, serraturis sæpe spinulosæ*. Venæ *pinnatæ subimmersæ, rarius simplices, plerumque bi-trifurcatæ*.

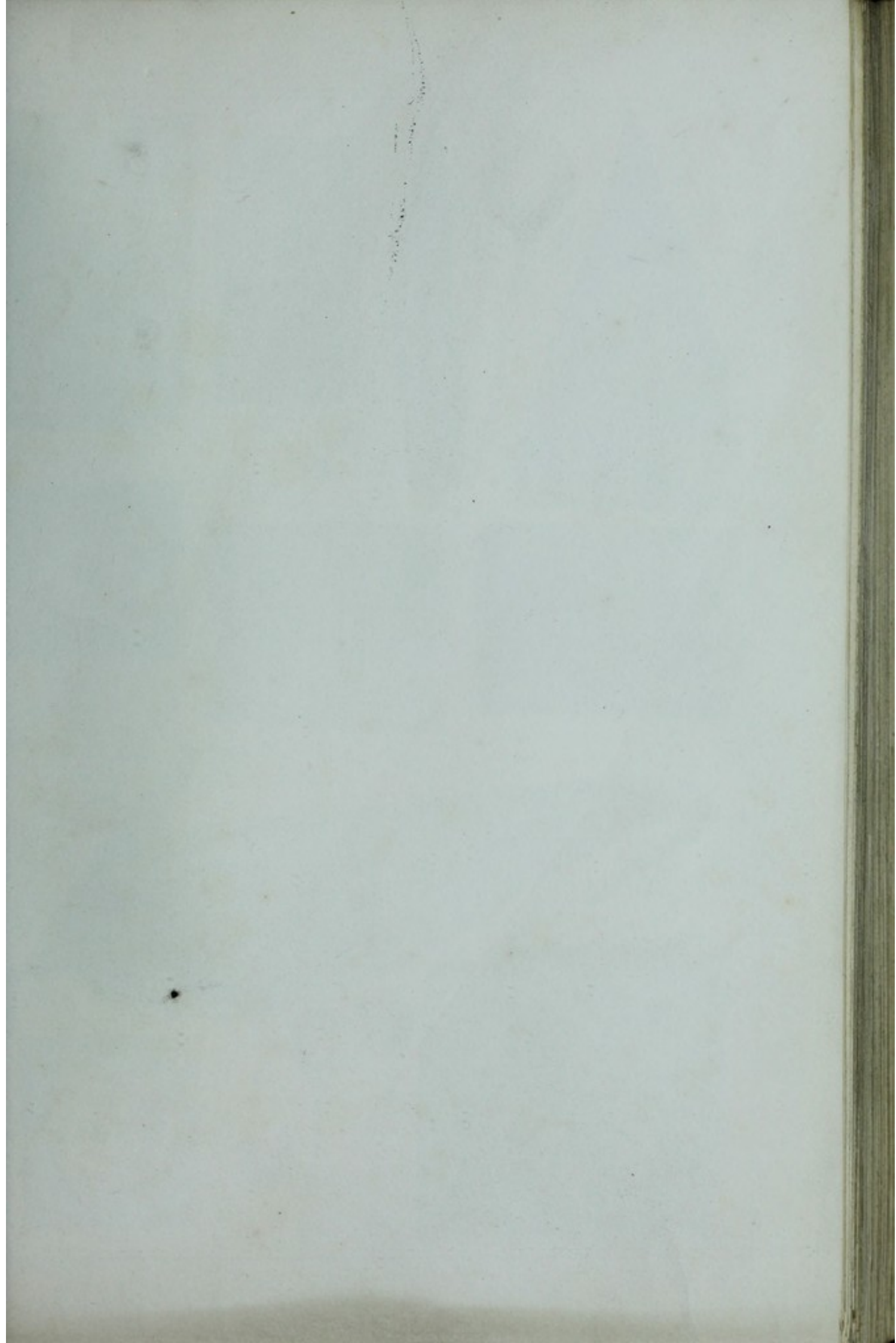
*Polystichum lobatum*. Presl. (TAB. XLVIII. C.) *Aspidum lobatum*. Schkh.

A numerous Genus, and for the most part a very natural one, and of which our well known *P. Lonchitis* and *P. lobatum* and *aculeatum* may be considered the types, inhabiting hot as well as temperate climates, and of which the species are often very difficult to be distinguished by satisfactory specific marks.

TAB. XLVIII. C.—Fig. 1. Fertile portion of *Polystichum lobatum*: nat. size; f. 2. Lesser portion of the same; f. 3. Sterile lobe, to show the venation; f. 4. Sorus; f. 5. Sporangium; f. 6. Sporules:—magnified.













TAB. XLIX. A

MONOPHYLLA, Pfl.

Tab. XLIX. A. Monophylla, Pfl. ...

Tab. XLIX. A. Monophylla, Pfl. ...

Tab. XLIX. A. Monophylla, Pfl. ...

TAB. XLIX. B

MONOPHYLLA, Pfl.

Tab. XLIX. B. Monophylla, Pfl. ...

Tab. XLIX. B. Monophylla, Pfl. ...

Tab. XLIX. B. Monophylla, Pfl. ...

Tab. XLIX. B. Monophylla, Pfl. ...

Tab. XLIX. B. Monophylla, Pfl. ...

TAB. XLIX. C

MONOPHYLLA, Pfl.

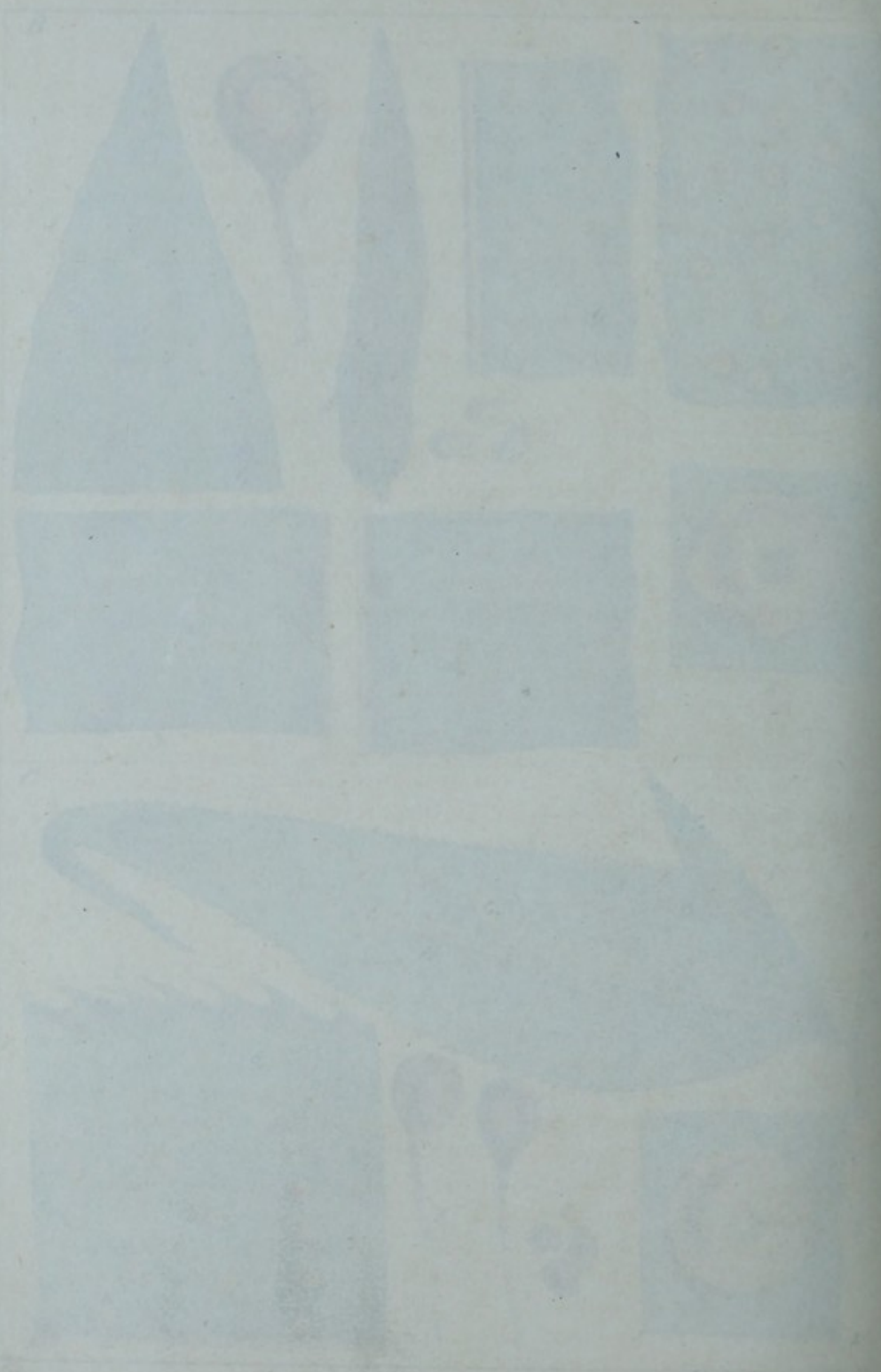
Tab. XLIX. C. Monophylla, Pfl. ...

Tab. XLIX. C. Monophylla, Pfl. ...

Tab. XLIX. C. Monophylla, Pfl. ...

Tab. XLIX. C. Monophylla, Pfl. ...

Tab. XLIX. C. Monophylla, Pfl. ...





TAB. XLIX. A.

PHANEROPHLEBIA. Presl.

Sori medio dorsi venularum insidentes, globosi. *Indusium* orbiculare, peltatum.—

Filix Mexicana. Frons herbacea, pinnatim divisa. Venæ pinnatæ, internæ, pinnatim ramosæ, venula infima superiore et infima inferiore libera dorso sorifera, superioribus in arcus inæquales acutos anastomosantes dorso soriferæ, supremæ arcuatim ante marginem frondis desinentes. Presl.

*Phanerophlebia nobilis*. Presl.—(TAB. XLIX. A.)—*Aspidium nobile*. Schlecht. in *Linnæa*.

Portion of a pinna :—*magnified* ; copied from Presl.

I am quite unacquainted with this plant ; the only one of its Genus, according to Presl.

TAB. XLIX. B.

CYCLODIUM. Presl.

ASPIDIUM sp. Willd. et Auct.

Sori medio dorsi venarum insidentes, globosi. *Indusium* orbiculare, peltatum, indivisum.—Fronde herbacæ, pinnatim divisæ. Venæ pinnatæ, indivisæ, internæ, aut subtus prominulæ, inferiores superiores cum inferioribus oppositis in angulum plus minus acutum anastomosantes, venula ex angulo superiore in sinum angulorum superiorum, suprema in sinum laciniarum excurrente. Presl.

*Cyclodium confertum*, Presl.—(TAB. XLIX. B.)—*Aspidium confertum*. Kaulf.—Hook. et Grev.  *Ic. Fil. t. 121*.

Fig. 1. Portion of a sterile pinna : *nat. size* ; f. 2, 3. Portions of sterile pinnae from two different specimens to exhibit the venation ; f. 4. Fertile pinna, *nat. size* ; f. 5. Portion of the same, the sori being removed to show the venation ; f. 6. Sorus ; f. 7. Sporangium ; f. 8. Sporules :—*magnified*.

Of the three species mentioned by Presl as belonging to this Genus *Cyclodium*, I am only, with certainty, acquainted with one, the *C. confertum*, which has a very peculiar aspect, and the fertile fronds dissimilar not only as to size and form, but also as to venation :—the venation, however, is considerably different from that represented by Presl, *Tent. Pterid. tab. II. f. 20, 21*.

TAB. XLIX. C.

CYRTOMIUM. Presl.

ASPIDIUM sp. Swartz, Wall.

Sori globosi. *Indusium* orbiculatum, peltatum.—Fronde fasciculatæ, pinnatæ, pinnis petiolatis, acuminatis, argute serrulatis, infimis lobatis. Venæ internæ, tenues, in maculas irregulares et inæquales anastomosantes. Maculæ costales hexagonoideæ, angulis superioribus uno-tribus venuliferæ. Venulæ rectæ, liberæ, acutæ, medio dorsi soriferæ, macularum marginalium apice punctiformi terminatæ. Presl.

*Cyrtodium caryotideum*. Presl.—(TAB. XLIX. C.)—*Aspidium caryotideum*. Wall.—Hook. et Grev.  *Ic. Fil. t. 69*.

The only two known species of this Genus are of Indian origin, tropical or subtropical, and have a peculiar habit ; but it must be confessed that their venation approaches very nearly to that of *Cyclodium*.

TAB. XLIX. C. Fig. 1. Fertile pinna, *nat. size* ; f. 2. Portion of do. ; f. 3. Sorus ; f. 4, 5. Sporangia ; f. 6. Sporules :—more or less *magnified*.





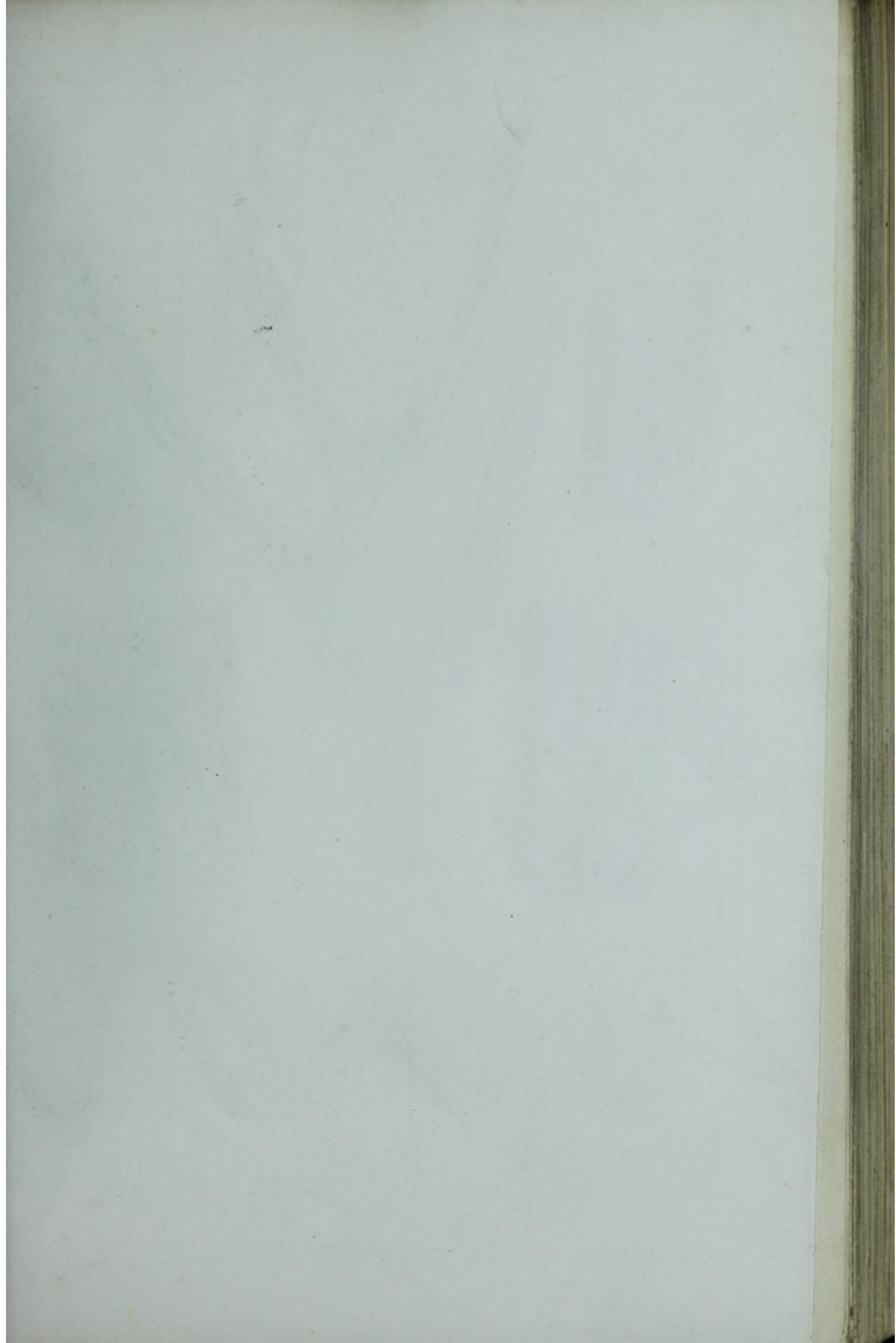
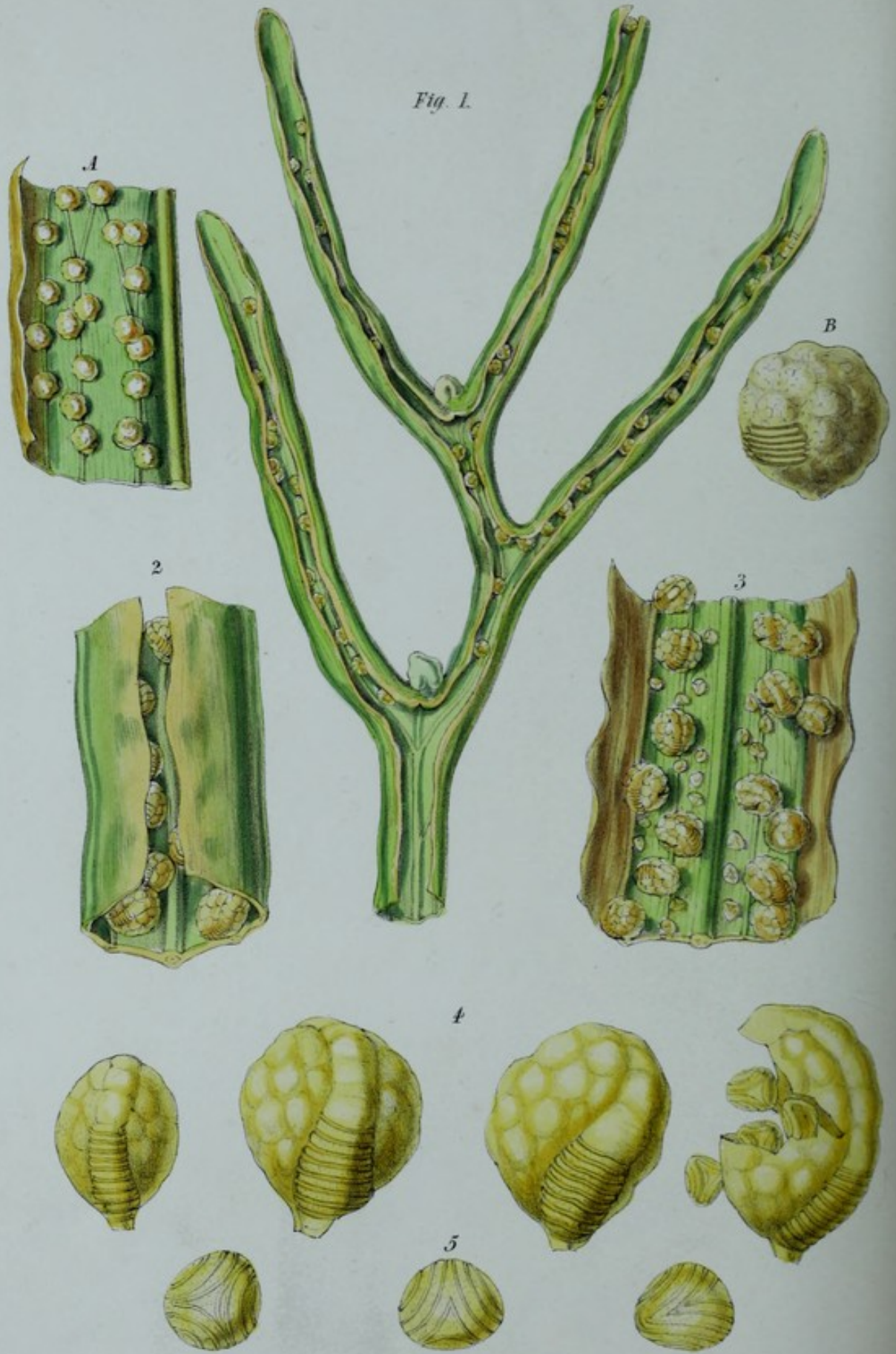


Fig. 1.





TAB. I.

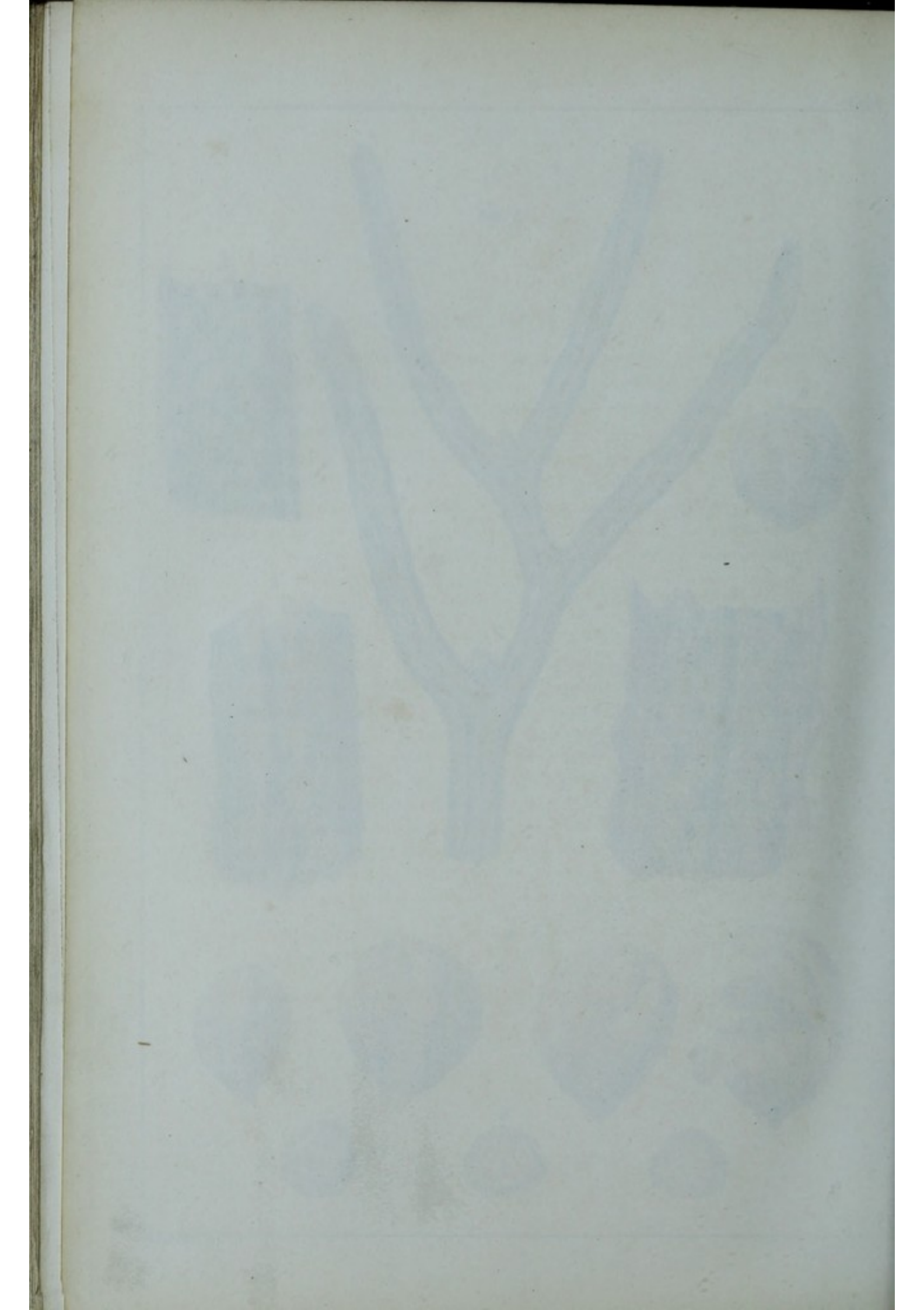
PARKERIA, n. sp.

Very common, with longitudinal furrows, ...

Fig. 1. ...

The drawing by Mr. ...

Fig. 2. ...



TAB. L.

PARKERIA. Hook.

*Sori* continui, venas longitudinales frondis fertilis occupantes. *Sporangia* laxè disposita, globosa, hyalina, sessilia, annulo lato brevissimo minuto prope basin notata, annulo 5—6-articulato. *Indusium* membranaceum, continuum, e margine frondis revolutæ ortum, sutura longitudinali dehiscens. *Sporulæ* magnæ, obtuse triangulares, hyalinæ, pulcherrime striatæ, striis seriebus tribus concentricis.—*Filix tropico-Americana, aquatica, natans, annua, herbacea.* Frondes steriles a fertili diversæ, bipinnatifidæ, costatæ, reticulatim venosæ, areolis oblongis hexagonis; fertiles majores 3—4-pinnatifidæ, laciniis linearibus, acutis, costatis, venisque 2—3 longitudinalibus, hic illic anastomosantibus, soriferis.

*Parkeria pteridioides.* Hook.—(TAB. L.). Hook. et Grev.  *Ic. Fil. t. 97.*

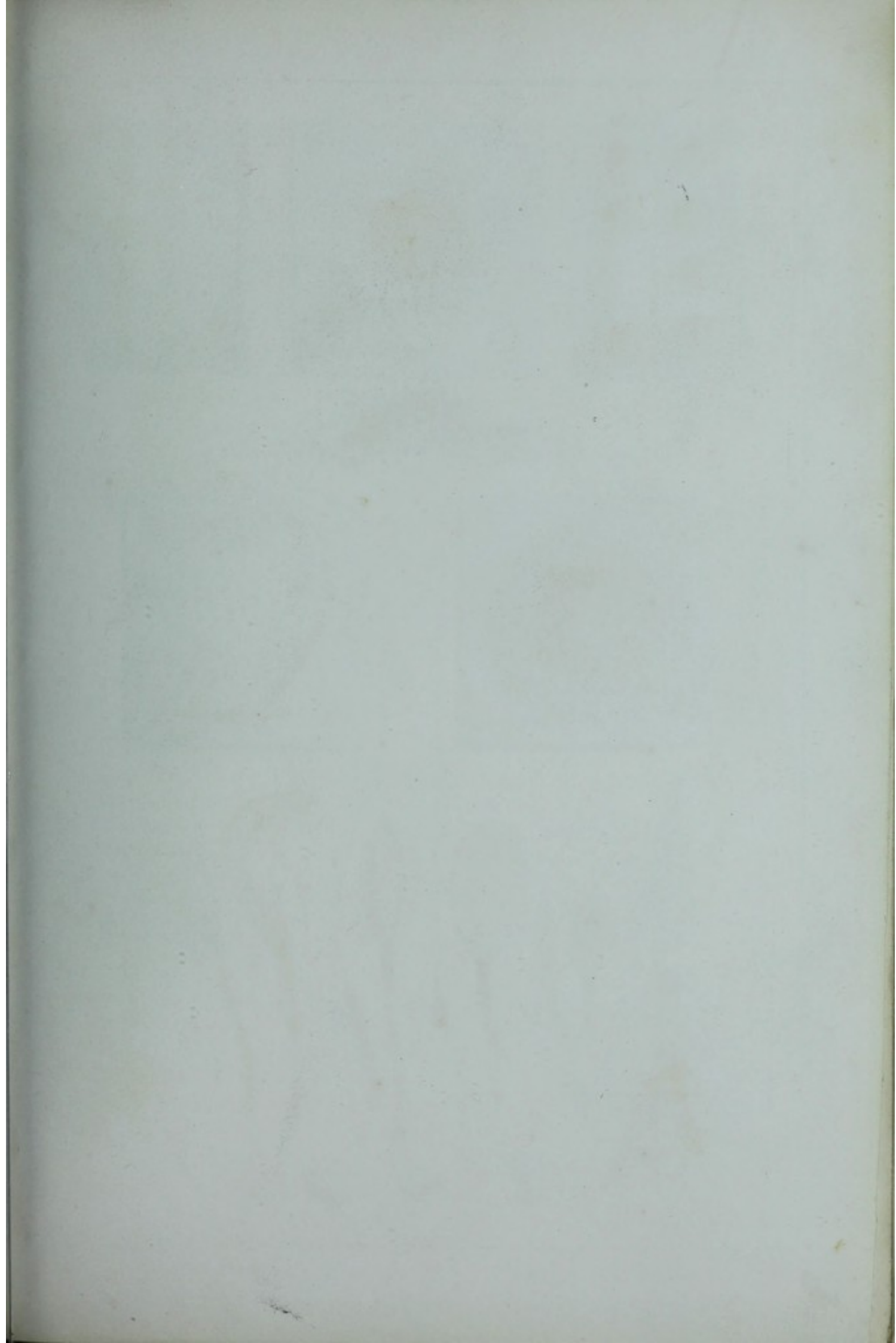
The drawing by Mr Bauer, here represented, was taken, I believe, from specimens communicated by me to Mr J. Smith, at Kew, who remarks, that "the figures of Mr Bauer confirm an opinion he had already entertained, that *Parkeria* was not generically distinct from *Ceratopteris*." (TAB. NOSTR. XII). In justice to myself I must observe, that after repeated examinations of different specimens, and at various times, I do not find the appearance of the annulus to be such as Mr Bauer's drawing exhibits it, but precisely as it is figured in the *Icones Filicum*, above quoted; where the sporangia are given with the most scrupulous exactness. In every sporangium that has come under my inspection, the annulus is reduced to a very small nearly quadrangular spot, marked with about 5—6 transverse lines, not very closely placed (see Fig. B.); nor do I perceive a further trace of an annulus above or below that spot, as depicted by Mr Bauer, whose accuracy, however, in this, as in all his botanical analyses, cannot for a moment be called in question.

TAB. L. PARKERIA PTERIDIOIDES. Fig. 1. Portion of a fertile frond, magnified 4 diam.; f. 2, 3. Smaller portion of the same, magnified 16 diameters; f. 4. Sporangia and sporules, magnified 200 diameters. (Mr Bauer's drawing.)

A. Portion of a fertile frond to show the venation, and B. Sporangium, (from our own drawing:)—magnified.













TAB. II.

MARGINARIA PILOSELLOIDES Presl.

Generum. J. Sm. Fructificatio. Presl.

This belongs to the Genus *Margarina*, according to Presl, whose character has been already given at Tab. XIV. It is figured here, as one of Mr Bauer's beautiful drawings, and for the sake of introducing Mr John Smith's remarks, namely, that "The several *Margarinae* and *Gastrophysariae* of Presl, belong to the same Genus, agreeing in their venation and fructification: the greatest peculiarity being in habit, according to which he divides the species as follows:—*Gastrophysaria*.—<sup>1</sup> *Lopholepta*. Ex. *G. pilosellodes*, *G. ciliata*, *G. tecta*, *G. scutelliformis*. (*Polypodium* of authors. *Margarina*. § 4. *Pleurogonium*. Presl).—<sup>2</sup> *Lepidocoma*. Ex. *G. tenuis*, *G. apiculata*. (*Polypodium* of authors. § 2. *Margarina*. Presl in part).—<sup>3</sup> *Dactylolepta*. Ex. *G. repens*, *G. hirsuta*, *G. arvensis*, *G. verrucosa* (see also Tab. XIV). (*Polypodium* Des. Foss.).—<sup>4</sup> *Gastrophysaria* vera. Ex. *G. geminata*, *G. serotina*, *G. Cantaria*, *G. scutelliformis*. (*Polypodium* of authors. *Gastrophysaria*. Presl. *Margarina*. § 2. *Margarina*. Presl.)

Mr Smith seems to question what was the original *Margarina* of Bory. This author himself expressly tells us, (*Nox. Dec. de Sa Nox. X. p. 178.*) that he is acquainted with six species, of which the two previously described were *Polypodium marginatum*, Borys Willd, and *P. verrucosum*, Willd.

Tab. II.—Fig. 1, 2, 3. Portions of the upper side of a fertile frond with cut. f. 4. Transverse section of a stem. f. 5, 6. Portions of the underside of the frond. f. 7. Sporangia in different views. f. 8. Spores from the frond and from the stem. f. 9. Spores in different views of both magnified.



TAB. LI.

MARGINARIA PILOSELLOIDES. *Presl.*

GONIOPHLEBIUM. *J. Sm.* POLYPODIUM. *Auct.*

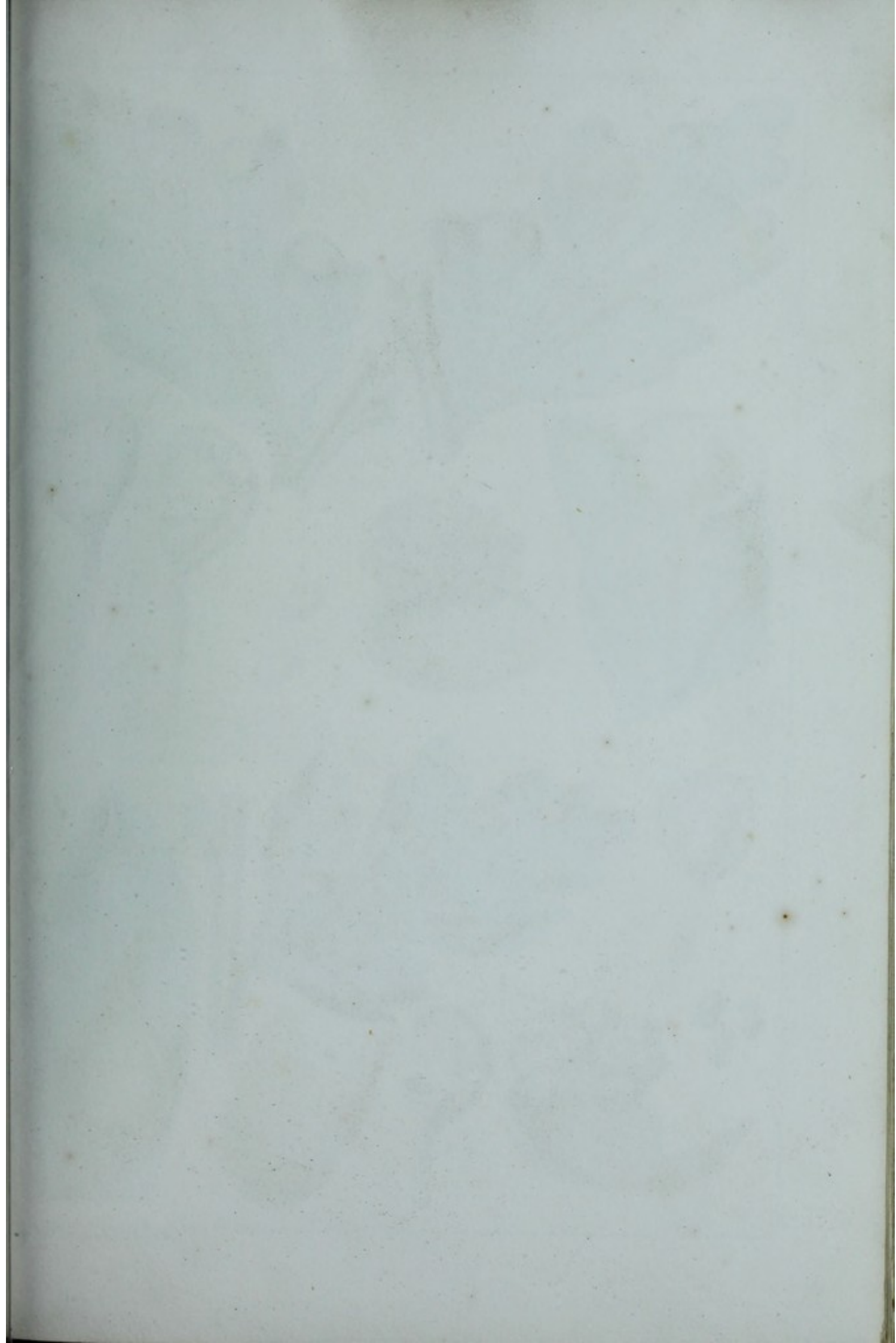
This belongs to the Genus *Marginaria*, according to *Presl*, whose character has been already given at TAB. XIV. It is figured here, as one of Mr Bauer's beautiful drawings, and for the sake of introducing Mr John Smith's remarks, namely, that "he considers *Marginaria* and *Goniophlebium* of *Presl*, to belong to the same Genus, agreeing in their venation and fructification: the greatest peculiarity being in habit, according to which he divides the species as follows:—GONIOPHLEBIUM,—\* *Lopholepis*. Ex. *G. piloselloides*. *G. ciliatum*. *G. tectum*. *G. vacciniifolium*. (Polypodium of authors. *Marginaria*. § 1. *Pleurogonium*. *Presl*).—\*\* *Lepicystis*. Ex. *G. incanum*. *G. sepultum*. (Polypodium of authors. § 2. *Marginaria*. *Presl* in part.).—\*\*\* *Schellolepis*. Ex. *G. argutum*. *G. lachnopus*. *G. amænum*. *G. verrucosum*. (see our TAB. XIV). (Polypodium *Don*, *Wall.*)—\*\*\*\* *Goniophlebia vera*. Ex. *G. attenuatum*. *G. loriceum*. *G. Catharinæ*. *G. menisciifolium*. (Polypodium of authors. *Goniophlebium*. *Presl*. *Marginaria*. § 2. *Marginaria*. *Presl*." )

Mr Smith seems to question what was the original *Marginaria* of Bory. This author himself expressly tells us, (*Nouv. Dict. des Sc. Nat. v. X. p. 176.*) that he is acquainted with six species, of which the two previously described were *Polypodium marginatum*, Bory in Willd., and *P. incanum*, Willd.

TAB. LI.—*Figs. 1, 3, 5.* Portions of the under-side of a fertile frond with sori; *f. 6.* Transverse section of a sorus; *f. 2, 4.* Portions of the upper-side of the same; *f. 7.* Sporangia, in different states; *f. 8.* Scales from the frond, and from the sori; *f. 9.* Sporules:—all more or less magnified.













TAB. LII. A.

LEUCOSTEGIA Presl.

Sori globose, nigri, infra marginales. Inductus orbiculari-reniformis, puncto laterali basali affixus, plenus, candido scaporum, impresso-punctulatus. Receptaculum punctulatum, minutum. — Filix Neptunia. Rhizoma repens. Frondes parva, herbaceae, pinnae circumplicatae, pinnis superioribus pallidius foveis papilionis inferioribus reticulatis. Pulvinaculum prostratum, superioribus internodiis vixi nullius foveis exaristatis refertis, pinnae petiolatis, pinnae ventralibus vix obtusi basi inequaliter acutis, inferioribus incisim-pinnatifidis, superioribus linearibus longe inequaliter acutis. Vena pinnae lateralis, utriusque apice cernit libero descendens, infra furcata, vena superioris apice fructifera. Presl.

Leucostegia insana. Presl. (Tab. LII.) — *Doritis insana*, Wall.

Fig. 1. Ventralside of a pinna with sori; f. 2. Upper side of do; f. 3. Portion of a pinna with sori; f. 4. Same, with the inductus basally open; f. 5. Sporangia; f. 6. Spores. — Magnified.

TAB. LII. B.

CYSTOPTERIS Bernh.

Sori globose, dorsali medio venularum insidentes. Inductus subhemisphaericus sepe acuminatus, puncto sublaterali inferiore affixus, fovea reticulata, nonnunquam verrucata, laevium reflexum et marcescens. — Filices pleraque eustratropicae. Frondes fasciculatae, herbaceae, raris pinnatis divisa. Vena inferioris punctata, superioris simpliciter, vena interna ante marginem cernitans.

Cystopteris fragilis, Bernh. (Tab. LII. B.) — *Cystea*, Sm.

Fig. 1. Ventralside of a pinna with sori; f. 2. Portion of a pinna with a single sori; f. 3. Same, with the inductus reflexed; f. 4. Inner base of an inductus; f. 5. Sporangia; f. 6. Spores. — Magnified.





TAB. LII. A.

LEUCOSTEGIA. *Presl.*

*Sori* globosi, magni, infra marginales. *Indusium* orbiculari-reniforme, puncto laterali basilari affixum, planum, candide scariosum, impresso-punctulatum. *Receptaculum* punctiforme, minutum.—*Filix Nepalensis*. *Rhizoma repens*. *Fronde* sparsæ, herbacæ, pinnatim decompositæ, pagina superiore pallidiore faciem paginæ inferioris reliquarum *Filicacearum præseferente, inferiore intensius viridi nitidiore faciem superiorem referente, pinnis petiolatis, pinnulis sessilibus ovatis obtusis basi inæquilatera acutis, inferioribus inciso-pinnatifidis, superioribus laciniisque obtuse inæqualiter dentatis. Venæ pinnatæ internæ, venulisque apice clavato libero desinentes, infimæ furcatæ, venula superiori apice fructifera. Presl.*

*Leucostegia immersa. Presl. (TAB. LII.)—Davallia immersa. Wall.*

*Fig. 1.* Under-side of a pinnule with sori; *f. 2.* Upper side of do.; *f. 3.* Portion of a pinnule with a sorus; *f. 4.* Sorus, with the indusium forced open; *f. 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LII. B.

CYSTOPTERIS. *Bernh.*

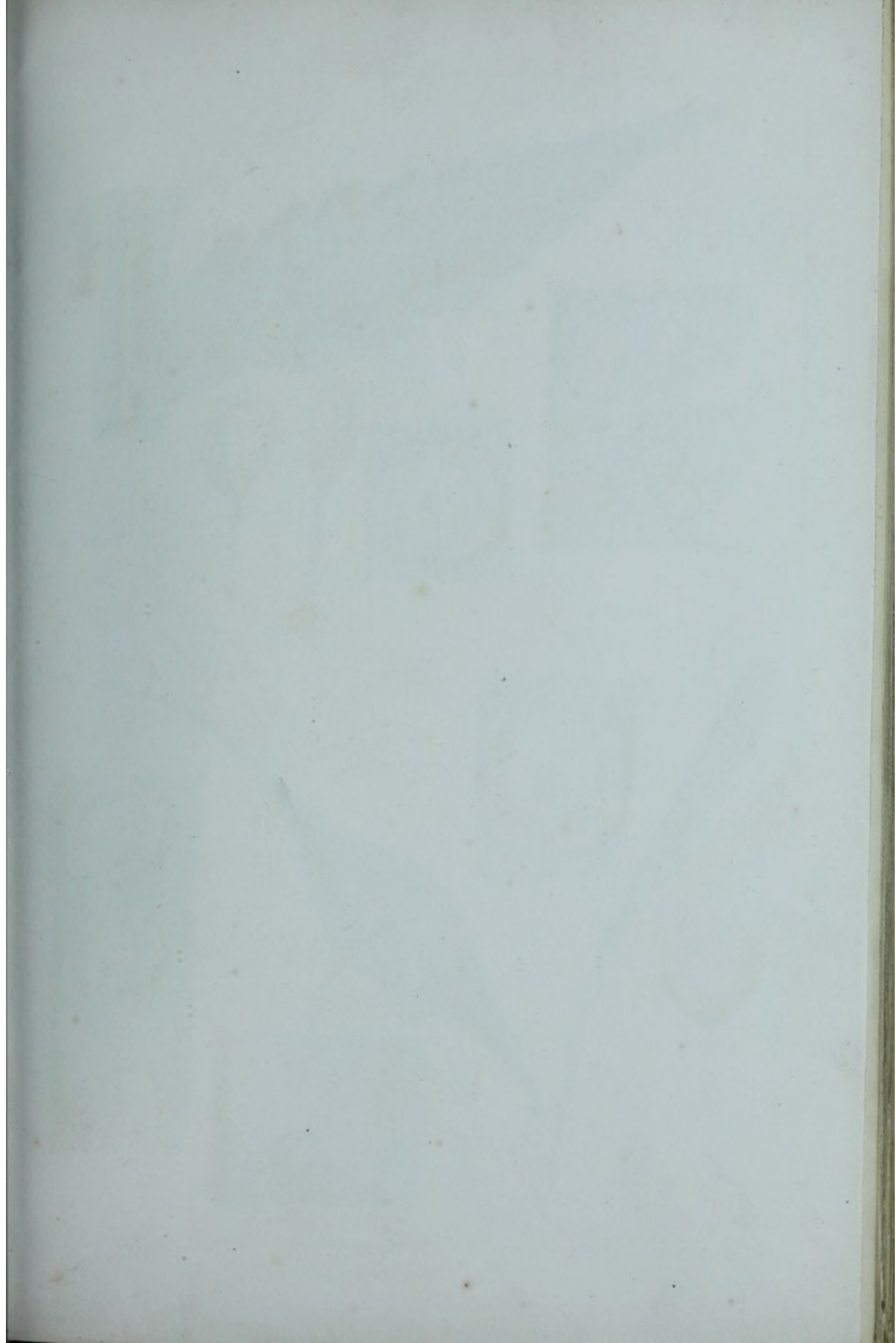
*Sori* globosi, dorsi medio venularum insidentes. *Indusium* subhemisphæricum sæpe acuminatum, puncto sublaterali inferiore affixum, laxè cellulosum, nonnunquam serratum, demum reflexum et marcescens.—*Filices pleræque extratropicæ. Fronde fasciculatæ, herbacæ, varie pinnatim divisæ. Venæ inferiores pinnatæ, superiores simplices; venulæ internæ ante marginem evanescentes.*

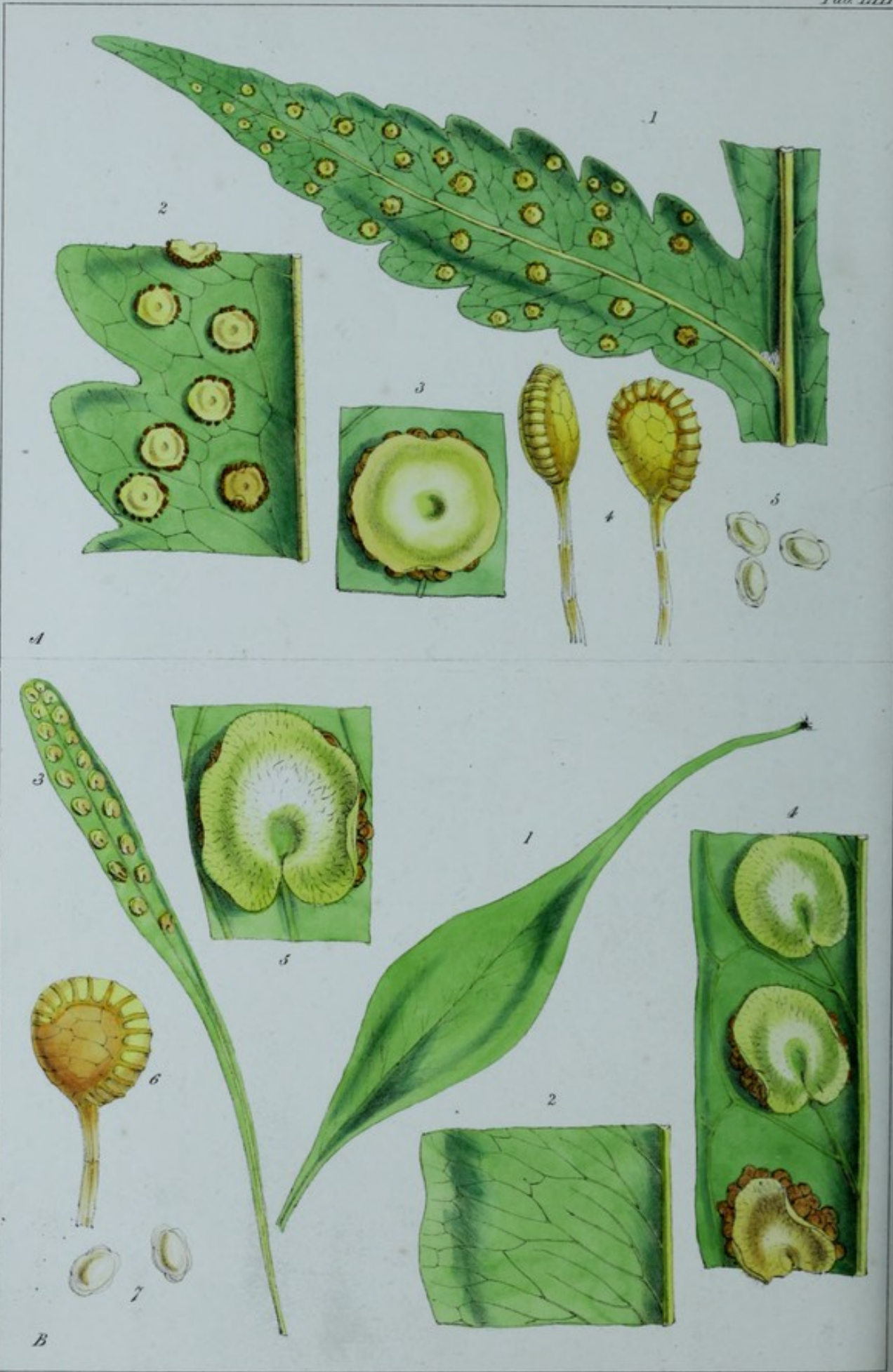
*Cystopteris fragilis. Bernh. (TAB. LII. B.) Cystea. Sm.*

*Fig. 1.* Under-side of a pinnule with sori; *f. 2.* Portion of a pinnule, with a single sorus; *f. 3.* Sorus, with the indusium reflexed; *f. 4.* Inner view of an involucre; *f. 5, 6.* Sporangia; *f. 7.* Sporules:—*magnified.*











TAB. LIII. A.

SAGENIA. Presl.

caul. prostrat., vel demum medio venosorum excavatum medietatem aut apicem ventralibus  
filamentis insertis. Indivisionibus simplicibus, pinnatis. — Filices frondibus coloris  
viridis. Frondes bipinnatis pinnatis divisis. Venae laterales terminales, in nervulis  
procedentes inaequales, uncinatae, nervulis interstitibus elongatis, superstitibus apice  
ad angulum reflexione internam capuliferis, nervulis interstitibus apice striatis. — Presl.

*Sagenia hypoleuca*, Presl. (Tab. LIII. A.) *Aspidium*, Sw.

Presl argumentis ut optime in *Sagenia* in libro *Genus*. — *S. alba*, *S. rubra*, *S.*  
*viridis*, *S. hypoleuca*, *S. lucida*, *S. reflexa*.

Fig. 1. Small portion of the lower-leaf of *Sagenia hypoleuca*, with web, &c. from Denmark;  
2. Vein portion with web; 3. Single vein; 4. Sporangia; 5. Spores — magnified.

TAB. LIII. B.

ADYENIA. Noe. Gen.

Sporocarpiorum, in nervulis, apice venulae superiorum illarum insertis. Indivisionibus  
compositis, basi profundius lobatis. — Filices Javanicae. Frondes bipinnatis  
simpliciter pinnatis compositis, nervulis lateribus elongatis, nervulis apice longe  
attenuatis, pinnifloris; fertiles bipinnatis, divisis, basi in nervulis distinctis.  
Venae pinnatis, nervulis superioribus cum pinnulis oppositis nervulis obliquis  
interstitibus effluantibus, compositis maximis, nervulis interstitibus superioribus apice  
sterilibus nervulis furcatis.

*Adyena prolifera*, Hook. (Tab. LIII. B.) *Aspidium proliferum*, Hook. et Grev.  
*in Phil. t. 96.*

Hort. Javicae. De M. Padoa. — I also possess specimens of the same plant, given by  
the late Mr Donn of Cambridge to Dr Lindley. The individuals are certainly distinct, fixed  
by the very deep veins, not subulate and pinnate as figured in *Sagenia Filices*.

Fig. 1. Small branch, with web; 2. Portion of the same, magnified; 3. Small branch, with web;  
4. Portion of the same with web; 5. Single vein; 6. Sporangia; 7. Spores — magnified.

\* It is stated by Lindley in Dr M. Padoa, F. L. S. of England, Journal, vol. 1, p. 116, that  
Lindley's specimens were obtained by a very generous collector of plants including many ferns, who  
sent some of them to him in 1825. I was the greatest satisfaction to the collector's specimens to a  
great extent, and he is indebted to John Don, Esq. for the specimens sent.





TAB. LIII. A.

SAGENIA. Presl.

Sori globosi, aut dorsi medio venarum macularum mediarum aut apici venularum liberarum inserti. *Indusium* orbiculatum, peltatum.—Filices *tropicæ*, inter *maiores*. Frondes *herbaceæ pinnatim divisæ*. Venæ *internæ tenues, in maculas hexagonoideas inæquales anastomosantes, maculis costalibus elongatis, superioribus sæpe ad angulum inferiorem internum venuliferis, venulis liberis apice soriferis*. Presl.

*Sagenia hippocrepis*. Presl. (TAB. LIII. A.) *Aspidium*, Sw.

Presl enumerates six species, as belonging to this Genus. *S. lobata*, *S. sorbifolia*, *S. varia*, *S. hippocrepis*, *S. latifolia*, *S. rufescens*.

Fig. 1. Small portion of the fertile frond of *Sagenia hippocrepis*, with sori, seen from beneath; f. 2. Lesser portion with sori; f. 3. Single sorus; f. 4. Sporangia; f. 5. Sporules:—*magnified*.

TAB. LIII. B.

FADYENIA.\* *Nov. Gen.*

Sori orbiculares, uniseriales, apici venulæ superioris liberæ inserti. *Indusium* magnum, cordatum, basi profunde bilobum.—Filix *Jamaicensis*. Frondes *cæspitosæ simplices membranaceæ costatæ diffformes*; steriles *lato-lanceolatæ, sessiles, apice longe attenuatæ, proliferæ*: fertiles *lineari-ligulatæ, obtusæ, basi in stipitem attenuatæ*. Venæ *pinnatæ*; venulæ *superiores cum proximis oppositis maculas obliquas hexagonoideas efficientes; costales maximæ; venula infima superior apice sorifera in fronde sterili nunc furcata*.

*Fadyena prolifera*, Hook. (TAB. LIII. B.) *Aspidium proliferum*. Hook. et Grev.  *Ic. Fil. t. 96.*

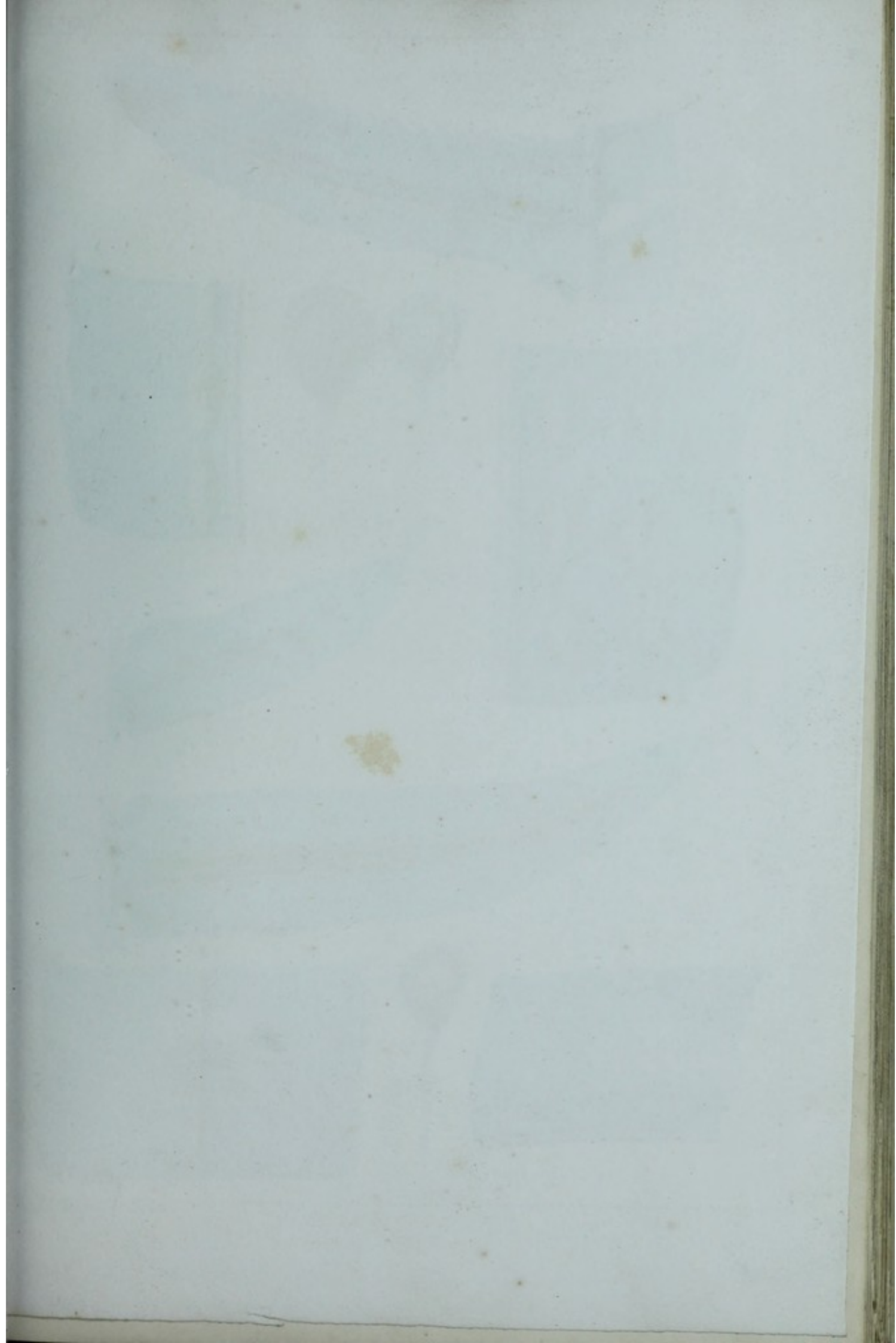
HAB. Jamaica. *Dr M'Fadyen*.—I also possess specimens of the same plant, given by the late Mr Donn of Cambridge to Dr Lindley. The indusia are certainly cordate, fixed by the very deep sinus; not orbicular and peltate as figured in *Icones Filicum*.

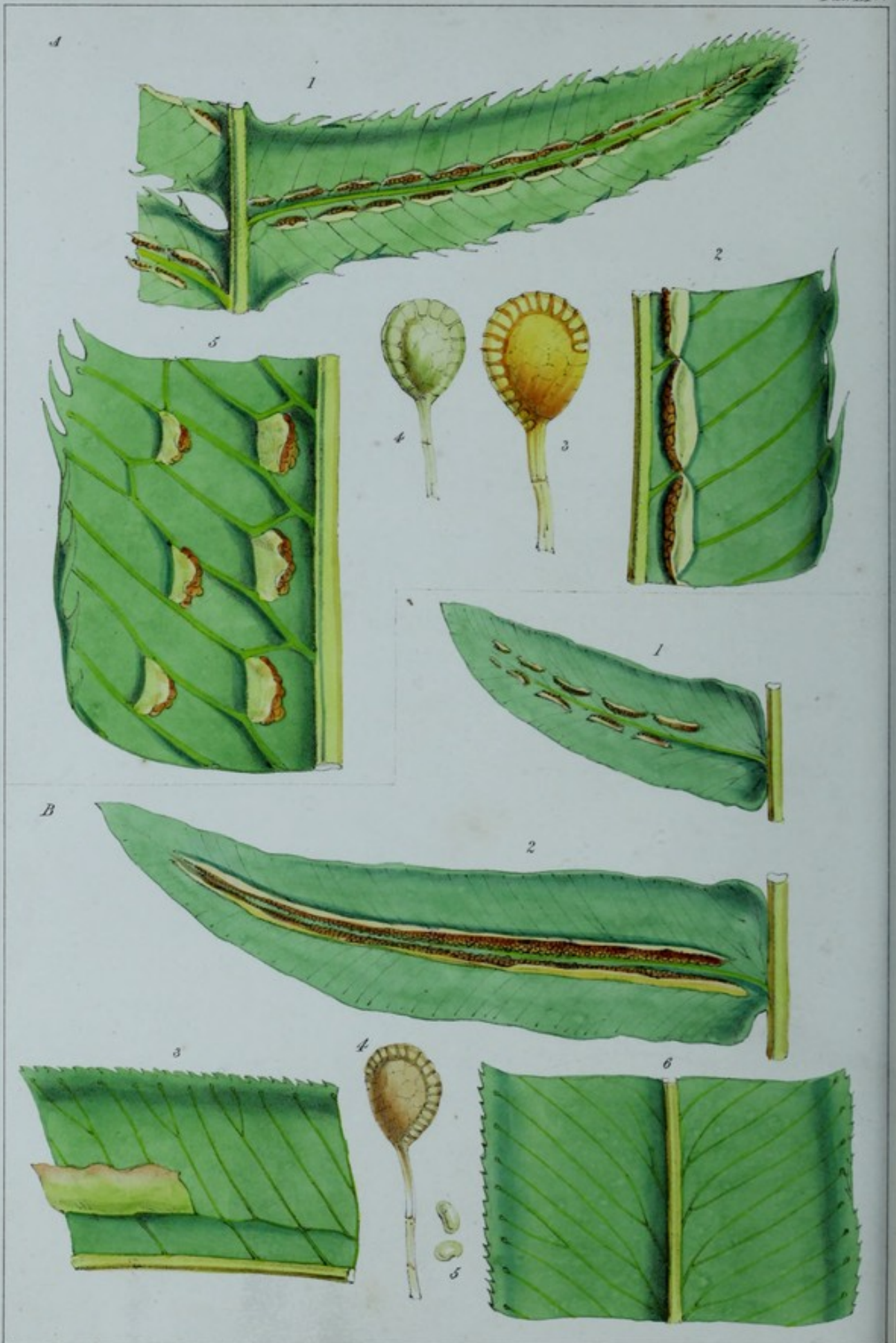
Fig. 1. Sterile frond, *nat. size*; f. 2. Portion of the same, *magnified*; f. 3. Fertile frond, *nat. size*; f. 4. Portion of the same with sori; f. 5. Single sorus; f. 6. Sporangium; f. 7. Sporules:—*magnified*.

\* So named in compliment to Dr M'Fadyen, F.L.S. of Kingston, Jamaica, author of a Flora of Jamaica, to whom I am indebted for a very extensive collection of plants, including many Ferns, (this one among them,) and to whom I owe far greater obligations for his unremitting attentions to a beloved son, who fell a sacrifice to yellow fever, while under his hospitable roof.















TAB. LIV. A.

DOODIA. *Br.*

*Sori* uni-biseriati lunulati v. lineares, seriati, costæ paralleli. *Indusium* e ramulo anastomosante venæ ortum, planum, intus liberum.—*Frondes cæspitosæ, subcoriaceæ, pinnatæ, pinnis dentatis quandoque coadunatis. Br. Venulæ subtus elevatæ, parallelæ, simplices v. furcatæ, hic illic venulis anastomosantes: hæ venulæ soriferæ.*

*Doodia Kunthiana?* *Gaud.*

(TAB. LIV.) *Fig. 1.* Pinna with sori ; *f. 2.* Portion of do. ; *f. 3, 4,* Sporangia :—*magnified.*

*Doodia aspera. Br.*

(TAB. LIV.) *Fig. 5.* Portion with sori :—*magnified.*

Mr Brown, the author of the Genus, observes that it is very near *Woodwardia* (see our TAB. XVII.), and that it has the same affinity with it that *Asplenium* has with *Allantodia*, (*Br.*). Presl remarks that it does not differ from *Woodwardia*, except in the veins and veinlets beneath being elevated, in having the sori rather distant from the costa, neither immersed nor linear, and in the indusium being flat and arched.

TAB. LIV. B.

BLECHNUM. *L.*

*Sori* venulis transversis venas conjungentibus inserti, lineares, contigui aut confluyendo continui, costæ paralleli et plus minus approximati. *Indusium* lineare, scariosum, margine libero costam respiciente.—*Frondes cæspitosæ, plerumque coriaceæ, simplices pinnatifidæ vel varie pinnatæ. Venæ pinnatæ, venulæ simplices vel furcatæ, apice clavellatæ. Venulæ fructiferæ transversæ, sæpe continuæ.*

*Blechnum occidentale. L. (TAB. LIV. B.).*

*Fig. 1, 2.* Pinnæ with sori ; *f. 3.* Portion of the same with the sporangia and part of the indusium removed, the rest of the indusium forced back ; *f. 4.* Sporangium ; *f. 5.* Sporules ; *f. 6.* Portion of a sterile pinna, that the venation may be seen more distinctly.











TAB. LV. A.

HEMIMICTYUM, Presl.

Arnica, L. et Riv. et Germ. ALLANTODA? sp. Wall.

Sori lineares, elongati, dorso vixae simpliciter vel simpliciter vixae forestis juncti. Indivisa linearia, elongata, planata. — Species Americae Australis. Frondes fasciculatae herbaceae, in una simpliciter, cordato-ovata, immixtae, in altera planata, simple, pinnis oppositis vel oppositis simpliciter lineari. Venae laterales, tunc, suberrima, planata, simpliciter vel simpliciter simpliciter parallelae, supra marginem caerulea et in unguibus simpliciter simpliciter, vixae simpliciter simpliciter in unguibus margini frondis parallelae simpliciter. Presl.

Hemimictyum marginatum. (Tab. LV. A.) Asplenium marginatum, L. A. Arnica, Presl.

To this Genus Presl refers also the Asplenium lineare, Riv. et Germ. in Tab. LV. A. 126. (but this appears to me a computer with Asplenium), and doubtless, the Allantoda Arnica, Wall.

Fig. 1. Part of a pinna of Hemimictyum marginatum; f. 2. Same; f. 3. Asplenium; f. 4. Spores — magnified.

TAB. LV. B.

DIPLAZIUM, Presl.

Diplazium, Sw. et Syst. ex.

Sori lineares, plus minus elongati, dorso vixae simpliciter vel simpliciter inserti, inveniuntur subinde et inferiores duplices l. bilaterales, superiores simpliciter (vix in Asplenio), aut omnes bilaterales. Indivisa linearia planata, in sori bilaterales bilaterale, margine libero vel inflexo (infero) versus costam, simpliciter (superi) versus costam directa, in sori simpliciter simpliciter, margine libero simpliciter versus costam directa. — Species plerumque Australis. Frondes fasciculatae, herbaceae vel ciliatae, simpliciter et simpliciter directae. Venae laterales, tunc, pinnatae, simpliciter vel supra basin forestis, simpliciter parallelae vixae simpliciter simpliciter libero vixae costae. Presl.

Diplazium pleuropterum, Sw.

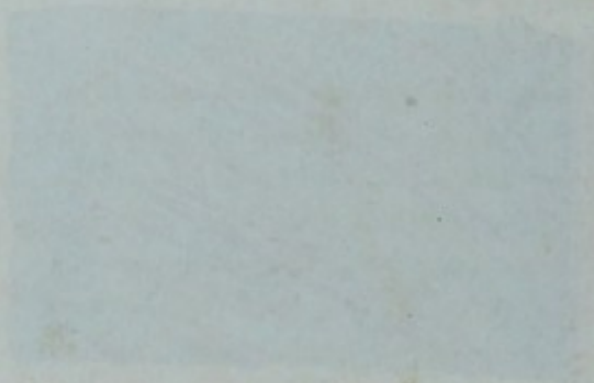
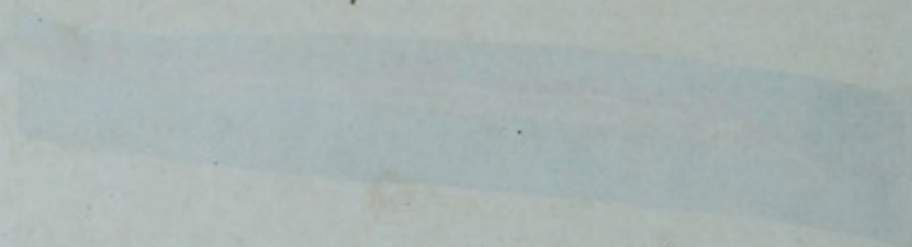
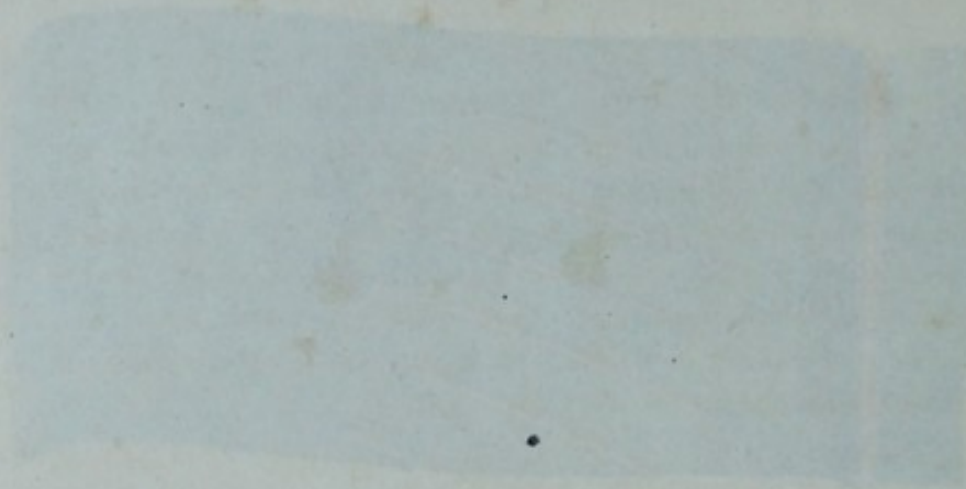
(Tab. LV. B.) Fig. 1. Part of a frond of Diplazium pleuropterum — magnified.

Diplazium striatum, Presl.

(Tab. LV. B.) Fig. 2. Frond striatum.

Diplazium radicans, Presl. Asplenium, Sw.

(Tab. LV. B.) Fig. 3. Part of the frond — magnified.





TAB. LV. A.

HEMIDICTYUM. Presl.

ASPLENII. *L. et Hook. et Grev.* ALLANTODIÆ? *sp. Wall.*

*Sori* lineares, elongati, dorso venæ simplicis aut venulæ superioris venæ furcatæ inserti. *Indusium* lineare, elongatum, planum.—Species *Americæ intratropicæ*. Frondes *fasciculatæ herbacæ*; in una *simplices, cordato-ovata, acuminatæ*; in altera *pinnatæ, amplæ, pinna opposita subinde magnitudine diversa*. Venæ internæ, *tenues, creberrimæ, pinnatæ, simplices aut furcatæ venulisque parallelæ, versus marginem ramosæ et in maculas trapezoideas confluentes, ante marginem frondis in costulam margini frondis parallelam desinentes*. Presl.

*Hemidictyum marginatum*. (TAB. LV. A.) *Asplenium marginatum*, *L. A. Mikani, Presl.*

To this Genus Presl refers also the *Asplenium Douglasii*, *Hook. et Grev. Ic. Fil. t. 150*; (but this appears to me a congener with *Antigramma*), and doubtfully, the *Allantodia Brunonis*, *Wall.*

*Fig. 1.* Portion of a pinna of *Hemidictyum marginatum*; *f. 2.* Sorus; *f. 3.* Sporangium; *f. 4.* Sporules:—*magnified*.

TAB. LV. B.

DIPLAZIUM. Presl.

DIPLAZII. *Sw. et Auct. sp.*

*Sori* lineares, plus minus elongati, dorso venarum venularumve inserti, infimi superiores subinde et inferiores duplices l. bilaterales, superiores simplices (uti in *Asplenio*), aut omnes bilaterales. *Indusium* lineare planum, in soris bilateralibus bilaterale, margine libero sori unius (inferi) versus costam, alterius (superi) versus costulam directo, in soris simplicibus unilaterale, margine libero semper versus costulam directo.—Species *plerumque intratropicæ*. Frondes *fasciculatæ, herbacæ aut coriaceæ, simplices et pinnatim divisæ*. Venæ internæ, *tenues, pinnatæ, simplices aut supra basin furcatæ, venulisque parallelæ ante marginem apice libero acuto desinentes*. Presl.

*Diplazium plantagineum*. *Sw.*

(TAB. LV. B.) *Fig. 1.* Portion of a frond with sori; *f. 2.* Sporangium:—*magnified*.

*Diplazium striatum*. *Presl.*

(TAB. LV. B.) *Fig. 3.* Pinnæ with sori.

*Diplazium radicans*. *Presl. Asplenium. Sw.*

(TAB. LV. B.) *Fig. 4.* Portion of the same:—*magnified*.



TAB. LV. A.

HEMIDIPTERA.

ANATOLI. L. et HES. et GRES. ALIANTHUS, sp. nov.

Species novae, hucusque non descriptae, sunt: Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

Hemidiptera novae, Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

To the Genus Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

Fig. 1. Forme of a pair of Hemidiptera novae, Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

TAB. LV. B.

DIPLOPTERA.

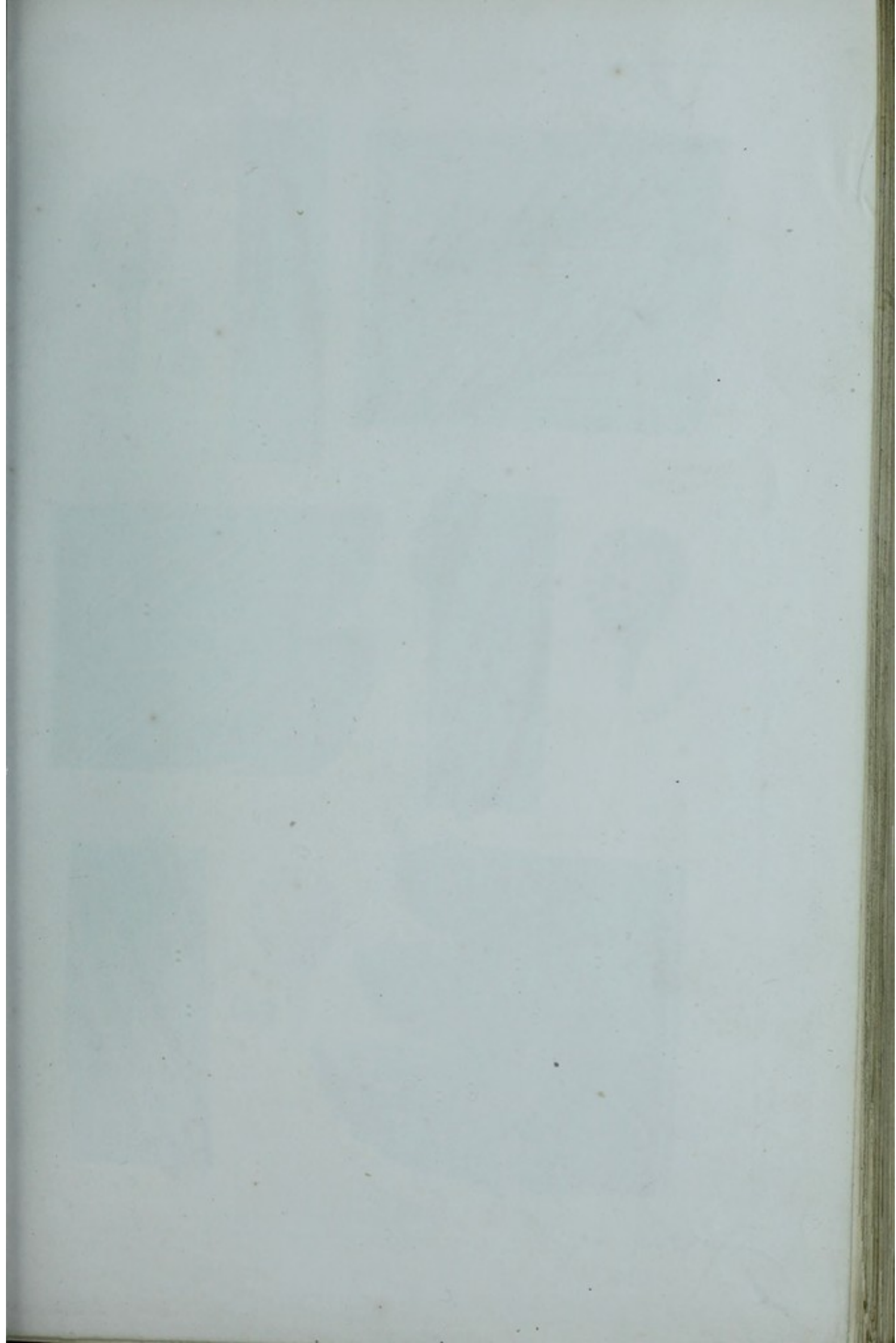
ANATOLI. L. et HES. et GRES. ALIANTHUS, sp. nov.

Species novae, hucusque non descriptae, sunt: Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

Diploptera novae, Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

(Tab. LV. B.) Fig. 1. Forme of a pair of Diploptera novae, Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...

(Tab. LV. B.) Fig. 2. Forme of a pair of Diploptera novae, Anatoli, L. et Hes. et Gres. Alianthus, sp. nov. ...



A



B



C





TAB. LVI. A. B.  
ANISOGONIUM. Presl.

DICHAETIS sp. Sw. et Desf. ANISOGONIUM sp. Sw. et Desf.

Seri breviter elongati, in venis infra bilobatis seu duplici, in reliquis unilobatis seu simplicibus. Anisogonia linearis, planis, in serie lateralibus marginis uno lateri versus costam aliter versus costulam, in serie antilobalibus marginis libero versus costulam directis.—Filiis lateraliibus, Fimbriae fimbriatae, striatae, antilobales, duplitate cum capite pluribus imbricatis. Venis internis, laevibus, pinnatis, inflexis oppositis in arcum breviter apice tenuiter recurvatis, superioribus ante marginem fimbriae apice obtuse terminatis sub costam pinnate depressas in arcum apice tenuiter recurvatis. Presl.

Anisogonium demissum, Presl. Anisogonium, Sw. Anisogonium, Kunth. Diplazium imbricatum, Hieron. in Herb. austr.—Sieb. Sp. Pl. 4. 80.

(Tab. LVI. A. Fig. 1. Partes of a plant, with a single view, f. 2. Spores, f. 3. Spores.—Magnified.)

Anisogonium apiculatum, Presl. Diplazium, Sw. Anisogonium, Presl.

(Tab. LVI. B. Fig. 1. Partes of a plant, f. 2. Spores, f. 3. Anisogonium, f. 4. Spores.—Magnified.)

Presl speaks of this genus, "a Diplazium venosum anisogonium distinctissimum," but it will be perceived by the figure of our *A. apiculatum*, Presl, that the lower opposite filices do not come "in arcum recurvatis," and I do not see how it is thus to be distinguished from *Diplazium*.

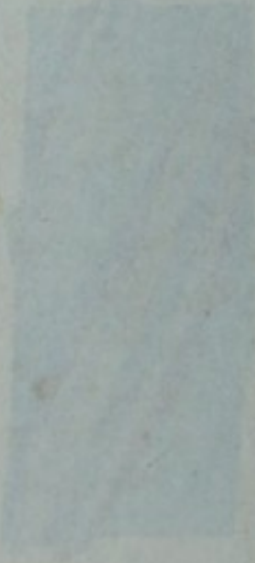
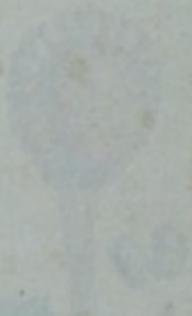
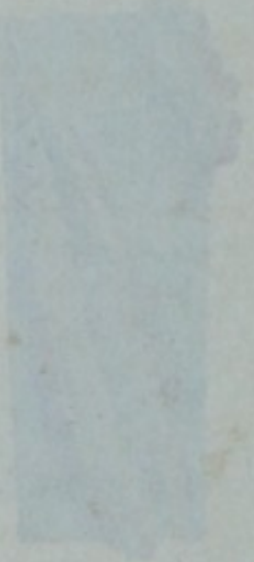
TAB. LVI. C.  
DIGRAMMARIUM. Presl.

DICHAETIS sp. Sw. DIGRAMMARIUM sp. Sw.

Of this Genus, Presl mentions only one species, the *Diplazium ambiguum*, Sw. (*Diplazium Malabaricum*, Spr.), and he remarks, "Genus adhuc insufficienter notum, cum non nisi in statu valde imperfecto innotuerit, ab omnibus generibus Asplenaceorum et imprimis Diplaziorum tamen admodum parvis, in arcu quadrato-costibus angulis recurvatis distinguitur et Ceteris in Cyathocelis in memoriam revocet."—But though I have examined various specimens from the East Indies of what I cannot doubt is the true *Diplazium ambiguum*, Sw., I find in every case the venation to be as here represented, and is figured by Schkuhr, Pl. 4. 75, and not different from that of *Anisogonium demissum*.

*Digrammarium ambiguum*, Presl. (Tab. LVI. C.) Anisogonium, Sw. Diplazium Malabaricum, Spr.—Hook. et Arn. Bot. Beech. Voy. p. 106.

Fig. 1. Partes of a plant, with a single view, f. 2. Spores, f. 3. Anisogonium, f. 4. Spores.—Magnified.





TAB. LVI. A. B.

ANISOGONIUM. *Presl.*

DIPLAZII sp. *Sw. et Auct.* ASPLENII sp. *Sw. et Auct.*

Sori lineares, elongati, in venis infimis bilaterales seu duplices, in reliquis unilateralibus seu simplicibus. *Indusium* lineare, planum, in soris biserialibus margine uno libero versus costam altero versus costulam, in soris unilateralibus margine libero versus costulam directo.—Filices *intratropicæ*. Frondes *fasciculatæ, coriaceæ, aut herbaceæ, simplices aut sæpius pinnatim divisæ*. Venæ *internæ, tenues, pinnatæ, infimæ oppositæ in arcum acutum apice venuliferum connatæ, superiores ante marginem frondis apice obtuso terminatæ aut rarius præter supremas in arcus apice venuliferas connatæ*. *Presl.*

*Anisogonium decussatum, Presl.* *Asplenium, Sw.* *Aspl. proliferum, Kaulf.* *Diplazium bulbiferum, Bojer, in Herb. nostr.—Sieb. Syn. Fil. n. 30.*

(TAB. LVI. A. Fig. 1. Portion of a pinnule with sori; f. 2. Single sorus; f. 3. Sporangium; f. 4. Sporules:—magnified.)

*Anisogonium sylvaticum, Presl.* *Diplazium, Sw.* *Asplenium, Presl.*

(TAB. LVI. B. Fig. 1. Portion of a pinnule; f. 2. Sorus; f. 3. Sporangium; f. 4. Sporules:—magnified.)

*Presl* remarks of this Genus, "a *Diplazio venarum arcubus distinctissimum;*" but it will be perceived by the figure of our *A. sylvaticum, Presl*, that the lower opposite veinlets do not unite "in arcum acutum," and I do not see how it is then to be distinguished from *Diplazium*.

TAB. LVI. C.

DIGRAMMARIA. *Pr.*

ASPENII sp. *Sw.* DIPLAZII sp. *Spr.*

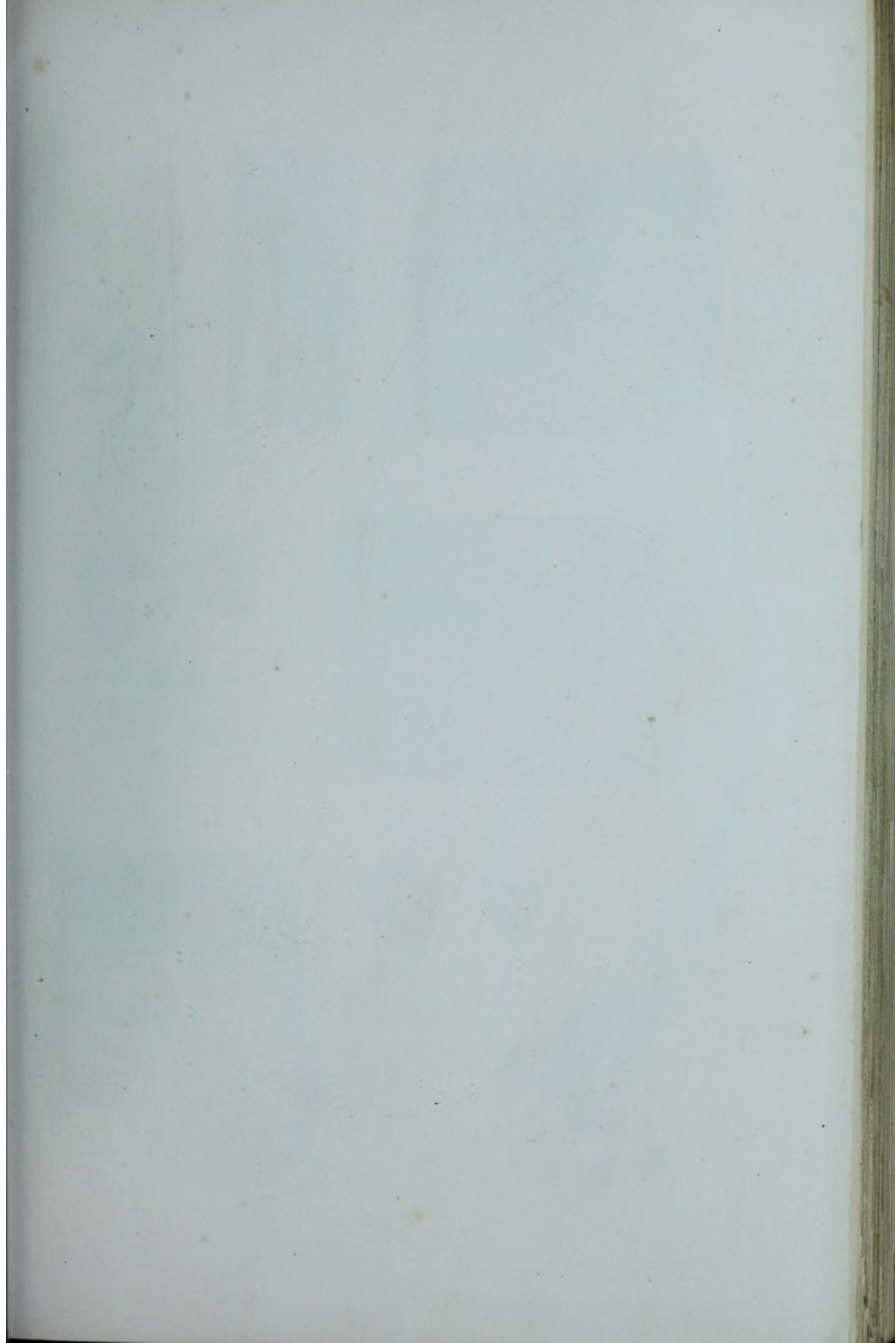
Of this Genus, *Presl* mentions only one species, the *Asplenium ambiguum, Sw.* (*Diplazium Malabaricum, Spr.*); and he remarks, "Genus adhuc insufficienter notum, cum sori mihi in statu valde imperfecto innotuerunt, ab omnibus tamen generibus *Aspleniacearum* et imprimis *Diplaziearum* venis infimis oppositis in arcum anastomosantibus angulis venuliferum distinguitur et *Cnemidariam* e *Cyatheaceis* in memoriam revocat."—But though I have examined copious specimens from the East Indies of what I cannot doubt is the true *Asplenium ambiguum, Sw.*, I find in every case the venation to be as here represented and as figured by *Schkuhr, Fil. t. 75*, and not different from that of *Anisogonium decussatum*.

*Digrammaria ambigua, Presl.* (TAB. LVI. C.) *Asplenium, Sw.* *Diplazium Malabaricum, Spr.—Hook. et Arn. Bot. of Beech. Voy. p. 256.*

Fig. 1. Portion of a pinna with sori; f. 2. Sorus; f. 3. Sporangium; f. 4. Sporules:—magnified.







A



B



C





Tab. LVII. A.

ASTROPHYS. P.

Asplenium sp. Presl, Ast.

Tab. LVII. A. Asplenium sp. Presl, Ast. ...

Asplenium sp. Presl, (Tab. LVII. A.) ...

To this genus Presl has added ...

Tab. LVII. A. Asplenium sp. Presl, Ast.

Tab. LVII. B.

SCOLOPHEMUM. P.

Asplenium sp. Presl, Ast.

Tab. LVII. B. Scolophemum sp. Presl, Ast. ...

The species are ...

Tab. LVII. B. Scolophemum sp. Presl, Ast.

Tab. LVII. C.

COMPTOSOMA. Presl, Ast.

Asplenium sp. L. of Ast.

Tab. LVII. C. Comptosoma sp. Presl, Ast. ...

Comptosoma sp. Presl, (Tab. LVII. C.) ...

Tab. LVII. C. Comptosoma sp. Presl, Ast.





TAB. LVII. A.

ANTIGRAMMA. *Pr.*

SCOLOPENDRII sp. *Presl, et Auct.*

*Sori* in venularum parte inferiori obvenientes, lineares, elongati, oppositi, inferior in venula superiori, superior in venula proxima inferiori. *Indusium* lineare, planum, marginibus liberis oppositis contiguus aut distantibus.—*Filices Brazilianæ*. Frondes *fasciculatæ, coriaceæ, simplices, integerrimæ*. Venæ *pinnatæ, crebræ, internæ, furcatæ, venulis parallelis a medio versus marginem frondis in maculas inæqualiter et elongate hexagonoideas anastomosantibus, maculis marginalibus angulis superioribus venulas breves emittentibus*. *Presl.*

*Antigramma repanda, Presl.* (TAB. LVII. A.) *Scolopendrium, Presl.* *Scol. ambiguum. Raddi.*

To this Genus *Presl* also refers *A. lancifolia, Pr. A. oblongata, Pr. A. plantaginea, Pr. A. populifolia, Pr.*; and to them we would add the *Hemidictyum Douglasii, Pr.* (*Asplenium. Hook. et Grev. t. 150.*)

*Fig. 1.* Portion of a frond with *sori*; *f. 2.* Portion of two *sori*; *f. 3.* Sporangium; *f. 4.* Sporules:—*magnified.*

TAB. LVII. B.

SCOLOPENDRIUM. *Sm.*

SCOLOPENDRII sp. *Presl. Spr.*

*Sori* lineares, oppositi, inferior in venula superiori, superior in venula proxima inferiori. *Indusium* lineare, planum, marginibus liberis, oppositis, contiguus aut distantibus.—Frondes *fasciculatæ, coriaceæ, aut sparsæ, herbacæ, simplices, integerrimæ aut lobatæ*. Venæ *pinnatæ, crebræ, internæ, uni-bifurcatæ, venulis parallelis apice libero in punctum incrassato aut acuto terminatis*. *Presl.*

*Scolopendrium officinarum. Sm.*

The species are besides, *S. sagittatum, Sw. S. Hemionitis, Cav. S. longifolium, Pr. S. Durvillei, Bory.*

TAB. LVII. B.—*Fig. 1.* Portion of a frond with *sori*; *f. 2, 3.* Sporangia; *f. 4.* Sporules:—*magnified.*

TAB. LVII. C.

CAMPTOSORUS. *Link, Presl.*

ASPLENII sp. *L. et Auct.*

*Sori* lineares, in maculis costalibus et in venis marginalibus solitarii, in maculis secundæ seriei oppositi. *Indusium* lineare, planum, margine in *soris* macularum costalium versus costam, in *soris* venularum marginalium versus marginem frondis, in *soris* inferioribus macularum secundæ seriei versus marginem, frondis in inferioribus versus costam libero.—*Filix boreali-Americana*. Frondes *fasciculatæ, coriaceæ, simplices, cordatæ, longe angustato-acuminatæ, apice radicales*. Venæ *internæ, tenuissimæ, in maculas hexagonoideas biseriales anastomosantes, angulis macularum exteriorum venulas liberas simplices furcatasve emittentibus*. *Presl.*

*Camptosorus rhizophyllus.* (TAB. LVII. C.) *Asplenium, L.*

*Fig. 1.* Frond, *nat. size*; *f. 2.* Lower portion of do.; *f. 3, 4.* Sporangia; *f. 5.* Sporules:—*magnified.*



TAB. LVII. A.  
ANTIGONIA. V.

Scotoplanes sp. Fowl, et al.

201 in venularum parte inferiori oblongatae, lineares, elongati, oppositi, inferior in  
venula superior, superior in venula proxima inferior. Anteriora lineares,  
planum, marginibus liberis oppositis contiguis aut distantibus.—Plicae fasciatae.  
Frons fasciculata, corvata, simplici, integritate. Vena puncta, corvata, in-  
terea, foveata, venula parvula a medio venae superioris foveata in venula  
inferioris et venaque anteposita constricta, venula marginalis  
capitis superioribus venula foveata continetur. Fowl.

Antigonia venula, Fowl. (Tab. LVII. A.) Scotoplanes, Fowl. Scot.  
marginum. Fowl.

To the Genus Fowl also refers A. marginum, F. A. marginum, F. A. marginum, F.  
A. marginum, F., and to them we would add the following description, F.  
(Aphelion, West. et Grav. t. 136.)

Fig. 1. Fowl, a head with ant. A. 2. Fowl, a head with ant. A. 3. Scotoplanes, F. 4. Scotoplanes

TAB. LVII. B.  
SCOLOPENDINGIUM. Sm.

Scotoplanes sp. Fowl. Sp.

202 lineares, oppositi, inferior in venula superior, superior in venula proxima in-  
ferior. Anteriora lineares, planum, marginibus liberis oppositis, contiguis aut  
distantibus.—Frons fasciculata, corvata, aut foveata, foveata, simplici, integ-  
ritate. Vena puncta, corvata, in-terea, foveata, venula parvula  
a medio venae superioris foveata in venula  
inferioris et venaque anteposita constricta, venula marginalis  
capitis superioribus venula foveata continetur. Fowl.

Scotoplanes marginum, Sm.  
The species are similar, 2. marginum, Sm. 3. marginum, Sm. 4. marginum, F.  
3. marginum, Sm.

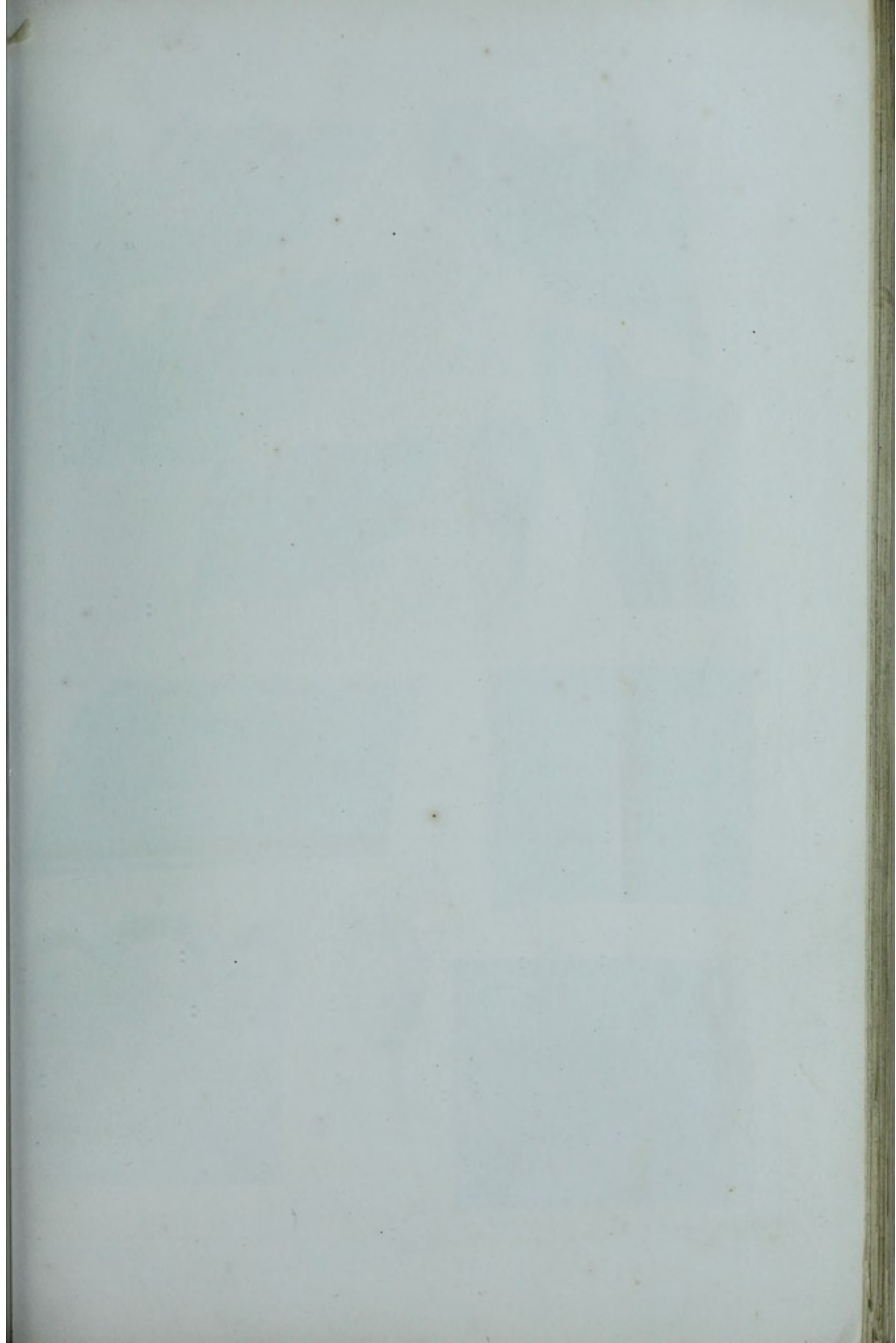
Tab. LVII. B.—Fig. 1. Fowl, a head with ant. A. 2. Scotoplanes, F. 3. Scotoplanes

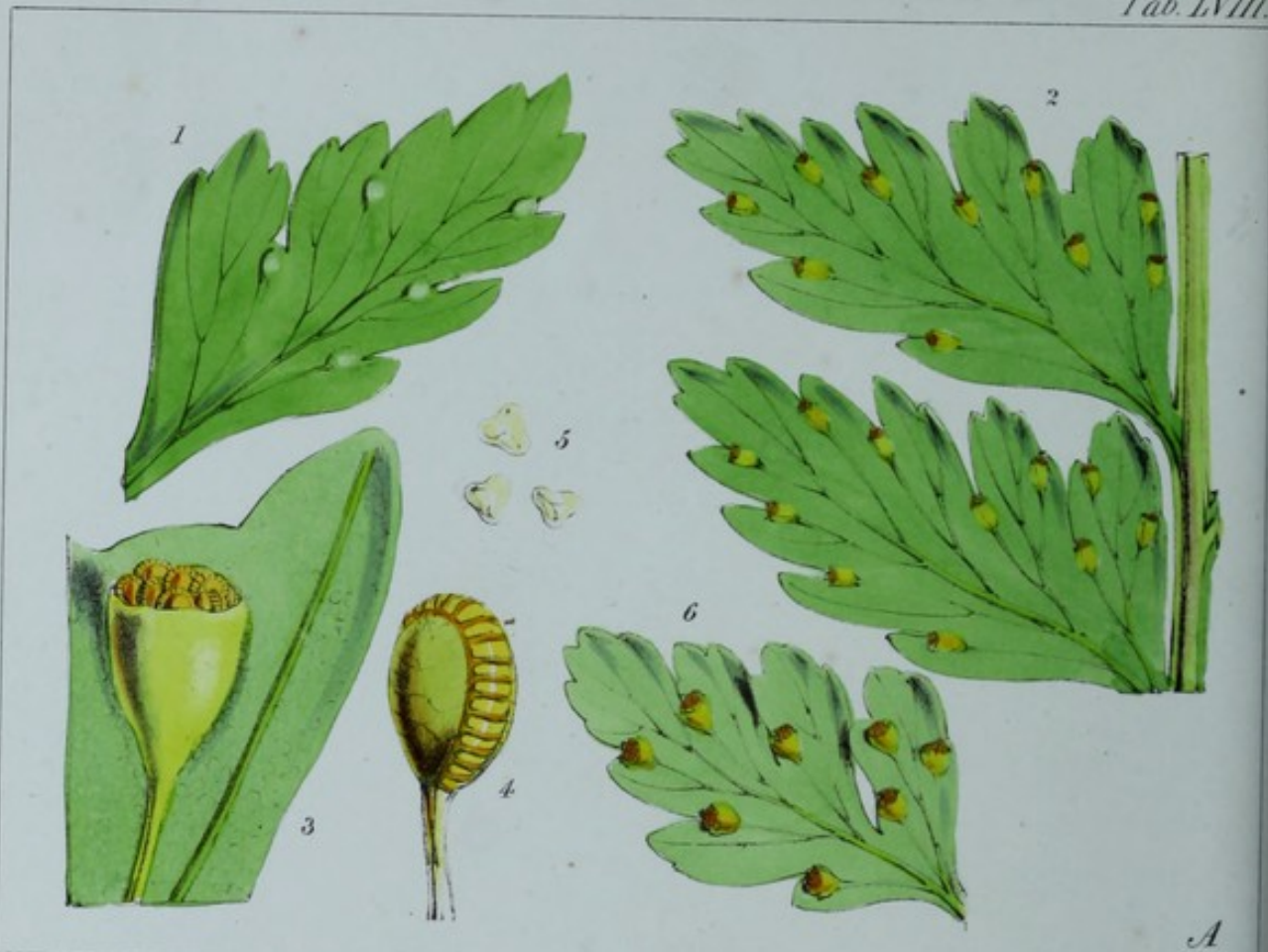
TAB. LVII. C.  
CAMPTOSORUS. Lkal, Fowl.

Asplan sp. A. et al.

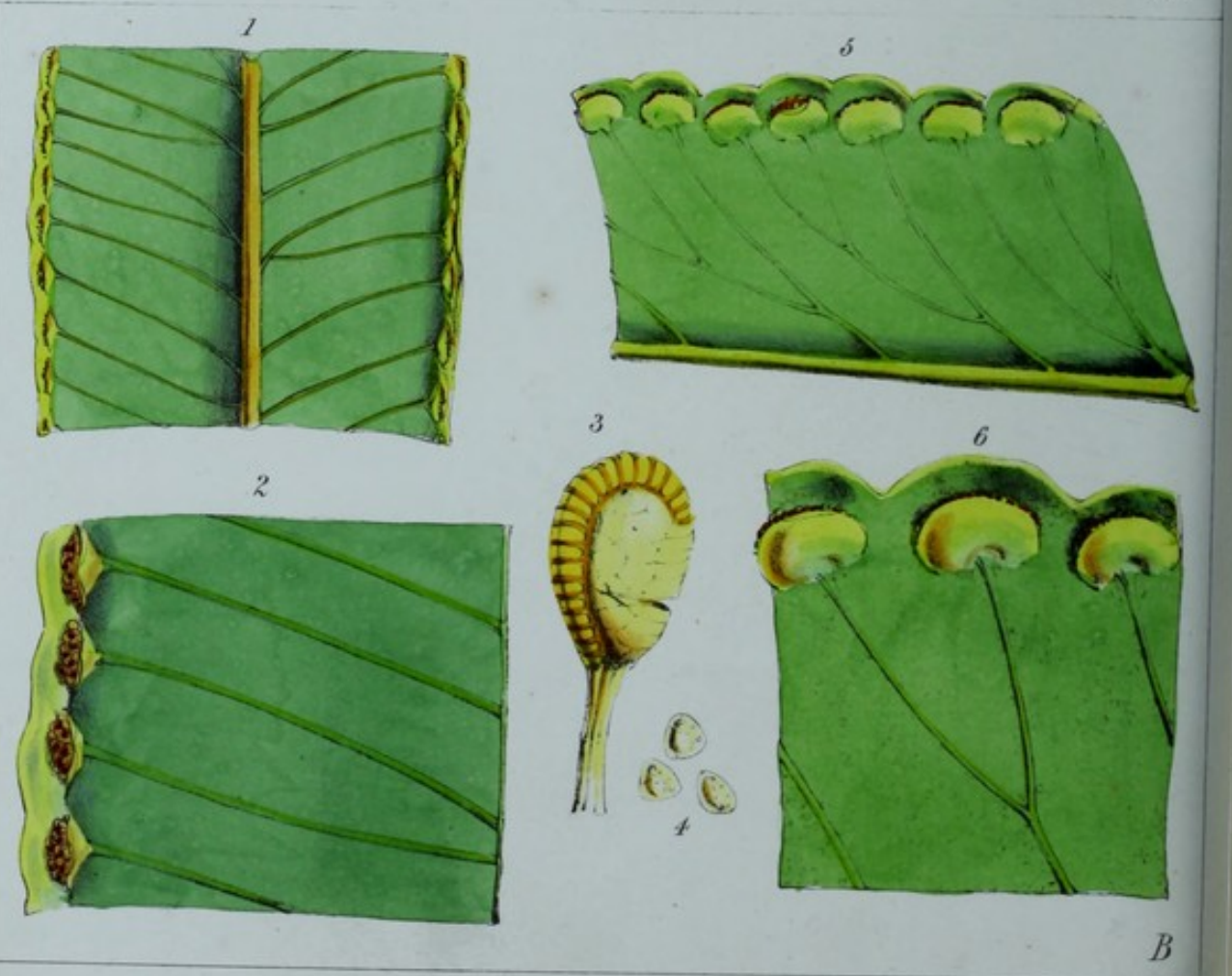
203 lineares, in macula costalis et in vena marginalibus scissis, in macula  
secunda scissis oppositi. Anteriora lineares, planum, marginibus in vena  
costalis vena costam, in vena venularum marginalium vena marginalium  
liberis, in vena inferioribus macularum secunda scissis vena marginalium, foveata in  
interioribus vena costam liberis.—Plicae fasciatae. Frons fasciculata,  
corvata, simplici, corvata, haec organulo constricta, capite robusto. Vena  
inferior, tenuis, in macula anteposita foveata constricta, venula  
marginalis costalis vena liberis simplici fasciculata continetur. Fowl.

Camptosorus vena costalis (Tab. LVII. C.) Aphelion, A.  
Fig. 1. Fowl, a head with ant. A. 2. Fowl, a head with ant. A. 3. Scotoplanes, F. 4. Scotoplanes





A



B



TAB. LVIII. A.

MICROLEPIA. Presl.

Davallia. Sw. et Presl.

Sori globosi, a margine fronsis recurvi. Indusium semiovaliforme, striatum, margine superiore truncatum, demum solum distichum superius. Receptaculum glaberrimum, subrecto parvitate sori acie recurvata.—Pinnis introductis. Rhizoma repens. Frondes teretes, pinnulis serrulato-angustatis, fide Dicksonii teneris. Vena primaria, utraque profundae, remanens cum scriptura pinnulae apice clavato demum late inflexa pinnulae media, medio furcata, repensiva simpliciter, costulae vena superioribus scripturae. Presl.

Microlepis thequalis. Presl. (Tab. LVIII. A.) Davallia. Kunze.

Fig. 1. Upper side of a fertile pinna; f. 2. Under side of the pinna; f. 3. Sori; f. 4. Spongia; f. 5. Spores.—enlarged.

Microlepis polypodioides. Presl. Dicksonia. Sw.

Tab. LVIII. A. Fig. 6. Under side of a fertile pinna.—enlarged.

TAB. LVIII. B.

SACCOLOMA. Sw. et Presl.

Davallia sp. Sw. et Presl. Dicksonia sp. Hook. Acrostich. Presl.

Sori in apice ramorum superiorum aut superiorum (si summa) subglobosi, parvi, demum dentium excurvatis, inflexo-angustis. Indusium semiovaliforme, striatum, demum semicirculare, margine superiore late truncatum. Receptaculum punctiforme reticulatum.—Spiculis introductis. Frondes repensae v. fuscicostae, herbaceae, tenerae, simpliciter pinnatae, pinnis viximae distichatis. Vena primaria, viximae, lateralis, tenuis, parallela, simpliciter aut in diversis altitudinibus furcata v. subligata cum subglobosa apice acie recurvata. Presl.

Saccoloma elegans. Kunze.

(Tab. LVIII. B.) Fig. 1. Under side of a portion of a fertile pinna; f. 2. Another portion of the same; f. 3. Spongia; f. 4. Spores.—enlarged.

Saccoloma Hartwegii. Hook. in Ic. Filic. Presl.

(Tab. LVIII. B.) Fig. 2. Portion of a fertile pinna with frond lateral; f. 3. Upper portion of the same.—enlarged.





TAB. LVIII. A.

MICROLEPIA. *Presl.*

DAVALLIÆ *Sw. et Auct.*

*Sori* globosi, a margine frondis remoti. *Indusium* semiorbiculare, scariosum, margine superiore truncatum, demum sorum dimidium tegens. *Receptaculum* globosum, respectu parvitat<sup>is</sup> sori satis magnum.—*Filices intratropicæ*. *Rhizoma repens*. Frondes *herbaceæ*, *pinnatim supradecompositæ*, *facie* Dicksoniæ teneræ. *Venæ pinnatæ*, *utrinque prominulæ*, *venulisque ante marginem frondis apice clavato desinentes*, *infimæ pinnatim venulosæ*, *medio furcatæ*, *superiores simplices*, *venulis infimis superioribus soriferis*. *Presl.*

*Microlepia inæqualis*. *Presl.* (TAB. LVIII. A.) *Davallia*. *Kunze.*

*Fig.* 1. Upper side of a fertile pinnule; *f.* 2. Under side of two pinnules; *f.* 3. Sorus; *f.* 4. Sporangium; *f.* 5. Sporules:—*magnified.*

*Microlepia polypodioides*. *Presl.* *Dicksonia*. *Sw.*

TAB. LVIII. A. *Fig.* 6. Under-side of a fertile pinnule:—*magnified.*

TAB. LVIII. B.

SACCOLOMA. *Kaulf. Presl.*

DAVALLIÆ *sp. Sw. et Auct.* DICKSONIÆ *sp. Bory.* ASPIDIÏ *sp. Blume.*

*Sori* in apice omnium venularum aut superiorum (e furcatura), subglobosi, parvi, dorsum dentium occupantes, inframarginales. *Indusium* semiorbiculare, herbaceum, demum scariosum, margine superiore late rotundatum. *Receptaculum* punctiforme minimum.—*Species intratropicæ*. Frondes *sparsæ v. fasciculatæ*, *herbaceæ*, *teneræ*, *simpliciter pinnatæ*, *pinnis subinde dimidiatis*. *Venæ pinnatæ*, *crebræ*, *internæ*, *tenues*, *parallele*, *simplices aut in diversa altitudine furcatæ venulisque ante marginem apice acuto desinente*. *Presl.*

*Saccoloma elegans*. *Kaulf.*

(TAB. LVIII. B.) *Fig.* 1. Under-side of a portion of a fertile pinna; *f.* 2. Smaller portion of the same; *f.* 3. Sporangium; *f.* 4. Sporules:—*magnified.*

*Saccoloma Imrayana*. *Hook. in Ic. Pl. ined.*

(TAB. LVIII. B.) *Fig.* 5. Portion of a fertile pinna seen from beneath; *f.* 6. Larger portion of the same:—*magnified.*



TAB. LVIII. A.  
MICROLEPIA. Presl.

DAVALLIA. Sp. et Herb.

Zori glabro, a margine fronsis truncato. ...  
gine superiore truncato, demum scissura dimidia ...  
basem, respectu partium non satis magnum. ...  
Fronsis lobata, ...  
Vena pinnae, ...  
dentata, ...  
lobata superioribus ...

Microlepis inaequalis. Presl. (Tab. LVIII. A.) Davallia. Kuhn.

Fig. 1. Upper side of a fertile pinna; Fig. 2. Under side of two pinnae; Fig. 3. ...  
Sporangia; Fig. 4. Spores;—magnified.

Microlepis polypodioides Presl. Dicksonia. Sp.

Tab. LVIII. A. Fig. 5. Under side of a fertile pinna;—magnified.

TAB. LVIII. B.

SACCOLUMA. Kuhn. Presl.

DAVALLIA. Sp. et Herb. Dicksonia. Sp. Herb. Davallia. sp. Kuhn.

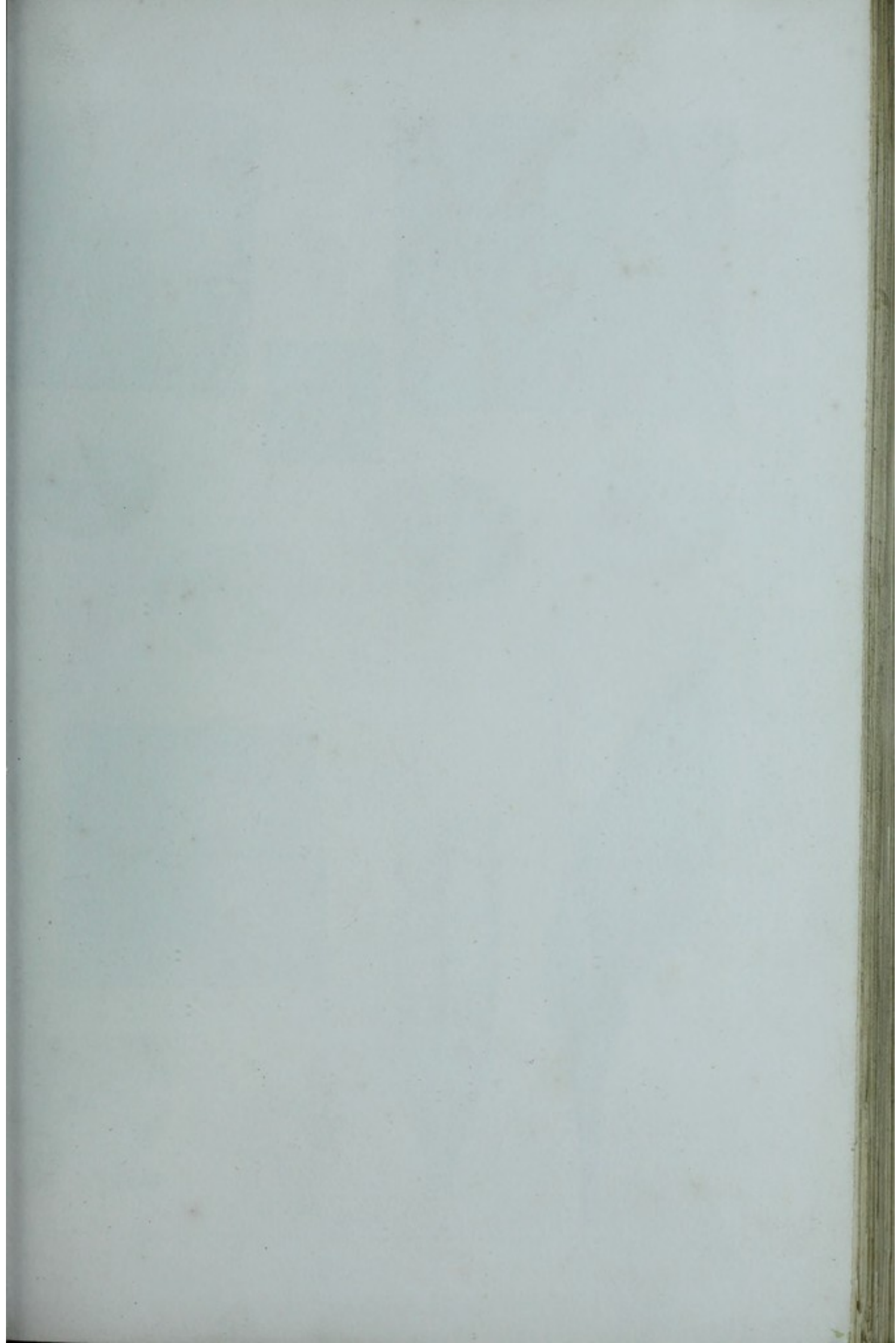
Zori in apice omnium venularum aut superiorum (e lacinis), subglobosae, parvi  
diametro dentium occupantes, induratae. Laciniae semiorbiculae, per  
basem, demum scissurae, margine superiore late rotundatum. ...  
punctiliosae minimum. ...  
lobatae, ...  
venae, ...  
ceterae, ...  
ceterae, ...

Saccoluma elegans. Kuhn.

(Tab. LVIII. B.) Fig. 1. Under side of a portion of a fertile pinna; Fig. 2. Smaller portion of the  
same; Fig. 3. Sporangia; Fig. 4. Spores;—magnified.

Saccoluma imrayana. Hook. in A. Pl. ined.

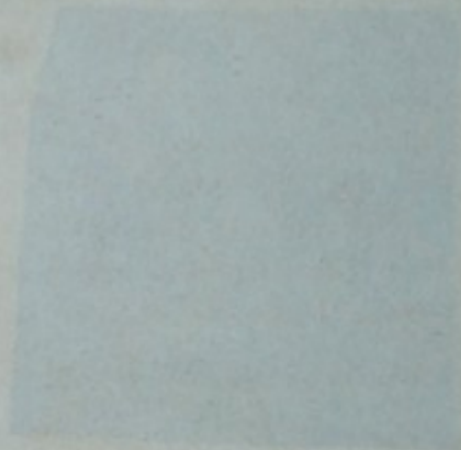
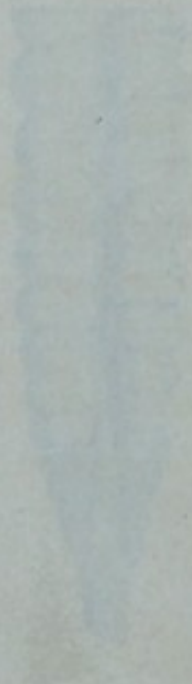
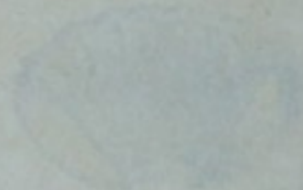
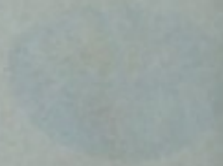
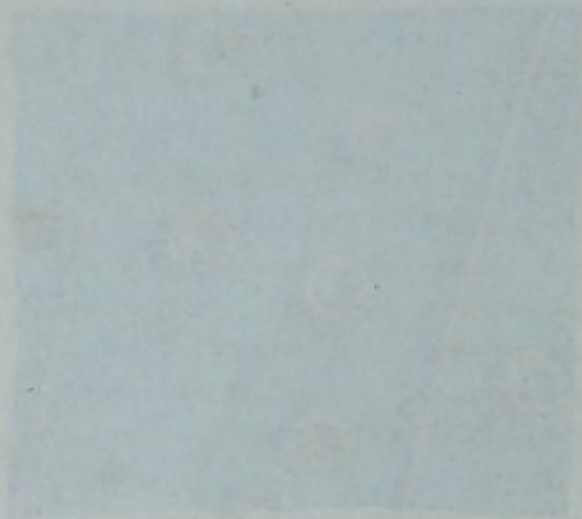
(Tab. LVIII. B.) Fig. 5. Portion of a fertile pinna seen from beneath; Fig. 6. Larger portion of  
the same;—magnified.













Marattiaceæ.

TAB. LIX. A.

KAULFUSSIA. Blume.

Sori exserti, orbiculares, concavo-hemispherici, coriaceo-carnosi, crenati, e sporangiis 10—20 intus dehiscentibus in orbem concreti, in confluentia venularum tertiariarum et ultimarum siti. Sporulæ ovales, pellucidæ, minutissimæ.—Filices *Indiæ Orientalis*. Frondes *ternatæ, amplæ, stipitatæ, subcarnosæ*; foliola *oblongo-ovalia, acuta, nunc lateralia, bipartita, subtus pallidiora, (stomatibus?) seu punctis excavatis nunc compositis instructa*. Venæ *pinnatæ*; “*secundariæ apices versus arcuatæ et ope venularum mutuo nexæ, vel magis distinctæ, apice utriusque cum vena secundaria superiore confluyente; tertiariæ vix prominulæ; interveniæ cæterum varie irregulariterque reticulatæ; terminatio venularum ultimarum obscure clavata vel intramarginalis, vel intra areolas.*” (Griff.)

*Kaulfussia Assamica*. Griff. *Descr. of Kaulf.* p. 108. tab. 19. (TAB. LIX. A.)

Fig. 1. Portion of the under-side of a fertile frond; f. 2. Smaller portion with a compound stoma or cavity on the under-side of the frond; f. 3. Upper; and f. 4, Under surface of a sorus; f. 5. Spores:—*magnified*.

*Kaulfussia æsculifolia*. Blum. in *Hook. et Grev. Ic. Fil.* tab. 229. (TAB. LIX. A.)

Fig. 6. Portion of the under-side of a fertile frond; f. 7. Sorus:—*magnified*.

Ophioglosseæ.

TAB. LIX. B.

OPHIOGLOSSUM. L.

OPHIODERMA. Blume in *Endl. Gen. Plant.* p. 66.

Sporangia sessilia, globosa, coriaceo-carnosa, opaca, transversim dehiscentia, in spicam disticham indivisam connata. Sporulæ globoso-triangulares, pellucidæ, minutissimæ.—Filices *in toto orbe terrarum obviæ, terrestres vel epiphytæ*. Frons *simplex ovata, lanceolata, palmata v. lineari-furcata, coriaceo-membranacea, subcarnosa, vix costata, reticulatim venosa, areolis elongatis subhexagonoideis; nunc stipitata; fronde vel stipite spicam pedunculatam gerente*.

*Ophioglossum vulgatum*. L.—(TAB. LIX. B.)

Blume and Endlicher are inclined to separate *O. pendulum*, L. (*Hook. et Grev. Ic. Fil.* t. 19.) on account of the presence of an incomplete septum in the sporangia, and the different habit; but the first of these two characters is very obscure; the second is rendered invalid by the intermediate nature of *O. palmatum*, (*Hook. Ic. Pl. v. I. t. 4.*)

Fig. 1. Frond and spike: *nat. size*; f. 2. Portion of the frond; f. 3. Portion of a spike; f. 4. Sporangium; f. 5. Spores:—*magnified*.



TAB. LIX. A.  
KALIFORNIA. Blinn.

Species exserti, orbiculatae, coracae-hemiphragae, coracae-carinae, crenati, & spina  
angis 10-20 fere dehiscentibus in orbem conacti, in confluentia venularum  
terminantur et ultimam sibi. Species ovales, pellucidae, minutissimae.—Filiis  
fidei Orientalis. Foveae triangulae, angulae, apiculatae, tuberculatae; foliola oblongo-  
ovata, acuta, nunc bilobata, bipartita, lobis peltatis (obtusis) vel punctis  
acutis nunc compositis insertis. Vena pinnata; secundariae apices ramosi  
occurrit et quo venularum maturo aetate, vel magis distincta, apice intrinseca cum fovea  
secundariae superioris confluit; tertiae viri prominentis; intrinsecae costarum raris  
irregulariter reticulatae; terminatio venularum ultimam obcurrit vel intrin-  
secam, vel sibi inserta. (Griff.)

Kalifornia. Blinn. Griff. Proc. of Acad. p. 108. tab. 10. (Tab. LIX. A.)

Fig. 1. Portion of the under side of a leaf of the plant; X 2. Another portion with a compound vein  
to carry on the under side of the leaf; X 5. Upper; and X 4. Under surface of a vein; X 5. Same  
view.—Magnified.

Kalifornia. Blinn. in Hook. et Grev. Ac. Bot. tab. 229. (Tab. LIX. A.)

Fig. 2. Portion of the under side of a leaf of the plant; X 1. Same.—Magnified.

Ophioglossum.

TAB. LIX. B.  
OPHIOGLOSSUM. A.

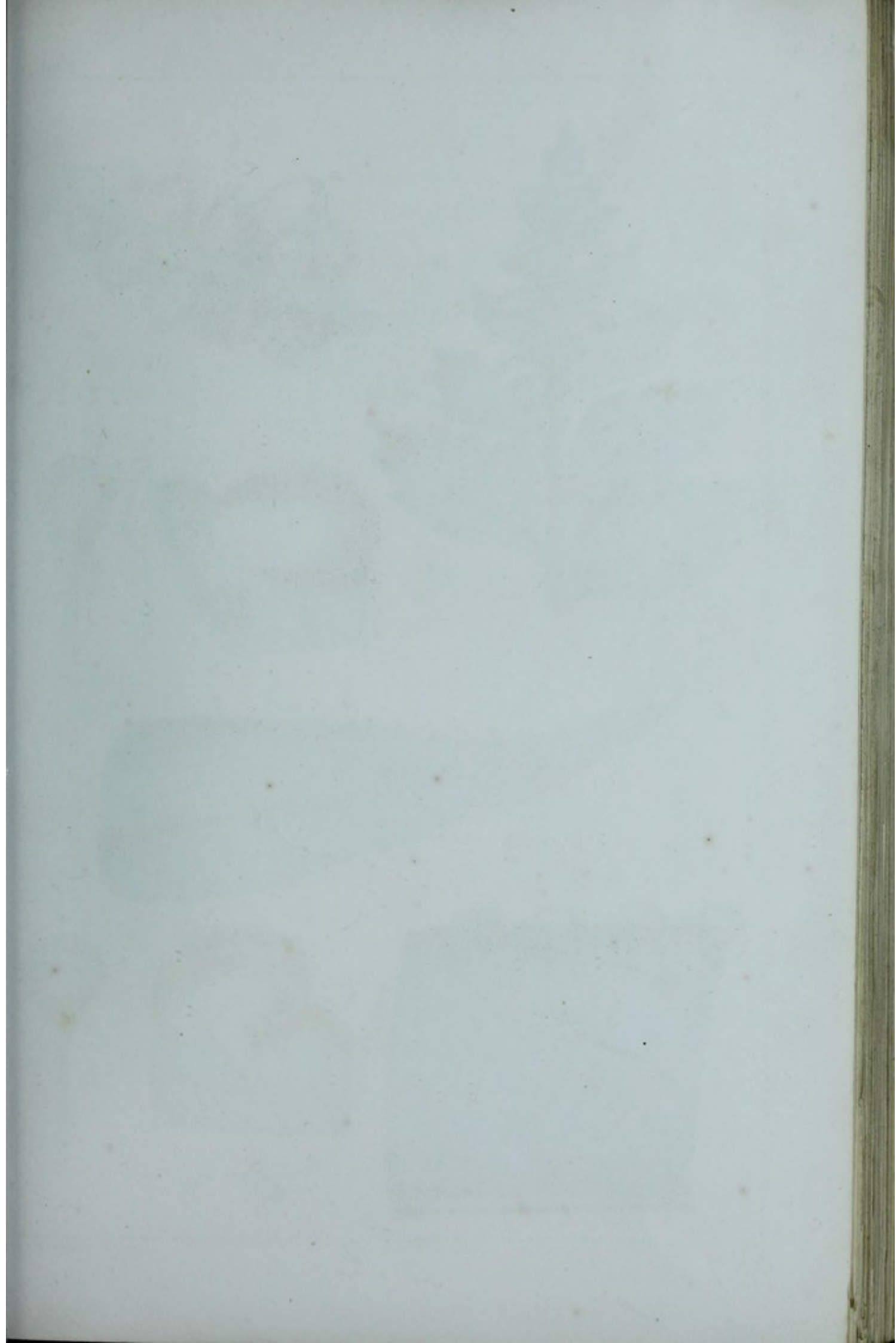
Ophioglossum. Blinn in Hook. Grev. Bot. p. 66.

Species sessilis, globosa, coracae-carinae, ovata, transversim dehiscentis, in spicis  
distinctam indivisam connata. Species globoso-triangularis, pellucidae, minu-  
tissime.—Filiis in toto orbem tectis, tectis vel apiculatis. Foveae simplices  
ovales, lanceolatae, peltatae, lineari-furcatae, coracae-carinae, tuberculatae, tuberculatae,  
vir costatae, reticulatae ramosae, orbis angulae subtrapezoidales; nunc apiculatae;  
faveae vel stipulae apice tuberculatae pinnatae.

Ophioglossum reticulatum. A.—(Tab. LIX. B.)

Blinn and Kuhn are inclined to separate O. peltatum, L. (Hook. et Grev. Ac. Bot.  
t. 10.) on account of the presence of an incomplete septum in the sporophylls, and the dif-  
ferent habit; but the first of these two characters is very obscure; the second is rendered  
futile by the intermediate nature of O. palmatum, (Hook. et Grev. Ac. Bot. t. 1. & 4.)

Fig. 1. Fovea and spine; and size; X 2. Portion of the front; X 3. Portion of a spine; X 4.  
Sporophylls; X 5. Spines.—Magnified.



A



B





TAB. LX. A.  
CULCITA. Presl.

Sori globosi magno. Indusium concavum, utrinque fimbriato-serrulatum, pectus.  
Receptaculum transversum, lineare, cristiforme.—Fili Madagascari. Frons  
et costa, pinnae decurrente. Vena pinnae, subtus densa, simpliciter furcata,  
simpliciter apice fractura.—A Balaio, quae huc differt ab alio utraque costis  
serrulato, receptaculo transverso lineari et cristiformi, pinnae magno. Presl.

*Culcita microcarpa*. (Tab. LX. A.) Dietschia Culcita. L'Hér. Balaio, Madag.  
Kang.

Fig. 1. Pinnae with bases and sori separate, from Balaio; 2. Pinnae pinnae; 3. 4. Sori; 5. 6. Spores; 7. 8. Habit from among the ferns.—Magnified.

TAB. LX. B.  
LEPTOPLEURIA. Presl.

Sori in venis superioribus marginalibus, globosis. Indusium concavum, serrulatum, sub-  
sessile, concavum, densum pectus, ad marginem a debili fronde separata effe-  
runtur colorum. Receptaculum pinniforme, pinnatum.—Fili ex insula Formosa.  
Fronde oviformi, pinnae pinnae lineari, oblonga, obtuse sub-ovata obtuse  
crenata. Vena pinnae, subterrena, interna, simpliciter, subbifurcata, venulae  
parallelae, ad marginem fronde apice punctiformi magno serrulata. Presl.

*Leptopleuria obliqua*. (Tab. LX. B.) Dietschia. Balaio.

Fig. 1. Pinnae with sori; 2. Pinnae pinnae; 3. 4. Sori; 5. 6. Spores; 7. 8. Habit from among the ferns.—Magnified.



*Polypodiaceæ.*

TAB. LX. A.

CULCITA. *Presl.*

*Sori* globosi, magni. *Indusium* coriaceum, utrumque fornicato-semilunatum, patens. *Receptaculum* transversum, lineare, cristæforme.—*Filix Maderensis*. *Frons coriacea, pinnato-decomposita*. *Venæ pinnatæ, subtus elevatæ, simplices furcatæve, simplices apice fructiferæ*.—A *Balançio* genus hoc differt *indusio utroque conformi semilunato, receptaculo transverso lineari et cristæformi, sorisque magnis*. *Presl.*

*Culcita macrocarpa*. (TAB. LX. A.) *Dicksonia Culcita*. *L'Hérit.* *Balantium*. *Kaulf.*

*Fig. 1.* Portion with barren and fertile segments, seen from beneath ; *f. 2.* Fertile portion ; *f. 3.* Sorus ; *f. 4.* Sporangium ; *f. 5.* Sporules ; *f. 6.* Hair from among the sporangia :—*magnified*.

TAB. LX. B.

LEPTOPLEURIA. *Presl.*

*Sori* in venulis superioribus marginales, globosi. *Indusium* verum coriaceum, semilunare, concavum, demum patens, accessorium e dente frondis excreto efformatum conforme. *Receptaculum* punctiforme, minimum.—*Filix ex insula Borboniæ*. *Frondes coriaceæ, pinnatæ, pinnis sessilibus, oblongis, oblique subcordatis obtusis, crenulatis*. *Venæ pinnatæ, creberrimæ, internæ, tenuissimæ, uni-bifurcatæ, venulis parallelis, sub margine frondis apice punctiformi magno terminatis*. *Presl.*

*Leptopleuria abrupta*. (TAB. LX. B.) *Dicksonia*. *Bory.*

*Fig. 1.* Pinna, with sori ; *f. 2.* Portion of the same ; *f. 3.* Sorus ; *f. 4.* Sporangium ; *f. 5.* Sporules :—*magnified*.



TAB. IX. A.  
CULCITA. Pers.

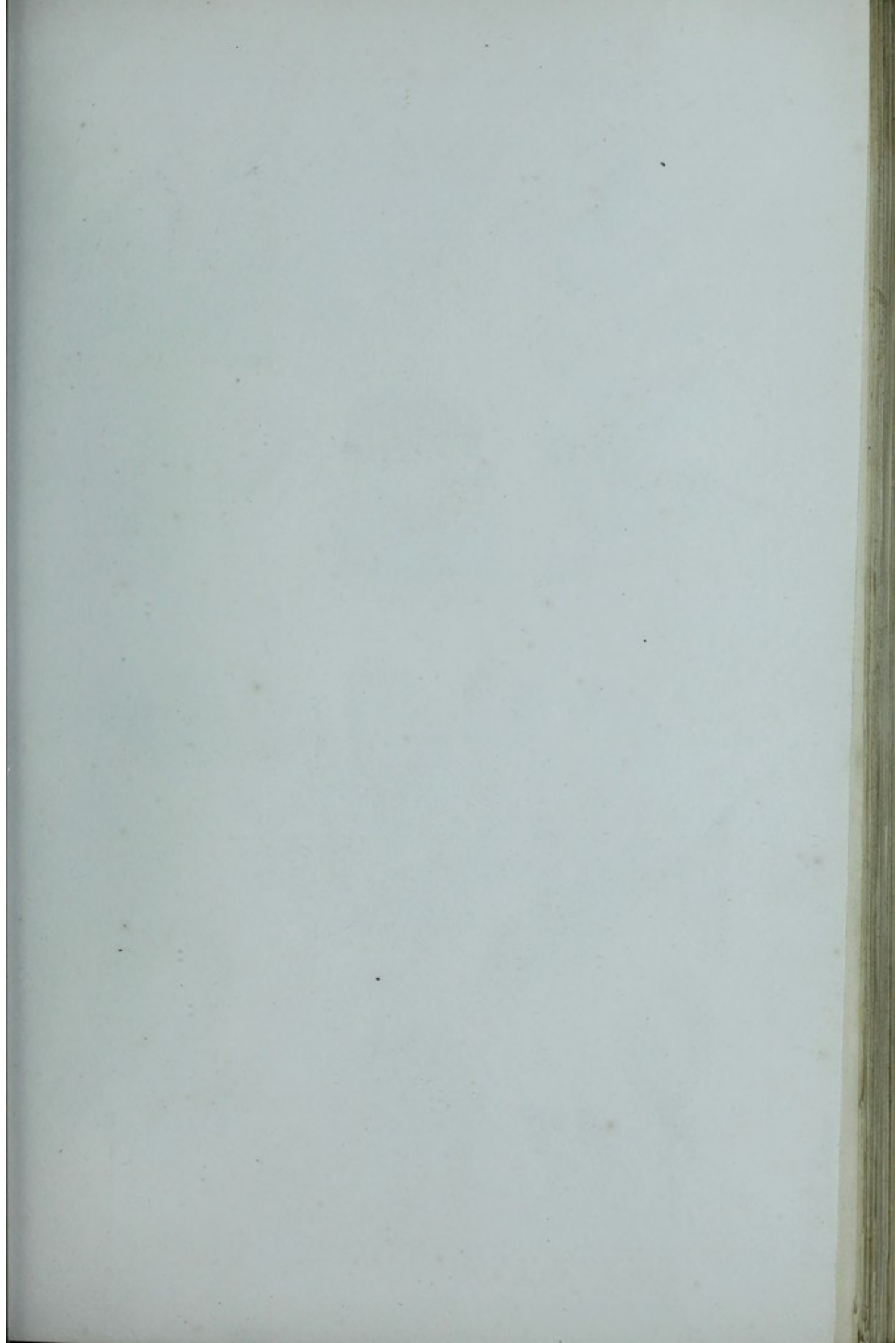
Gen. globos. magni. Tubum contractum, circumplexo fornicato-convolutum, patens.  
Reticulatum transversum, lineare, cristiforme.—Filiis albidis. Frons  
contracta, pinnae-depressae. Vasa pinnae, tuba elata, simplices foratae,  
simplices apice fructiferae.—A Balanço genus hoc differt tuba utroque confertim  
mutuato, reticulato transverso lineari et cristiformi, corripae rugosa. Pers.  
Culcita macrospora. (Tab. IX. A.) Dickinson Culcita. K. W. Balanço.  
Kauf.

Fig. 1. Frons with horns and entire spines, seen from beneath; A 2. Fertile portion; A 3.  
Spore; A 4. Sporangium; A 5. Spores; A 6. Hair from among the spores;—magnified.

TAB. IX. B.  
LEPTOLEURIA. Pers.

Gen. in venis superstitibus marginibus globos. Tubum vixim contractum, semi-  
inerte, contractum, dentum patens, acuminatum e hinc fronda exserto effor-  
matur convolutum. Reticulatum punctiforme minimum.—Filiis ex tuba hinc  
Frons contracta, pinnae formae sessilibus, oblique subconvolutis obusis,  
convolutis. Vasa pinnae, cyathinae, alatae, tenuissimae, uni-bifurcatae, renalis  
parvella, sub margini frondis apice punctiformi magno terminata. Pers.  
Leptoleuria cyathica. (Tab. IX. B.) Dickinson. Bory.

Fig. 1. Frons, with horn; A 2. Portion of the same; A 3. Spore; A 4. Sporangium; A 5. Spores;  
—magnified.



A



B











## TAB. LXI. A.

DICKSONIA. *L'Hérit.*DENNSTAEDTIA. *Bernh.*

*Sori* globosi, parvi. *Indusium* scariosum, valvulis dissimilibus demum patentibus, verum semilunare, accessorium e dente frondis reflexo efformatum, operculiforme. *Receptaculum* punctiforme, minimum. *Sporangia* longe pedicellata.—*Filices pleræque intratropicæ*. *Rhizoma repens*. *Fronde* sparsæ, herbacæ, pinnatodecompositæ et supradecompositæ, tenues, plerumque amplæ. *Venæ* pinnatæ, tenues, pinnatim ramosæ, venulisque subtus prominulæ, infima superiore subinde et inferiore apice sorifera supra puncto impresso sorum indicante insignita.—*Pr.*

*Dicksonia tenera*, *Presl.*—(TAB. LXI. A.)—*D. adiantoides*. *Link.*

I have chosen the *Dicksonia tenera*, (*Pr.*) as illustrative of *Presl's* ideas of this Genus, because I consider the specimen in my Herbarium (from the Berlin collection,) authority for that plant. But I cannot see that the indusium is so decidedly and unequally 2-valved as *Presl's* character and figure express it to be. It appears, indeed, to be formed of a dilated (at length membranaceous,) portion or tooth of the frond, which unites with a scale arising from the apex of a nerve on the underside of the pinnule: at first they form a nearly globose entire indusium, which soon bursts at the top, sometimes with a transverse cleft, and then the indusium seems 2-valved; sometimes with an irregular circular opening, and then the indusium appears pateræform, and in no way different from the following genus, *Patania*. I may observe, in specimens in my Herbarium of *D. Martiana*, (*Kl.*), and of what I take to be *D. dissecta* and *D. adiantoides*, the indusium is more constantly 2-valved than in the present species, and scarcely differs from that of *Culcita* (see TAB. LX.) but in being of a more membranaceous texture. The name of *Dicksonia* surely, however, ought to be preserved to the original *D. arborescens* (*Balantium*, *Kaulf.*, TAB. nostr. XX.) The species included in *Dicksonia* of *Presl*, are *D. pubescens*, (*Schk.*), *D. apiifolia*, (*Sw.*), *D. tenera*, (*Pr.*), *D. adiantoides*, (*Humb.*), *D. angustidens*, (*Pr.*), *D. cicutaria*, (*Sw.*)

*Fig. 1.* Under, and *f. 2.* Upper portion of fertile frond of *D. tenera*, (*Pr.*); *f. 3.* Sorus; *f. 4.* Sporangium; *f. 5.* Sporules:—*magnified.*

## TAB. LXI. B.

PATANIA. *Presl.*

DICKSONIÆ sp. *Willd. Kunze.* DAVALLIÆ sp. *Presl.*

*Sori* globosi, submarginales. *Indusium* tenuiter coriaceum, pateræforme, integerrimum, basin tantum sori involucrans, persistens, parte superiori e dente frondis alterato constituta. *Receptaculum* tuberculiforme, globosum, minutum. *Sporangia* longe pedicellata.—*Rhizoma repens*. *Fronde* sparsæ, coriaceæ, pinnatim compositæ et supradecompositæ, amplæ. *Venæ* pinnatæ, tenues, subtus parum prominulæ, furcatae, inferiores bi-trifurcatae, venulis sterilibus apice libero acutis, infimis superioribus apice punctiformi-incrassato soriferis.—*Pr.*

*Patania erosa*, *Math. Herb. Peruv. n. 974.*—(TAB. LXI. B.)

To this Genus the author assigns only three species, natives of Peru, *P. obtusifolia*, (*Dicksonia*, *Willd.*), *P. erosa*, (*Dicksonia*, *Kze.*), and *P. concinna*, (*Pr.*), but to which I think several of *Presl's Dicksoniæ* may without violence be referred, since their only character lies in the entire (not 2-valved,) and pateræform indusium.

*Fig. 1.* Under portion of fertile pinnule; *f. 2.* Indusium; *f. 3.* Portion and receptacle with sporangia; *f. 4.* Sporangium; *f. 5.* Sporules:—*magnified.*



TABLE XXI A  
 DICKSONIA A. WMS.  
 DICKSONIACEAE, Fungi

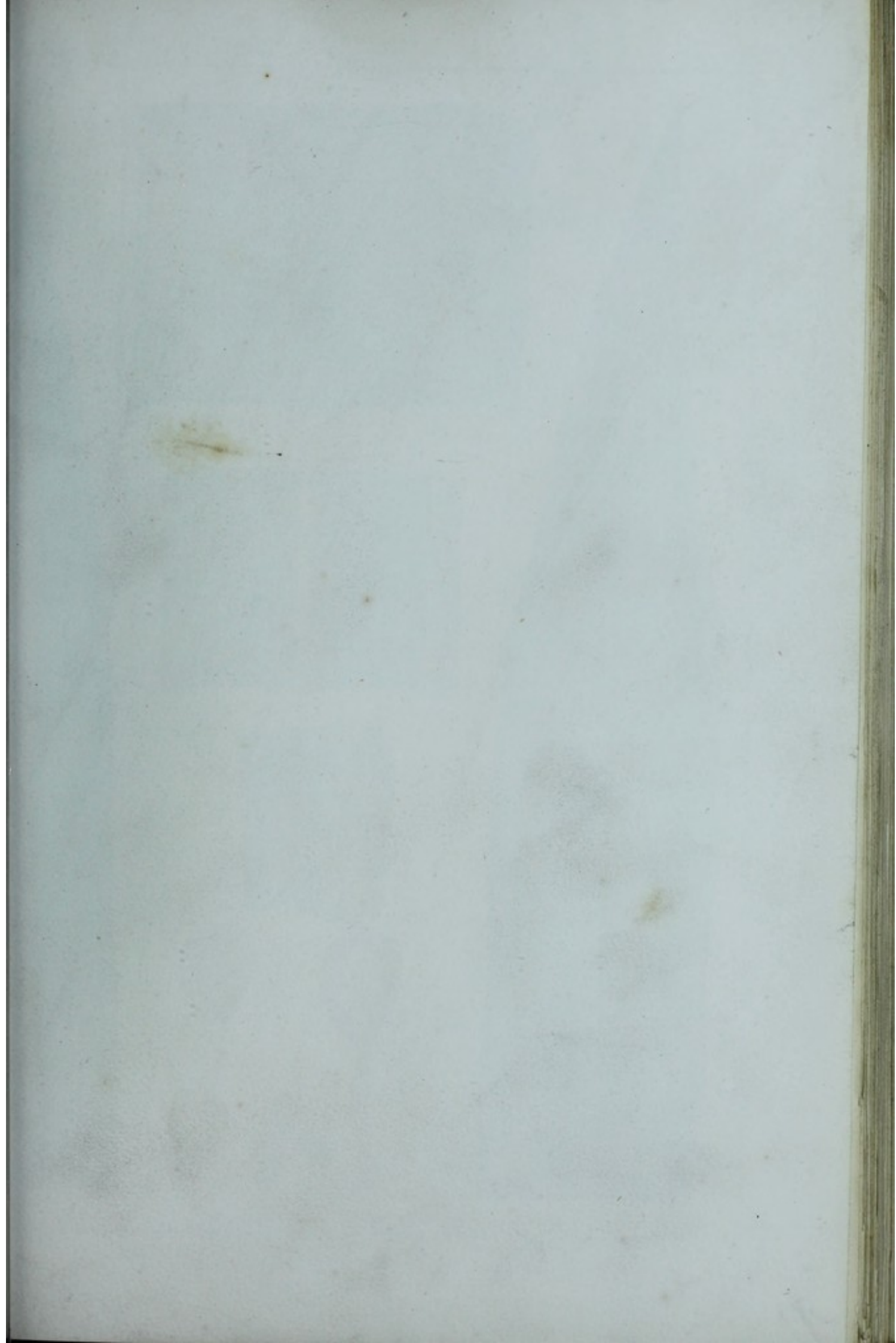
... (faint text describing the specimen, likely a leaf or fruit, with details on its morphology and collection data.)

I have chosen the following name (P.) as illustration of the genus... (faint text discussing the classification and nomenclature of the species.)

TABLE XXI B  
 DICKSONIA, Fungi

Dicksonia sp. ... (faint text describing the specimen, likely a leaf or fruit, with details on its morphology and collection data.)

... (faint text discussing the classification and nomenclature of the species.)











TAB. LXII.

DICTYOXIPHIMUM. *Hook.*

*Sorus* inframarginalis, linearis, continuus. *Indusium* lineare, elongatum, continuum, margini frondis parallelum, margine superiore liberum. *Sporangia* longe pedicellata. *Sporulæ* ovales, rugosæ.—*Filix tropico-Americana*. *Rhizoma simplex, crassum*. Frondes *cæspitosæ, simplices, elongatæ, ensiformes, coriaceo-membranaceæ* (fertiles plerumque multo angustiores) basi in stipitem brevem attenuatæ, costatæ, costa valida utrinque prominente. Venæ internæ, transversæ, subapproximatæ, flexuosæ, ramosissimæ. Venulæ in maculas hexagonoideas inæquales anastomosantes, maculas minores ramuliferas continentes. Ramuli (seu venulæ secundariæ) simplices furcatæve divaricatæ, apicibus clavatis.

*Dictyoxiphium Panamense*.—(TAB. LXII.).

HAB. Isthmus of Panama, on the coast of the Pacific. *Cuming, n. 1124.*

This is quite a new Fern, and very unlike any that I can find described. The fronds are simple, in general form resembling a very broad *Vittaria*, in the fructification a *Saccoloma* or *Lindsæa*, in the venation an *Amphiblestra* (Pr.) among the *Adiantum* group, or a *Gymnopteris* among the *Acrostichum* group. I have only received it from Mr Cuming. The fronds are 2-3 feet long; the sterile ones much broader than the fertile ones; but the sterile ones (as shown at *fig. 1.*) sometimes become fertile towards the apex.

*Fig. 1.* Portion of a sterile frond partially bearing fructification; *f. 2.* Smaller portion of the same; *f. 3.* Portion of a fertile frond; *f. 4.* Smaller portion of same, seen from beneath; *f. 5.* Portion of a sorus; *f. 6, 7.* Sporangia; *f. 8.* Sporules :—*magnified.*



TAB. LXII.

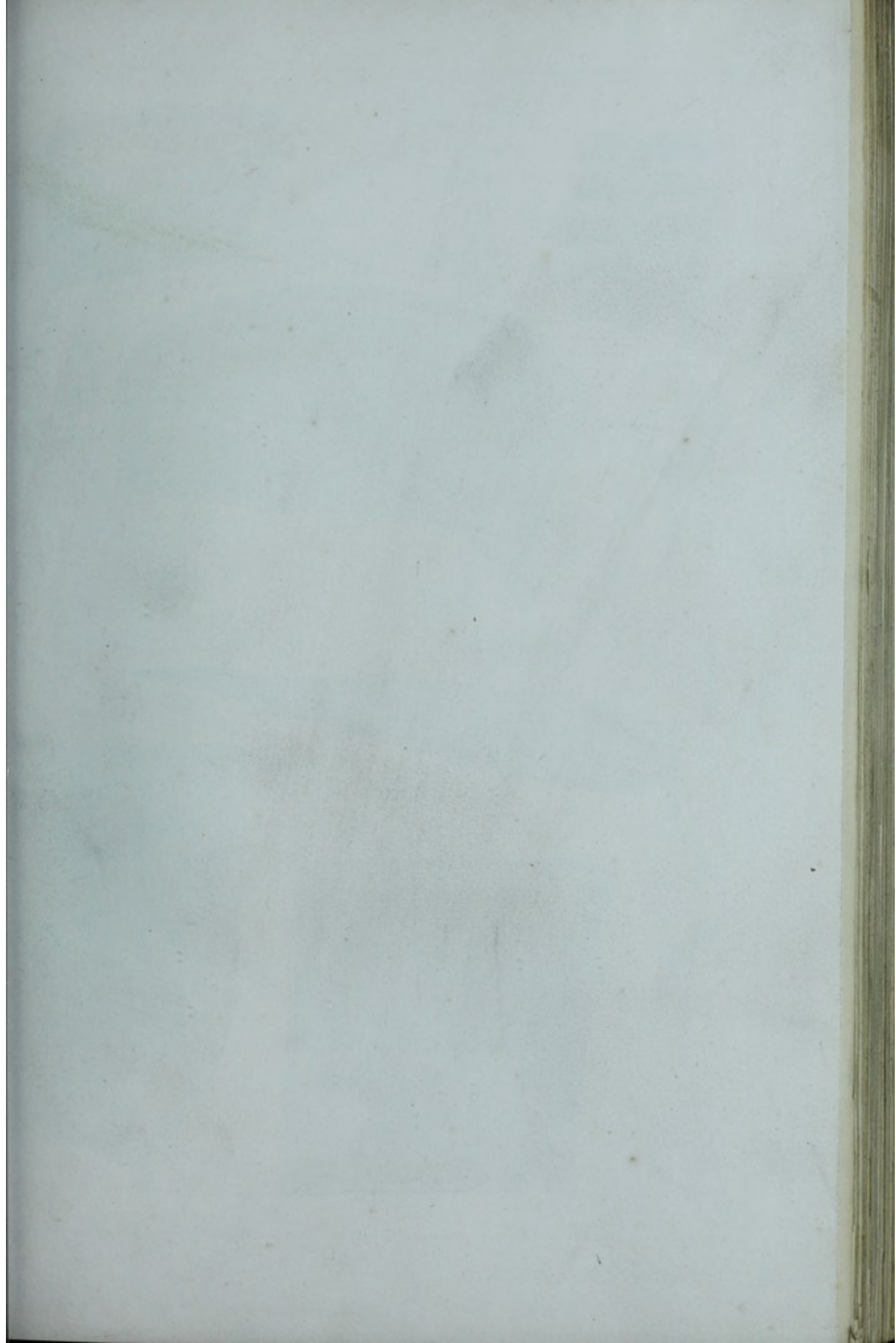
DICTYOSIPHUM, sp. n.

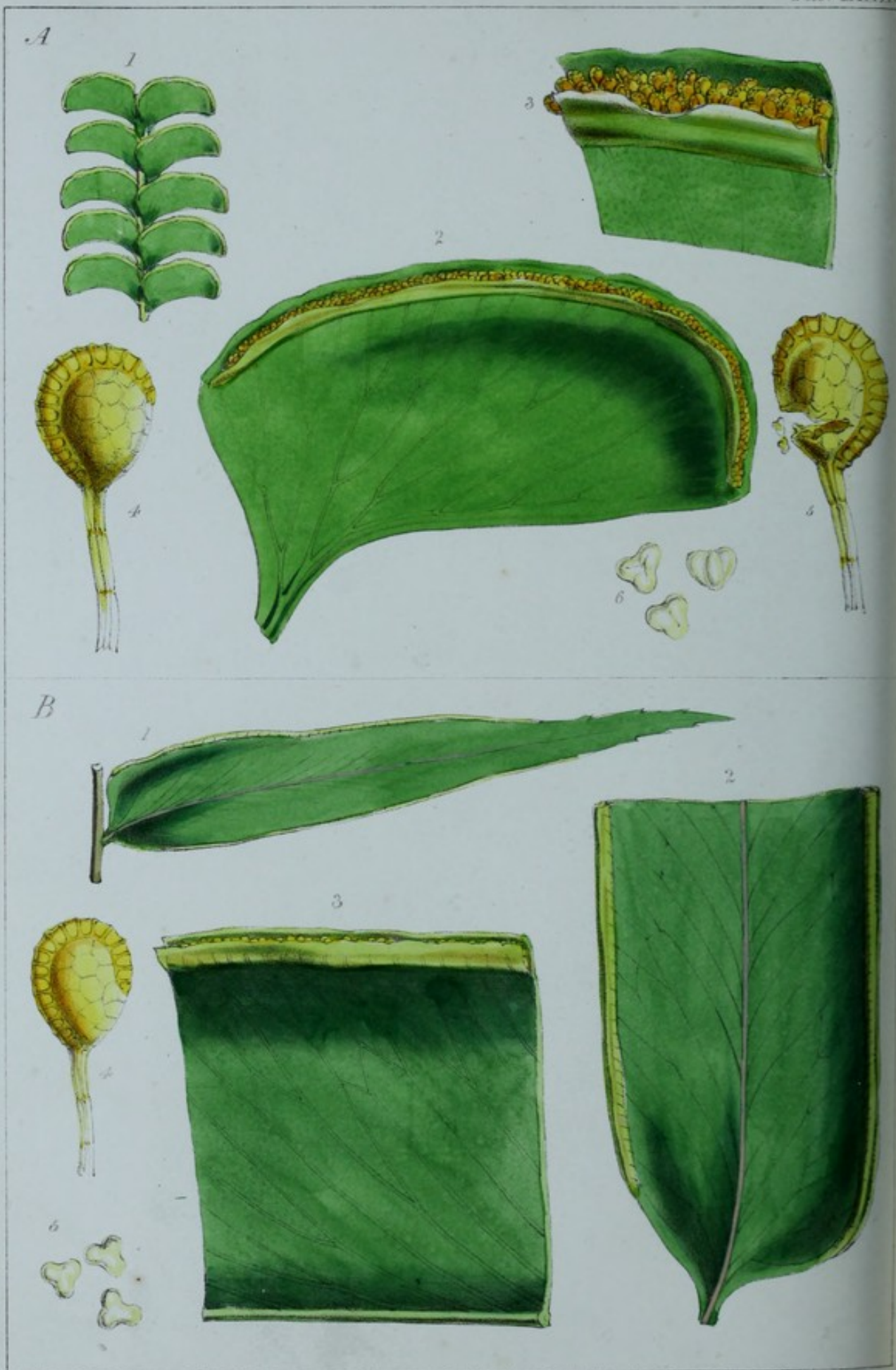
Species description text, including details on morphology and classification.

Platydictyosiphum (Tab. LXII).

Tab. LXII. Platydictyosiphum, on the coast of the Pacific. (Cope, n. 1124.)

Main body of text describing the specimen, its collection, and related species.











TAB. LXIII. A.

LINDSÆA. *Dryand.*

*Sorus* inframarginalis, linearis, continuus. *Indusium* lineare, continuum, margini frondis parallelum, margine superiore libero.—*Filices præcipue tropicæ*. *Rhizoma repens*. *Fronde*s *sparsæ, coriaceæ v. herbaceæ, simplices aut pinnatim compositæ*. *Venæ crebræ, internæ, flabellatæ, uni-bi-tri-quadrifurcatæ, tenuissimæ*.—*Pr.*

*Lindsæa trapeziformis*, *Dr.*—(TAB. LXIII. A.)

The species of this well-marked Genus are numerous. Presl enumerates thirty-three species.

*Fig. 1.* Portion of a frond, *nat. size*; *f. 2.* Pinna; *f. 3.* Portion of do.; *f. 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified*.

TAB. LXIII. B.

SCHIZOLOMA. *Gaudich.*

LINDSÆÆ sp. *Auct.* PTERIDIS sp. *Alior.*

*Sorus* inframarginalis, linearis, continuus. *Indusium* lineare, continuum, margini frondis parallelum, margine superiore libero.—*Filices intratropicæ*. *Rhizoma repens*. *Fronde*s *sparsæ, tenuiter coriaceæ, simplices aut pinnatæ*. *Venæ internæ, tenuissimæ, ramosissimæ, in maculas hexagonoideas anastomosantes*.—*Pr.*

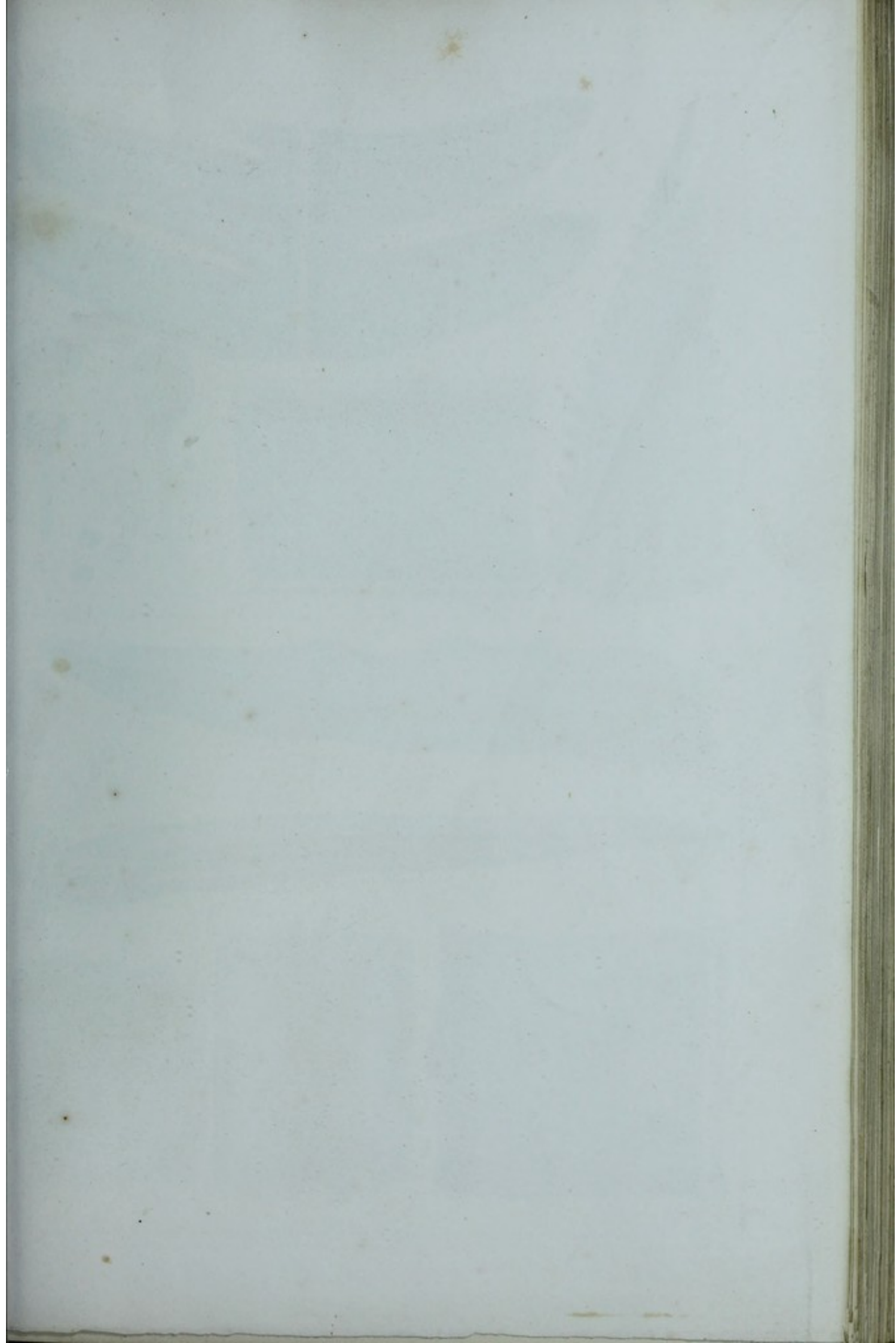
*S. macrophyllum*. *Pr.*—(TAB. LXIII. B.)—*Lindsæa, Kaulf.*

Other species of the Genus are *S. cordatum*, (*Gaudich.*) *S. ? lanceolatum*, (*Pr.*) *S. Billardieri*, (*Gaudich.*) and *S. Guerinianum*, (*Gaudich.*) (*Lindsæa, Desv.*)

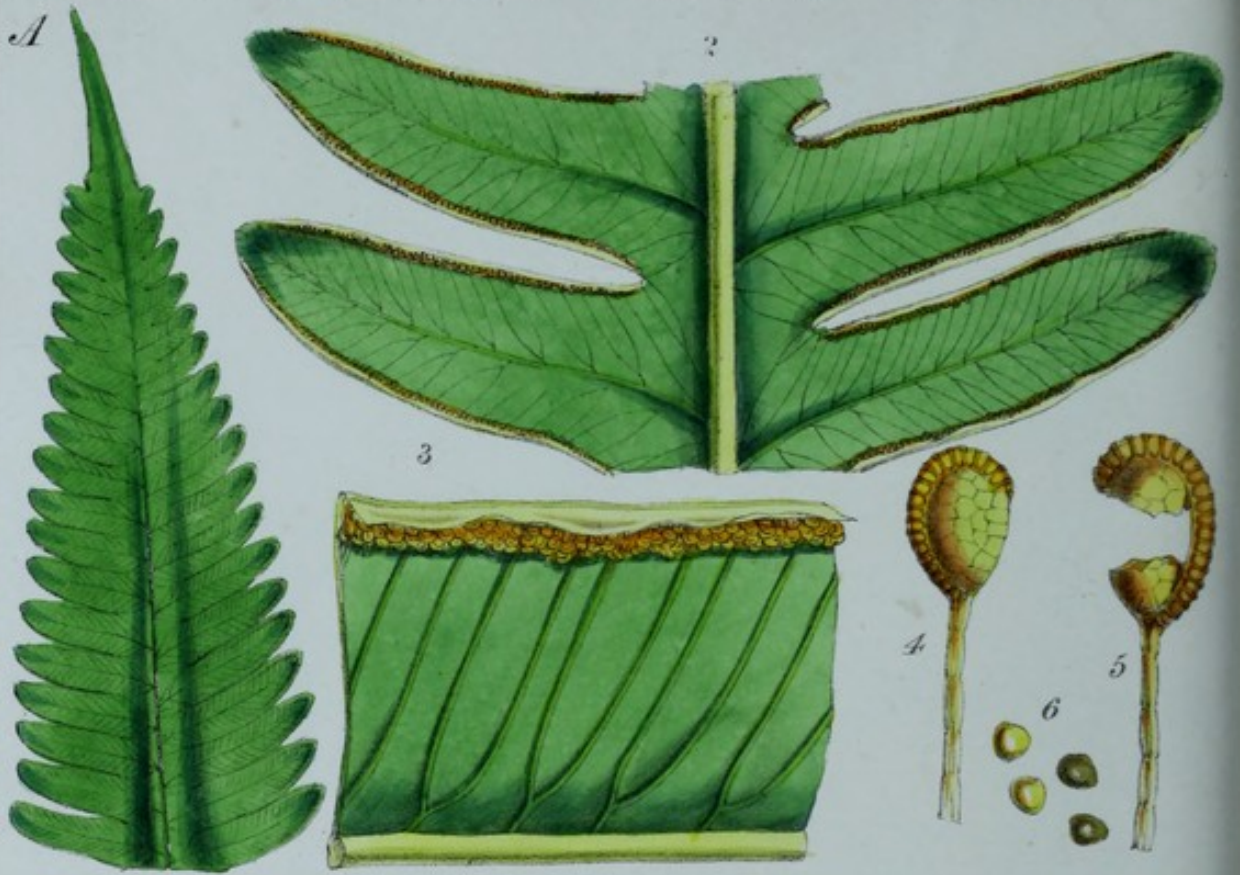
*Fig. 1.* Pinna of *S. macrophyllum*, *nat. size*; *f. 2.* Portion of the same; *f. 3.* Smaller portion of the same; *f. 4.* Sporangium; *f. 5.* Sporules:—*magnified*.













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PLATE 24

FRUIT OF *Asa. ...*

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FRUIT OF *Asa. ...*

One specimen is from Japan, which was forwarded by the Rev. G. B. Vokes. The specimen of the fruit, you see, is enclosed by a fleshy membrane and mostly washed. You will observe that they strongly differ from *Asa. ...* except in the form and being green, glaucous and ... in the soil being ... from the ... and ... in the ... and the ... from the ... in the ... and in the ... in ... *Asa. ...* (Tab. LXIV. B.) the ... is to be ... by the ... of the ... And this ... is not ... the ... who ... it ...

Tab. LXIV. A. ... ..  
... ..  
... ..

PAGE 135

PLATE 25

FRUIT OF *Asa. ...*

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FRUIT OF *Asa. ...*

This plant was gathered in Chile by Mr. ... The ... of the ... are ... Fruit ... .. which I rather ...

Tab. LXIV. B. ... ..  
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TAB. LXIV. A.

PTERIS. Presl.

PTERIDIS sp. Auct. PTERIDIS Sect. CALOPHYLLOPTERIDEÆ. Gaudich.

*Sorus* marginalis, linearis, continuus. *Indusium* marginarium, scariosum, interius dehiscens.—*Filices* plerumque intratropicæ. *Rhizoma* subglobosum. *Fronde*s fasciculatæ, coriaceæ aut herbaceæ, lobatæ, sæpissime pinnatim divisæ. *Venæ* pinnatæ, crebræ, simplices, sæpius uni-bifurcatæ, tenues, venulisque apice obtuso libero terminatæ, internæ aut elavatiusculæ, venulis parallelis rarissime divergentibus.—*Pr.*

*Pteris nemoralis*. Willd.—*Pr.*—*Ag.*—(TAB. LXIV. A.)

Our specimen is from Lappas Island, near Macao, gathered by the Rev. G. H. Vachell. The species of this Genus, even as restricted by Presl, are numerous and mostly tropical. Presl well observes that they scarcely differ from *Lomaria*, except in the broad and leafy pinnæ, pinnules, and segments, in the sori being remote from the costa, and more slender; in the narrower indusium and the fertile fronds not being different from the sterile ones. In our *Pt. nemoralis*, and in the example we have selected to illustrate *Lomaria* (TAB. LXIV. B.), the indusium seems rather to be a little intramarginal than to be formed by the revolute margin of the frond itself. And this appearance has not escaped the notice of Presl, who attributes it to a plica formed in drying.

TAB. LXIV. A. *Fig.* 1. Portion of the upper side of a fertile frond: *nat. size*; *f.* 2. Smaller portion of do. seen from beneath; *f.* 3. Portion of the sorus; *f.* 4, 5. Sporangia; *f.* 6. Sporules:—*magnified.*

TAB. LXIV. B.

LOMARIA. Willd.

ONOCLEA L. STEGANIA. Br. BLECHNI sp. Auct.

*Sorus* marginalis, linearis, continuus. *Indusium* marginarium, lineare, scariosum, continuum, aut crenis dentibusve frondis interruptum versus costam dehiscens.—*Filices* tropicæ et extratropicæ. *Rhizoma* subglobosum aut obliquum, rarissime caudex arboreus quadripedalis. *Fronde*s fasciculatæ, herbaceæ aut coriaceæ, difformes, simplices, pinnatifidæ, pinnatæ bipinnatæque, fructiferæ angustiores. *Venæ* pinnatæ, creberrimæ, internæ, uni-bifurcatæ, tenuissimæ, horizontales aut angulo obtuso exorientes.—*Pr.*

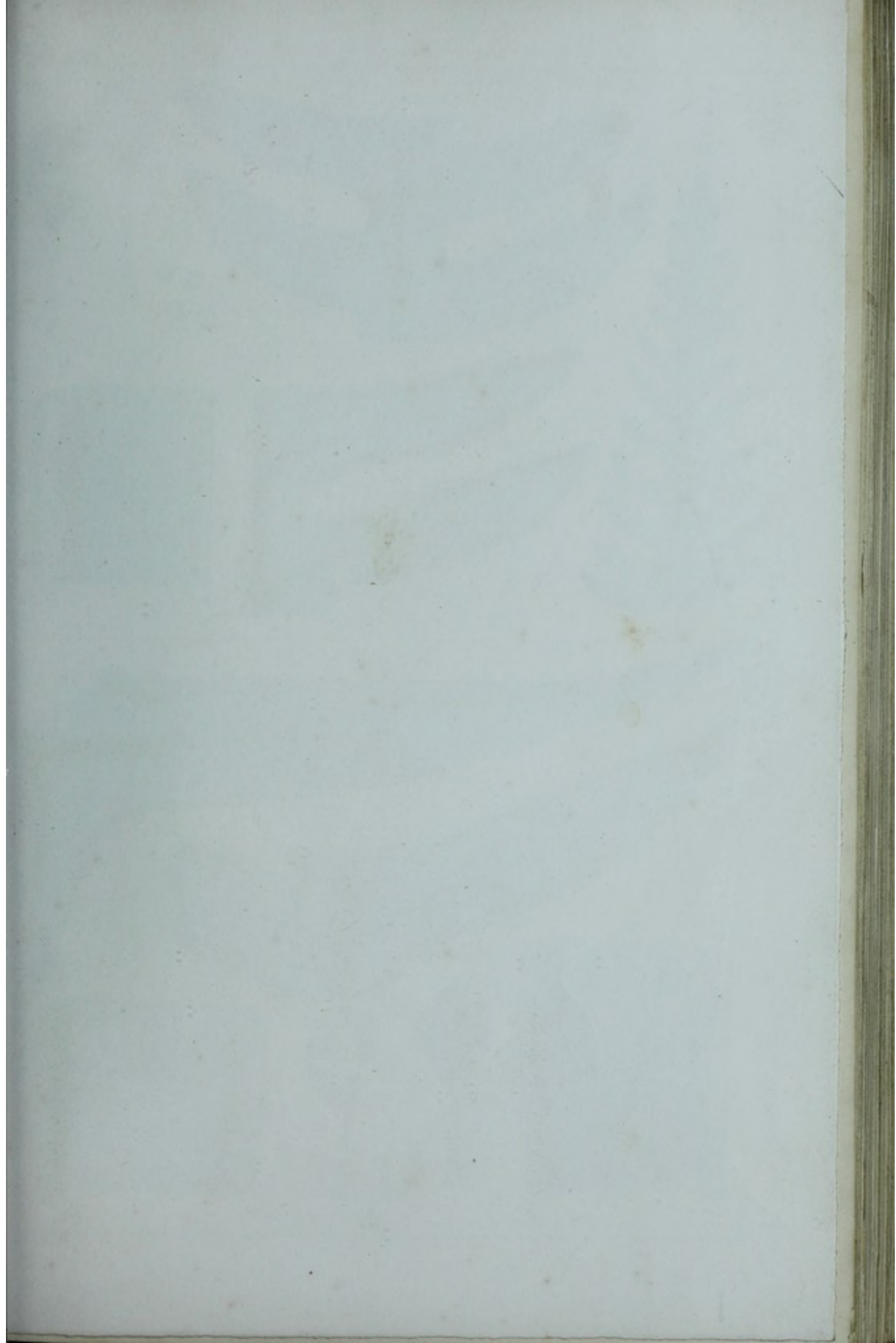
*L. Chilensis*, Kaulf.—(TAB. LXIV. B.)

Our plant was gathered in Chili by Mr Cruickshanks. The species of the Genus are numerous; Presl and other authors refer to it the *Onoclea Spicant*, L., which I rather place in *Blechnum*.

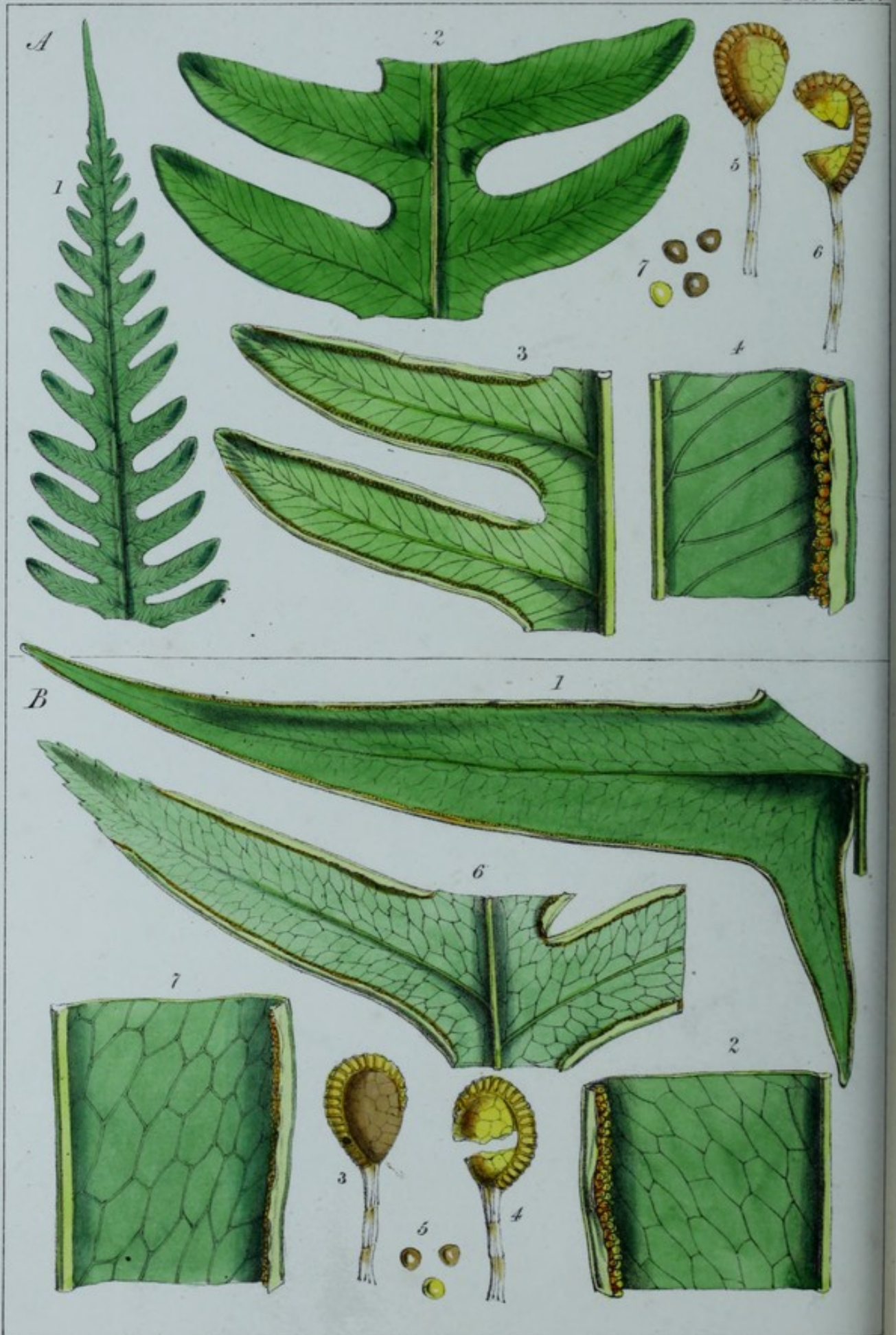
TAB. LXIV. B. *Fig.* 1. Under-side of a sterile, and *f.* 2. of a fertile pinna: *nat. size*; *f.* 3. Portion of *f.* 1. to show the venation; *f.* 4, 5. Portions with sori; *f.* 6. Sporangium; *f.* 7. Sporules:—*magnified.*



















TAB. LXV. A.

CAMPTERIA. Presl.

PTERIDIS sp. Auct.

*Sorus* marginalis, linearis, continuus. *Indusium* marginarium, lineare, scariosum, continuum, interius dehiscens.—Filices pleræque Indicæ. Habitus *Pteridis* (præcipue *Pt. nemoralis*). Rhizoma subglobosum. Frondes fasciculatæ, herbacæ, pinnatæ, pinnis pinnatifidis, infimis ut plurimum partitis. Venæ pinnatæ, internæ, tenues, infimæ oppositæ in arcum angulatum obtusissimum venulas in sinum lacinarum frondis directas emittentem anastomosantes, reliquæ furcatæ, venulis parallelis apice clavulato libero terminatis.—Presl.

*C. biauriata*.—(TAB. LXV. A.)—*Pteris biauriata*. L. (fide *Herb. Linn.*)—Agardh, non Sw.—nec Presl.—*Campteria Röttleriana*. Presl?—*Pteris nemoralis*. Blume, Willd. *Herb. n.* 19997. (Agardh.)

A genus of only six species, according to Presl, readily distinguished by the lower veinlets uniting and forming an arch at the sinus.

*Fig. 1.* Portion of a pinna, nat. size; *f. 2.* Upper, and *f. 3.* Under side of a fertile portion; *f. 4.* Sorus; *f. 5, 6.* Sporangia; *f. 7.* Sporules:—magnified.

TAB. LXV. B.

LITOBROCHIA. Presl.

PTERIDIS sp. Auct.

*Sorus* marginalis, linearis, continuus. *Indusium* marginarium, lineare, angustum, scariosum, interius dehiscens.—Filices pleræque tropicæ. Rhizoma globosum, rarius caudex arboreus, pluripedalis, erectus. Frondes fasciculatæ, coriacæ et herbacæ, simplices, lobatæ, pinnatæ usque pinnato-decompositæ. Venæ internæ, tenues, in maculas hexagonoideas, elongatas vel breves anastomosantes, maculis externis venulas apice libero obtuso terminatas emittentibus.—Presl.

*L. hastata*. Pr.—(TAB. LXV. B. *f. 1—5.*)—*Pteris Rad.*

*L. Endlicheriana*. (TAB. LXV. B. *f. 6.*)—*Pteris Agardh, Gen. Pterid. p.* 66.

Here the copious hexagonoid reticulations are quite different from every other of the *Pteris* group, and resemble those of *Sagenia* in the *Aspidium* group. The species are very numerous, and many of them with fronds so coriaceous and opaque that the venation is hardly discernible but by maceration.

*Fig. 1.* Portion of a fertile frond of *L. hastata*: nat. size; *f. 2.* Smaller portion of do.; *f. 3, 4.* Sporangia; *f. 5.* Sporules:—magnified; *f. 6.* Portion of a fertile pinna of *L. Endlicheriana*, Ag.: nat. size; *f. 7.* Smaller portion of the same:—magnified.



TAB. LXX. A.  
CAMPTERIA. Voss.

Platanus sp. det.

... marginata, linearis, continens. ...  
 ... interior (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...  
 ... (detentus). ...

C. detentus (Tab. LXX. A.)—Platanus detentus. L. (detentus).  
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A genus of only six species, according to ...  
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TAB. LXX. B.  
LITOBROCHIA. Voss.

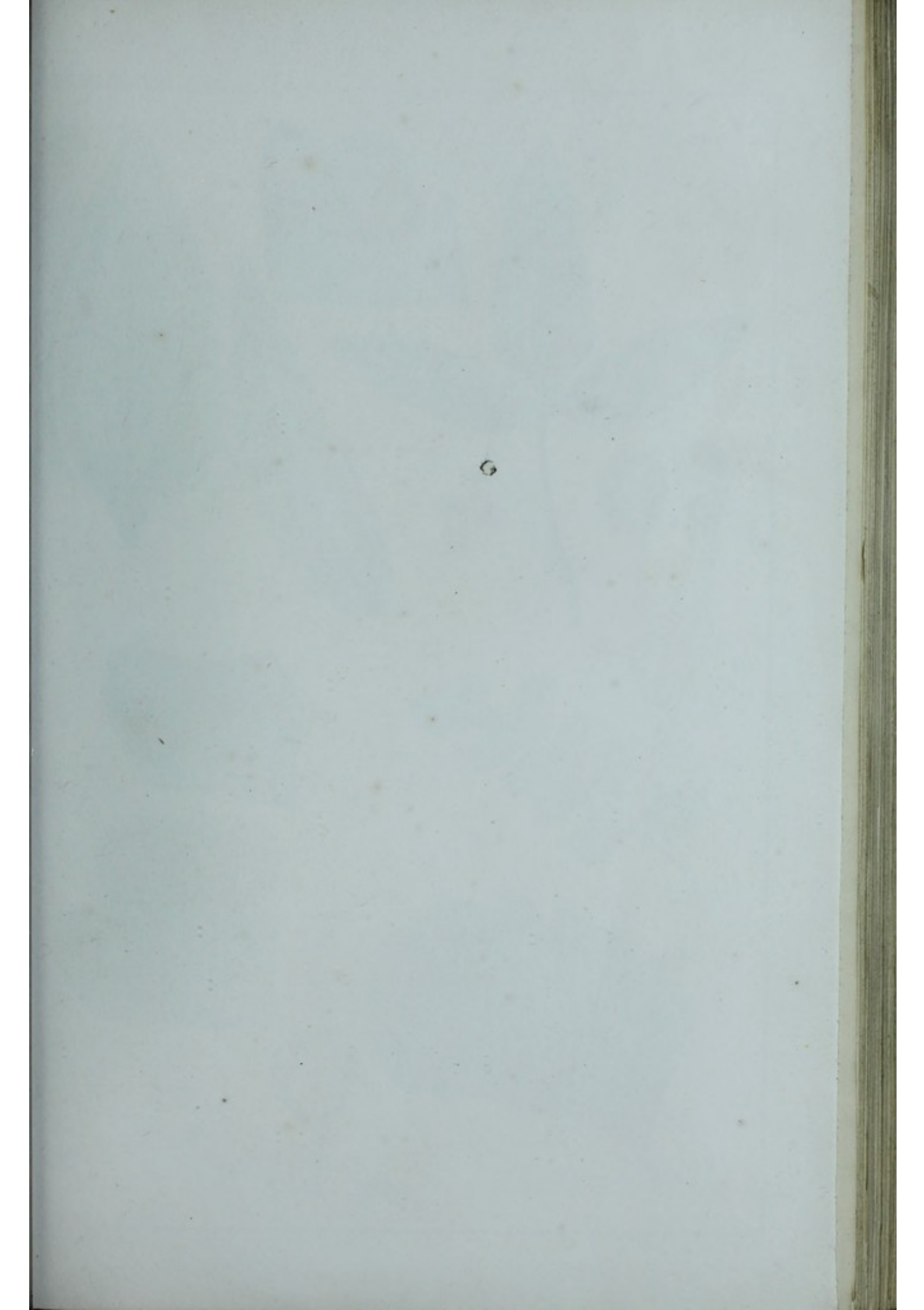
Platanus sp. det.

... marginata, linearis, continens. ...  
 ... interior (detentus). ...  
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L. detentus (Tab. LXX. B. 1-5).—Platanus detentus.  
 L. detentus (Tab. LXX. B. 1-5).—Platanus detentus. (detentus). p. 88.

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Fig. 1. ...  
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TAB. LXVI. A.

CACUMEN. Kaul.

ADIANTI sp. Sm. in Desc. Lycopodiacear. 36.

Soci marginales, duo vel quatuor brachia marginis frontis, subglobosa. Indusium  
marginatum, subrotundum, aut breviter-oblongum, solum geminum utrogenis  
senticulosum.—Filiis Leucopleris acutius. Rhizoma repens. Frons pinnata,  
confusa, trifida-pinnata, pinnis aut bipinnatis. Venis pinnatis, dichotomis,  
internis, tenuissimis, pluribus-furcatis, nervis parallelis. Ligula cortex striis signa-  
tibus, striis obliquis, fragilis.—Presl.

E. triphylla, Kaul. — (TAB. LXVI. A.) — Adiantum triphyllum, Sm.

A genus, according to Presl, of three species, one a native of the Cape of Good Hope,  
C. pinnata (Cheilanthes, No. 2, one of Beauv. C. pinnata, and one present species from  
Hawaii, Agnes. It is not easy to see the advanced state of the fructification of our plant to see  
the geminate nature of the veins. The indusium has its origin at some little distance from  
the margin, and is notched or twolobed.

Fig. 1. Frons from near base from above, magnified. 2. 3. Frons, one of a basal stem of the  
same, seen from beneath. 4. 5. Frons of 4, showing the 5. Frons of 5, showing the

TAB. LXVI. B.

ADIANTUM. Kaul.

Soci marginales aut lineares, confusi et breviter, striis subligis aut globosis,  
distincti. Indusium marginatum, aut lineare, confusum, aut breviter lineare,  
aut subrotundum, internis distinctis in inferiori pagina repandulosis. Receptaculi  
(continuaciones vascularum) lateralis, crassiuscula.—Filiis pinnatis irregulis.  
Rhizoma repens. Frons marginata, confusa et bipinnata, confusa, pinnata,  
composita vel repandulocomposita, nervis radiato-pinnatis. Venis subulato-pinnatis,  
confusis, internis, tenuissimis, pluribus-furcatis, nervis parallelis. Ligula  
striata, striata, fragilis.—Presl.

5. Caudex Frons. 1. — (TAB. LXVI. B.)

The habit of this genus is, like the most part, peculiar, but the genus is frequently an  
obscure and slender as to bear a great resemblance to that of Frons. The species are  
very numerous and difficult to be distinguished. Presl contains two divisions for them.

1. ADIANTUM. Soci bipinnata, subulato-composita, vel bipinnata repens; and 2. ADIANTUM.  
Soci repens, subulato-composita, vel bipinnata repens. Indusium striatum. It is obvious  
that the species have figured belong to the second.

Fig. 1. Frons of a female plant, one side. 2. 3. Frons from the other side, seen from beneath.  
4. 5. Frons of 1. Indusium from both sides to exhibit the venosity. 6. 7. Sporangium. 8. Spore. —  
Presl.





TAB. LXVI. A.

CASSEBEERA. *Kaulf.*

ADIANTI sp. *Sm. et Auct.* CHEILANTHIS sp. *Sm.*

*Sori* marginales, duo sub qualibet crena emarginata frondis, subglobosi. *Indusium* marginarium, subrotundum, aut lineari-oblongum, sorum geminum obtegens, scariosum.—*Filices hemispheriæ australis.* *Rhizoma repens.* *Fronde sparsæ, coriaceæ, trifoliato-pinnatæ, pinnatæ aut bipinnatæ.* *Venæ pinnatæ, creberrimæ, internæ, tenuissimæ, pluries furcatæ, venulis parallelis.* *Stipes cortice vitreo nigro-fusco nitido obductus, fragilis.—Presl.*

*C. triphylla.* *Kaulf.*—(TAB. LXVI. A.)—*Adiantum triphyllum.* *Sm.*

A genus, according to Presl, of three species, one a native of the Cape of Good Hope, *C. pteroides*, (*Cheilanthes, Sw.*) one of Brazil, *C. pinnata*, and our present species from Buenos Ayres. It is not easy in the advanced state of the fructification of our plant to see the geminate nature of the sorus. The indusium has its origin at some little distance from the margin, and is notched or two-lobed.

*Fig. 1.* Fertile frond seen from above, *magnified*; *f. 2.* Terminal, and *f. 4.* lateral pinna of the same, seen from beneath; *f. 3.* Sorus; *f. 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXVI. B.

ADIANTUM. *Linn.*

*Sori* marginales aut lineares, continui aut breviter lineares contigui aut globosi, distincti. *Indusium* marginarium aut lineare, continuum, aut breviter lineare, aut semilunatum, interius dehiscens in inferiori pagina capsuliferum. *Receptacula* (continuationes venularum) linearia, crassiuscula.—*Filices præcipue tropicæ.* *Rhizoma repens.* *Fronde sparsæ, coriaceæ aut herbaceæ, simplices, pinnatæ, compositæ vel supradecompositæ, nunc radiato-pedatæ.* *Venæ flabellato-pinnatæ, creberrimæ, internæ, tenuissimæ, pluries furcatæ, venulis parallelis.* *Stipes fusco-ater, nitidus, fragilis.—Presl.*

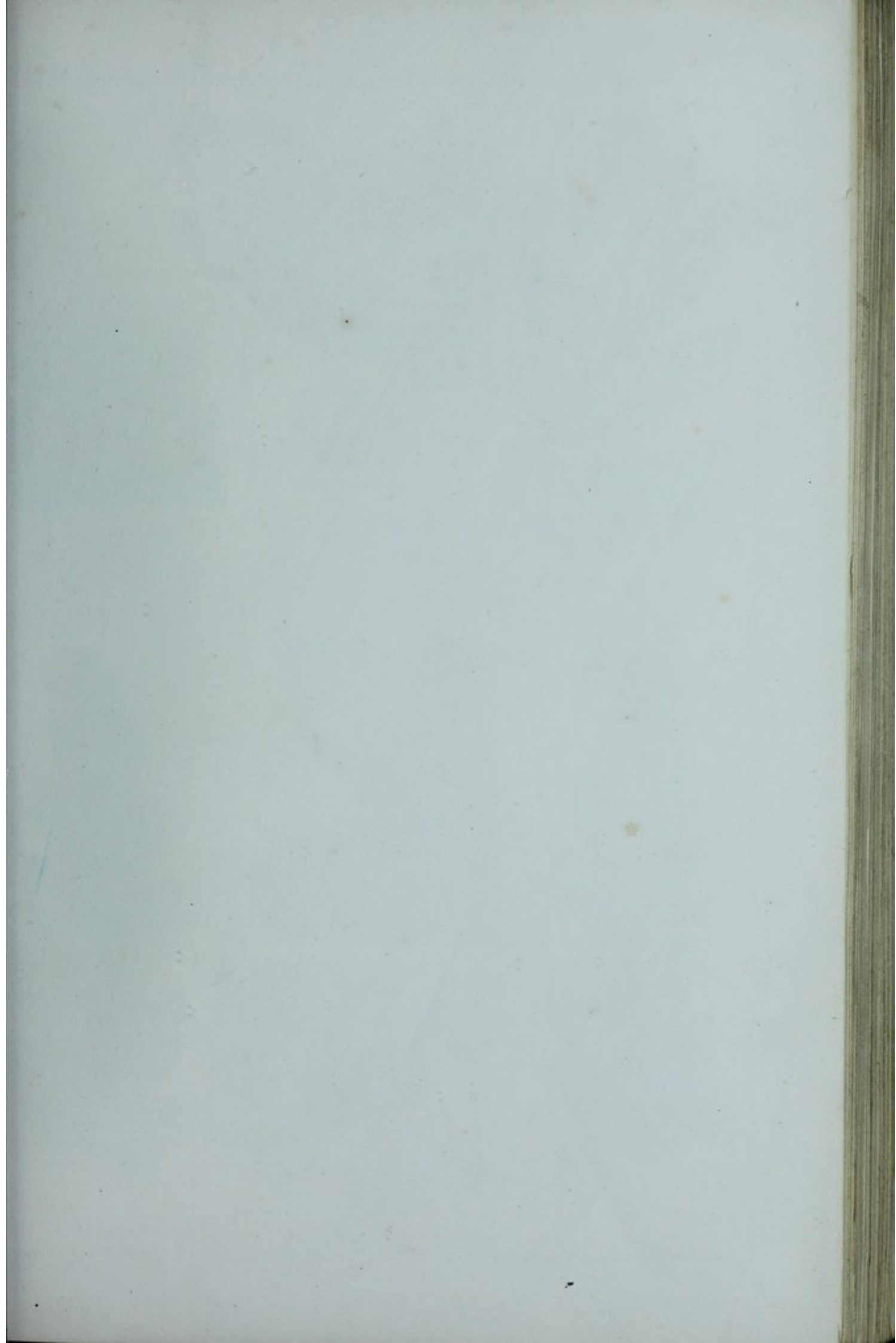
*A. Capillus Veneris.* *L.*—(TAB. LXVI. B.)

The habit of this genus is, for the most part, peculiar; but the sorus is frequently so continuous and slender as to bear a great resemblance to that of *Pteris*. The species are very numerous and difficult to be distinguished. Presl constitutes two divisions for them. § 1. ADIANTUM. *Sori inæquales, vel lineares continui, vel breviores contigui*; and § 2. ADIANTELLUM. *Sori æquales, globosi, distincti. Indusium semilunatum.*—It is obvious that the species here figured belongs to the second.

*Fig. 1.* Portion of a fertile frond, *nat. size*; *f. 2.* Pinnule from the the same, seen from beneath; *f. 3.* Sorus; *f. 4.* Indusium forced back to exhibit the sporangia; *f. 5.* Sporangium; *f. 6.* Sporules:—*magnified.*











TAB. LXVII. A.

CHRISANTHEM. Presl.

*Chrysanthemum* sp. No. of Presl.

Seeds subglobosis, marginales, apex versus dorsum reflexo, induratae obtusae, striatae. Infundibula marginata, scariosa, angustata, interiora delicata. — Filices lobae, et distrotropicae. Rhizoma caespit. Flosculi sparsi, lobulati et lineariter serrati, pappi compositi, saepe pili septatis breviter. Vasa plantula, interna, tenuia, filiformia, infra saepe furcata, utraque divergentibus, apice saepe bifida. — Presl.

*C. cuneolata*, Kze. — (Tab. LXVII. A.)

An extensive genus, and sometimes, when the seeds are narrow and indistinct, easily confounded with *Neoclasma*.

Fig. 1. Part of pappus, seen from beneath; f. 2. Part of the same; f. 3. Hair from the side; f. 4. Hair, with the indurated hind part; f. 5. Rhizome; f. 6. Spine. — magnified.

TAB. LXVII. B.

HYPOLEPIS. Presl. Presl.

*Chrysanthemum* sp. L. *Dicranella* sp. Presl. *Chrysanthemum* sp. No. of Presl.

*Agrostis* sp. Presl.

Seeds in inferioribus lobis albis, lateralibus aut dentibus frons, angustata. Infundibula marginata, scariosa, interiora delicata. — Filices lobae, et distrotropicae. Rhizoma caespit. Flosculi sparsi, lobulati, saepe pili septatis breviter, apice, stylo, rachideque in II. saepe marginati. Vasa plantula, interna, tenuia, filiformia, infra furcata, superiora saepe bifida, utraque superiora saepe bifida. — Presl.

*H. riparia*, Presl. — (Tab. LXVII. B.) — *Chelidonium*, Kze. & Presl.

Presl had divided the Adiantum or Pteris group into two sections; the first having the seeds situated upon the outer margin of the frond, frequently on the teeth or lobes, the latter in the clefts of the lobes. *Hypolepis* and *Lindsaea* are referred to the latter. *Hypolepis* is further distinguished from *Chelidonium* according to Presl, by the spongy spongium inserted upon the under side of the rachis. In our species, which we consider the true *H. riparia*, however, the receptacle is below the indurata, upon the apex of a vein. We should say that *Hypolepis* is deserving of constituting a genus, but the seed of *Lindsaea* (that is, placed in the clefts,) and the venation of *Chelidonium*.

Fig. 1. Type seed; 2. under side of a frond portion; f. 3. Hair; f. 4. Indurated hind part to show the insertion of the receptacle; f. 5. Rhizome; f. 6. Spine. — magnified.





TAB. LXVII. A.

CHEILANTHES. Presl.

CHEILANTHIS sp. Sw. et Auct.

Sori subglobosi, marginales, apice crenæ dentisve reflexo indusioque obtecti, minuti.

*Indusium* marginarium, scariosum, angustum, interius dehiscens.—Filices *intra- et extratropicæ*. Rhizoma *repens*. Frondes *sparsæ, herbacæ v. tenuiter coriacæ, pinnatim compositæ, sæpe pilis septatis hirsutæ*. Venæ *pinnatæ, internæ, tenues, simplices, infimæ sæpe furcatæ venulisque divergentibus, apice soriferæ*.—Presl.

*C. commutata*. Kze.—(TAB. LXVII. A.).

An extensive genus, and sometimes, when the sori are narrow and indistinct, easily confounded with *Notochlæna*.

Fig. 1. Fertile pinnule, seen from beneath; f. 2. Portion of the same; f. 3. Hair from the veins; f. 4. Sorus, with the indusium laid open; f. 5. Sporangium; f. 6. Sporules:—*magnified*.

TAB. LXVII. B.

HYPOLEPIS. Bernh. Presl.

LONCHITIDIS sp. L. DICKSONIÆ sp. Spr. CHEILANTHIS sp. Sw. et Auct.

ADIANTI sp. Bory.

Sori in inferiore latere sinuum laciniarum aut dentium frondis, subglobosi. *Indusium* marginarium, semilunatum, scariosum, interius dehiscens. *Sporangia* paginæ inferiori indusii affixa. (?)—Filices *intratropicæ*. Rhizoma *repens*. Frondes *sparsæ, herbacæ, supradecompositæ, amplæ, stipite rachibusque in H. repente muricatis*. Venæ *pinnatæ, tenues, subtus elevatæ, inferiores furcatæ, superiores simplices, venula superiori sorifera*.—Presl.

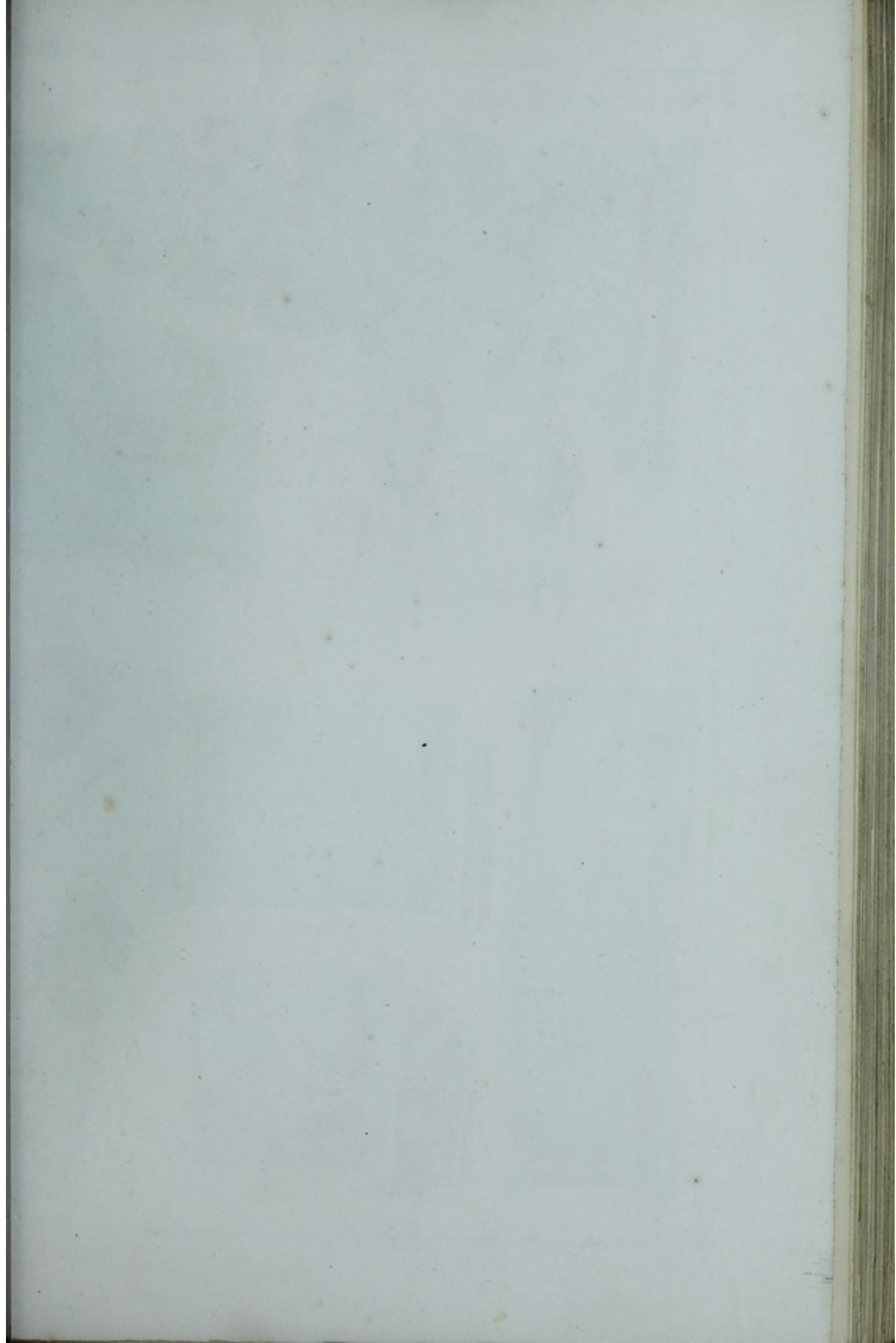
*H. repens*. Presl.—(TAB. LXVII. B.)—*Cheilanthes*. Kaulf.

Presl has divided the *Adiantum* or *Pteris* group into two sections; the first having the sori situated upon the outer margin of the frond, frequently on the teeth or lobes, the latter in the sinuses of the lobes. *Hypolepis* and *Lonchitis* are referred to the latter. *Hypolepis* is further distinguished from *Cheilanthes*, according to Presl, by the sporangia being inserted upon the under-side of the indusium. In our species, which we consider the true *H. repens*, however, the receptacle is below the indusium, upon the apex of a vein. We should say that *Hypolepis*, if deserving of constituting a genus, has the sori of *Lonchitis*, (that is, placed in the sinuses,) and the venation of *Cheilanthes*.

Fig. 1. Upper, and f. 2. under-side of a fertile pinnule; f. 3. Sori; f. 4. Indusium laid open, to show the insertion of the sporangia; f. 5. Sporangium; f. 6. Sporules:—*magnified*.







A



B









TAB. LXVIII. A.

LONCHITIS. Presl.

LONCHITIDIS sp. Linn. et Auct.

*Sori* in sinibus laciniarum frondis, lineares, semilunati, angusti. *Indusium* marginarium, semilunatum, angustum, scariosum, inferiori pagina capsuliferum (?) interius dehiscens.—*Filices intratropicæ*. *Rhizoma subglobosum*. *Fronde fasciculatæ, herbacæ, pinnatæ, pinnis pinnatifidis*. *Venæ in maculas inæqualiter hexagonoideas anastomosantes, tenues, inferne prominulæ, venulis duabus-quatuor in sinus laciniarum frondis connivendo-excurrentibus*.—Presl.

*L. pubescens*. Kaulf.—(TAB. LXVIII. A.)—*L. hirsuta*. Sieb. *Fl. Maurit.*

A genus of three species, according to Presl, readily distinguished by the nature of the venation.

*Fig. 1.* Portion of a fertile pinna, seen from beneath; *f. 2.* Sorus; *f. 3, 4.* Sporangia; *f. 5.* Sporules:—magnified.

TAB. LXVIII. B.

VITTARIA. Sm.

PTERIDIS sp. Linn.

*Sori* lineares, duplicaturæ marginis frondis immersi.—*Filices pleræque intratropicæ*. *Rhizoma repens*. *Fronde sparsæ, arcte approximate et congestæ, sessiles vel substipitatæ, simplices, angustæ, coriaccæ*. *Venæ pinnatæ, simplices, elongatæ, ante marginem frondis immersæ*.—Presl.

*V. rigida*. Kaulf.—(TAB. LXVIII. B.)

Here the actual indusium is none. The sporangia are inserted in a cleft at the margin of the frond.

*Fig. 1.* Portion of a fertile frond, seen from above; *f. 2.* Smaller portion of the same, seen from beneath; *f. 3.* Portion of a sorus; *f. 4, 5.* Sporangia; *f. 6.* Sporidia; *f. 7, 7.* Abortive sporangia, mixed with the perfect ones:—magnified.













TAB. LXIX. A.  
POLYPODIUM, Presl.

(Linnæus, sp. Pl., 1753, p. 1076.)

Sevi in: apice vixitum simpliciter truncatum aut in limbo medio vixitum vixitum-  
lanceolatis, globosis, nodis. — Filices *Marago* indistincte. — Rhizoma subglobosum aut  
reptans. — Frondes *strigulosæ* aut *spicæ*, *hercynica* aut *minor* *curiosa*, *variegata*  
*neglecta*, *serpens* *peruviana*, *expansiva* *plumbea* *divina*. — Venæ pinnatis, internis,  
aut *reticulatis* *peruviana*, *apice* *libris* *oblongo-pinnatis* aut *oblongis*, *simplex* aut  
*divinis*. — Presl.

S. Germani. Willd. — (Tab. LXIX. A.)

A novel species has been generally considered as belonging to this Genus, *S. Fendleri*  
var., but I have shown in the "Flora Germanica Americana," that it is in all respects  
different from the European plant. As a genus it certainly very nearly allied to *Polypo-*  
*dium*, scarcely differing but in the lateral position of the leaflets fronds.

Fig. 1. Portion of a male plant, *S. Fendleri*, only. 2. Compound of a female frond, *S. Fendleri*,  
showing the venation of the same. 3. 4. Portion of a female frond with the venation of the same. 5. 6. 7. Spores of  
*S. Fendleri* — magnified.

TAB. LXIX. B.  
POLYPODIUM, Presl.

(Linnæus, sp. Pl., 1753, p. 1076.)

Sevi in: apice vixitum simpliciter truncatum aut in limbo medio vixitum vixitum-  
lanceolatis, globosis, nodis. — Filices *Marago* indistincte. — Rhizoma subglobosum aut  
reptans. — Frondes *strigulosæ* aut *spicæ*, *hercynica* aut *minor* *curiosa*, *variegata*  
*neglecta*, *serpens* *peruviana*, *expansiva* *plumbea* *divina*. — Venæ pinnatis, internis,  
aut *reticulatis* *peruviana*, *apice* *libris* *oblongo-pinnatis* aut *oblongis*, *simplex* aut  
*divinis*. — Presl.

P. vulgare, L. — (Tab. LXIX. B.)

Presl has 1 stick, with each joint, restricted the genus *Polypodium* to those  
forms which have the naked globe and the venation of the same. This is  
erroneous, it is still an exclusive genus, since including *Marago* *neglecta*, and the greater  
number of species, the genus.

Fig. 1. Portion of a female frond from *Polypodium*, *S. Fendleri*, only. 2. Compound of a female frond,  
showing the venation of the same. 3. 4. Portion of a female frond with the venation of the same. 5. 6. 7. Spores of  
*S. Fendleri* — magnified.





TAB. LXIX. A.

STRUTHIOPTERIS. Willd.

OSMUNDÆ sp. Linn. ONOCLEÆ sp. Sw.

Sori dorsales, medio venæ venulæve inserti, approximati, nudi, dorso pinnarum alteratarum siti. *Receptaculum* majusculum, globosum. *Sporangia* longe pedicellata.—*Filix hemisphæriæ borealis, nempe Europæ et Americæ.* Frondes fasciculatæ, pinnatæ, pinnis pinnatifidis; fertiles dissimiles, pinnis multoties minoribus angustioribus marginibus insigniter revolutis, indusium mentientibus, soros tegentibus. Venæ pinnatæ, simplices, subtus prominulæ, ad marginem attingentes.

*S. Germanica.* Willd.—(TAB. LXIX. A.).

A second species has been generally considered as belonging to this Genus, *S. Pennsylvanica*; but I have shown in the "*Flora Boreali-Americana*," that it is by no means different from the European plant. As a genus it is certainly very nearly allied to *Polypodium*, scarcely differing but in the altered condition of the fertile fronds.

*Fig. 1.* Portion of a sterile pinna; *f. 2.* Upper, and *f. 3.* Under side of a fertile pinna; *f. 4.* Transverse section of the same; *f. 5.* Portion of the same with the margin forced back; *f. 6, 7.* Sporangia; *f. 8.* Sporules:—*magnified.*

TAB. LXIX. B.

POLYPODIUM. Presl.

POLYPODII sp. Auct.

Sori in apice venarum simplicium furcaturum aut in dorso medio venarum venularumve, globosi, nudi.—*Filices pleræque intratropicæ.* Rhizoma subglobosum aut repens. Frondes fasciculatæ aut sparsæ, herbacæ aut tenuiter coriaceæ, rarissime simplices, sæpius pinnatifidæ, sæpissime pinnatim divisæ. Venæ pinnatæ, internæ, aut subtus prominulæ, apice libero globoso-punctiformi aut clavato, simplices aut furcatæ.—*Presl.*

*P. vulgare.* L.—(TAB. LXIX. B.).

Presl has, I think, with much judgment, restricted the genus *Polypodium* to those Ferns which have the naked globose sori, and the veinlets simple or forked. Thus circumscribed, it is still an extensive Genus, some inhabiting temperate regions, but the greater number of species, the tropics.

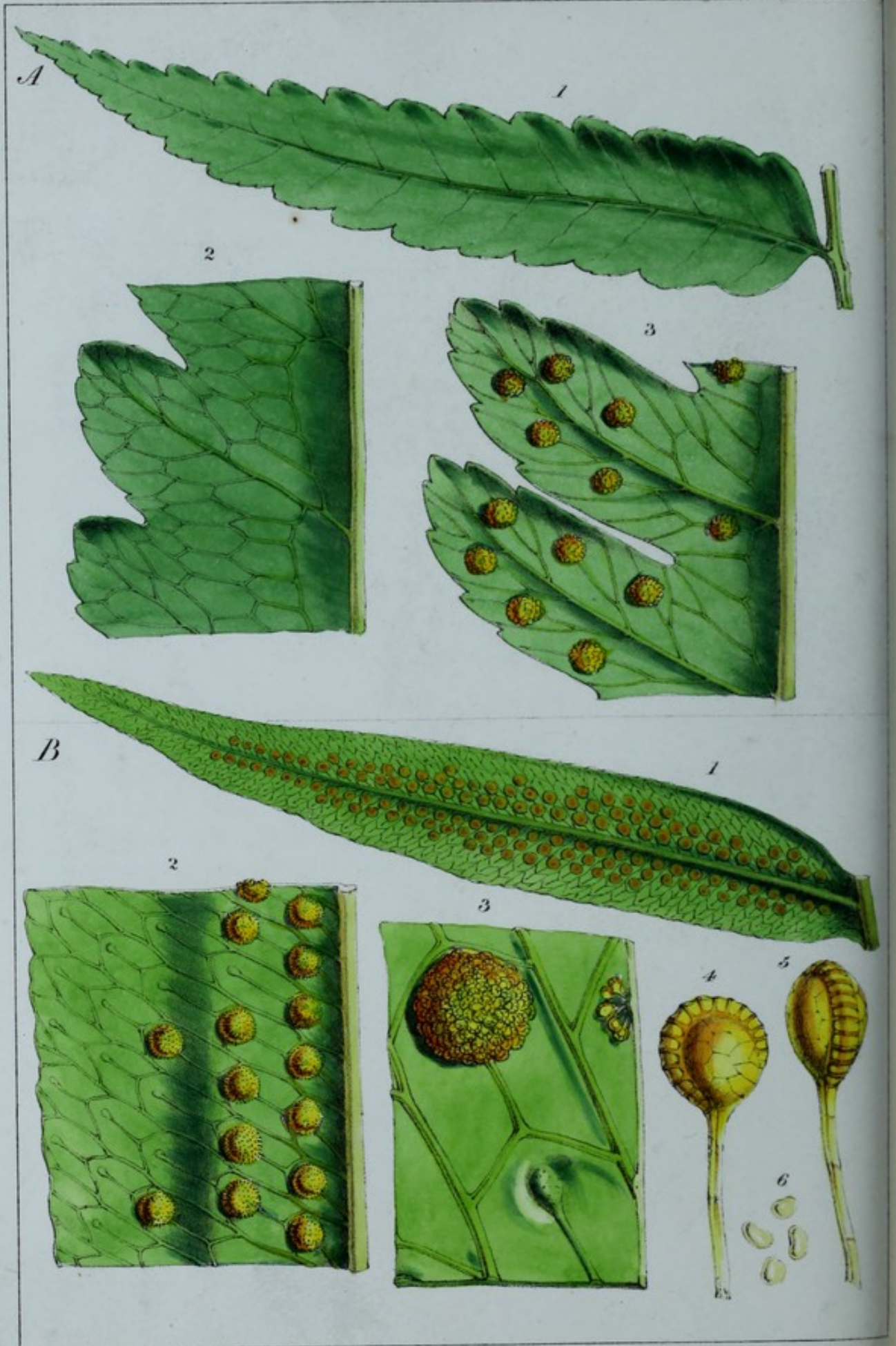
*Fig. 1.* Portion of a fertile frond seen from beneath; *f. 2.* Segment of the same, do.; *f. 3.* Smaller portion of the same; *f. 4.* Sporangia; *f. 5.* Sporules:—*magnified.*



















TAB. LXX. A.

PLEOCNEMIA. *Presl.*

POLYPODII sp. *Gaudich.*

Sori in medio dorso venularum, globosi, nudi.—Felix *Moluccana*. Frondes herbaceæ, pinnatæ, pinnis pinnatifidis. Venæ pinnatæ, subtus prominulæ, superiores furcatæ, infimæ oppositæ, in arcum obtusissimum angulatum confluentes, angulis quatuor tot venulas in sinum laciniarum frondis connivendo-excurrentes gerentibus, venulis extimis cum venis mox superioribus maculam hexagonoideam efficientibus. *Presl.*

*Pleocnemia Leuceana*.—(TAB. LXX. A.—*f.* 3, copied from *Presl.*)

I have seen no certain specimen of a Fern corresponding with this Genus. I possess from Bonin (sent to me by the Imperial Academy of Petersburg), a sterile frond of which the venation so far agrees that I have thought it right to represent it at *f.* 1. and 2, of our plate (LXX. A.); but it must be acknowledged that the nerves anastomose very much, so as to form hexagonal areolæ, when in the true *Pleocnemia*, they are only forked.

*Fig.* 1. Pinna of a sterile frond of an unknown fern from Bonin; *f.* 2. Smaller portion of the same; *f.* 3. Portion of a fertile pinna of *Pleocnemia Leuceana*, (copied from *Presl.*):—*magnified.*

TAB. LXX. B.

GONIOPHLEBIUM. *Presl.*

POLYPOD. spur. Sect. 1. GONIOPHLEBIUM. *Blume.* POLYPODII sp. *Auct.*

Sori apici venulæ infimæ axillaris et venularum secundariarum inserti, globosi, satis magni, nudi.—Filices *intratropicæ*. Rhizoma repens. Frondes sparsæ, herbaceæ et coriaceæ, pinnatæ. Venæ pinnatæ, tenues, internæ, parallelæ, apice libero globuloso desinentes, ramosæ. Venulæ oppositæ in arcum triangularem acutum anastomosantes, et inde maculas antice rhomboideas efformantes, infima ex axilla superiori maculæ costalis emergens, libera, apice globoso-incrassata.—*Presl.*

*G. neriifolium*.—(TAB. LXX. B.)—*Marginaria. Presl.* Polypodium. *Schk.*

It may appear strange that I should place under *Presl.*'s *Goniophlebium* a plant which he himself refers to *Marginaria*; but, after the most careful examination, I think I cannot err in representing it as illustrative of that Genus. This would seem to confirm Mr Smith's opinion, expressed at TAB. LI., that *Marginaria* and *Goniophlebium* should constitute but one Genus. Of the eight species which *Presl.* refers to *Goniophlebium*, three are doubtfully placed there.

*Fig.* 1. Fertile pinna of *G. neriifolium*, seen from beneath, *nat. size*; *f.* 2. Smaller portion of the same; *f.* 3. Sorus and receptacles; *f.* 4, 5. Sporangia; *f.* 6. Sporules:—*magnified.*



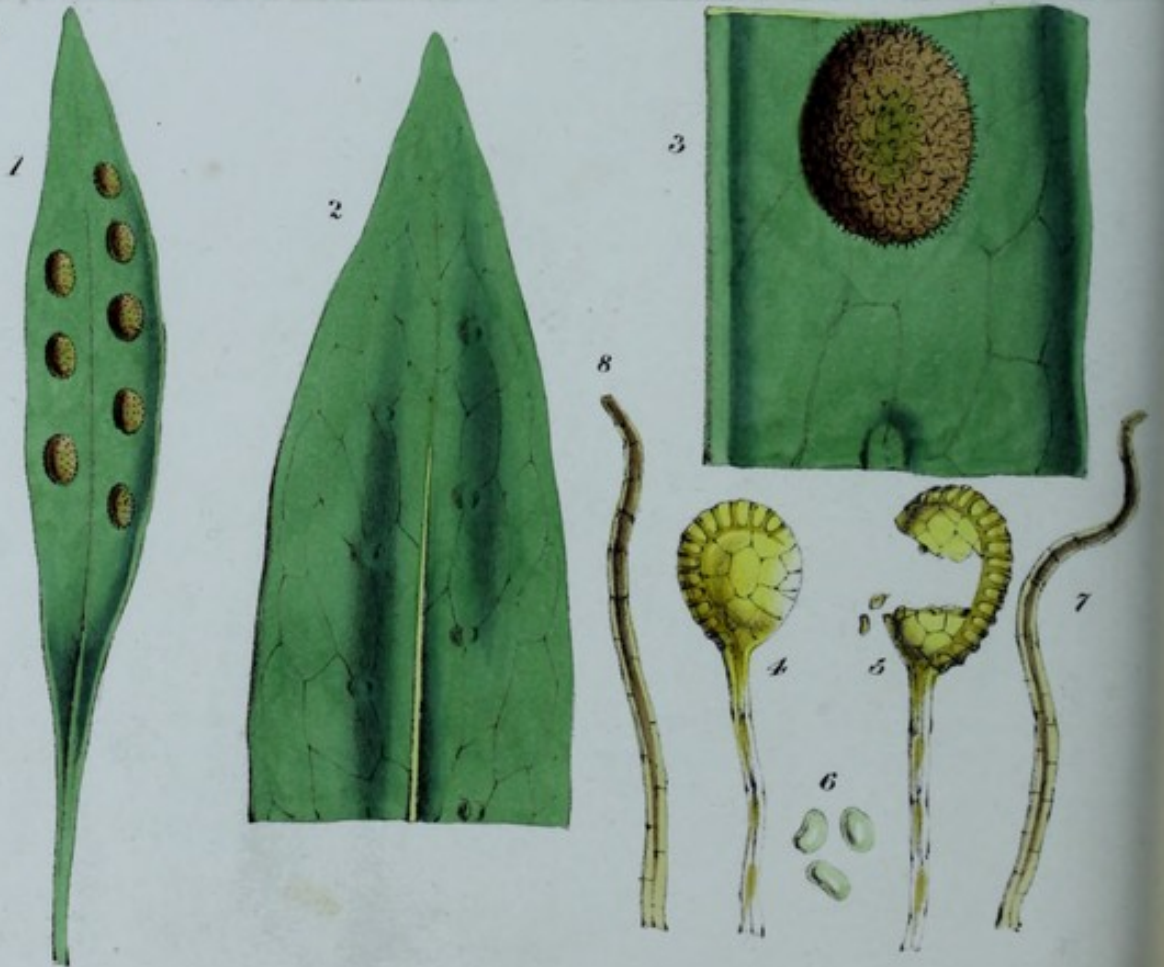




A



B











TAB. LXXI. A.

CAMPYLONEURUM, *Presl.*

POLYPODII sp. *Linn. et Auct.*

*Sori* apici aut dorso venulæ infimæ axillaris et venularum secundariarum insidentes, globosi, parvi, nudi.—*Filices tropicæ, Americanæ.* Rhizoma *repens.* Frondes *sparsæ coriacæ aut herbacæ, simplices, unica vice pinnatæ.* Venæ *pinnatæ, costæ-formes, parallelæ, ramosæ, apice libero globuloso desinentes.* Venulæ *oppositæ in arcum pluriangulatum anastomosantes, infima ex axilla superiori ad basin venæ inferioris emergens libera, apice globulosa, supremæ in maculas irregulares confluentes.* Venulæ secundariæ *ex angulis arcus exorientes, tot quot anguli, liberæ, apice globulosæ.* *Presl.*

*Campyloneurum repens, Presl.*—(TAB. LXXI. A.)—*Polypodium repens, Sw.*

This Genus of *Presl's* consists of about thirteen described species, all of them, I believe, natives of tropical America and mostly of Brazil. It differs from *Goniophlebium* and *Marginaria*, that author observes, "arcubus venularum pluriangulatis et polysoris atque maculis subparallelogrammis." The name is thence appropriately derived from *καμπυλός* *arcuatus*, and *νεύρον* *vena*.

TAB. LXXI. A.—*Fig. 1.* Apex of the frond of *Campyloneurum repens*, *nat. size*; *f. 2.* Fertile portion; *f. 3.* Sterile portion; *f. 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXXI. B.

DICTYOPTERIS. *Presl.*

*Sori* anastomosi venularum insidentes, globosi (aut ovales) magni aut parvi, nudi.—*Filices novo-Hollandicæ vel intratropicæ indicæ.* Rhizoma *repens.* Frondes *sparsæ coriacæ simplices aut pinnatim divisæ.* Venæ *internæ, tenues, ramosissimæ, venulisque in maculas hexagonoideas inæquales anastomosantes et reticulum densum efformantes, marginales apice libero obtusoque desinentes.* *Presl.*

*Dictyopteris attenuata, Presl.* (TAB. LXXI. B.)—*Polypodium attenuatum, Br. P. Brownianum, Spr.*

A small Genus, consisting of *D. attenuata*, here figured, a native of New Holland and New Zealand, *D. macrodonta*, *D. pteroides*, and *D. irregularis* from the East Indies, all *Polypodia* of other authors. It differs from *Pleopeltis* and allied Genera in the areolæ of the veins and veinlets constituting a simple reticulation.

TAB. LXXI. B.—*Fig. 1.* Frond of *Dictyopteris attenuata, Presl*, *nat. size*; *f. 2.* Portion of the same with sori, seen from the upper side; *f. 3.* Small portion with a sorus and receptacle, seen from beneath; *f. 4, 5.* Sporangia; *f. 6.* Sporules; *f. 7, 8.* Hairs, or abortive sporangia from among the fertile ones:—*magnified.*



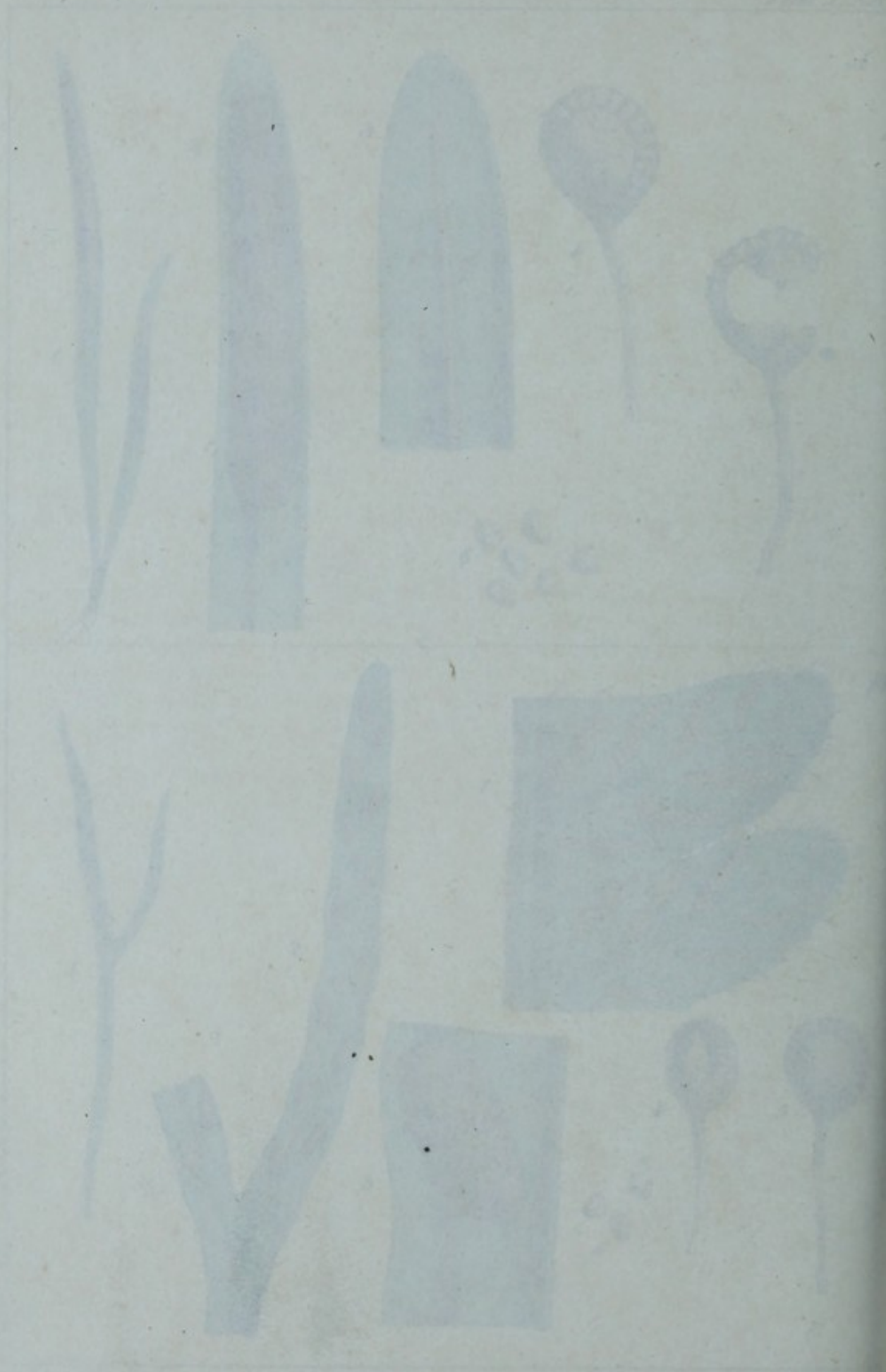












TAB. LXXII. A.

PLEUROGRAMME. *Presl.*

See the description at TAB. LXXIV. A.

TAB. LXXII. B.

GRAMMITIS. *Presl.*

GRAMMITIDIS, spec. *Sw. et Auct.* POLYPODII, spec. *Willd.* XIPHOPTERIS, *Kaulf.*  
MICROPTERIS, *Desv.* GYMNOGRAMMITIS, spec. *Sw. et Auct.*

*Sori* medio dorsi venarum aut venulæ superioris inserti, lineares, parvi, nudi.—  
*Frondes fasciculatæ aut sparsæ, herbacæ, simplices aut sæpius pinnatæ. Venæ pinnatæ, simplices aut furcatæ, internæ aut subtus prominulæ, venulisque apice libero acuto aut punctiformi desinentes. Presl.*

*Grammitis furcata*, *Hook. et Grev.*—(TAB. LXXII. B. *fig.* 1, 6.)

*Grammitis totta*, *Presl.*—(TAB. LXXII. B. *fig.* 7.)—*Gymnogramme totta*, *Schlecht.*  
*G. Lovei*, *Hook. et Grev.*

*Presl* seems to have reduced the old genus *Grammitis* with much judgment. He still divides it into 3 groups. § I. XIPHOPTERIS (*Auct.*) *Gr. serrulata*, *Gr. myosuroides*, and *Gr. setosa*.—§ II. CHILOPTERIS. *Gr. Billardieri*, *Willd.*, and *Gr. linearis*, *Sw.*—and § III. EUGRAMMITIS, to which belong *Gr. furcata*, *Hook. et Grev.* *Gr. totta*, *Presl.* *Gr. Blumeana*, *Pr.* *Gr. obtusata*, *Pr.* *Gr. villosa*, *Pr.* *Gr. polypodioides*, *Pr.* *Gr. Linkiana*, *Pr.* *Gr. asplenioides*, *Pr.*, and *Gr. severa*, *Pr.*:—all, except the first, are *Gymnogramme* of authors.

TAB. LXXII. B. *Fig.* 1. Frond of *Grammitis furcata*: *nat. size*; *f.* 2. Fertile portion of the same; *f.* 3. Smaller fertile portion of the same; *f.* 4, 5. Sporangia; *f.* 6. Sporules; *f.* 7. Fertile portion of *Gr. totta*:—*magnified.*



TAFEL LXXII. A.

TAUROGRAMMAE. Vase.

See the description at Tafel LXXIV. A.

TAFEL LXXII. B.

GRAMMITEIS. Vase.

Grammites vase for wine. Found at the Villa of the Papyri, Herculaneum. See the description at Tafel LXXIV. A.

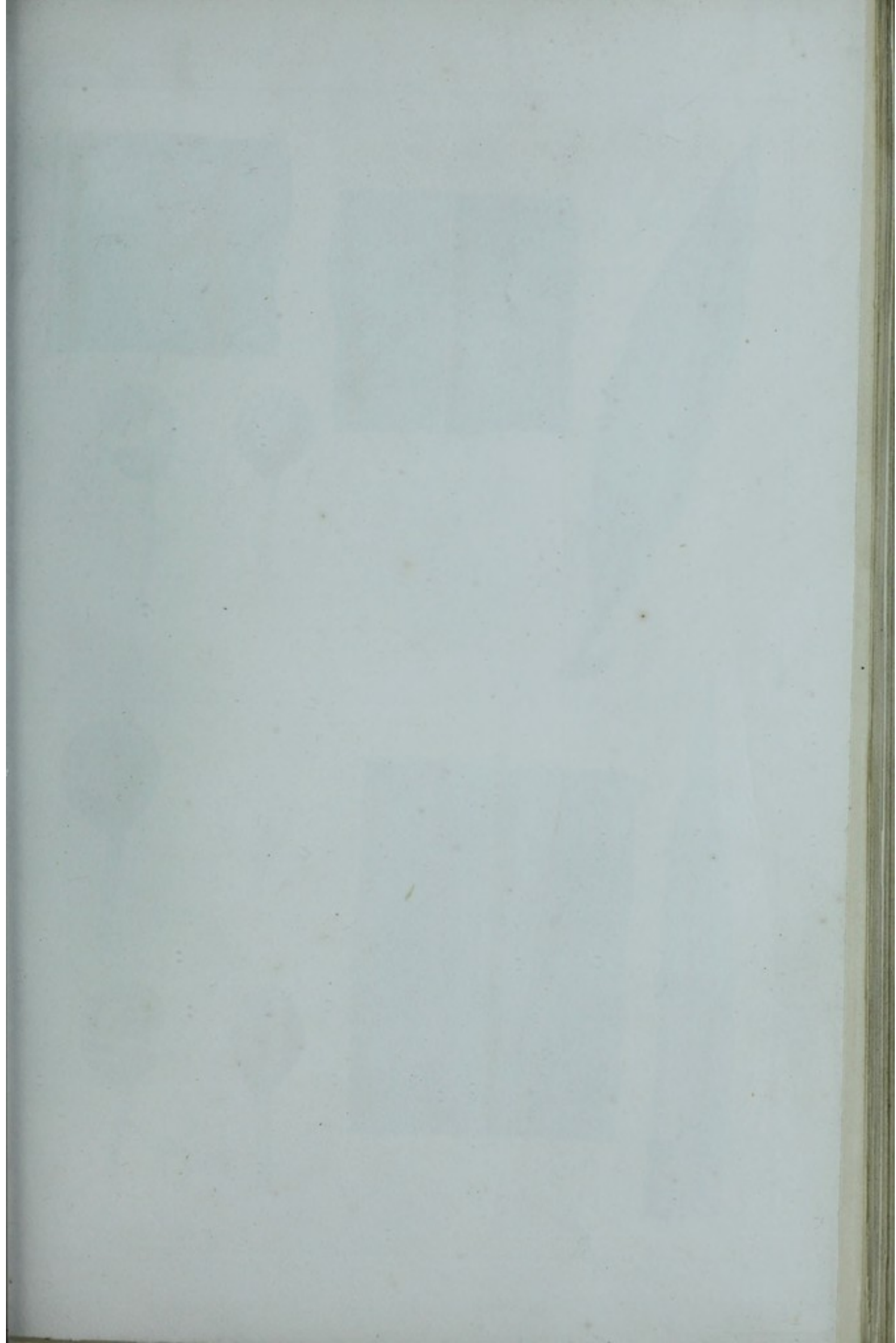
See also the vase from the Villa of the Papyri, Herculaneum, which is identical with the vase from the Villa of the Papyri, Herculaneum, which is identical with the vase from the Villa of the Papyri, Herculaneum.

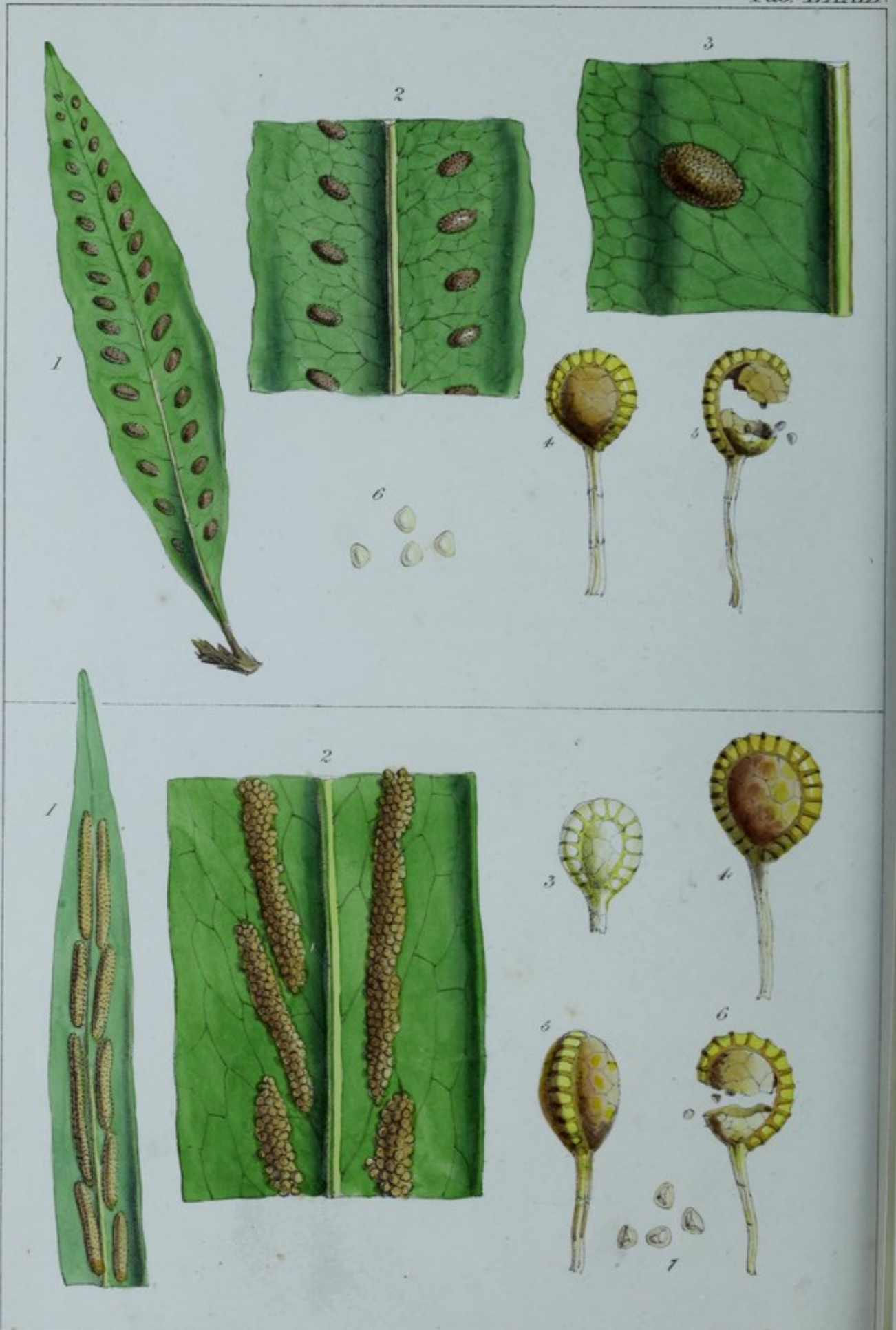
Grammites vase for wine. Found at the Villa of the Papyri, Herculaneum. See the description at Tafel LXXIV. A.

Grammites vase for wine. Found at the Villa of the Papyri, Herculaneum. See the description at Tafel LXXIV. A.

From the Villa of the Papyri, Herculaneum, the vase Grammites vase for wine. Found at the Villa of the Papyri, Herculaneum. See the description at Tafel LXXIV. A.

See also the vase from the Villa of the Papyri, Herculaneum, which is identical with the vase from the Villa of the Papyri, Herculaneum.







TAB. LXXIII. A.

LEUCOGONIA. Prod.

Leucogonia sp. Prod.

Leucogonia sp. Prod. ... (faint text describing the specimen)

Microgonia sp. Prod. (Tab. LXXIII. A.)

Microgonia sp. Prod. ... (faint text describing the specimen)

Tab. LXXIII. A. 1. ... (faint text)

TAB. LXXIII. B.

LEUCOGONIA. Prod.

Leucogonia sp. Prod.

Leucogonia sp. Prod. ... (faint text describing the specimen)

Leucogonia sp. Prod. (Tab. LXXIII. B.)

Leucogonia sp. Prod. ... (faint text describing the specimen)

Tab. LXXIII. B. 1. ... (faint text)





TAB. LXXIII. A.  
MICROGRAMMA. Presl.

POLYPODII, spec. Schrad.

Sori dorso venulæ secundariæ intra maculam mediam inserti, ovales, uniseriales, nudi. *Receptaculum* lineare, crassiusculum, *Sporangia* creberrima.—*Filix tropico-Americana*. *Rhizoma repens*. Frondes *sparsæ, herbacæ, brevissime stipitatæ, glaberrimæ, simplices, lineari- aut oblongo-lanceolatæ, acuminatæ, integerrimæ, basi angustatæ*. Venæ *pinnatæ internæ, tenuissimæ, ramosæ*. Venulæ *in maculas costales transversim oblongas irregulares, medias et marginales hexagonoideas anastomosantes, maculis mediis interne venulas secundarias in maculas plures oblongas aut irregulares anastomosantes vel liberam apice punctiformi incrassatas continentibus, marginalibus una-pluribus venulam liberam deflexam apice punctiformi- incrassatam emittentibus*. Presl.

*Microgramma persicariæfolia*. Pr.—(TAB. LXXIII. A.)

Presl has derived the generic name from the short sori as compared with other *Grammitideæ*. In point of venation it corresponds with Presl's Genus *Pleopeltis* among the *Polypodiaceæ*; and, indeed, the form of the sori seems intermediate between the linear ones of the former group, and the globose ones of the latter.

TAB. LXXIII. Fig. 1. Fertile frond of *Microgramma persicariæfolia*; f. 2. Smaller portion of the same; f. 3. Single sorus; f. 4, 5. Sporangia; f. 6. Sporules:—*magnified*.

TAB. LXXIII. B.  
LOXOGRAMME. Presl.

GRAMMITIDIS, spec. Sw. et Auct. POLYTÆNIUM, Desv. ANTROPHYI, Sect. 2.  
LOXOGRAMME, Blume.

Sori dorso venæ lateralis longioris unius aut duarum suprapositarum inserti, lineares, elongati, crassi, obtusi, nudi.—*Filices intratropicæ, indicæ*. *Rhizoma repens*. Frondes *sparsæ, coriaccæ, simplices, integerrimæ*. Venæ *internæ, tenuissimæ, ramosissimæ, venulisque in maculas hexagonoideas elongatas inæquales anastomosantes et reticulum laxum efficientes*. Presl.

*Loxogramme lanceolata*. Presl.—(TAB. LXXIII. B.)—*Grammitis lanceolata*, Sw. *Antrophyum lanceolatum*, Blume.

This Genus, the author tells us, holds the same place among *Grammitideæ*, that *Sagenia* does among *Aspidiaceæ*, *Dictyopteris* among *Polypodiaceæ*, *Pteropsis* among *Fœnitideæ* and *Pæcilopteris* among *Acrostichaceæ*. All the species are of Indian origin (ten of them), except *L. lineata* (*Hemionitis lineata*, Sw.), which indeed has some points of structural difference.

TAB. LXXIII. B. Fig. 1. Portion of a fertile frond of *Loxogramme lanceolata*: nat. size; f. 2. Smaller portion; f. 3, 4, 5, 6. Sporangia; f. 7. Sporules:—*magnified*.



TAB. LXXIII. A.

MICROGRAMMA. Yers.

Portion, spec. Schind.

Two more species described here, including *Micromma* and *Microgramma*. The first is a new species, *Micromma* sp. nov. The second is a new species, *Microgramma* sp. nov. The first is a new species, *Micromma* sp. nov. The second is a new species, *Microgramma* sp. nov.

Micromma sp. nov. (Tab. LXXIII. A.)

This species is described here. It is a new species, *Micromma* sp. nov. It is a new species, *Micromma* sp. nov. It is a new species, *Micromma* sp. nov. It is a new species, *Micromma* sp. nov.

TAB. LXXIII. B.

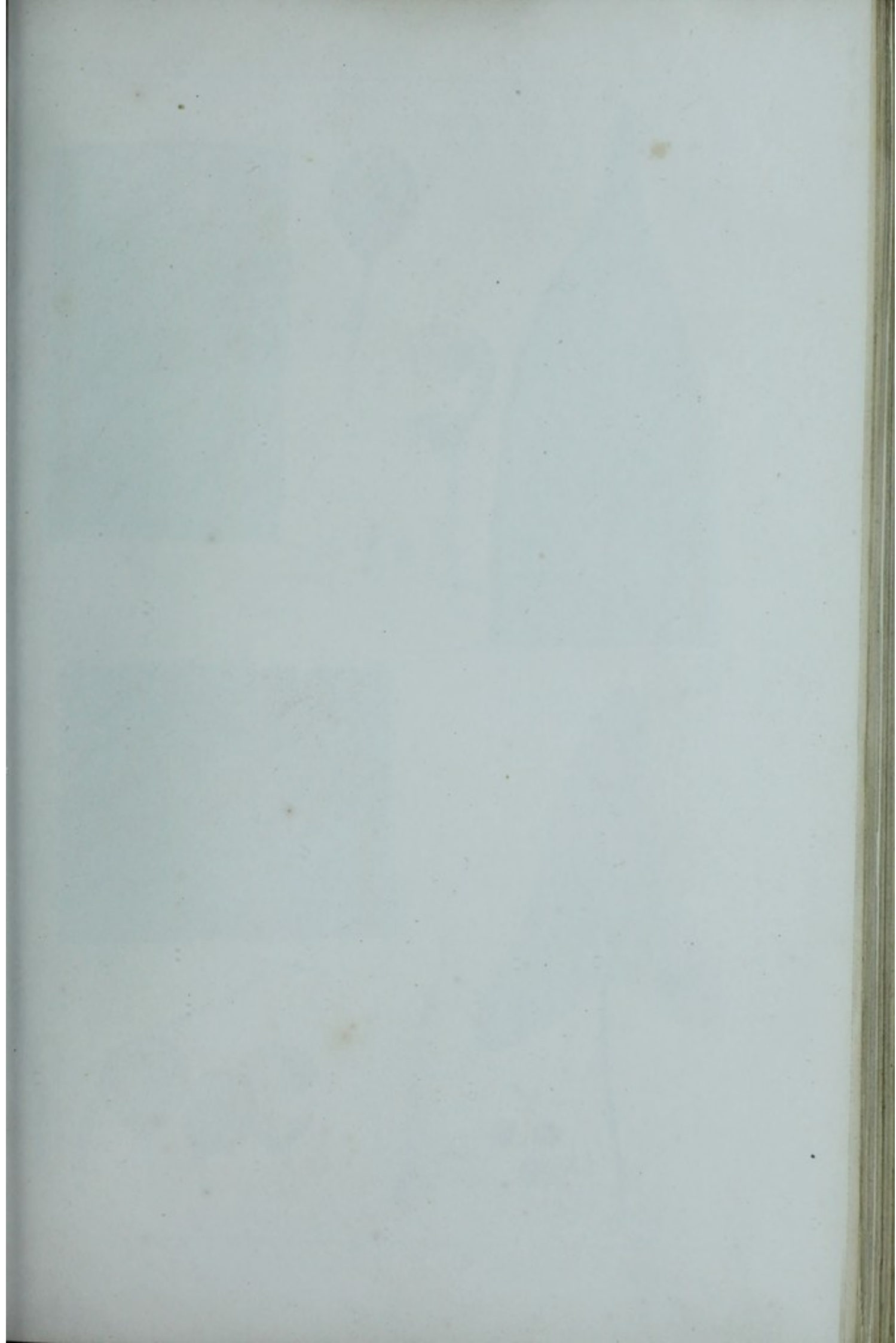
TOXOGRAMMA. Yers.

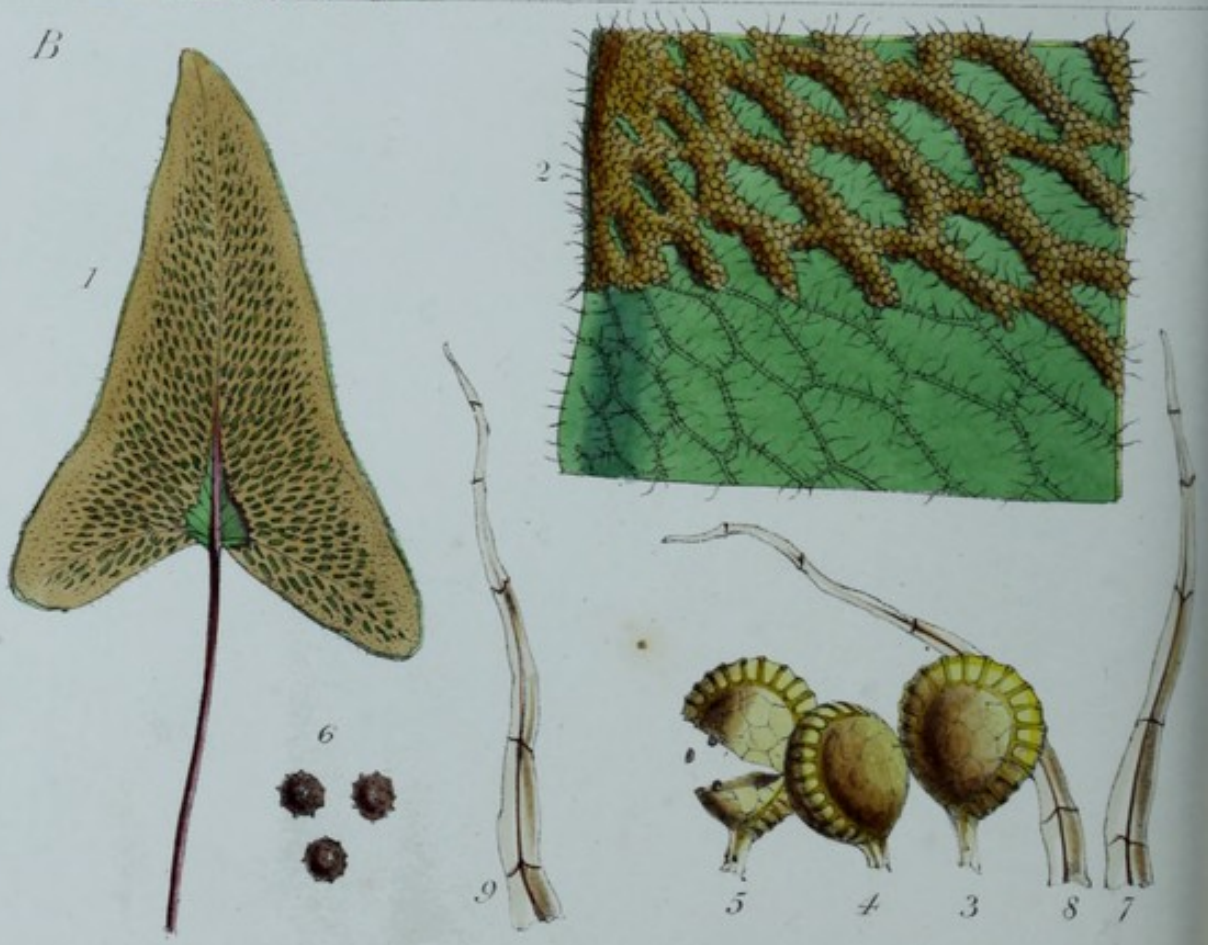
Grammion, spec. Schind. Portion, spec. Schind.

Two more species described here, including *Toxogramma* and *Grammion*. The first is a new species, *Toxogramma* sp. nov. The second is a new species, *Grammion* sp. nov. The first is a new species, *Toxogramma* sp. nov. The second is a new species, *Grammion* sp. nov.

Toxogramma sp. nov. (Tab. LXXIII. B.)

This species is described here. It is a new species, *Toxogramma* sp. nov. It is a new species, *Toxogramma* sp. nov. It is a new species, *Toxogramma* sp. nov. It is a new species, *Toxogramma* sp. nov.







TAB. LXXIV. A.

HELMINTHES. Linn.

Convolvulus spec. Hel. ...

See also ...

Sedum ...

Convolvulus ...

What ...

TAB. LXXIV. B.

HELMINTHES. Linn.

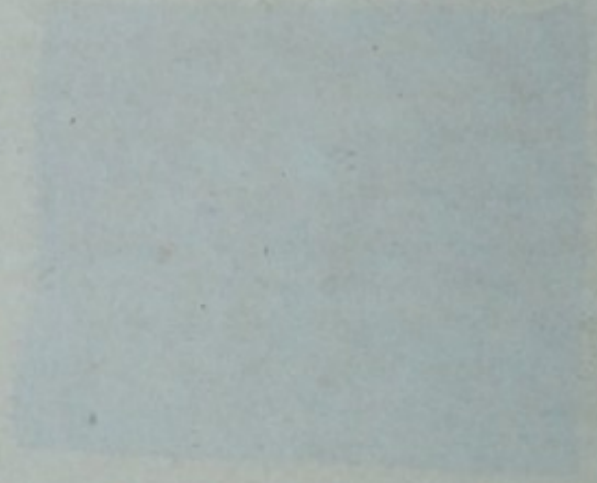
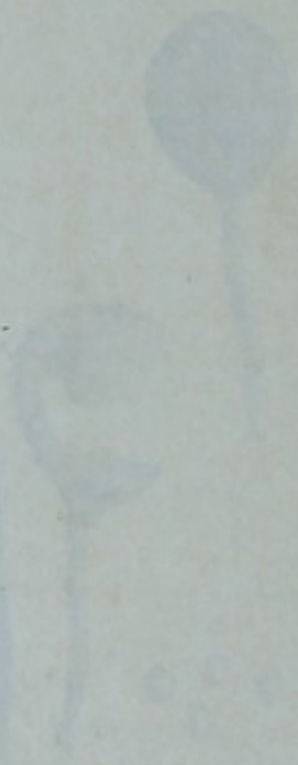
Helicoverpa ...

See ...

Helicoverpa ...

That ...

Tab. LXXIV. B. ...



TAB. LXXIV. A.

SELLIGUEA. *Bory.*

CETERACHIS, spec. *Hook. et Grev.* POLYPODII et GRAMMITIDIS, spec. *Wall.*

*Sori* dorso venularum suprapositarum inserti, lineares, elongati, crassi, continui, rarius interrupti, inter venas uniseriales, nudi.—*Filices intratropicæ, indicæ.* Rhizoma *repens.* Frondes *sparsæ, simplices, unica vice pinnatifidæ, similes herbaceæ, aut dissimiles sterilibus herbaceis fertilibus subinde coriaceis.* Venæ *pinnatæ, parallelæ, ramosissimæ.* Venulæ *internæ, primariæ in maculas hexagonoideas plus minus regulares anastomosantes, secundariæ in maculas minores irregulariter angulatas confluentes, aut liberæ apice globuloso-incrassatæ simplices furcatæve rectæ hamatæve.*

*Selliguea Wallichiana.* *Hook. Ic. Plant, v. 3. t. 204.*

*Grammitis macrophylla.* *Wall. Cat. (non Blume.)*

What *Phymatodes* is to *Polypodiaceæ*, (especially the section *Pleuridium*), *Aspidium* to *Aspidiaceæ*, *Amphiblestra* to *Adiantaceæ* and *Gymnopteris* to *Acrostichaceæ*, *Selliguea* is to *Grammitideæ*.

TAB. LXXIV. B.

HEMIONITIS. *Linn.*

HEMIONITIS, *Sw.* ANTROPHYUM, *Kaulf.*

*Sori* lineares, angusti, elongati, sæpe immersa, nudi, venarum venularumque dorso insidentes.—*Filices intratropicæ.* Frondes *fasciculatæ, coriaceæ, simplices, integerrimæ, aut palmato-tri-quinquelobæ profunde lateque crenatæ, sinus gemmiferis.* Venæ *ramosissimæ in maculas hexagonoideas inæquales ut plurimum elongatas anastomosantes, internæ tenues aut elevatæ costulæformes.* *Presl.*

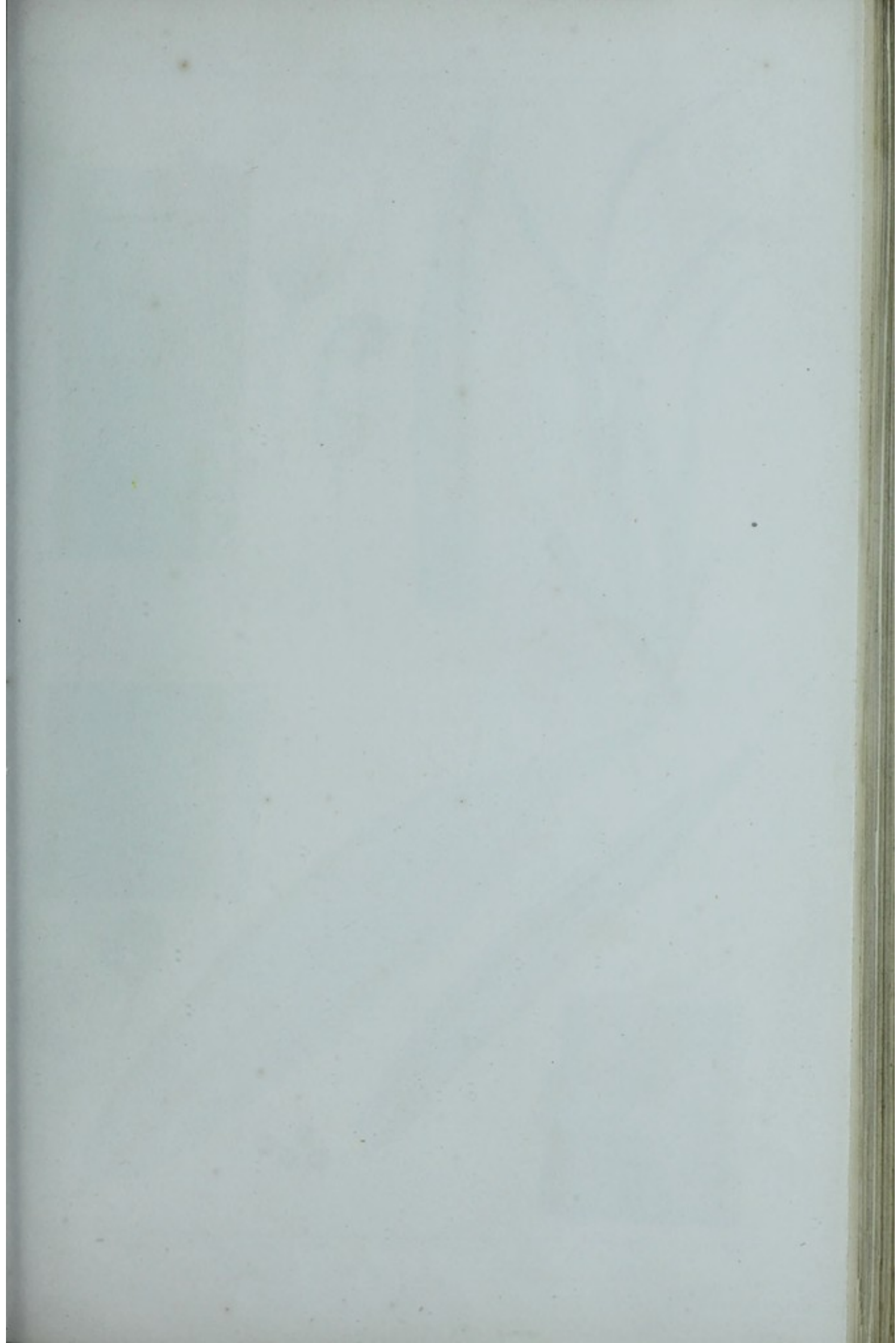
*Hemionitis cordata, Roxb.*—(TAB. LXXIV. B.)

*Presl* unites *Antrophyum*, notwithstanding its peculiar habit, with *Hemionitis*; they however form 2 sections, chiefly distinguished by the rounded elongated sorus (*Hemionitis*) and the short flattened one (*Antrophyum*).

TAB. LXXIV. B. *Fig. 1.* Fertile frond of *Hemionitis cordata*: *nat. size*; *f. 2.* Portion of the same, showing the veins and sori; *f. 3, 4, 5.* Sporangia; *f. 6.* Sporules; *f. 7, 8, 9.* Hairs from the veins and margin:—*magnified.*











TAB. LXXV. A.

(And Tab. LXXII. A.)

PHLOEOPHAGINE. Presl.

*Phloeopagina* Presl. *Phloeopagina* Presl. *Phloeopagina* Presl. *Phloeopagina* Presl. *Phloeopagina* Presl.

Small plants with upright or prostrate stems, leaves alternate, ovate or elliptical, glabrous or pubescent. Petioles prostrate, ligulate, sometimes stipitate, sometimes sessile. Vase-pieces distinct, entire, sometimes entire, often deeply serrated. Presl.

*Phloeopagina* Presl. Presl. (Tab. LXXV. A. and Tab. LXXII. A.)  
*Tectaria* Hooker, *Ind.*

The sort on each side of the leaf is often so confluent that the leaves just as they are ready to proceed for *Phloeopagina*, Presl. and during the winter's unobtainable into and long season from hence this state of the plant was characteristically figured by the artist for the *Genus* *Phloeopagina* of Presl. in Tab. LXXII. A. of this work, which must be our apology for the *Genus* *Phloeopagina* being twice represented. Only 6 species are included by Presl. — *P. linearis*, Presl. and *P. grandifolia*, Presl. all species of *Tectaria* of other authors.

Tab. LXXV. A. Fig. 1. Small plant of *Phloeopagina* Presl. — *P. linearis*, Presl. Fig. 2. Part of the same plant showing the venation of the leaf: *P. linearis*, Presl. Fig. 3. *Phloeopagina* Presl. — *P. grandifolia*, Presl.

Tab. LXXV. A. Fig. 4. Small plant of the same plant, *P. linearis*, Presl. Fig. 5. Small portion of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *P. linearis*, Presl. Fig. 6. *Phloeopagina* Presl. — *P. grandifolia*, Presl.

TAB. LXXV. B.

JENKINSIA. Hook.

Small plants, elongate, caudex, nodos, prope marginem viximam quibus doli-  
 formis. — *Pilis* longior, nervis. *Fronde* pinnatis, distantes, foliis lanceolatis  
 ovatis, distans, nervis, membranaceis, caps. oviformi, pediculis angulatis,  
 pinnis latioribus. *Vase* pinnatis, viximam prope marginem parallelis,  
 striata. *Vasculis* oppositis, in *divis* longioribus confluentibus, nervis secundariis et  
 angulis arcuatis (doli) caps. distinctis, viximam prope marginem viximam quibus doli-  
 formis (membranaceis *Hook* *Ind.*) in *divis* longioribus caps. et  
 nervis *Hook*.

*Jenkinsia nodulata*. — (Tab. LXXV. B.)

*Ectochloa nodulata*, Wall. Cat. n. 136.

This fine fern, found by Dr. Wallis at Maricao, will hold the plant among the *Ectochloa*, that *Chrysochloris* does among *Polygramma* and *Claytonia* (Dr.) among *Acrostichum*. — I have named the *Genus* in compliment to Captain Jenkins, who has sent large collections of *Amaz.* plants to the Nat. Hist. Society, of which that which I have been allowed liberally to peruse, and which contains many interesting East Indian plants.

Tab. LXXV. B. Fig. 1. Small plant of *Jenkinsia nodulata*. — *J. nodulata*, Hook. Fig. 2. Small portion of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *J. nodulata*, Hook. Fig. 3. Part of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *J. nodulata*, Hook. Fig. 4. Part of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *J. nodulata*, Hook. Fig. 5. Part of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *J. nodulata*, Hook. Fig. 6. Part of the same plant showing the venation of the leaf, the venation being of the same kind as in the same leaf: *J. nodulata*, Hook. Fig. 7. *Jenkinsia* Hook. — *J. nodulata*, Hook.





TAB. LXXV. A.

(And TAB. LXXII. A.)

PLEUROGRAMME. *Presl.*

GRAMMITIDIS spec. *Willd.* TÆNITIDIS spec. *Kaulf. Spr.* ANTROPHYI sect.

PLEUROGRAMME, *Blume.* MICROPTERIS, spec. *Desv.*

*Sori* utrinque costæ contigui et paralleli, continui, lineares, nudi.—*Filices intratropicæ.* *Rhizoma repens.* *Frondes sparsæ, tenuiter coriaceæ, simplices, integerrinæ.* *Venæ pinnatæ, distantes, internæ, simplices, apice libero punctiformi desinentes.* *Presl.*

*Pleurogramme linearis, Presl.*—(TAB. LXXV. A. and TAB. LXXII. A.)—*Tænitis linearis, Kaulf.*

The sori on each side the costa are often so confluent that the Genus may at first sight readily be mistaken for *Microgramme, Presl*; and, during the author's unavoidable late and long absence from home, this state of the plant was inadvertently figured by the artist for the Genus *Microgramme* of *Presl*, at TAB. LXXII. A. of this work; which must be our apology for the Genus *Pleurogramme* being twice represented. Only 3 species are included by *Presl*;—*P. linearis, P. pumila, Presl*, and *P. graminifolia, Presl*; all species of *Tænitis* of other authors.

TAB. LXXV. *Fig. 1.* Sterile and fertile fronds of *Pleurogramme linearis*: *nat. size*; *f. 2.* Portion of the same; *f. 3.* Smaller portion of do., showing the insertion of the sori; *f. 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXXII. A. *Fig. 1.* Fertile frond of the same plant; *f. 2.* Smaller portion of do.; *f. 3.* Smaller portion, the sporangia mostly removed, but the figure is incorrect as giving the appearance of the sporangia arising from the costa itself; *f. 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXXV. B.

JENKINSIA. *Hook.*

*Sorus linearis, elongatus, continuus, nudus, prope marginem avenium frondis difformis.*—*Filix tropica, Indica.* *Frondes pinnatæ, dissimiles, foliis lanceolatis undulato-dentatis coriaceo-membranaceis, sæpe proliferis, fertilibus angustioribus, pinnis lato-marginatis.* *Venæ pinnatæ, subtus præcipue prominentes, parallelæ, strictæ.* *Venulæ oppositæ, in arcus biangulatos confluentes, venulis secundariis ex angulis arcuum liberis apice clavatis, aut in sinum arcus superioris in pinnis fertilibus excurrentibus (marginantibus liberis nudis) in sterilibus omnibus usque ad marginem liberis.*

*Jenkinsia undulata.*—(TAB. LXXV. B.)

*Notochlæna undulata, Wall. Cat. n. 140.*

This fine Fern, found by Dr Wallich at Martaban, will hold the place among the *Tænitidæ*, that *Campyloneurum* does among *Polypodiaceæ*, and *Campium* (Pr.) among *Acrostichaceæ*.—I have named the Genus in compliment to Captain Jenkins, who has sent large collections of Assam plants to the Nat. Hist. Society of Cornwall, of which I have been allowed liberally to partake, and which contain many interesting East Indian Ferns.

TAB. LXXV. B. *Fig. 1.* Sterile pinna of *Jenkinsia undulata*: *nat. size*; *f. 2.* Small portion of the same:—*magnified*; *f. 3.* Fertile pinna of the same: *nat. size*; *f. 4.* Portion of the same with part of the sorus removed; *f. 5, 6.* Sporangia; *f. 7.* Sporules:—*magnified.*

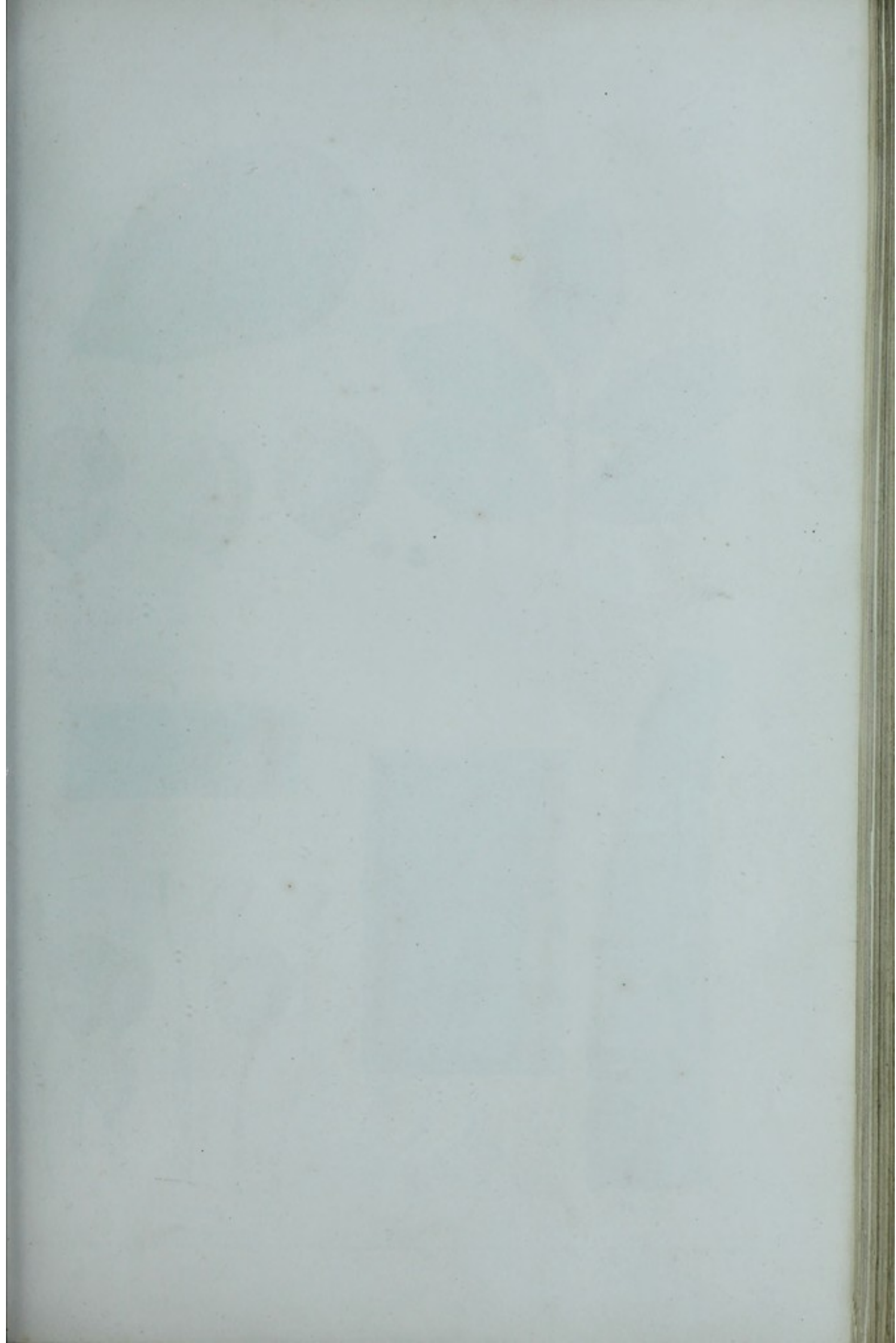


TAB LXXV. A.  
(And Tab LXXII. A.)  
PLEUROGRAMMA. Wood.

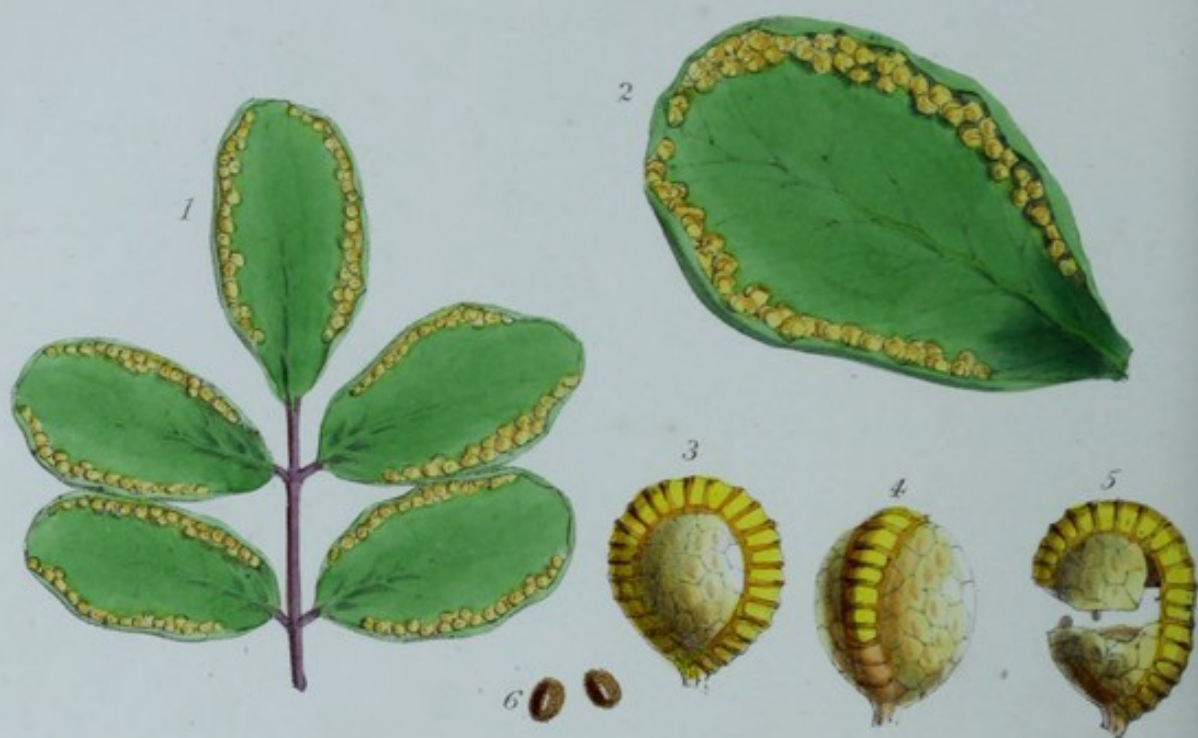
GRAMMITEUM spec. Willd. F. rarities spec. Kuhn. spec. ANTHROPUS spec.  
 PLEUROGRAMMA spec. Willd. F. rarities spec. Kuhn. spec. ANTHROPUS spec.  
 The text on this page is very faint and appears to be a list of botanical specimens or a detailed description of a plant. It includes several lines of text, some of which are partially obscured or very light. The text seems to be organized into sections, possibly corresponding to different parts of the plant or different specimens. The overall appearance is that of a scientific manuscript or a printed list of botanical records.

TAB LXXV. B.  
VERBINA. Wood.

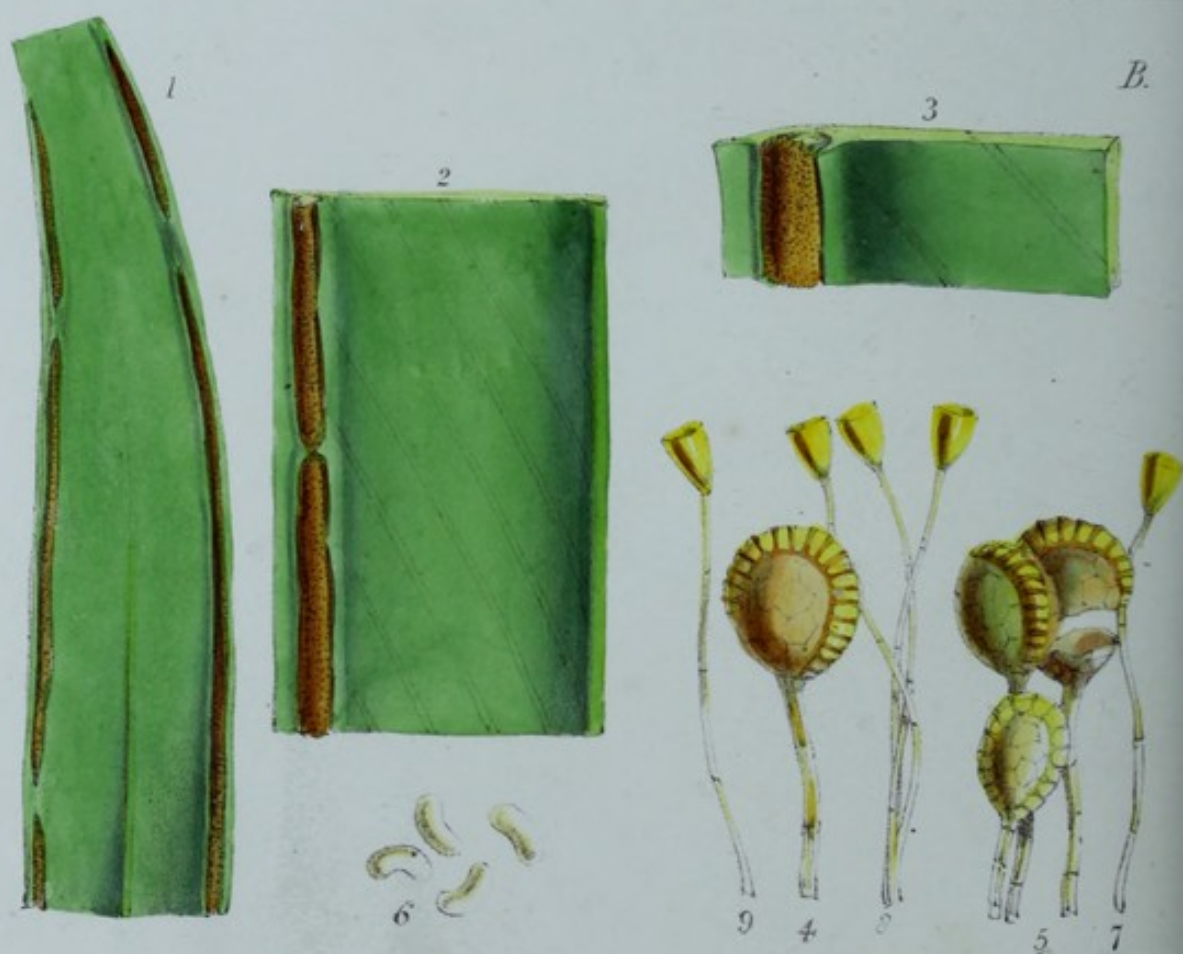
VERBINA spec. Willd. F. rarities spec. Kuhn. spec. ANTHROPUS spec.  
 The text on this page is very faint and appears to be a list of botanical specimens or a detailed description of a plant. It includes several lines of text, some of which are partially obscured or very light. The text seems to be organized into sections, possibly corresponding to different parts of the plant or different specimens. The overall appearance is that of a scientific manuscript or a printed list of botanical records.



A.



B.











TAB. LXXVI. A.

NOTHOLÆNA. *Br. Presl.*

ACROSTICHI spec. *Linn.* NOTOCHLÆNÆ spec. *Kaulf. et Auct.*

*Sorus* marginalis, linearis, continuus, nudus. *Sporangia* breviter pedicellata.—  
*Rhizoma repens.* Frondes *sparsæ, coriaceæ, pinnatæ aut bipinnatæ, subtus aut*  
*paleis densissime imbricatis aut farina aut tomento obtectæ.* Venæ *pinnatæ, cre-*  
*berrimæ, internæ, tenuissimæ, uni-bi-trifurcatæ, venulisque apice acuto desinentibus*  
*parallelæ.* *Presl.*

*Notholæna tenera, Hook. Bot. Mag. t. 3055.*—(TAB. LXXVI. A.)

This and some other of the species of this Genus have a narrow revolute margin, more or less covering the sorus, so as to give the appearance of an indusium.

TAB. LXXVI. A. *Fig. 1.* Portion of a fertile frond of *Notholæna tenera*; *f. 2.* Single pinna; *f. 3, 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXXVI. B.

TÆNIOPTERIS. *Hook.*

*Sori* submarginales, lineares, elongati, continui vel interrupti, nudi, profunde im-  
 mersi, utrinque subattenuati. *Sporangia* longe stipitata, pilis copiosis articu-  
 latis (sporangii abortivis) apice glandula turbinata terminatis immixta. *Sporulæ*  
 reniformes, pellucidæ.—*Filix Africana.* Frons *elongato-lanceolata, falcata, ses-*  
*silis, coriaceo-carnosa, simplex, costata.* Venæ *pinnatæ, internæ, obliquæ, parallelæ,*  
*simplices, usque ad sorum attingentes.*

*Tæniopteris Forbesii, (TAB. LXXVI. B.)*

This Fern was gathered in Mozambique by Mr Forbes, one of the collectors for the Horticultural Society of London. I had at first considered it a *Vittaria*, with which it agrees in habit and venation:—but the sorus is by no means in the margin or edge of the frond, but on the under side within the margin, as in *Pteropsis*, from which the venation and sunken sori will at once distinguish it.

TAB. LXXVI. B. *Fig. 1.* Portion of a fertile frond of *Tæniopteris Forbesii: nat. size*; *f. 2.* Smaller portion with sorus; *f. 3.* Section of a sorus; *f. 4, 5.* Sporangia; *f. 7, 8, 9.* Capitate hairs or abortive sporangia among the perfect ones; *f. 6.* Sporules:—*magnified.*







A.



B.





TAB. LXXVI. A.

PLANTAE

Species...  
Cultivation...

Species...  
Cultivation...

Species... (Tab. LXXVII. A.)

Tab. LXXVII. A. Fig. 1. Illustration of plant...

TAB. LXXVII. B.

PLANTAE

Species...  
Cultivation...

Species...  
Cultivation...

Species... (Tab. LXXVIII. B.)

Tab. LXXVIII. B. Fig. 1. Illustration of plant...



TAB. LXXVII. A.

PTEROPSIS. *Presl.*

PTERIDIS spec. *Linn.* TÆNITIDIS spec. *Willd.* ANTROPHYI sect.  
CHILOGRAMME, *Blume.* PTEROPSIDIS spec. *Desv.*

*Sorus marginalis, linearis, continuus, (vel interruptus) nudus. Receptaculum lineare, elevatum.—Filices intratropicæ pleræque Americanæ. Rhizoma subrotundum. Frondes fasciculatæ, coriaceæ, simplices aut dichotomo-lobatæ. Venæ internæ, ramosæ, venulisque in maculas hexagonoideas anastomosantes. Presl.*

*Pteropsis angustifolia, Desv.—(TAB. LXXVII. A.)—Pteris angustifolia, Sw. Tænitis angustifolia, Spr.*

TAB. LXXVII. A. *Fig. 1.* Portion of a fertile frond of *Pteropsis angustifolia*:—*nat. size*; *f. 2.* Smaller portion of the same; *f. 3, 4, 5.* Sporangia; *f. 6.* Sporules; *f. 7.* Sterile or abortive sporangia, found copiously among the fertile ones:—*magnified.*

TAB. LXXVII. B.

TÆNITIS. *Sw. Presl.*

TÆNITIDIS spec. *Willd. et Auct.*

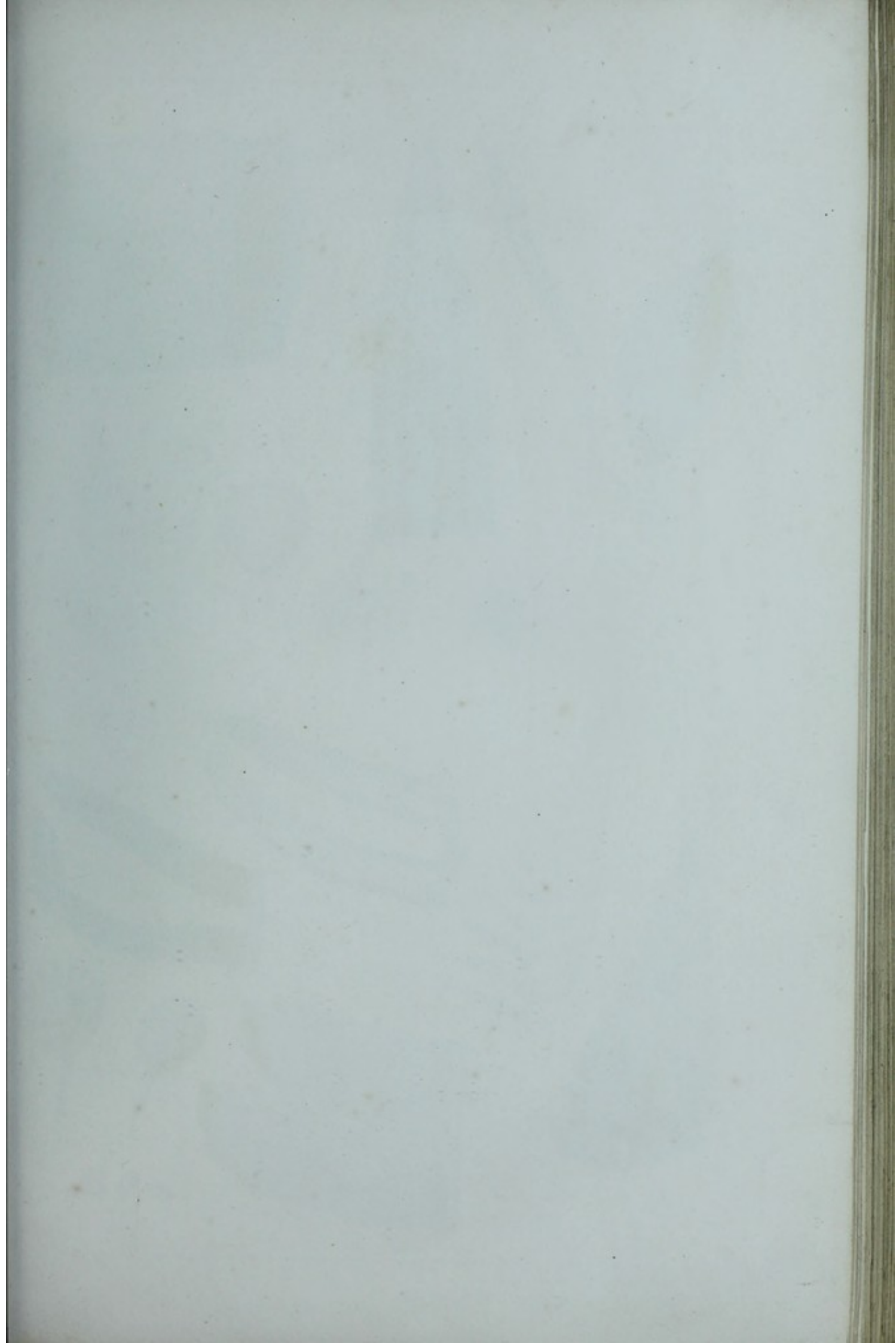
*Sori in medio disco frondis solitarii, lineares, continui, nudi. Sporangia pedicellata.—Filices intratropicæ, Indicæ. Rhizoma subrotundum. Frondes fasciculatæ, coriaceæ, pinnatæ, fructiferæ venis venulisque supra læviter lineatæ. Venæ pinnatæ, crebræ, internæ, tenues, ramosæ, venulisque in maculas hexagonoideas anastomosantes. Presl.*

*Tænitis blechnoides, Sw.—(TAB. LXXVII. B.)*

TAB. LXXVII. B. *Fig. 2.* Fertile pinna of *Tænitis blechnoides*: *nat. size*; *f. 1.* Portion of the same with part of the sorus removed; *f. 3, 4, 5.* Sporangia mixed with abortive ones; *f. 6.* Abortive sporangia:—*magnified.*

















TAB. LXXVIII. A.

DRYMOGLOSSUM. *Presl.*

PTERIDIS spec. *Linn.* NOTOCHLÆNÆ spec. *Kaulf.* PTEROPSIDIS spec. *Desv.*

*Sori* in fronde fertili dissimili marginales (vel submarginales), lineares, continui.—  
*Filices intratropicæ, Indicæ.* Rhizoma *repens, filiforme.* Frondes *sparsæ, coriaceæ, simplices, steriles, in unica specie* (*D. piloselloidi*) *subsessiles, late lanceolatae, obtusæ, in altera specie* (*D. spathulato*) *stipitatæ, elliptico-lanceolatae, utrinque acutæ, fertiles stipitatæ, lineari-spathulatæ.* Venæ *internæ, tenuissimæ, ramosissimæ.* Venulæ *primariæ in maculas hexagonoideas subrotundas anostomosantes, secundariæ liberæ, obtusæ, simplices, ramosæve, rectæ hamatæve.* *Presl.*

*Drymoglossum carnosum* (TAB. LXXVIII. A.); *soris* versus medium intra marginem et costam setis.

*Notochlæna* (*Tænitis?*) *carnosa, Wall. Cat. n. 138.*

Our plant is from Nepal. It differs, in the situation of the sori, from the two hitherto known species (*D. piloselloides* and *D. spathulatum*), in the lines of fructification being at a distance from the margin, in the middle as it were, between that and the costa. Among the sporangia are found peltate scales, not the stellated hairs described by *Presl.*

TAB. LXXVIII. B.

POLYBOTRYA. *Humb. et Bonpl.—Presl.*

POLYBOTRYÆ spec. *Kaulf. Spr. Blume.*

*Sorus* *superficiarius, frondis fertis dissimilis paginam totam inferiorem, nonnunquam et superiorem, obtegens.*—*Filices intratropicæ, pleræque Americanæ.* Rhizoma *repens.* Frondes *sparsæ, herbaceæ, dissimiles, pinnatæ, bi-tripinnatæ; pinnæ laciniæve fertiles angustæ, breves, venis tenuissimis instructæ.* Venæ *pinnatæ, internæ, tenues, simplices, apice obtuso libero desinentes, paginam superiorem frondis sterilis lineantes, infimæ in sinus dentium aut laciniarum excurrentes.* *Presl.*

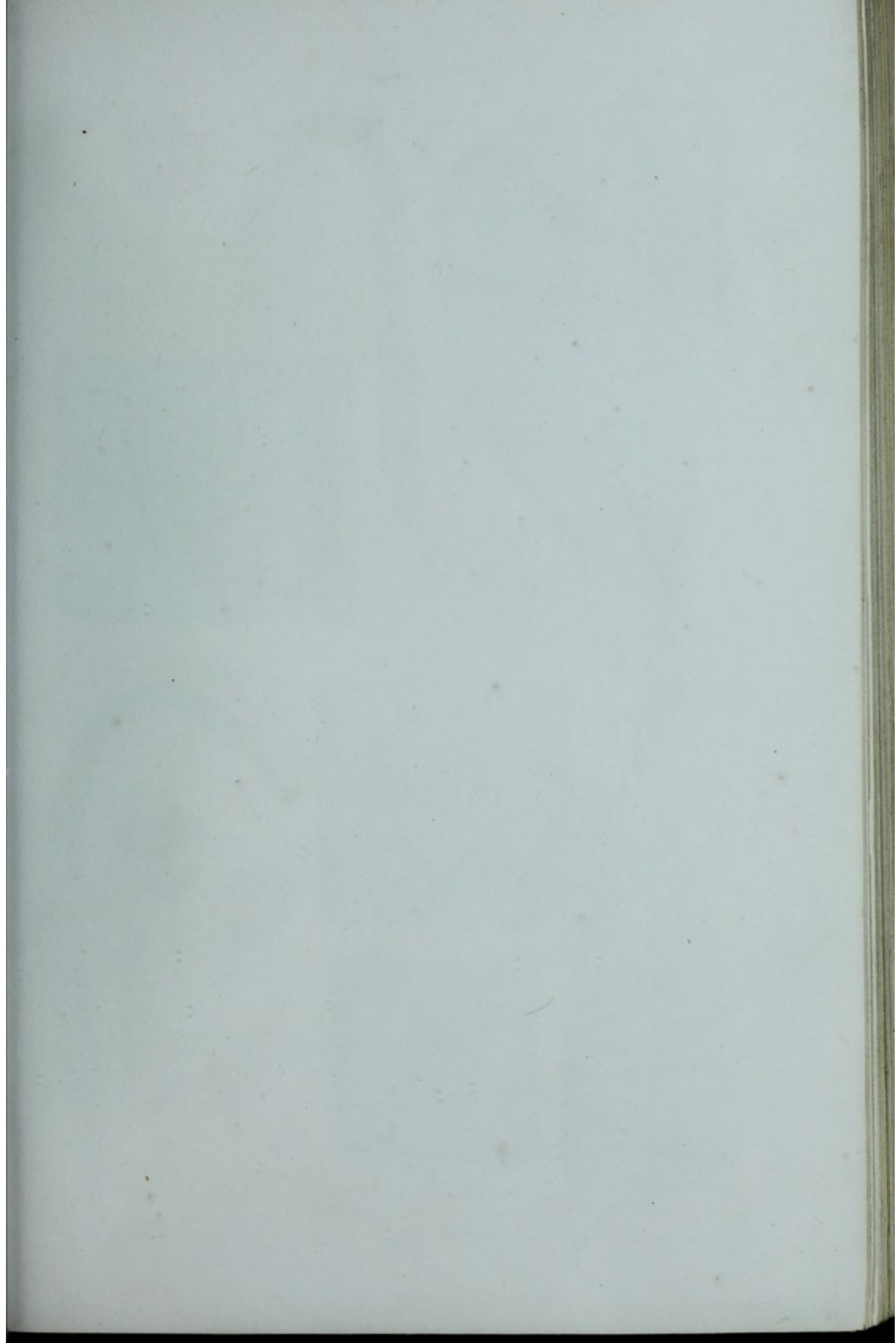
*Polybotrya osmundacea, Humb. et Bonpl.—(TAB. LXXVIII. B.)*

Nine species are enumerated by *Presl* as belonging to this Genus:—the present is the original species of *Humboldt* and *Bonpland.*

TAB. LXXVIII. B. *Fig. 1.* Portion of a sterile frond of *Polybotrya osmundacea: nat. size; f. 2.* Smaller portion of the same: *magnified; f. 3.* Fertile portion of the same: *nat. size; f. 4, 5.* Smaller portions of the same seen on both sides; *f. 6, 7.* Sporangia; *f. 8.* Sporules:—*magnified.*















TAB. LXXIX. A.

OLFERSIA. *Raddi.*

ACROSTICHI spec. *Linn.* POLYBOTRYÆ spec. *Kaulf.* LOMARIÆ spec. *Kaulf.*  
ELAPHOGLOSSUM et RHIPIDOPTERIS, *Schott.*

*Sorus* superficialis, totam paginam frondis inferiorem, unica vice et superiorem obtegens.—Filices *præcipue tropicæ.* Rhizoma *repens.* Frondes *sparsæ, herbaceæ v. coriaceæ, simplices, rarius pinnatæ, fertiles sterilibus paullo dissimiles, angustiores, breviores, longiusque stipitatæ.* Venæ *pinnatæ, creberrimæ, simplices furcatæve, venulisque parallelæ, apice libero acuto aut punctiformi-incrassato desinentes, aut internæ tenuissimæ aut utrinque elevatæ costulæformes.* *Presl.*

*Olfersia Corcovadensis, Raddi.*—(TAB. LXXIX. A.)—*Acrostichum linearifolium, Presl.* *Polybotrya Raddiana, Kaulf.* *Acrostichum sorbifolium, Hort. Angl. et Berol.*

As *Presl* has defined *Olfersia* it differs from *Polybotrya* in the parallel veins and veinlets which have their origin at a slightly acute angle; and from *Acrostichum* in the veins and veinlets being free, not anastomosing.

TAB. LXXIX. A. *Fig. 1.* Pinna from a sterile frond of *Olfersia Corcovadensis*: *nat. size*; *f. 2.* Small portion of the same: *magnified*; *f. 3.* Fertile pinna: *nat. size*; *f. 4, 5.* Sporangia; *f. 6.* Sporules:—*magnified.*

TAB. LXXIX. B.

ACONIOPTERIS. *Presl.*

ACROSTICHI spec. *Hook. et Grev.*

*Sorus* superficialis, totam paginam inferiorem frondis fertilis subdissimilis obtegens.—Felix *Madraspatana et ex S. Helena.* Rhizoma *repens.* Frondes *sparsæ, simplices, coriaceæ, stipitatæ: steriles oblongo-lanceolatæ, acutæ, marginatæ, supra squamis peltatis lacero-fimbriatis conspersæ, subtus densissime elevato-ferrugineo-punctatæ: fertiles lineari-lanceolatæ acuminatæ longius stipitatæ.* Stipes *costaque dense paleaceus ac ferrugineo-elevato-punctatus vel potius verrucosus.* Venæ *pinnatæ, creberrimæ, parallelæ, subtus costæformes, simplices vel ad basin furcatæ, venulisque apice in arcum triangularem acutiusculum anastomosantes, venula secundaria clavata libera ex apice arcus emergente.* *Presl.*

*Aconiopteris subdiaphana, Presl.*—(TAB. LXXIX. B.)—*Acrostichum subdiaphanum, Hook. et Grev.*

TAB. LXXIX. B. *Fig. 1.* Portion of a sterile frond of *Aconiopteris subdiaphana*: *nat. size*; *f. 2.* Smaller portion of the same, under side; *f. 3.* Lesser portion seen from above; *f. 4, 5.* Scales from the upper side of the frond: *magnified*; *f. 6.* Fertile frond, removed from the stipes: *nat. size*; *f. 7, 8.* Sporangia; *f. 9.* Sporules:—*magnified.*



TAB. LXXIX. A.

OPHTHALMIA.

Accidenti spec. LXXIX. A. Ophthalmia spec. LXXIX. A. Ophthalmia spec. LXXIX. A.

...superioribus... inferioribus... oculis... et superioribus... inferioribus... oculis... et superioribus...

Ophthalmia spec. LXXIX. A. Ophthalmia spec. LXXIX. A. Ophthalmia spec. LXXIX. A.

...superioribus... inferioribus... oculis... et superioribus... inferioribus... oculis... et superioribus...

Tab. LXXIX. A. Fig. 1. Partem... Tab. LXXIX. A. Fig. 2. Partem... Tab. LXXIX. A. Fig. 3. Partem...

TAB. LXXIX. B.

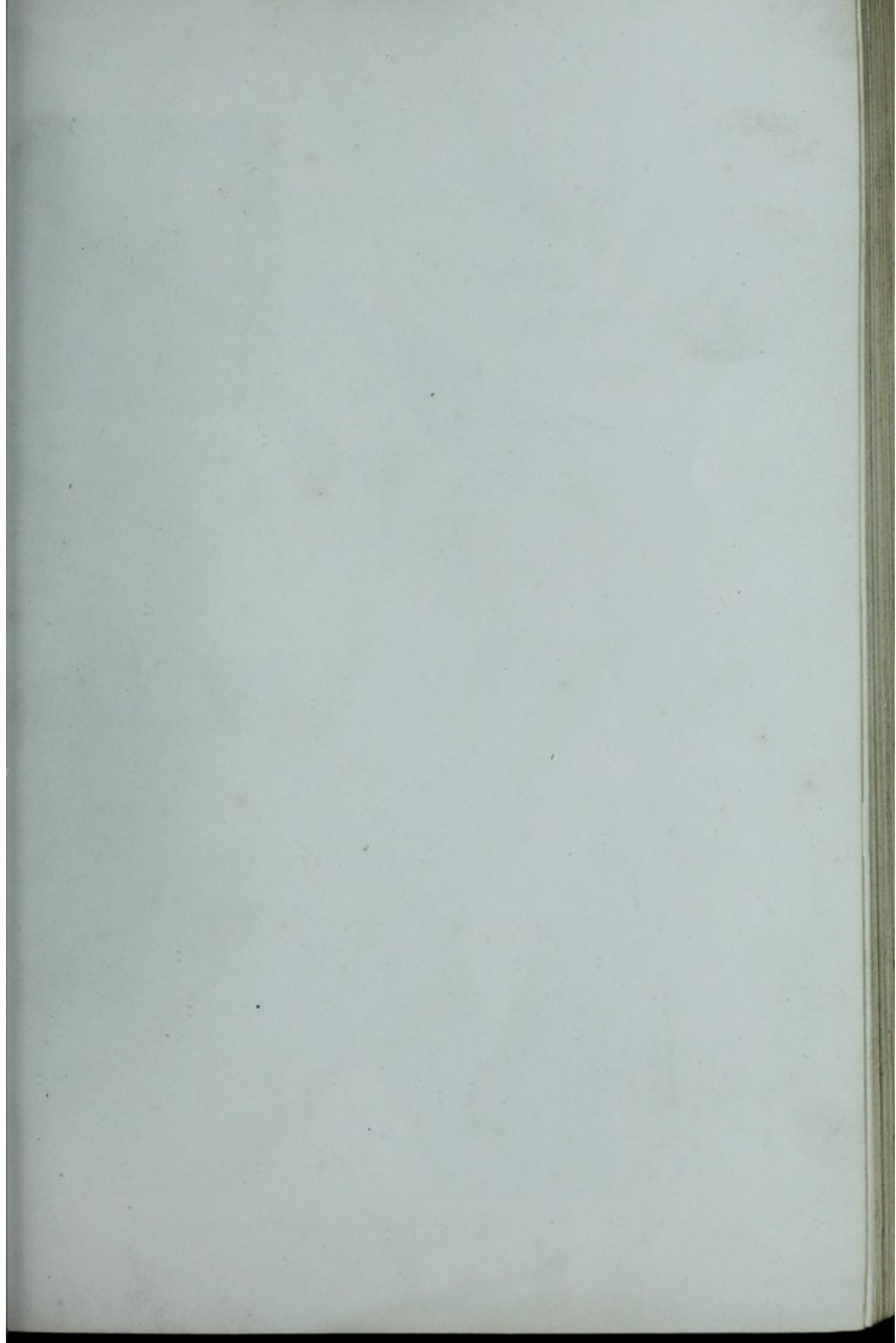
ACONITOPSIS.

Accidenti spec. LXXIX. B.

...superioribus... inferioribus... oculis... et superioribus... inferioribus... oculis... et superioribus...

Aconitopsis spec. LXXIX. B. Aconitopsis spec. LXXIX. B. Aconitopsis spec. LXXIX. B.

Tab. LXXIX. B. Fig. 1. Partem... Tab. LXXIX. B. Fig. 2. Partem... Tab. LXXIX. B. Fig. 3. Partem...







TAB. LXXX. A.

CAMPIDUM. Presl.

*Acrostichum* spec. Auct. *Elasmochloa* spec. Schott.

Sorus superficialis, pagina inferiori frondis oblonga. — Filices inter-tropicae, Indicae. Rhizoma repens. Frondes sparsae, herbaceae aut cartilagineae, planae. Venae pinnae, interae tenuissimae aut crassae costiformes, pinnae ovales, capsae apice libero punctiformi-exsertato aut obtuso distinctae. Vaginae apices in cruce distinctissimae aut acuta triangulariter emarginatae, cupressae subulatae in maculis irregularibus confluentibus, saepe secundum nervos in apice cruce distinctissimae aut in cruce obtusa superioris excurrentibus. Presl.

*Campidium subcrenatum*, Presl. — (TAB. LXXX. A.) — *Acrostichum subcrenatum*, Wall.

*C. punctulatum*, *C. insana*, *C. repandum*, *C. subcrenatum*, and *C. viride* (all *Acrostichum* of older authors, and all natives of the East Indies), are what Presl refers to this Genus.

TAB. LXXX. Fig. 1. Portion of a sterile head of *Campidium subcrenatum*, nat. size; f. 2, 3, 4. Sori; f. 5. Spores; magnified; f. 6. Part of a sterile head, nat. size; f. 7. Portion of the same; — magnified.

TAB. LXXX. B.

PLATYCEBIUM. Less.

Sorus superficialis, pagina inferiori partis superioris frondis oblonga. — Filices tropicae. Rhizoma subglobulosum parvum. Frondes fasciculatae, crassae distinctae, aliae sessiles cordato-obovatae crenato-lobatae usque cordatae, aliae stipitatae, dichotomo-lobatae in lobis fertilibus ovatae acuminatae pedunculatae peltatae striatae multifidae cymulae intermixtae obtusa. Venae inferae subanastomose, pinnulae, cupressae, obtusae cymiformes, apice acuto libero distinctae, cupressae haecae ramosae velut in maculis trapezoidales diagonales anastomose. Presl.

*Platycebiium bifurc*, Blume. — (TAB. LXXX. B.) — *Acrostichum bifurc*, Sw. *Acrostichum grande*, All. *Cera. in Herb. exalt.* *Platycebiium acronatum*, Less.

TAB. LXXX. B. Fig. 1. Small portion of the sterile head of *Platycebiium bifurc*, nat. size; f. 2, 3. Sori; f. 4. Spores; f. 5. The same sori as before, but mixed with the sterile; magnified; f. 6. Small portion of a sterile head; — nat. size.





TAB. LXXX. A.

CAMPIUM. *Presl.*

ACROSTICHI spec. *Auct.* BOLBIDITIS spec. *Schott.*

*Sorus* superficialis, totam paginam inferiorem frondis obtegens.—*Filices* *intra-tropicæ, Indicæ.* *Rhizoma repens.* *Fronde* *sparsæ, herbacæ aut coriacæ, pinnatæ.* *Venæ pinnatæ, internæ tenuissimæ aut crassæ costæformes, pinnato-venulosæ, sæpe apice libero punctiformi-incrassato aut obtuso desinentes.* *Venulæ oppositæ in arcus obtusissimos aut acute triangulares anastomosantes, supremæ subinde in maculas irregulares confluentes, venulis secundariis ex apice arcuum solitariis liberis aut in sinum arcus mox superioris excurrentibus.* *Presl.*

*Campium subcrenatum, Presl.*—(TAB. LXXX. A.)—*Acrostichum subcrenatum, Wall.*

*C. punctulatum, C. costatum, C. repandum, C. subcrenatum, and C. virens* (all *Acrosticha* of other authors, and all natives of the East Indies), are what *Presl* refers to this Genus.

TAB. LXXX. *Fig.* 1. Portion of a fertile frond of *Campium subcrenatum*: *nat. size*; *f.* 2, 3, 4. Sporangia; *f.* 5. Sporules: *magnified*; *f.* 6. Pinna of a sterile frond: *nat. size*; *f.* 7. Portion of the same:—*magnified.*

TAB. LXXX. B.

PLATYCERIUM. *Desv.*

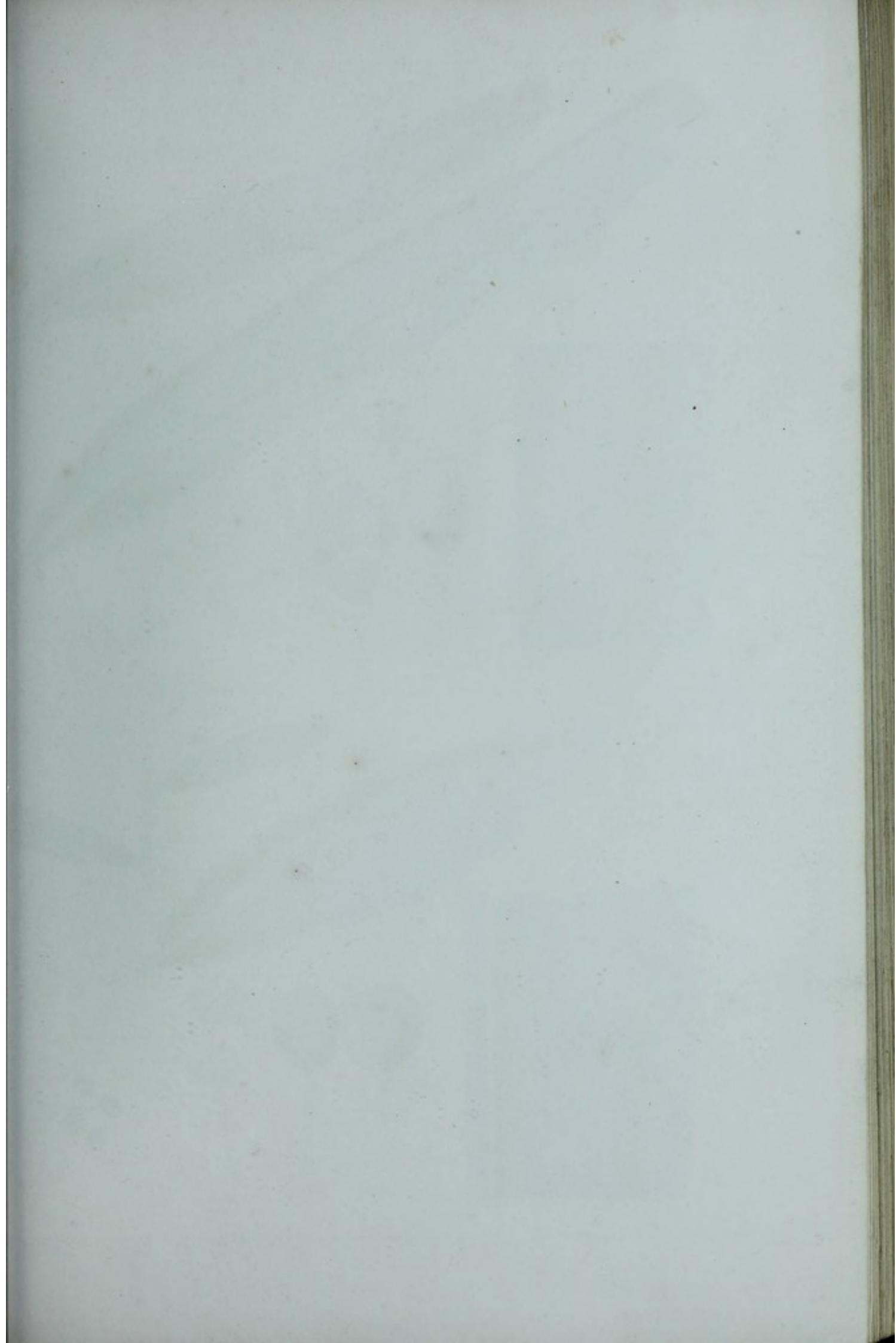
*Sorus* superficialis, paginam inferiorem partis superioris frondis obtegens.—*Filices tropicæ.* *Rhizoma subrotundum parvum.* *Fronde fasciculatæ, coriacæ, dissimiles, aliæ sessiles cordato-orbiculatæ crenato-lobatæ crassæ steriles, aliæ stipitatæ, dichotomo-lobatæ in lobos fertiles subtus squamis pedicellatis peltatis stellato-multifidis capsulis intermixtis oblectæ.* *Venæ infernæ subramosæ, flabellatæ, crassæ, elevatæ costæformes, apice acuto libero desinentes, superne tenues ramosæ venulisque in maculas trapezoideas magnas elongatas anastomosantes.* *Presl.*

*Platynerium biforme, Blume,*—(TAB. LXXX. B.)—*Acrostichum biforme, Sw.*  
*Acrostichum grande, All. Cunn. in Herb. nostr.* *Platynerium coronarium, Desv.*

TAB. LXXX. B. *Fig.* 1. Small portion of the fertile frond of *Platynerium biforme*: *nat. size*; *f.* 2, 3. Sporangia; *f.* 4. Sporules; *f.* 5. Stellated stipitate hairs mixed with the sporangia: *magnified*; *f.* 6. Small portion of a sterile frond:—*nat. size.*







A



B





TAB. LXXXI. A.

ACROSTICHUM. Presl.

*Acrostichum* sp. *Linnaeus* Desc.

*Forma* *superficialis*, utraque pagina inferiora fronte obtusata. Sporangia cœ-  
 berrima, pedicellata. Filices peristrophe *sub-strepida*. Pseudisoporus *variosus*,  
*longifolius* aut *pinus*, aut *similis*, pinis aut *similibus* vel *superioribus* fertilibus,  
 aut (in *A. Repens*) *obtusata*, pinis fronte fertili *angustioribus*. Vena  
 tenax, *irregulariter*, *seriatimque* *angulata*, in *venulas* *longitudinaliter* *longitudina-*  
*longitudina* *anastomosantes*, *subtus* *peram* *elevata*. Sporangia *exserta* *apertis* *pedicellis*  
*pedicellata* *stellata* *multifida* *intermixta*, *prima* *curva*, *demum* *flexa*. Presl.

*Acrostichum* *curvum*. *Desf.* (Tab. LXXXI. A.) *Wall. Cat. n. 31.*

That which the Great *Acrostichum* consists of few species, the *Linnaeus* *A. curvum*  
 being considered the type.

Tab. LXXXI. A.—Fig. 1. Under side of a fertile pinna, *not* *not*; 2—4. Sporangia and  
 pedicellated necks or glaucis; 5. *Thalassia* *—* *—*; 6. *Thalassia* *—* *—*; 7. Part  
 of a sterile pinna *—* *—*.

TAB. LXXXI. B.

POECILOPTERIS. Kuhn, Presl.

*Poecilopteris* sp. *Less.* et *Desf.* *Boissier*, *Schott.*

*Forma* *superficialis*, pagina inferiora fronte *divinilla* obtusata. Sporangia  
*cruciatissima*, pedicellata. Filices *Trigonæ*. Pseudisoporus *hercynicus*, *longifolius*  
 aut *exsertus* *pinus*, *divinilla*, pinis fronte *sterilibus* *prosertis* *terminali* *aut*  
*elongata* *apice* *prosertis* *et* *radicantibus*, fronte *fertili* *pinis* *—* *—*  
*aut* *inferioribus* *compositis* *et* *divinilla*. Vena *pinus*. Vena *prosertis*  
 aut *inferioribus* *in* *venulas* *irregulariter* *angulatas* *anastomosantes*, *venulas* *longitudina-*  
*venulas* *prosertis* *liberata* *apice* *globulosa* *interpositam* *multifida*. Presl.

*Poecilopteris* *hercynifolia*, Presl. (Tab. LXXXI. B.) *Acrostichum* *hercynifolium*,  
 Presl. *A. acrostichum*, *Wex.* *Boissier* *hercynifolia*, *Schott.*

Very nearly allied, as Presl observes, to *Acrostichum*; but differs in the reticulation  
 of the venulae.

Tab. LXXXI. B.—Fig. 1. Fertile pinna, *not* *not*; 2—4. Sporangia and  
 pedicellated necks or glaucis; 5. Sterile pinna; *not* *not*; 6. Part of the *—* *—*.



TAB. LXXXI. A.

ACROSTICHUM. *Presl.*

ACROSTICHI sp. *Linn. et Auct.*

*Sorus* superficialius, totam paginam inferiorem frondis obtegens. *Sporangia* creberrima, pedicellata.—*Filices præcipue intratropicæ*. Frondes *sparsæ, coriaceæ, simplices aut pinnatæ, aut similes, pinnis vel omnibus vel superioribus fertilibus, aut (in A. Requiniano) dissimiles, pinnis frondis fertilibus angustioribus*. Venæ *tenuis, ramosissimæ, venulisque æquilatis, in maculas hexagonoideas latitudine longiores anastomosantes, subtus parum elevatæ*. *Sporangia sæpe squamis peltatis pedicellatis stellato-multifidis intermixta, primo aurea, demum fusca*. *Presl.*

*Acrostichum aureum*. *Linn.* (TAB. LXXXI. A.) *Wall. Cat. n. 31.*

Thus reduced, the Genus *Acrostichum* consists of few species, the Linnæan *A. aureum* being considered the type.

TAB. LXXXI. A.—*Fig. 1.* Under side of a fertile pinna: *nat. size*; *f. 2—6.* Sporangia and pedicellated scales or glands; *f. 7.* Sporules:—*magnified*; *f. 8.* Sterile pinna: *nat. size*; *f. 9.* Portion of a sterile pinna:—*magnified*.

TAB. LXXXI. B.

POECILOPTERIS. *Eschw. Presl.*

ACROSTICHI sp. *Linn. et Auct.* BOLBITIS. *Schott.*

*Sorus* superficialius, paginam inferiorem frondis dissimilis obtegens. *Sporangia* creberrima, pedicellata.—*Filices Tropicæ*. Frondes *sparsæ, herbacæ, simplices aut sæpius pinnatæ, dissimiles, pinnis frondis sterilis præsertim terminali tum elongata apice proliferis et radicanibus, frondis fertilibus paucioribus angustioribus integerrimis nunquam radicanibus*. Venæ *pinnatæ*. Venulæ *prominulæ aut internæ in maculas irregulariter angulatas anastomosantes, maculis hinc inde venulam secundariam liberam apice globuloso-incrassatam emittentibus*. *Presl.*

*Poecilopteris fraxinifolia*. *Presl.* (TAB. LXXXI. B.) *Acrostichum fraxinifolium*. *Presl.* *A. serratifolium*. *Mert.* *Bolbitis serratifolia*. *Schott.*

Very nearly allied, as *Presl* observes, to his *Acrostichum*; but distinct in the reticulations of the veinlets.

TAB. LXXXI. B.—*Fig. 1.* Fertile pinna, seen from beneath: *nat. size*; *f. 2—4.* Sporangia, and *f. 5.* Sporules: *magnified*; *f. 6.* Sterile pinna: *nat. size*; *f. 7.* Portion of do.:—*magnified*.



TAB. LXXXI. A.

ACROSTICHUM. Pteris.

Acrostichum sp. Linn. et Herb.

Genus superius totam paginam inferiorem frons oblonga. Sporangia  
ferruginea, pedicellata.—Pinnis pinnatis bipinnatis. Pinnis pinnatis, cordatis,  
marginibus serratis, pinnis vel ramulis pinnatis vel bipinnatis fertilibus.  
Vix (in A. Hopkinsonii) dimittit frons frons fertilibus angustioribus. Vix  
tamen venositas venositas venositas in venis venositas venositas  
ferruginea venositas venositas venositas venositas venositas venositas  
pedicellata venositas venositas venositas venositas venositas venositas  
Pteris.

Acrostichum novum. Linn. (Tab. LXXXI. A.) Wall. Cat. n. 81.

This species the Genus Acrostichum consists of few species, the Libanus A. varium  
being considered the type.

Tab. LXXXI. A.—Fig. 1. Uter side of a fertile pinna; var. size; Fig. 2.—Sporangia and  
pedicellated veins or glands; Fig. 3.—Sporangia; Fig. 4.—Sporangia; var. size; Fig. 5.—  
Uter side of a sterile pinna;—enlarged.

TAB. LXXXI. B.

POCILLOPTERIS. Pteris. Pteris.

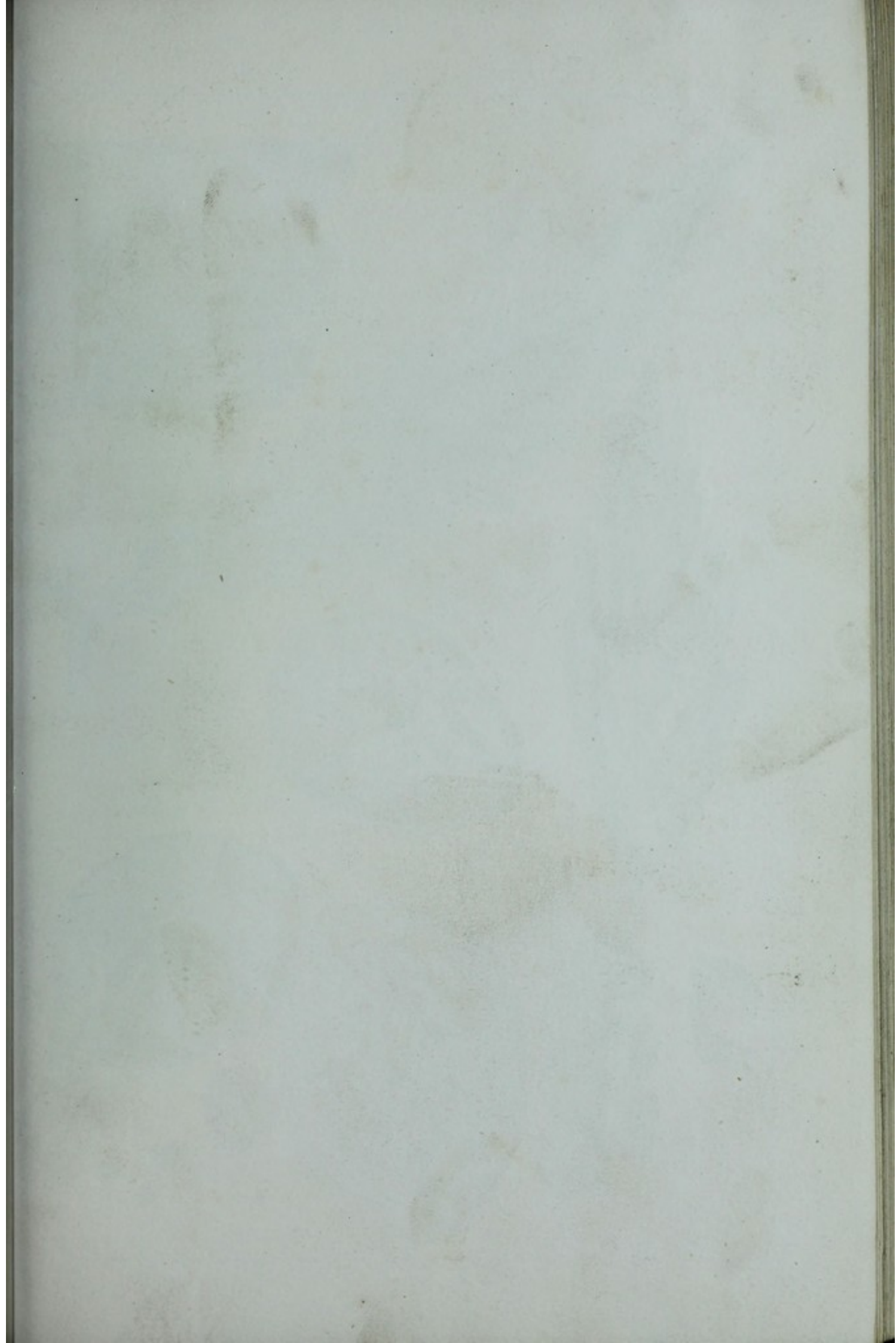
Acrostichum sp. Linn. et Herb. Pteris. Pteris.

Genus superius totam paginam inferiorem frons oblonga. Sporangia  
ferruginea, pedicellata.—Pinnis pinnatis bipinnatis. Pinnis pinnatis, angustis,  
marginibus serratis, pinnis vel ramulis pinnatis vel bipinnatis fertilibus.  
Vix (in A. Hopkinsonii) dimittit frons frons fertilibus angustioribus. Vix  
tamen venositas venositas venositas in venis venositas venositas  
ferruginea venositas venositas venositas venositas venositas venositas  
pedicellata venositas venositas venositas venositas venositas venositas  
Pteris.

Pocillopteris (var. Pteris) Pteris (Tab. LXXXI. B.) Acrostichum fraxinifolium.  
Pteris. A. var. Pteris. Pteris. Pteris.

Very nearly allied to Pteris, but distinct in the venation  
of the veins.

Tab. LXXXI. B.—Fig. 1. Uter side of a fertile pinna; var. size; Fig. 2.—Sporangia and  
pedicellated veins or glands; Fig. 3.—Sporangia; var. size; Fig. 4.—Sporangia; var. size; Fig. 5.—  
Uter side of a sterile pinna;—enlarged.









TAB. LXXXII.

ONOCLEA. Linn.

CALIFORNIA. Benth.

*Beri globosæ, inferiori parti vixæ dorso insertæ, magnâ, valde approximata, demum confluentes. Induratum orbiculatum, concavum, reticulato-venosum. Sporangia creberrima, receptaculo orbico inserta, annulo creberrime striata cincta. — Filia Americana borealis borealis. Rhizoma repens. Frondes nitens, herbaceæ, dichotomæ, steriles profunde pinnatifidæ loba sinuato-incisæ, fertiles bipinnatæ, pinnulis scabulis in globum haeciformem contractis. Vena decurva, in fronde sterili distinctè reticulata, venalis, in scabulis elongata et irregulariter haeciformis confluentibus, imparibus, libere decurrentibus, in fronde fertili horizontali crassa opaca elocata libero terminata venula testacea, papillam subquadratam efficiens cuneata. Presol.*

*Onoclea sensibilis, Linn. (Tab. LXXXI.)*

In our specimens which are in rather advanced age, it is extremely remarkable for the nature of the indurum, from the very rigid and numerous layers of the latter growth, and from their singularly revolved margins, which render it hardy, and enable it to fructify without injury to the indurum. It so appears to be sterile, and is a new, hardy irregularly, but towards the apex of a segment of the frond, and carries on a great quantity of compact sporangia. We see, in this, a striking analogy with the figure of a section in which Presol places it, and do we observe the transmitted white, described and figured by that author.

Tab. LXXXII. Fig. 1. Sterile frond of a female; 2. Part of the same with the venation magnified; 3. Fertile spike; 4. Part of the same magnified; 5. Upper view of a fertile pinna; 6. 7. Under view of the same; 8. Fertile pinna with single seta; 9. 10. Sporangia; 11. Spores.—enlarged.

Since therefore was written, Mr. J. Smith has given us the following extract from his unpublished paper on the Ferns, written by 1834:—This Genus (*Onoclea*) has hitherto been placed in affinity with *Blechnum* and *Woodsia*, which it should have been from the complementary reticulate margin being considered as an indurum, and from which we have paid due regard to the apparent membranaceous scales which are kindly supposed between the indurum and which evidently 1. they are coriaceous and attached to the space between the spores, and therefore quite analogous to the interior attached lateral lobes of *Aspidium*. What further strengthens my opinion that *Onoclea* should be placed in affinity is that the venation in the sterile fronds is similar to the sterile *Sagittaria*; some of the contracted species of that Genus, regarding such analogy, and referring only a little more induction to your own *Onoclea*. The *Onoclea* present to you differs only *Aspidium* or *Struthiopteris* from your *Polypodium*.—J. S.





TAB. LXXXII.

ONOCLEA. *Linn.*

CALYPTERIUM. *Berth.*

*Sori* globosi, inferiori parti venæ dorso inserti, magni, valde approximati, demum confluentes. *Indusium* orbiculatum, concavum, reticulato-venosum. *Sporangia* creberrima, receptaculo conico inserta, annulo creberrime striato cincta.—*Filix Americanam borealem incolens*. *Rhizoma repens*. *Fronde alternæ, herbacæ, dissimiles, sterilis profunde pinnatifida lata sinuato-incisa, fertilis bipinnata, pinnulis sessilibus in globum baccæformem contractis*. *Venæ elevatæ, in fronde sterili dissimili ramosissimæ, venulis in maculas elongate et irregulariter hexagonoideas confluentibus, marginalibus libere desinentibus, in fronde fertili horizontales crassæ apice clavato libero terminatæ venula transversa maculam subquadratam efficienti connexæ*. *Presl.*

*Onoclea sensibilis*. *Linn.* (TAB. LXXXII.)

In our specimens which are in rather advanced age, it is extremely difficult to see the exact nature of the indusium, from the very rigid and coriaceous texture of the fertile pinnules, and from their singularly revolved margins, which render it hardly possible to examine the fructification without injury to the indusium. To us it appears to be globose, membranous, bursting irregularly, but towards the apex of a segment of the frond, and containing a great quantity of compact sporangia. We can see little affinity with the *Cystopteridæ*,\* a section in which Presl places it, nor do we observe the transverse veinlets described and figured by that author.

TAB. LXXXII. *Fig.* 1. Sterile Pinna of a frond: *nat. size*; *f.* 2. Portion of the same to show the venation: *magnified*; *f.* 3. Fertile spikes: *nat. size*; *f.* 4. Small portion of the same: *magnified*; *f.* 5. Upper view of a fertile pinnule: *do.*; *f.* 6. Under view of the same: *do.*; *f.* 7. Veinlet with single sorus; *f.* 8, 9. Sporangia; *f.* 10. Sporules:—*magnified*.

\* Since the above was written, Mr J. Smith has given us the following extract from his unpublished paper on the Ferns, written in 1838:—This Genus (*Onoclea*) has hitherto been placed in affinity with *Blechnum* and *Woodwardia*, which no doubt has arisen from the membranaceous conniving margin being considered as an indusium, and from authors not having paid due regard to the apparent membranaceous scales which are found interposed between the confluent sori: which membrane I find is cucullate and attached to the sporangiferous receptacle, and therefore quite analogous to the interior attached lateral indusium of *Aspidiæ*. What further strengthens my opinion that *Onoclea* should be placed in *Aspidiæ* is, that the venation in the sterile fronds is similar to the Genus *Sagenia*; some of the contracted species of that Genus presenting much analogy, and requiring only a little more contraction to pass into *Onoclea*. Thus *Onoclea* presents the same affinity with *Aspidium* as *Struthiopteris* does with *Polypodium*.—*J. Sm.*



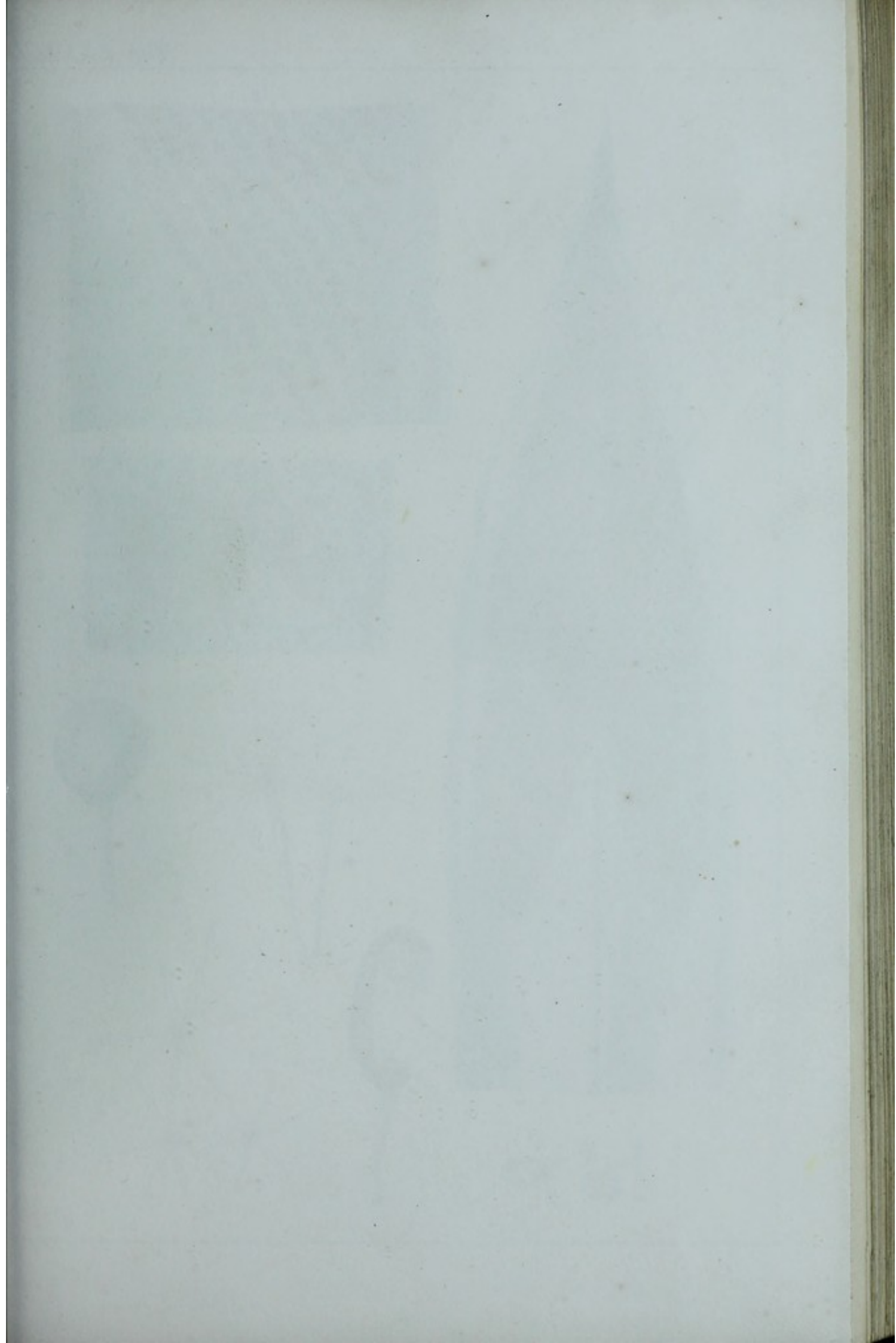
207. Globus, lateralis parte vasa dorsa inserti, magis, valde approximat, domum  
 conlocat. Labium orbiculatum, concavum, reticulato-venosum. Sporangia  
 creberrima, tetraploca, comae inserta, annulo creberrimo striato cincta.—Filiis  
 chlamydium dorsum faciens. Hincina vixit. Frons lateralis, breviter,  
 gibbata, striis profundis punctatis, late striato-venis, filis bipinnatis,  
 pinnulis sessilibus in globum breviter convexis. Vasa cuncta, in fronte  
 striis distinctis transmissis, vasa in macula elongata et irregulariter bene-  
 disposita, orbiculata, marginibus filis distinctis, in fronte filis bene-  
 dispositis, cuncta vasa filis transmissis, vasa transmissa, necnon sub-  
 quatuor distincta cuncta. 1704.

Onchia variabilis. Linn. (Tab. LXXXI.)

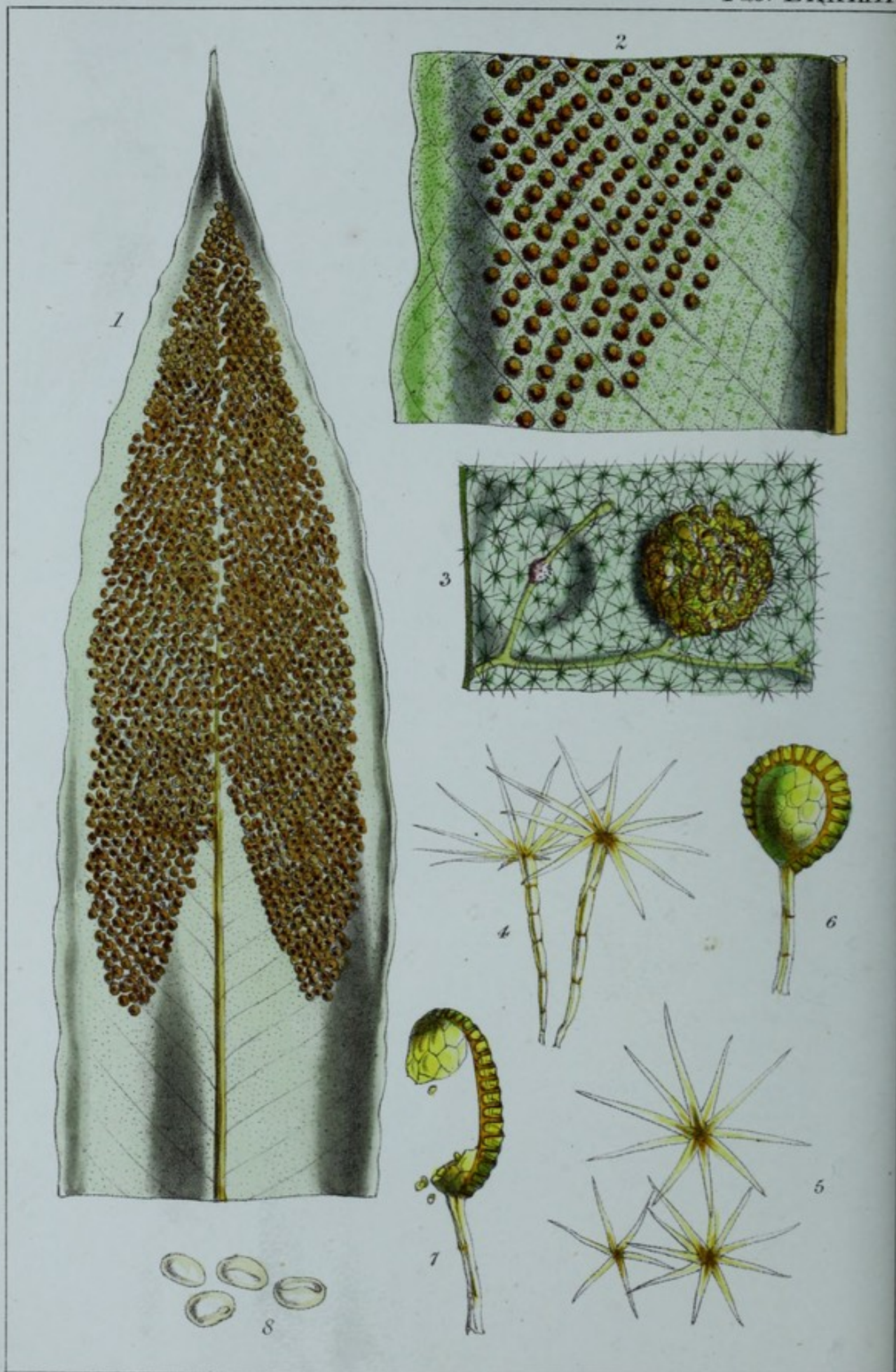
In our specimens which are in rather advanced age, it is extremely difficult to see the nature  
 of the labium, from the very rigid and concave texture of the filis pinnatis,  
 and from their regularly revolved margin, which renders it hardly possible to examine the  
 invagination without injury to the labium. To us it appears to be globose, much  
 more hairy irregularly, but towards the apex of a segment of the foot, and containing a  
 great quantity of compact sporangia. We can see little affinity with the "Onchia"  
 a section in which I had placed it, nor do we observe the transverse striations described and  
 figured by the author.

Tab. LXXXII. Fig. 1. Onchia variabilis (Linn.) in a young state; 2. 1. Portion of the same in show  
 the striations; 3. 2. Filis lobata; 4. 3. Filis lobata; 5. 4. Filis lobata; 6. 5. Filis lobata; 7. 6. Filis lobata; 8. 7. Filis lobata; 9. 8. Filis lobata; 10. 9. Filis lobata.—Magnified.

From the above we observe, Mr. A. Smith has given us the following extent from his unpublished  
 paper on the genus, written in 1838:—"The genus (Onchia) has hitherto been placed in affinity  
 with *Onchium* and *Wormia*, which no doubt has arisen from the membranaceous covering  
 margin being considered as an labium, and from authors not having paid due regard to the appa-  
 rent membranaceous scales which are found interspersed between the compound setae; which membrane  
 I had a chance and attached to the sporangiferous receptacle, and therefore quite analogous to the  
 texture attached lateral labium of *Onchium*. What further strengthens my opinion that *Onchia*  
 should be placed in affinity is, that the venation in the striate front is similar to the genus  
*Onchia*, none of the contracted species of that genus presenting more analogy, and requiring only  
 a little more contraction to pass into *Onchia*. The genus presents the same affinity with  
*Onchia* as *Onchium* has with *Wormia*.—A. S.













TAB. LXXXIII.

NIPHOBOLUS. *Kaulf. Presl.*

*Sori multiseriales densissime approximati, superiorem frondis partem incrassatam occupantes, sæpe immersi, globosi, aut annulares.—Filices pleræque Indicæ tropicæ. Rhizoma repens. Frondes sparsæ, coriaceæ, simplices, steriles sæpe difformes, breviores latiores et brevius stipitatæ; pagina frondium utraque præsertim inferior squamis orbiculatis peltatis stellato-ciliatis vel pilis stellatis vel conspersa est; sori juvenes capsulas pilis squamulæformibus stellatis intermixtas et apparenter obtectas habent, adulti sori tamen emingunt et his pilis cincti sunt. Venæ venulæque in plurimis speciebus invisibiles; in *N. costato* venæ costulæformes elevatæ, ramosissimæ, venulæ tenuissimæ, internæ, maculas rhomboideas transversas efficientes, venulæ secundariæ aut venulas primarias transversim conjungentes aut liberæ, apice globulosæ, rectæ aut hamato-incurvæ, simplices aut furcatæ. Presl.*

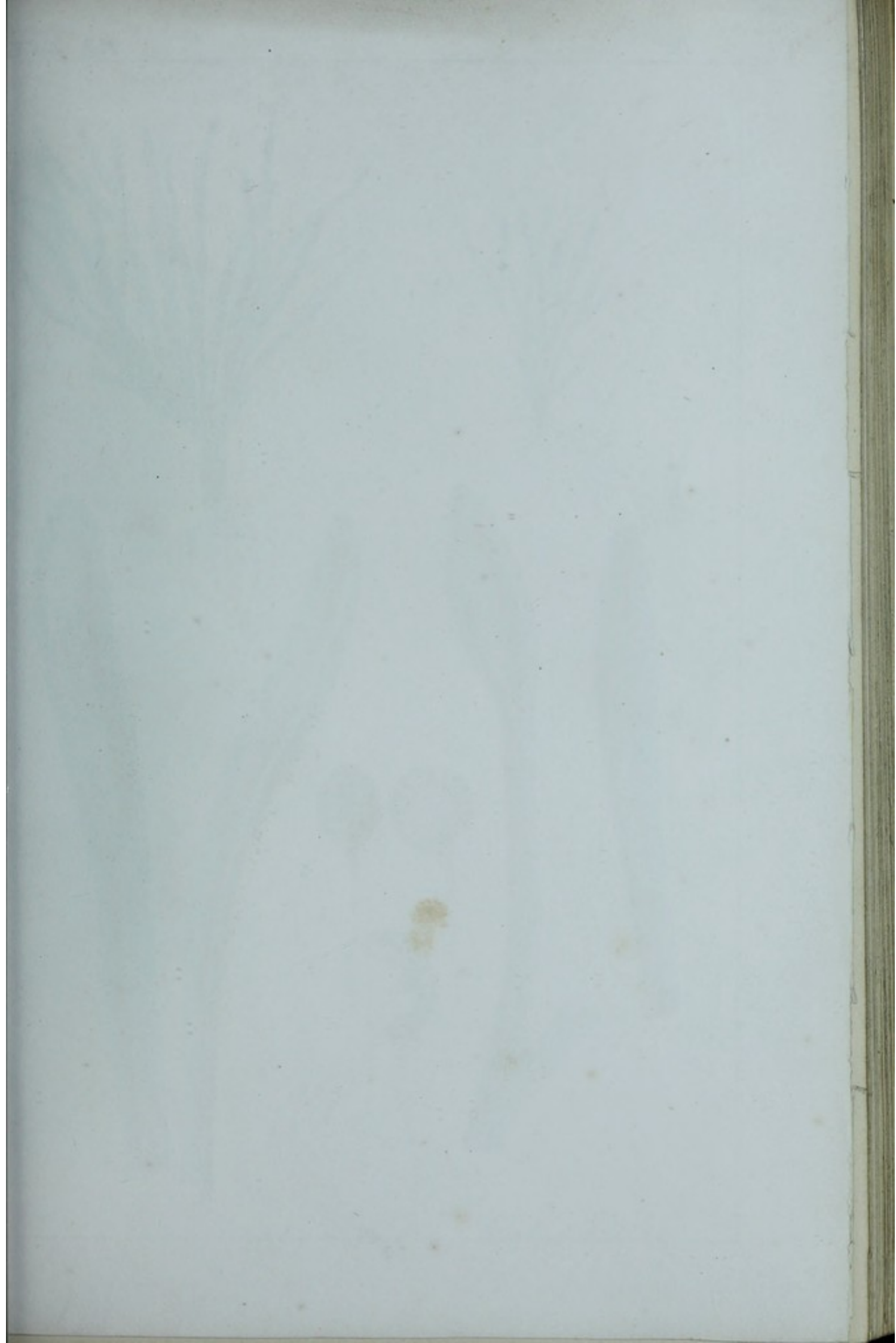
*Niphobolus Penangiana. Hook. (TAB. LXXXIII.) Ic. Plant. t. 303.*

The above is Presl's definition of the Genus *Niphobolus*: but certainly in most of the species, the venation is quite obsolete, and, in that which we have here represented, it is considerably different from what is seen in Presl's figure, and accords with *Campyloneurum* (TAB. LXXI.); but the habit is quite that of *Niphobolus*. Eighteen species are enumerated.

TAB. LXXXIII.—*Fig. 1.* Portion of a fertile frond of *N. Penangianus*, Hook.: *nat. size*; *f. 2.* Smaller portion of the same; *f. 3.* lesser portion, with one sorus removed; *f. 4.* Pedicellate stellated hair from among the sporangia; *f. 5.* Sessile stellated hair from the frond; *f. 6, 7.* Sporangia; *f. 8.* Sporules:—*magnified.*



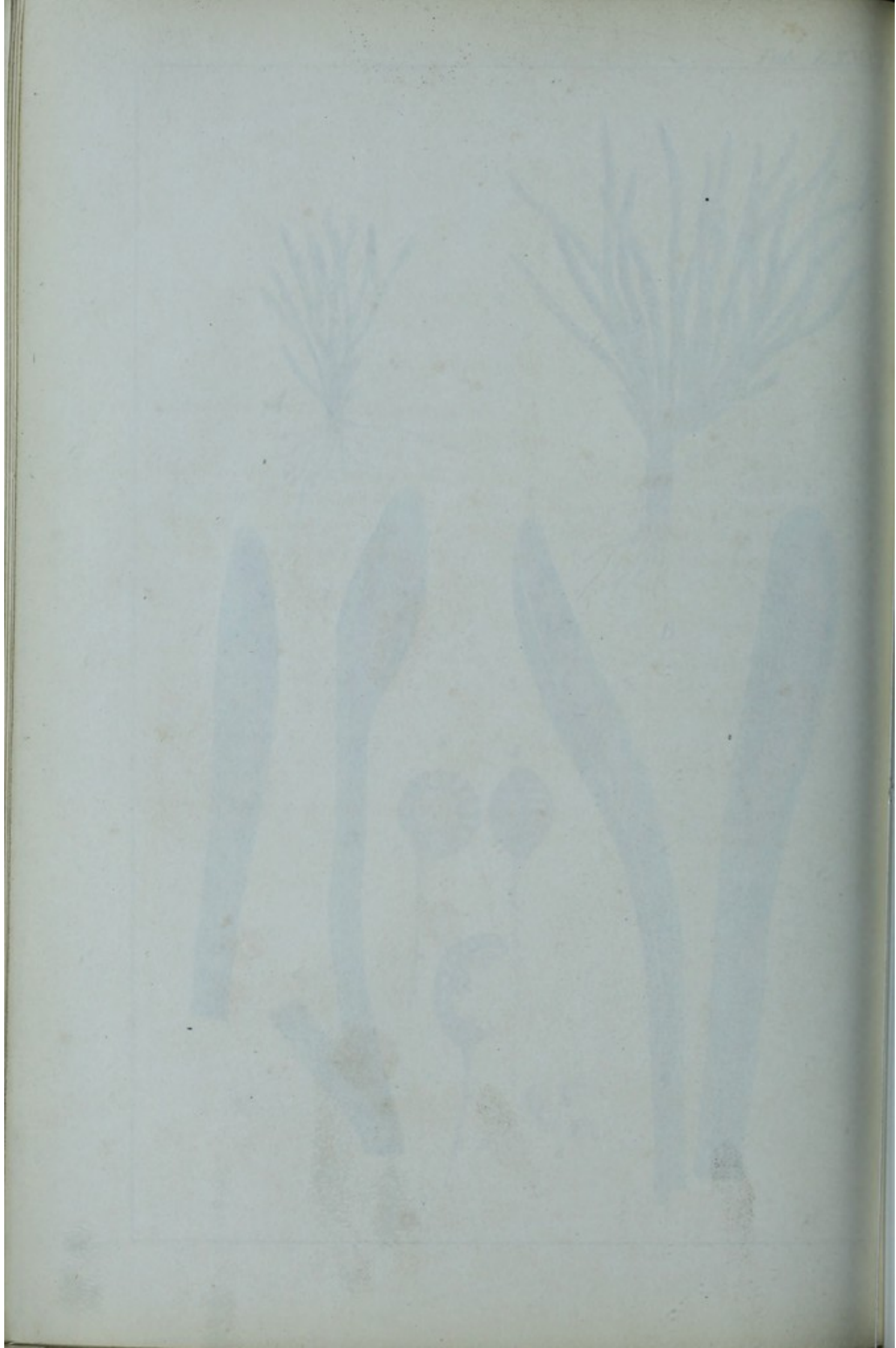












TAB. LXXXIV.

MONOGRAMME. *Schk. Presl.*

GRAMMITIDIS sp. *Sw. et Auct.* PTERIDIS sp. *Poir.* MONOGRAMME et COCHLI-  
DIUM. *Kaulf. et Auct.*

*Sorus* dorso partis superioris costæ insidens, linearis, elongatus, continuus, frondis superiore parte demum complicata velatus. *Sporangia* pedicellata.—Filices *intratropicæ*. Rhizoma *repens*. Frondes *sparsæ, herbacæ, tenerrimæ, angustissime lineares, integerrimæ aut furcatæ, præter costam mediam tenuem aveniæ. Venæ nullæ. Presl.*

*Monogramme furcata. Desv. (TAB. LXXXIV.)*

A very distinct and well marked Genus, yet in habit, at first sight, so like the Genus *Pleurogramme* (TAB. LXXII. A. and TAB. LXXV. A.\*) as to be easily mistaken for it, unless one looks at the old fructification, or observes the entire absence of veins.

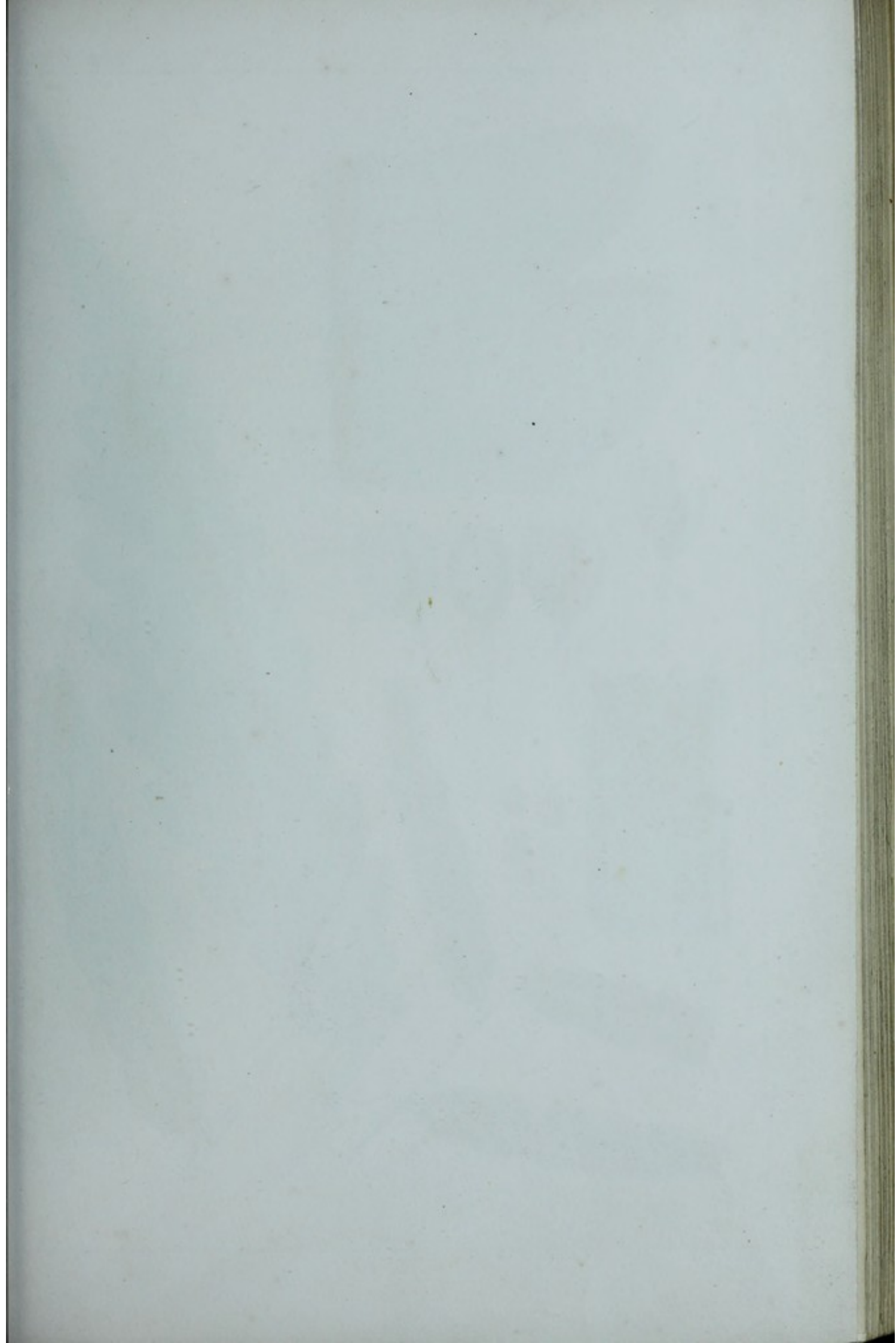
TAB. LXXXIV.—A. B. Plants of *Monogramme furcata*: *nat. size*; *f. 1, 2.* Portions of fronds: *magnified*; *f. 3—5.* Sporangia: *do.*; *f. 6.* Sporules: *do.*

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\* In the description at TAB. LXXV. A. the word *Microgramme* is twice printed by mistake for *Monogramme*.











TAB. LXXXV.

SYMPTOMATA.

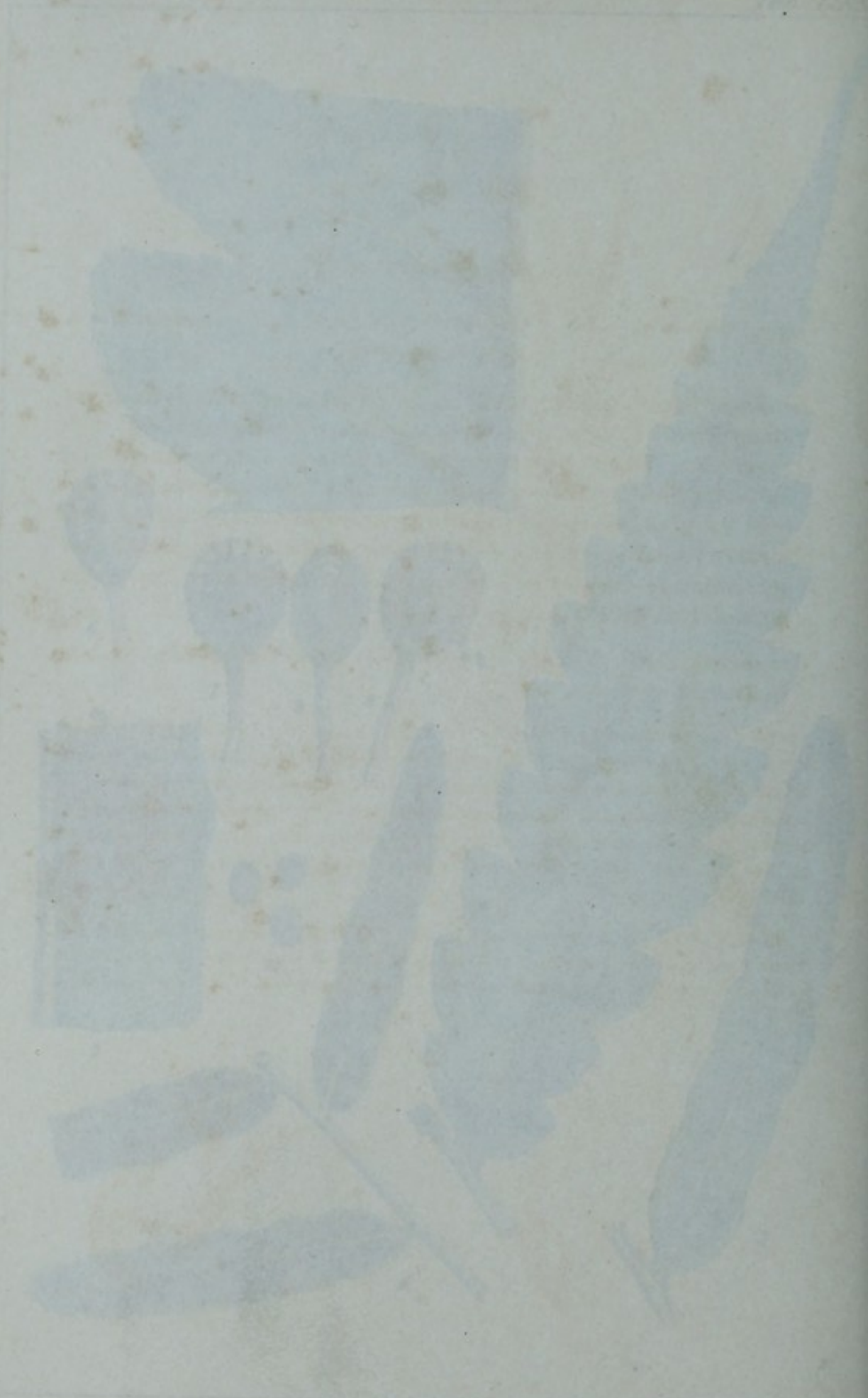
Classification of Cases. A. Acute. B. Chronic. C. Subacute. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.

1. Acute. 2. Chronic. 3. Subacute. 4. E. 5. F. 6. G. 7. H. 8. I. 9. J. 10. K. 11. L. 12. M. 13. N. 14. O. 15. P. 16. Q. 17. R. 18. S. 19. T. 20. U. 21. V. 22. W. 23. X. 24. Y. 25. Z.

Classification of Cases. A. Acute. B. Chronic. C. Subacute. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.

This genus is divided by Frick, & by that author divided into 2 groups. 1. Acute. 2. Chronic. 3. Subacute. 4. E. 5. F. 6. G. 7. H. 8. I. 9. J. 10. K. 11. L. 12. M. 13. N. 14. O. 15. P. 16. Q. 17. R. 18. S. 19. T. 20. U. 21. V. 22. W. 23. X. 24. Y. 25. Z.

Classification of Cases. A. Acute. B. Chronic. C. Subacute. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z.



TAB. LXXXV.

GYMNOPTERIS. *Presl.*

GYMNOPTERIDIS sp. *Bernh.* ACROSTICHI sp. *Linn. et Auct.* HYMENOLEPIS et  
LEPTOCHILUS. *Kaulf.*

*Sorus* superficialius, paginam inferiorem frondis partis superioris dissimilis aut frondis dissimilis obtegens. *Sporangia* pedicellata.—*Filices intratropicæ.* *Rhizoma repens.* *Fronde* alternæ, coriaceæ aut herbaceæ, simplices aut pinnatæ. *Venæ ramosissimæ, prominulæ aut internæ, tenues.* *Venulæ primariæ in maculas hexagonoideas subrotundas aut irregulariter parallelogrammas lateribus curvatis anastomosantes, secundariæ in maculas minores hexagonoideas aut parallelogrammas confluentes aut liberæ apice globoso incrassatæ, simplices aut furcatæ, rectæ, aut hamatæ.* *Presl.*

*Gymnopteris aliena.* *Presl.* (TAB. LXXXV.) *Acrostichum alienum.* *Sw.—A. cladorhizans.* *Spreng.*

This genus, as defined by *Presl*, is by that author divided into 2 groups; § I. GYMNOPTERIS. *Frons* apice fertilis aut frondes dissimiles. *Venæ internæ aut prominulæ.* *Venulæ in maculas hexagonoideas anastomosantes.* To this section belongs our *G. aliena*.—§ II. ANAPAUSIA. *Fronde* dissimiles, coriaceæ aut herbaceæ. *Venæ internæ aut elevatæ costæ-formes.* *Venulæ in maculas transversim et irregulariter parallelogrammas lateribus curvatis anastomosantes.* This is a much smaller section, and includes *G. nicotianæfolia*, and 3 allied species.

TAB. LXXXV.—*Fig. 1.* Sterile pinna: *nat. size*; *f. 2.* Portion of the same: *magnified*; *f. 3.* Fertile pinna, upper side: *nat. size*; *f. 4.* Fertile pinna, seen from beneath: *nat. size*; *f. 5.* Portion of the same, with many of the sporangia removed; *f. 6—9.* Sporangia; *f. 10.* Sporules:—*magnified.*



GYMNOPTERIS. Presl.

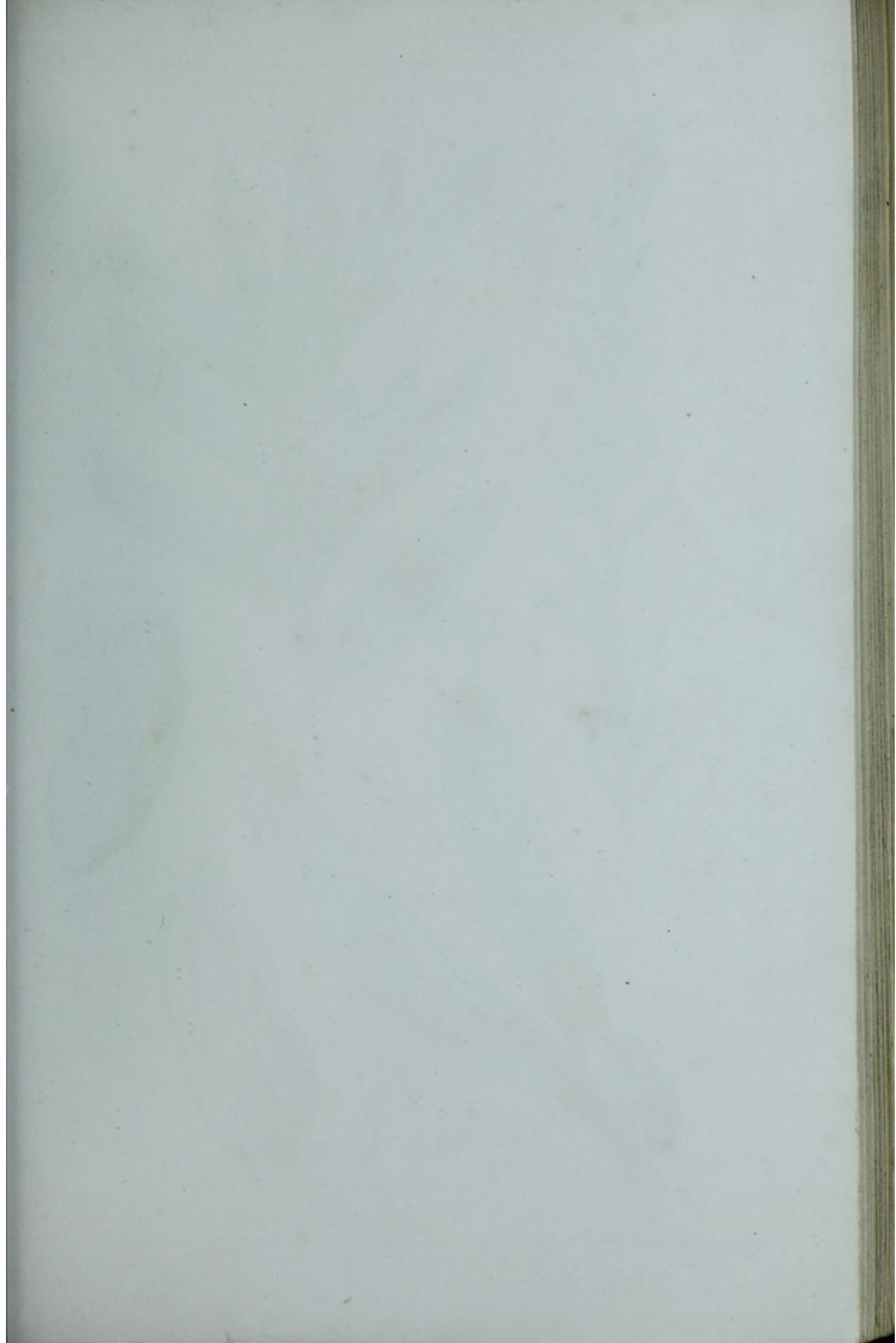
Gymnopteris sp. Presl. Acanthium sp. Presl. et alii. Hymenopteris et  
Lactucaea. Kuhn.

Forme superbae, pagina inferiora frondis parva distilla aut  
fronda distilla obtusa. Sporangia pedicellata.—Filiis intricatis. Ili-  
xans typica. Frondis inferiora, coriacea aut herbacea, simplicia aut pinnata.  
Vena transverse, pinnata aut lobata, tenax. Vena primaria in an-  
gulo angustissimo recurvata et irregulariter parallelipipedum lateribus  
curvis angustioribus, secundaria in angulo angustissimo recurvata et  
parallelipipedum angustius et libere apice gibbo recurvata, simplicia aut  
lobata, vena, aut simplicia, Presl.

Gymnopteris alba Presl. (Tab. LXXXV.) Acanthium alium. Sw.—A.  
chlorocaula Spreng.

This genus as defined by Presl is by that author divided into 2 groups: § 1. Gymno-  
pteris. Fronds simple fertile and fronds distillate. Vena intricata and pinnate. Vena  
in angulo angustissimo recurvata. To this section belong our G. alba.—§ 2.  
Acanthium. Fronds distillate, coriacea aut herbacea. Vena intricata aut lobata, tenax.  
Vena in angulo angustissimo recurvata et irregulariter parallelipipedum lateribus curva-  
tis angustioribus. This is a much smaller section and includes G. microcarpa, and 2  
other species.

Tab. LXXXV.—Fig. 1. Spore plant; var. var.; A. 2. Portion of the stem; enlarged; A. 3.  
Fertile plant upper side; var. var.; A. 4. Fertile plant, seen from beneath; var. var.; A. 5. Portion  
of the stem, with many of the sporangia removed; A. 6—8. Sporangia; A. 10. Spore;—enlarged.











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TAB. LXXXVI.

TMESIPTERIS. *Bernh.*

PSILOTI sp. *Br. Endlich.*

*Sporangia sessilia uniformia oblonga biloba, lobis acutis patentibus, ad basin foliorum furcaturæ sita, solitaria, coriacea, bilocularia, rima verticali dehiscentia, loculis bivalvibus.*—*Planta Australasica et ut videtur Californica, parasitica. Caulis pendens, simplex, angulatus, foliosus. Folia alterna, (sporangifera geminata), oblonga, verticalia, plana, costata, enervia, obtusa, costa excurrente mucronata sterilia simplicia basi decurrentia, fertilia breviter petiolata profunde bipartita. Sporangia coriacea, fere lignosa, madefacta cœlulosa. Sporulæ copiosæ, minutæ, uniformes, subreniformes, pellucidæ.*

*Tmesipteris truncata. Bernh. (TAB. LXXXVI.) Psilotum truncatum. Br.*

A very remarkable plant of the small Order of *Lycopodiaceæ*, nearly allied to *Psilotum*, with which Brown and Endlicher unite it. It differs in its simple leafy stems, with very distinct leaves, large in proportion to the size of the plant, and its 2-celled sporangia.

TAB. LXXXVI.—*Fig. 1. Portion of a plant of Tm. truncata: nat. size; f. 2. Smaller portion of the same: magnified; f. 3. Fertile bipartite leaf with a sporangium in its axil; f. 4. Sporangium seen from beneath; f. 5. The same seen from above, burst, and exposing the sporules to view; f. 6. Sporules:—magnified.*











TAB. LXXVH.

PSILOTUM.

*Psilotum* sp. *Dr. Bellid.* *Bravconia* et *Hocymania*. *Willd.* *Tournef.*  
*Pala.* *Leopodium* *Lin.*

*Psilotum* consists of a single stem, 1-2 feet high, with a few small branches. The stem is cylindrical, striated, and has a few small, linear-lanceolate leaves at the base. The flowers are small and are borne in a terminal panicle. The fruit is a small, globose capsule, which is covered with a thin, papery membrane. The capsule is attached to the stem by a short stalk. The capsule is divided into two cells, each of which contains a single seed. The seed is small and is covered with a thin, papery membrane. The seed is attached to the capsule by a short stalk. The seed is covered with a thin, papery membrane, which is attached to the capsule by a short stalk. The seed is covered with a thin, papery membrane, which is attached to the capsule by a short stalk.

*Psilotum* *triquetrum* *Sw.* (Tab. LXXXV.) *Leopodium* *Swartz.* *Lin.*

There are few better examples of a dichotomous habit than that which is afforded by the present plant. The ultimate branches especially are loaded with small, compressed, white, and very large in proportion to the branches which bear them. Each is subtended by a minute, bipartite, sessile leaf.

TAB. LXXXVII.—Fig. 1. Lower part of a plant of *Psilotum* *triquetrum*, with sporophylls; 2. A single portion of the same sporophyll; 3. A single branch of do.; 4. A single, bipartite, sessile leaf of do.; 5. A single, bipartite, sessile leaf of do.



TAB. LXXXVII.

PSILOTUM. Sw.

PSILOTI sp. Br. Endlich. BERNHARDIA et HOFFMANNIA. Willd. TRISTECA.  
Palis. LYCOPODIUM. Linn.

*Sporangia* sessilia uniformia globosa triloba, lobis obtusis ad basin foliorum minutis-  
simorum furcaturæ sita, solitaria, coriacea, trilocularia, trivalvia, loculicido-dehis-  
centia.—Planta parasitica subtropica. Caulis pendens v. suberecta angulata,  
vel plana, inferne nuda indivisa, superne dichotomo-ramosissima, ramis angu-  
latis acutis minute foliosis, sporangiferis. Folia alterna (omnia? sporangifera),  
profunde bipartita, sporangiis pluries minora, laciniis subulatis. Sporulae  
copiosae reniformes hyalinae utrinque depressæ.

*Psilotum triquetrum*. Sw. (TAB. LXXXVI.) *Lycopodium nudum*. Linn.

There are few better examples of a dichotomous ramification, than that which is afforded  
by the present plant. The ultimate branches especially are loaded with fruit, (sporangia,) which are very large in proportion to the branches which bear them. Each is subtended by a minute bipartite sessile leaf.

TAB. LXXXVII.—Fig. 1. Upper part of a plant of *Psilotum triquetrum* with sporangia; f. 2. Smaller portion of the same: magnified; f. 3. Single branch of do.; f. 4, 5, 6. Sporangia in different points of view; f. 7. Sporules:—magnified.



TAB. LXXXVII.

PSILOTON. Sw.

Psilota sp. Br. Zettl. Herrnhals. Hottent. Wilm. Tairica.  
Folia. Lycopodium. Lam.

Spores of sessile minute globose trilobed lobes obtuse at base lobes minute-  
sinuato furcatus etc. solitaria, coriacea, trilobata, trivalvis, foveoloso-dehis-  
centia. — Planta perithecium subglobosum. Caulis perianthio v. suberecto angulato.  
vel piano, hysteris modo induratis, saporis dichotomo-ramosissimis, raris usque  
latis caulis minute foliosis, sporangio. Folia elliptica (ovata) sporangio. Sporidia  
perithecio bipartita, sporangio perithecio, loculis subulatis. Sporidia  
caulis ramulorum bipartita utriusque hysteris.

Psilota trisporea. Sw. (Tab. LXXXVI.) Lycopodium usum. Lam.

There are few better examples of a dichotomous ramification, than that which is afforded  
by the present plant. The minute branches especially are loaded with fruit (sporangia)  
which are very large in proportion to the branches which bear them. Each is subtended  
by a minute bipartite sessile leaf.

Tab. LXXXVII.—Fig. 1. Upper part of a plant of Psilota trisporea with sporangia; A B  
smaller portion of the same; sporangia; A B single branch of do; A C B. Spores of different  
points of view; A C. Spores:—magnified.







TAB. LXXXVIII.

LYCOPODIUM Linn.

§ SULLO.

Sporangia axillaria sessile, colloccata umbellata vel bidentata: alia bivalvia interme-  
diaria, spiralia autem bivalviae circumscripta replata: alia tri-quadrifida, tri-  
quadrifida, spiralia? paucis raris quadrifida replata. — Laciniae junctae, simpliciter  
vel varie connatae, totum fere orbem utriusque bivalviae circumscriptae. Capsulae  
subglobosae vel varie rotundae, plurimae dist. perisperm. vel integritate, erectae, vel  
pendulae, alae saepe, rariusque, perisperm. — Folia subulnata, sessilia,  
saepe decurrens, basi unguis distincte et variis qualitatibus, basi distincte vel  
distincta, lateralis tunc superior, superior vel superioris saepe dupliciter. — Fructi-  
ficatio saepe erecta.

*Lycopodium articulatum*, Sw. (Tab. LXXXVIII.)

The *Lycopodium* we have here represented belongs to that group or section in which the  
name of *Selago* has been given. It consists of many species of which our well known *Lyo-*  
*podium Selago* may be considered the type, and characterized by having the leaves poly-  
stichous, uniform, and the capsules dist. sessile, but situated in the axils of the leaves. It  
often inessentially passes into that group or section (*Lycopodium Pally. Eschsch.*) which has specific  
transmission.

Tab. LXXXVIII.—Fig. 1. Portion of *Lycopodium articulatum*, nat. size; f. 2. Another portion  
of the same; magnified; f. 3. Back view of a sporangium nat. f. 4. Front view of the same;  
f. 5. Sporangium following; f. 6. Spore nat.—magnified.



TAB. LXXXVIII.

LYCOPODIUM. *Linn.*

§ SELAGO.

*Sporangia axillaria sessilia unilocularia uniformia vel biformia: alia bivalvia subreniformia, sporulis minutis fariniferis copiosissimis repleta:—alia tri-quadriloba, tri-quadrivalvia, sporulis? paucis magnis globosis repleta.—Plantæ foliosæ, simplices vel varie ramosæ, totam fere orbem utriusque hemispheriæ habitantes. Caules subsimplices vel varie ramosi, plerumque duri, breves vel longissimi, erecti, vel pendentes, sæpe repentes, nonnunquam parasitici. Folia subcoriacea, sessilia, sæpe decurrentia, nunc undique inserta et omnia similia, nunc tristicha vel tetrasticha, lateralibus tunc majora, inferiora vel superiora sæpe stipuliformia. Fructificatio sæpe spicata.*

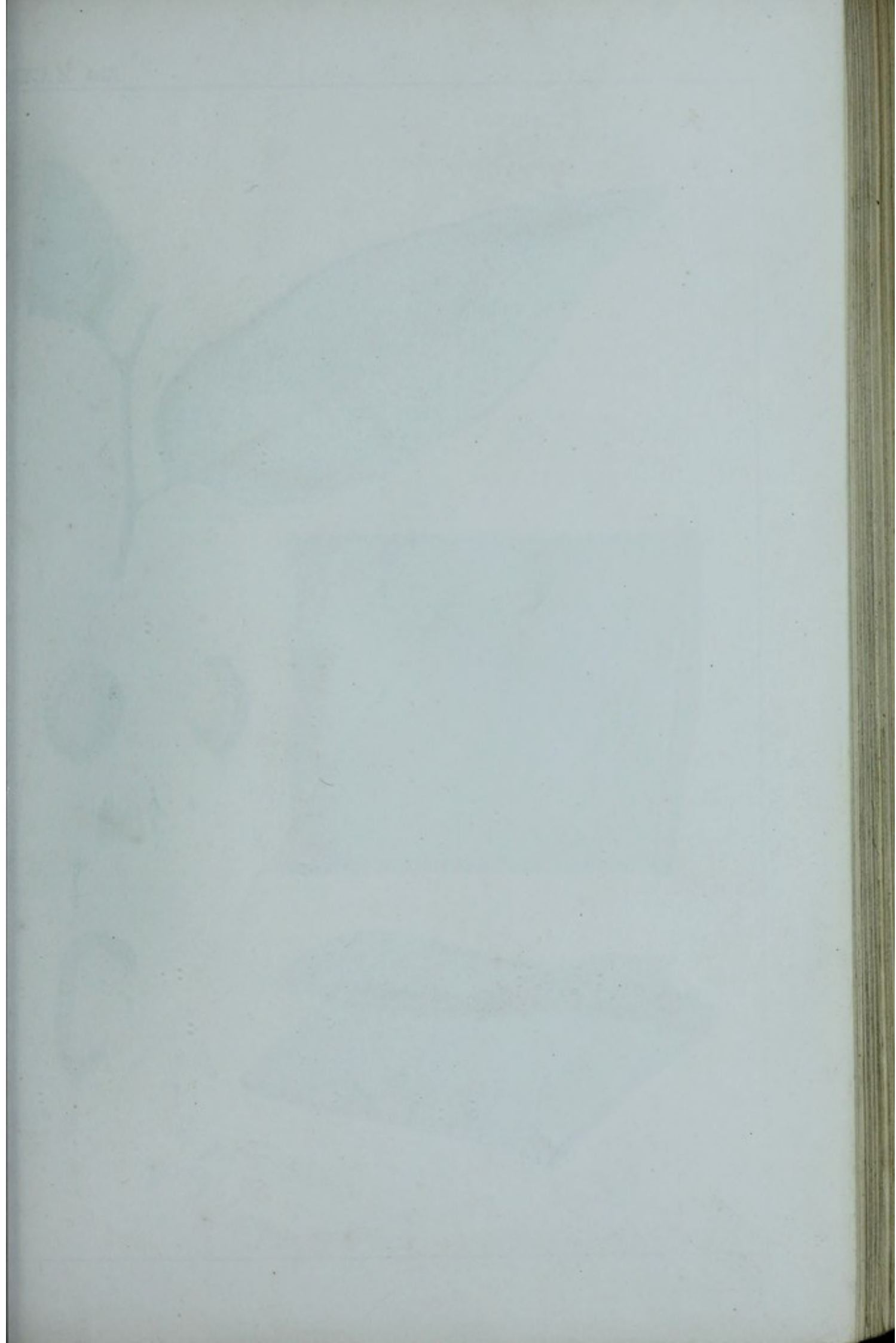
*Lycopodium taxifolium. Sw. (TAB. LXXXVIII.)*

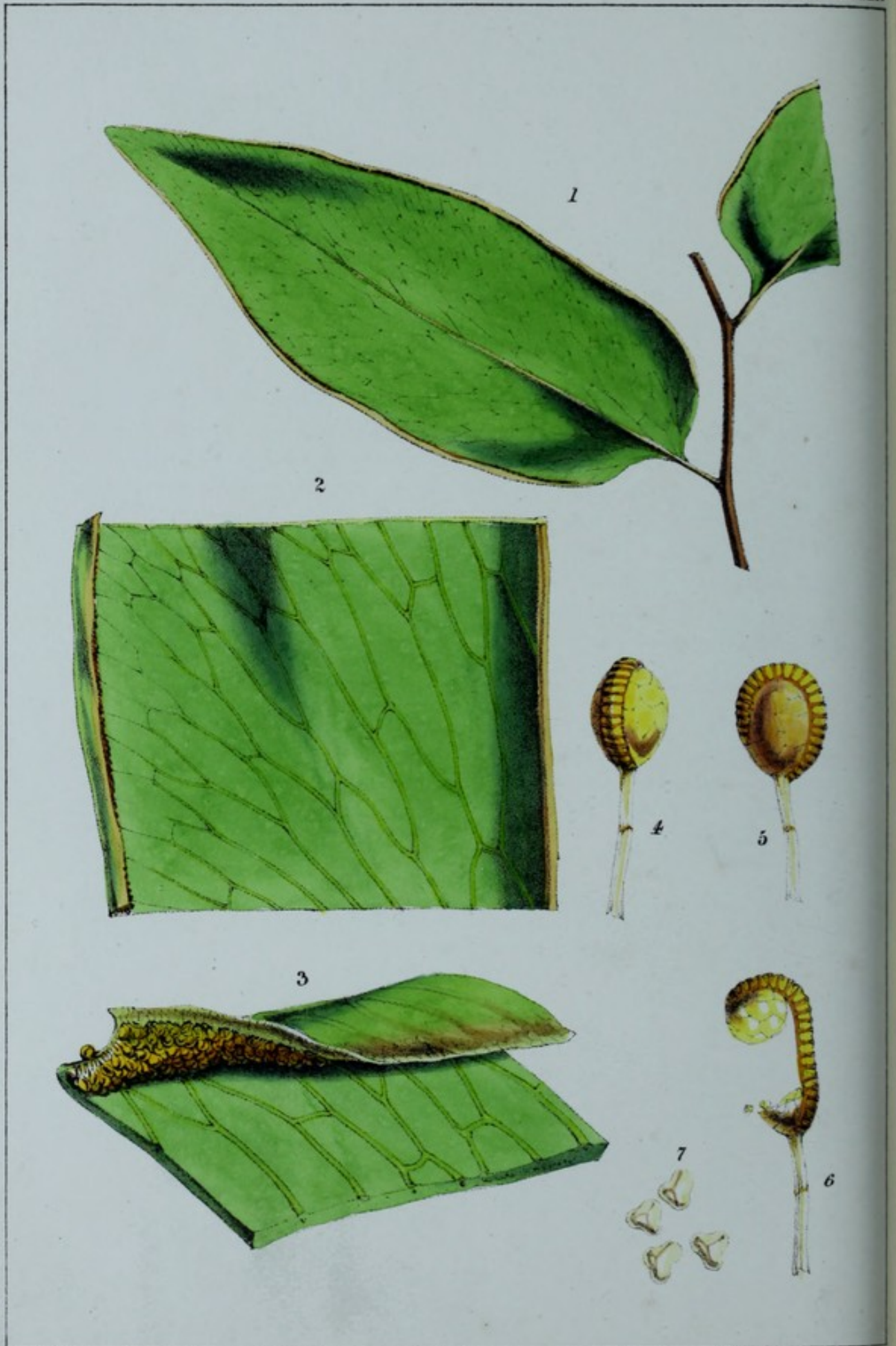
The *Lycopodium* we have here represented belongs to that group or section to which the name of *Selago* has been given. It consists of many species of which our well known *Lycopodium Selago* may be considered the type, and characterized by having the leaves polystichous, uniform, and the capsules also uniform, and situated in the axils of the leaves. It often insensibly passes into that group or section (*Lepidotis*. Palis. Endlich.) which has spicate fructifications.

TAB. LXXXVIII.—*Fig. 1.* Portion of *Lycopodium taxifolium*: *nat. size*; *f. 2.* Smaller portion of the same: *magnified*; *f. 3.* Back view of a sporangiferous leaf; *f. 4.* Front view of the same; *f. 5.* Sporangium dehiscing; *f. 6.* Sporules:—*magnified*.











TAB. LXXXIX.

HEWARDIA. J. Smith.

*Indivisione marginata, continua, subter venosa et spongiosata; demum reptans. Venae solum marginale continua efformata. Venae superficialia, reticulata, venulae anastomozantes, areola elongata. Filia triplex. Americanum. Frons 14 pedalis ad bipedalem stipitata, dichotoma, stylo densa. Pinnis pinnatis, pluribus membranaceis, ovato-lanceolatis basi obliqua, 4-5 steris longis 2-3 steris longis, obtusis, petiolulis persistentibus (non articulis ut in Adianto); costa nervis spongiosis distincta J. Sm.*

*Hewardia deltoideata. J. Sm. in Hook Jour. of Bot. v. 3. p. 435. tab. 16. 17. (TAB. LXXXIX.)*

A Guiana Fern discovered by Smith, and which Mr. J. Smith has dedicated to his friend Mr. Robert Heward, the friend of the illustrious Allan Cunningham, and the inheritor of his collection. "In habit," Mr. Smith says, "it approaches the largest forms of *Adiantum* and *Schizoneura*, agreeing with the first, in the spongy veins being produced by the indurium, and with the latter by the reticulated venation, so that *Hewardia* bears the same relation to *Adiantum* that *Schizoneura* does to *Lindsaea*. The reticulated veins of *Hewardia* and *Schizoneura* readily distinguish these two Genera from *Adiantum* and *Lindsaea*, in which the veins are all free."

TAB. LXXXIX.—Fig. 1. Small portion of a leafy frond, var. var. 2. Portion of a frond, f. 3. Indivision and costis; f. 4-6. Spongy vein; f. 7. Spongy vein, enlarged.



TAB. LXXXIX.

HEWARDIA. *J. Smith.*

*Indusium* marginale, continuum, subtus venosum et sporangiferum; demum replicatum, solum marginale continuum efformans. *Venæ* superficiales, reticulatæ, venulæ anastomosantes, areolis elongatis.—*Filix tropico-Americana*. Frons  $1\frac{1}{2}$  pedalis ad bipedalem? stipitata, dichotoma, stipite ebeneo. Pinnæ pinnatæ; pinnae membranaceæ, ovato-lanceolatæ basi obliquæ, 4-5 uncias longæ, 2 uncias latæ, alternæ, petiolatæ, persistentes (non articulatæ nec deciduæ ut in *Adianto*); costa versus apicem pinnae obsoleta *J. Sm.*

*Hewardia adiantoides*. *J. Sm. in Hook. Journ. of Bot. v. 3. p. 432. tab. 16, 17.*  
(TAB. LXXXIX.)

A Guiana Fern discovered by Martin, and which Mr J. Smith has dedicated to his friend Mr Robert Heward, the friend of the lamented Allan Cunningham, and the inheritor of his collections. "In habit," Mr Smith says, "it approaches the largest forms of *Adiantum* and *Schizoloma*, agreeing with the first, in the sporangia being produced on the indusium, and with the latter by the reticulated venation, so that *Hewardia* bears the same relation to *Adiantum* that *Schizoloma* does to *Lindsæa*. The reticulated veins of *Hewardia* and *Schizoloma* readily distinguish these two Genera from *Adiantum* and *Lindsæa*, in which the veins are all free."

TAB. LXXXIX.—*Fig. 1.* Small portion of a fertile frond: *nat. size*; *f. 2.* Portion of a pinna; *f. 3.* Indusium and sorus; *f. 4-6.* Sporangia; *f. 7.* Sporules:—*magnified.*



TAB LXXXIX

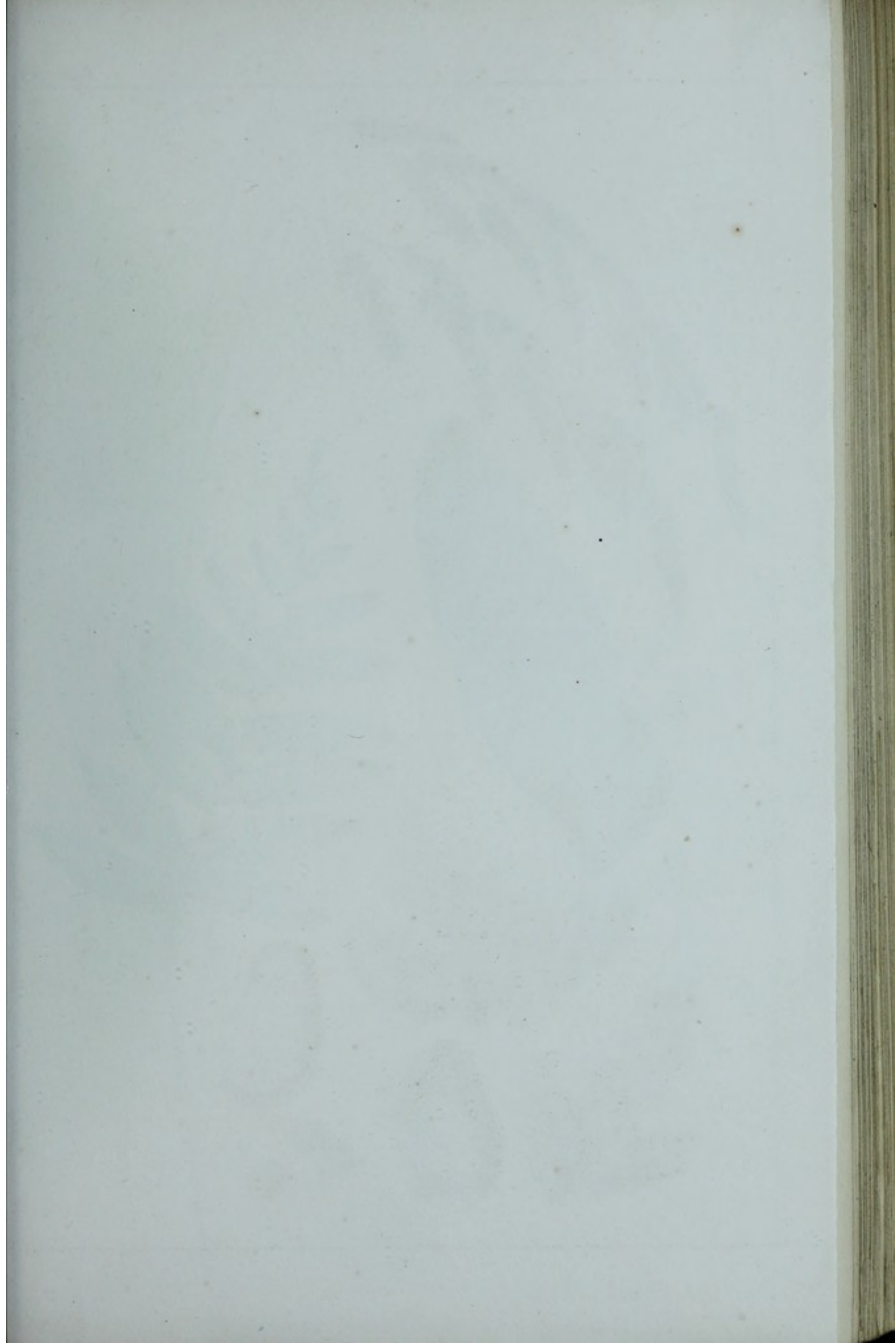
HEWARDIA, A. S. M.

lobes marginalis, costarum, sutura venarum et sporangiferarum; demum replice-  
tum, nervis marginalis continens efformans. Nervis superficialis, reticulatis,  
venis anastomosis, areolis elongatis.—Filiis (Filiis) clavatis. Frons 14  
pediculis ad pedunculatam stipitatis dichotoma, stipitis oblonga. Frons pinnatis; pin-  
nulis subrectangulis, ovatis-lanceolatis basi obliqua, 4-5 nervis longis, 2 nervis  
basi oblongis, petiolatis, persistentibus (non articulis nec deciduis ut in Adianto);  
costa nervis apicibus pinnis oblongis A. S. M.

Hewardia adiantoides, A. S. M. in Hook. Journ. of Bot., 3, p. 432, tab. 16, 17.  
(Tab. LXXXIX.)

A genus first discovered by Heward, and which Mr. Smith has dedicated to his friend  
Mr. Robert Heward, the friend of the late naturalist Allan Cunningham, and the inventor of his  
collection. "In habit," Mr. Smith says, "it approaches the largest ferns of Adiantum and  
Adiantum, agreeing with the first in the sporangia being produced on the lobes, and  
with the latter by the reticulated venation, so that Hewardia bears the same relation to  
Adiantum that Adiantum bears to Adiantum. The reticulated veins of Hewardia and Adian-  
tum are readily distinguished from those of Adiantum and Adiantum in which the  
veins are all free."

Tab. LXXXIX.—Fig. 1. Small portion of a fertile frond, nat. size. Fig. 2. Portion of a sterile  
frond, nat. size. Fig. 3. Sporangium, nat. size. Fig. 4. Sporangium, magnified.











TAB. XC.

ANEMIA. Sw.

ORALTHOPTERIS. Bernh.

*Sporangia* ovata, vasculoso-reticulata, in spicas unilaterales dense paniculatas disposita, sessilia, biseriata, vertice complete annulata, extrorsum dehiscentia. *Indusium* nullum. *Sporulæ* obtusæ, triangulares, echinatæ (an semper?)—Filices pleræque tropicæ et præcipue Americanæ, unica species ex Africa Australi. Rhizoma sæpissime repens. Frondes stipitatæ, ternatæ, pinnatæ decompositæve. Venæ pinnatæ, (in *A. Gardneri flabellatæ*), venulæ obliquæ bis terve furcatæ, apicibus vix ad marginem attingentibus, clavulatis. Pedunculi geminati e basi frondis, spicis decompositis.

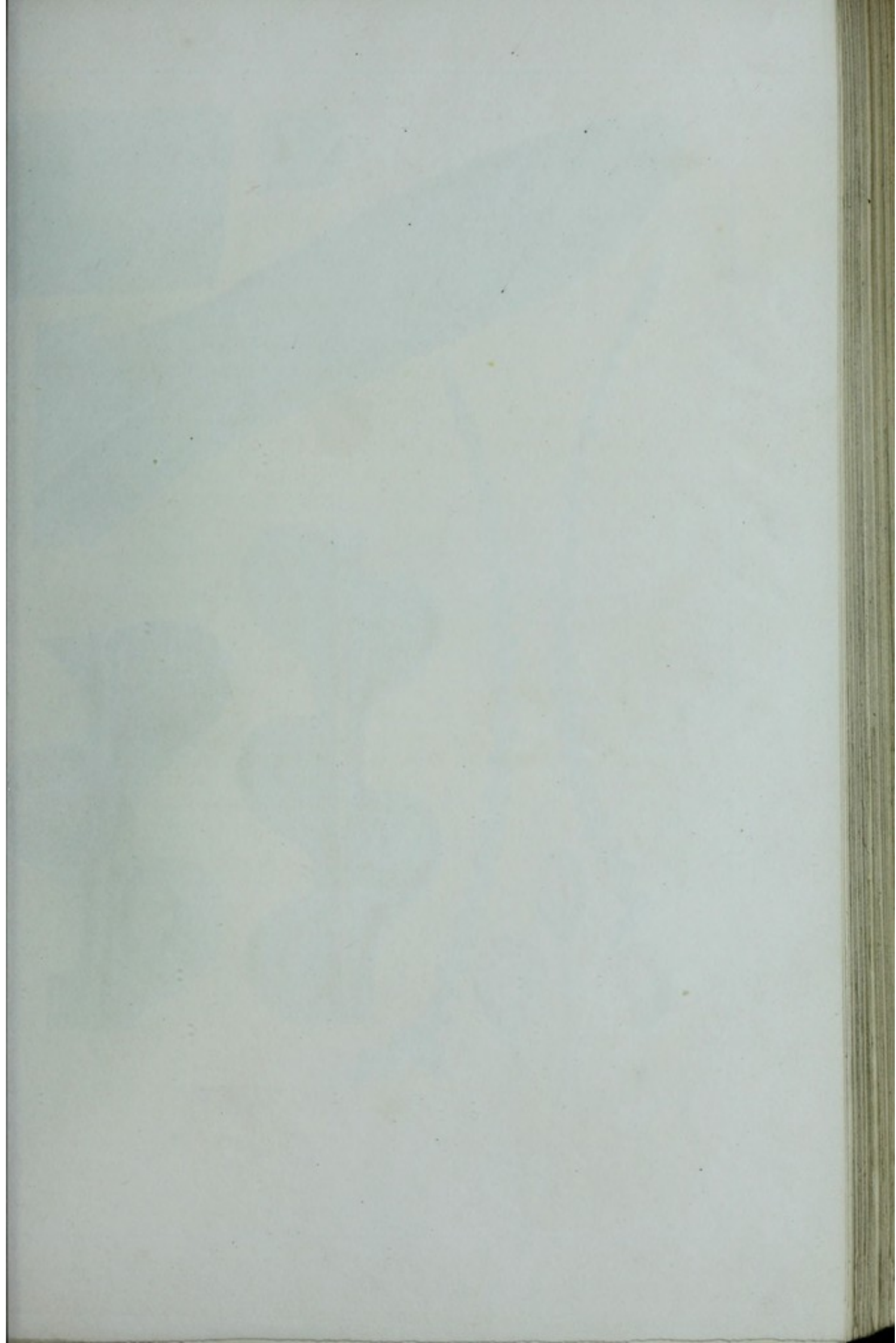
*Anemia Mandioccana*. Raddi. (TAB. XC.)

Of this beautiful Genus the greater number of species are natives of Brazil. The one here figured, indeed, we received from Trinidad: but it appears to us to be a variety of Raddi's *A. Mandioccana*. The structure and insertion of the sporangia are exactly similar to those of *Schizæa* (TAB. XIX.) and these two genera, together with *Lygodium* and *Mohria*, Martius, and, following him, Endlicher, have placed in a group or Order distinct from *Osmundaceæ*, in which the sporangia have only an incomplete dorsal annulus. Endlicher and others look upon the sporangia as produced upon a changed and contracted portion of the frond, but the long geminate peduncles, and the very much divided segments even in those species with simply pinnated fronds, and the point of origin of these peduncles, hardly warrant such a conclusion; though it must be acknowledged that the same author takes a similar view of the fructification in *Ophioglossum*.

TAB. XC.—Fig. 1. Frond and fructification of *Anemia Mandioccana*: nat. size; f. 2. Single pinna; f. 3. Portion of the rachis of the panicle, anterior view; f. 4. posterior view of the same; f. 5, 6. Sporangia; f. 7. Sporules:—magnified.











TAB. XCV

AGLAOMORPHA. Schott. J. Bot.

FRONTIS. Presl.

Sori rotundi, depressi, nulli, in singulo lobo segmentorum contracturam exhibent. Frondes scissae, rigidae, bi-tripolares basi pinnatifidae, nervosae, repensae, ovatae et fertiles. Pinnae scissae, cum rachide articolata, 10 lobis longae, compositae pinnatifidae lobulis rotundatis, ovatis, contractis. Venae segmentarum articulatae, pinniformes, venulae compressae, subparallelae, venulae ad angulum pinnulae-gularum formantes, lateribus venae vix vix pinnulae pinnulae. In pinnula fertili terminalis, contracta, sinuato-pinnatifida; ramulis contractis, confluentibus, vix vix, in sinuato lobo terminali. J. Bot.

Aglaomorpha Meyeniana Schott. Gen. Fil. Tab. XIX. — Pteridium Meyen. Presl.

HAB. LAURA (Cordoba, n. B.)

Scarcely distinct as a Genus, as Mr. Presl well observes, from *Dryopteris*, Presl. The fertile segments are indeed singularly contracte and changed, and the venulae in them, besides being very obscure, are few in each lobe; but as I had the real plant on the mountains of several mountains as described by Schott, but of two or three, as described by Schott, and sometimes even of one, as described by Presl.

Tab. XCV. Fig. 1. Sori segmenti rot. etc. f. 2. 3. partem of the same segmenti to show the venulae. f. 4. 5. Sori segmenti, rot. etc. f. 6. 7. Partes of the same segmenti f. 8. 9. 10. Sori segmenti, rot. etc. f. 11. Sori segmenti, etc.



## TAB. XCI.

AGLAOMORPHA. *Schott. J. Sm.*

PSYGMIMUM. *Presl.*

*Sori* rotundati, depressi, nudi, in singulo lobo segmentorum contractorum solitarii.—

*Frondes sessiles, rigidæ, bi-tripediales, basi pinnatifidæ, steriles, superne pinnatæ et fertiles. Pinnæ sessiles, cum rachi articulatae, 10 uncias longæ, sinuato-pinnatifidæ; lobulis rotundatis, omnibus unisoris. Venæ, segmentorum sterilium, costæformes; venulæ compositæ, anastomosantes, areolas subæquales quadrangulares formantes, lateribus venas varie divergentes gerentes. Segmenta fertilia terminalia, contracta, sinuato-pinnatifida: venulæ sporangiferæ, confluentes, obsoletæ, in singulo lobo soriferæ. J. Sm.*

*Aglaomorpha Meyeniana. Schott. Gen. Fil. TAB. XIX.—Psychmium elegans. Presl.*

HAB. Luzon. (*Cuming, n. 49.*)

Scarcely distinct as a Genus, as Mr Smith well observes, from *Drynaria*, Bory. The fertile segments are indeed singularly contracted and changed, and the venules in them, besides being very obscure, are few in each lobe; nor do I find the sori placed on the confluence of several venules as described by Smith, but of two at most, as described by Schott, and sometimes even of one, as described by Presl.

TAB. XCI. *Fig. 1.* Sterile segment; *nat. size: f. 2, 3.* portions of the same *magnified* to show the venation: *f. 4, 6,* Fertile segments; *nat. size: f. 5, 7.* Portions of the same; *magnified: f. 8, 9, 10.* Sporangia; *magnified: f. 11.* Sporules; *do.*



TAB. XXI.

ACCOMMODATION. Plate I. 18.

Plaque. 18.

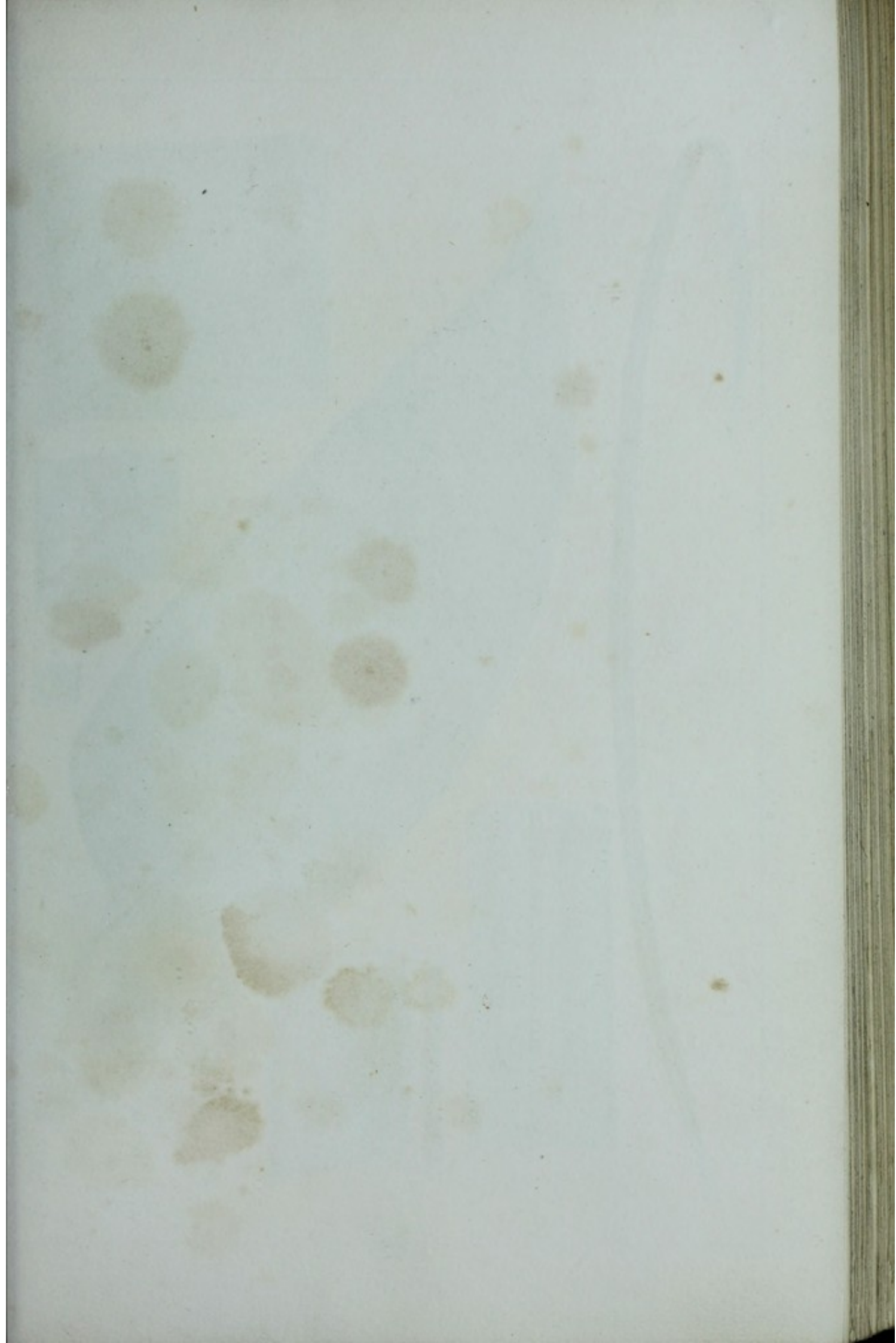
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TAB. XCII.

PHOTINOPTERIS. *J. Sm.*

*Sori* amorphi, nudi, dorso pinnarum superiorum contractarum totam paginam tegentes.—Fronde coriaceæ, glabræ, pinnatæ, 2-3 pedales, superne contractæ, fertiles. Pinnæ cum rachî articulatæ. Petiolus brevis, basi verticaliter oblongus et inferne in lobulo obtuso dilatatus. Pinnæ steriles elliptico-lanceolatæ, apice attenuato-falcatæ, basi subobliquæ, 6-8 uncias longæ, 3 uncias latæ, margine integerrimo, incrassato, leniter revoluto. Pinnæ fertiles lineares, 8 uncias ad pedalem longæ, subtus undique sporangiferæ. Venæ costæformes, venulis transversis unitæ, areolas quadrangulares formantes, venulas compositas anastomosantes, varie divergentes, liberas apice clavatas includentes. *J. Sm.*

*Photinopteris Horsfieldii. J. Sm.*—*Acrostichum rigidum. Wall.*

HAB. Singapore. *Dr Wallich.* Java. *Dr Horsfield.* Luzon. *Cuming. (n. 362.)*

Mr Smith mentions two species of this Genus; the present, and *P. simplex* (Cuming, n. 363); but he suspects that the latter is only an imperfect form of *P. Horsfieldii*. He places it near *Gymnopteris* (TAB. NOSTR. LXXXV.), from which it differs in habit, and in the articulation of the pinnæ with the rachis.—Seen under a high magnifying power, the surface of the sterile pinnæ seems studded with minute pores (*f.* 3, 4).

TAB. XCII. *Fig.* 1. Sterile pinnæ; *nat. size:* *f.* 2, 3. Portions of the same; *magnified*, to show the venation: *f.* 4. Minute pore of the frond; *do.*: *f.* 5. Sterile pinnæ; *nat. size:* *f.* 6, 7. Back and front view of portions of the same; *magnified:* *f.* 8, 9. Sporangia; *do.*: *f.* 10. Sporules; *do.*: *f.* 11. Clavate hairs or abortive sporangia; *do.*















TAB. XCIII.

SALPICHLÆNA. *J. Sm.*

BLECHNI SP. *Kaulf.*

*Sorus linearis, elongatus, costalis. Indusium conforme, involutum, fere cylindraceum, basi sporangiferum, intus dehiscens.*—Fronde*s flexuosæ, bipinnatæ, petiolis scandentes; pinnulæ 4-8, suboppositæ, remotæ, membranacæ, lineari-lanceolatæ, acuminatæ, 4-6 uncias longæ, margine plano, vel repando-undulato, nunc leniter revoluto et subindusiiformi: indusium verum inflatum, fuscum. Venæ furcatæ; venulis rectis, versus apicem, et iterum basin versus vena transversali unitis, sorum linearem continuum costalem formante. J. Sm.*

*Salpichlæna volubilis. J. Sm.*—*Blechnum volubile. Kaulf.*

HAB. Brazil.

“From *Blechnum*, this is not only distinguished by its climbing habit, but also by the venules being combined by a transverse slightly intramarginal vein, and by its conspicuous cylindrical tube-like indusium, bearing a portion of the sporangia along its lengthened attachment or base.” *J. Sm.*—It is said to climb to the tops of lofty trees in Brazil.

TAB. XCIII. *Fig. 1. Pinna; nat. size: f. 2, 3, 4. Portions of the same, more or less magnified: f. 5, 6, 7. Sporangia; do.: f. 8. Sporules; do.*



PLATE XXIII

PLATE XXIII

PLATE XXIII

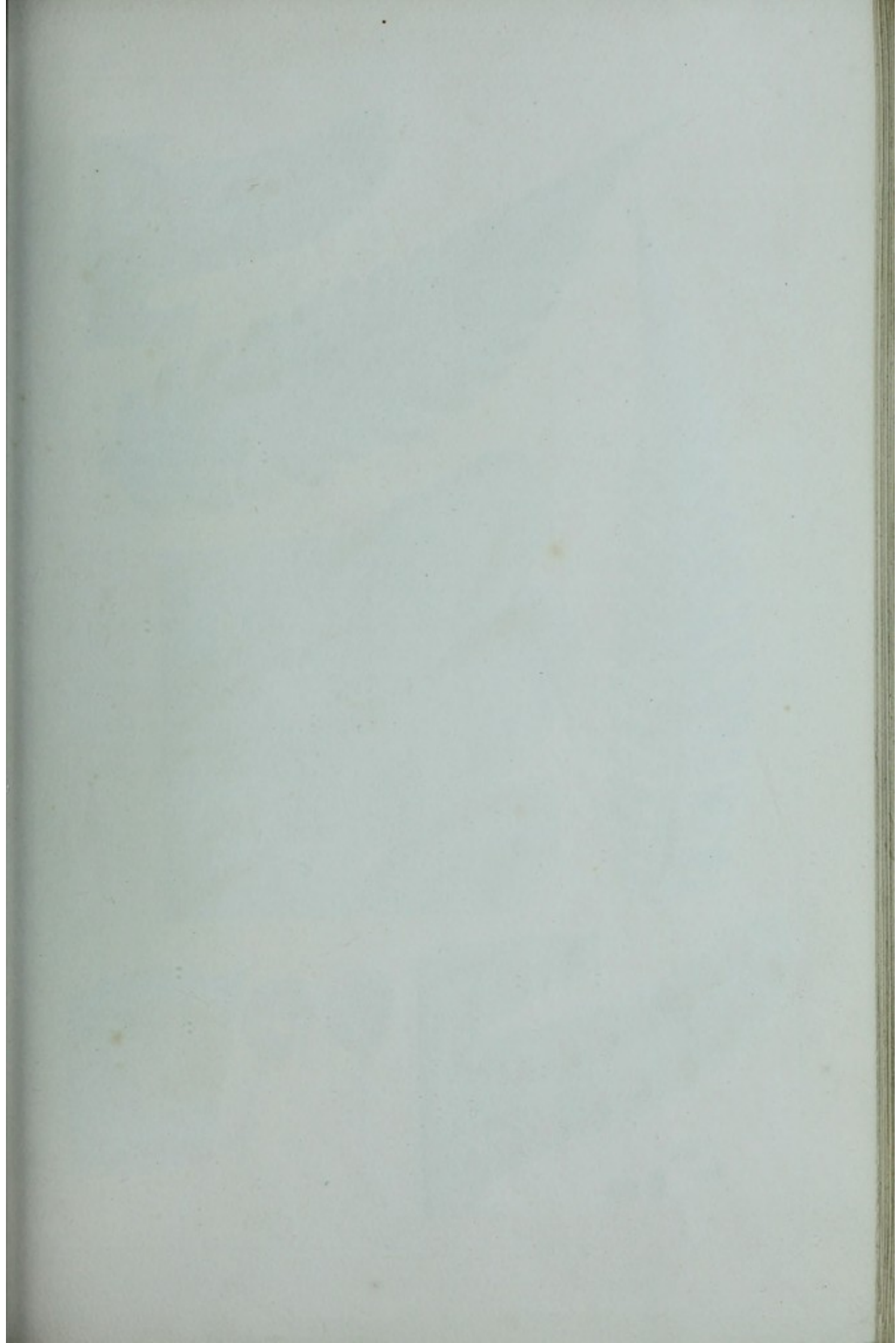
PLATE XXIII

PLATE XXIII

PLATE XXIII

PLATE XXIII

PLATE XXIII









TAB. XCIV.

STENOSEPIA. Presl, J. Sm.

Socii nulli, medio vel apice venarum sibi, rotundati, vel lineares, distincti, vel per  
 paris confluentes, r. subamorphi.—Frondes 1-3 pedales, bipinnatifidae. Fronds  
 strobilus *Lacinia* obtusa, integra, vel *superiora* pinnatifida; pinnarum vix  
 saepe gemulifera. Frondes fertiles saepe imperfecti, molles, spinosae rachiferas  
 spongiosas formantes. Venae costiformes, pinnatae. Venulae simpliciter  
 feruntur, paribus 2 inferioribus oppositis, et saepe ramulis angulatis vel  
 mucronatis, vel r. liberis / brachiis simpliciter pinnatis minus mucronatis  
 saepe, vel saepe liberis, J. Sm.

*Stenosepia aurita*. Presl.—*Polypetia aurita*. Blume, Fl. Javae, v. 5, p. 3.—  
*Acrostichum auritum*. Presl.—Rumph. Amb. v. 5, p. 35.

HAB. *Amboyna*, *Surabaya*. Java Blume. Philippine Islands, *Comins* (n. 326, 302,  
 331, 341).

Mr. J. Smith has first accurately noticed the nature of the venation, and of the leaf in this  
 Fern. "In some cases the venation of the fertile frond is fine, and bears round sori, they  
 are not differing from those of *Polypodium*; but it is usual for the lower venulae to anas-  
 tomose (as in the sterile fronds), and produce round or oblong sori, presenting some affinity  
 with *Menisium*, and *Gonopteris*." J. Sm.

TAB. XCIV. Fig. 1. Sterile pinnule; nat. size; f. 2. Portion of the same; magnified; f. 3. Sterile  
 pinnule; nat. size, with linear sori; f. 4. Portion of the same; magnified; f. 5. Portion of a pinnule  
 with rounded sori, and f. 6. Single sori; magnified; f. 7, 8. Spongiae, and X 9. Spongiae; magnified.



## TAB. XCIV.

### STENOSEMIA. *Presl. J. Sm.*

*Sori nudi, medio vel apice venularum siti, rotundati vel lineares, distincti, vel paria confluentes, v. subamorphi.—Frondes 1-2 pedales, bipinnatifidæ. Stipes ebenus Lacinia obtusæ, integræ vel inferiores sublaciniatæ; pinnarum axis sæpe gemmifera. Frondes fertiles sæpe imperfecti evolutæ, spicas rachiformes sporangiferas formantes. Venæ costæformes, pinnatæ. Venulæ simplices aut furcatæ, paribus 2 inferioribus oppositis eorumque ramulis angulariter anastomosantibus, reliquis liberis: frondis fertis venulæ plerumque minus anastomosantes, vel omnes liberæ. J. Sm.*

*Stenosemia aurita. Presl.—Polybotrya aurita. Blume, Fl. Javan. v. 3. p. 1.—Acrostichum auritum. Sw.—Rumph. Amb. v. 6, p. 35.*

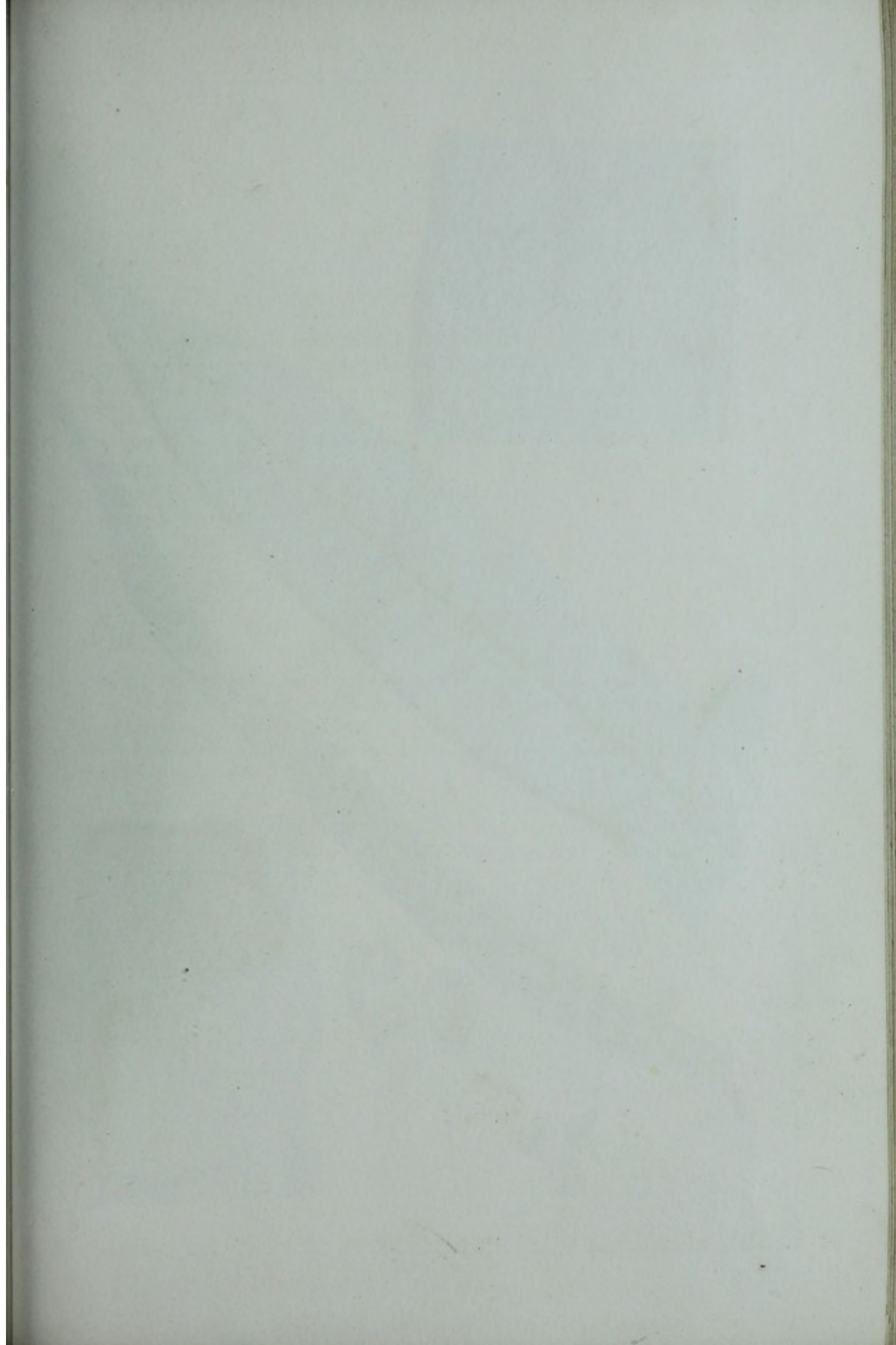
*HAB. Amboyna. Rumphius. Java. Blume. Philippine Islands. Cuming (n. 295, 302, 321, 341).*

Mr J. Smith has first accurately noticed the nature of the venation and of the sori in this Fern. "In some cases the venation of the fertile frond is free, and bears round sori, therefore not differing from those of *Polypodium*; but it is usual for the lower venules to anastomose (as in the sterile frond), and produce round or oblong sori, presenting some affinity with *Meniscium* and *Goniopteris*." *J. Sm.*

TAB. XCIV. *Fig. 1. Sterile pinnæ; nat. size: f. 2. Portion of the same; magnified: f. 3. Fertile pinnæ; nat. size, with linear sori: f. 4. Portion of the same; magnified: f. 5. Portion of a pinna with rounded sori, and f. 6, single sorus; magnified: f. 7, 8. Sporangia, and f. 9. Sporules; magnified.*











TAB. XCV.

DRYOSTACHYUM, J. Sm.

Stem oblong, 4 quadrangular, dull, in plants sometimes contracted. Distichous  
 leaves, opposite, subseriate. Panicle simple, rigid, 1-2 pedicels,  
 simple or few. Corolla 5-lobed or 6-lobed, lobes simple, often fertile  
 when small, or very small. Anthers 6-10, simple, rigid, subulate, acute  
 spreading, glabrous or pilose. Yucca, separate, simple, sometimes  
 weakly compound, sometimes simple subquadrate or orbicular, base  
 often reniform, subentellineo liberis viridis divergentibus. Pinnatis  
 venis confluentibus, infra venas costiformes spargiferis. J. Sm.

*Dryostachyum cylindricum*. J. Sm. in Hook. Journ. of Bot., 3, p. 203.

HAB. LOUIS. COAST (9-27).

Two other species, *D. undulatum* (Polypodiaceae, Hb. K.) a native of the island of Cuba  
 and *D. pilosum* J. Sm. in Hook. Journ. Bot. are here represented, of Louisiana being in the  
 genus. All grow on rocks, and are stated by the authors of the *Flora*, agree in habit  
 with *Dryopteris pauciflora* and *serotina* but differ by the fertile portion of their fronds  
 being contracted into rachiforme segments, bearing remarkably large ones.

TAB. XCV.—Fig. 1. Portion of the frond; magnified  $\times 2$ . 2. Fronds and leaflets separate; nat.  
 size. 3. 4. Portion of a fertile segment; magnified. 5. 6. Sporangia;  $\times 2$ . Spores; magnified.



TAB. XCV.

DRYOSTACHYUM. J. Sm.

*Sori* oblongi s. quadrangulares, nudi, in pinnas terminales contractas biserialim dispositi, approximati, subconfluentes. Frondes sessiles, rigidae, 1-2 pedales, simplices, vel basi plerumque pinnatifidae et steriles, supra pinnatae, pinnis fertilibus sessilibus, cum rachi articulatis, 6-10 uncias longis, reticulatis, areolis sporangiferis glabris vel pilosis. Venae, segmentis sterilibus, costaeformes; venulae compositae, anastomosantes, areolas subquadrangulares formantes, lateribus ramuliferis, ramulis ultimis liberis varie divergentibus: Pinnarum fertilium venulae confluentes, intra venas costaeformes sporangiferae. J. Sm.

*Dryostachyum splendens*. J. Sm. in *Hook. Journ. of Bot.*, 3. p. 399.

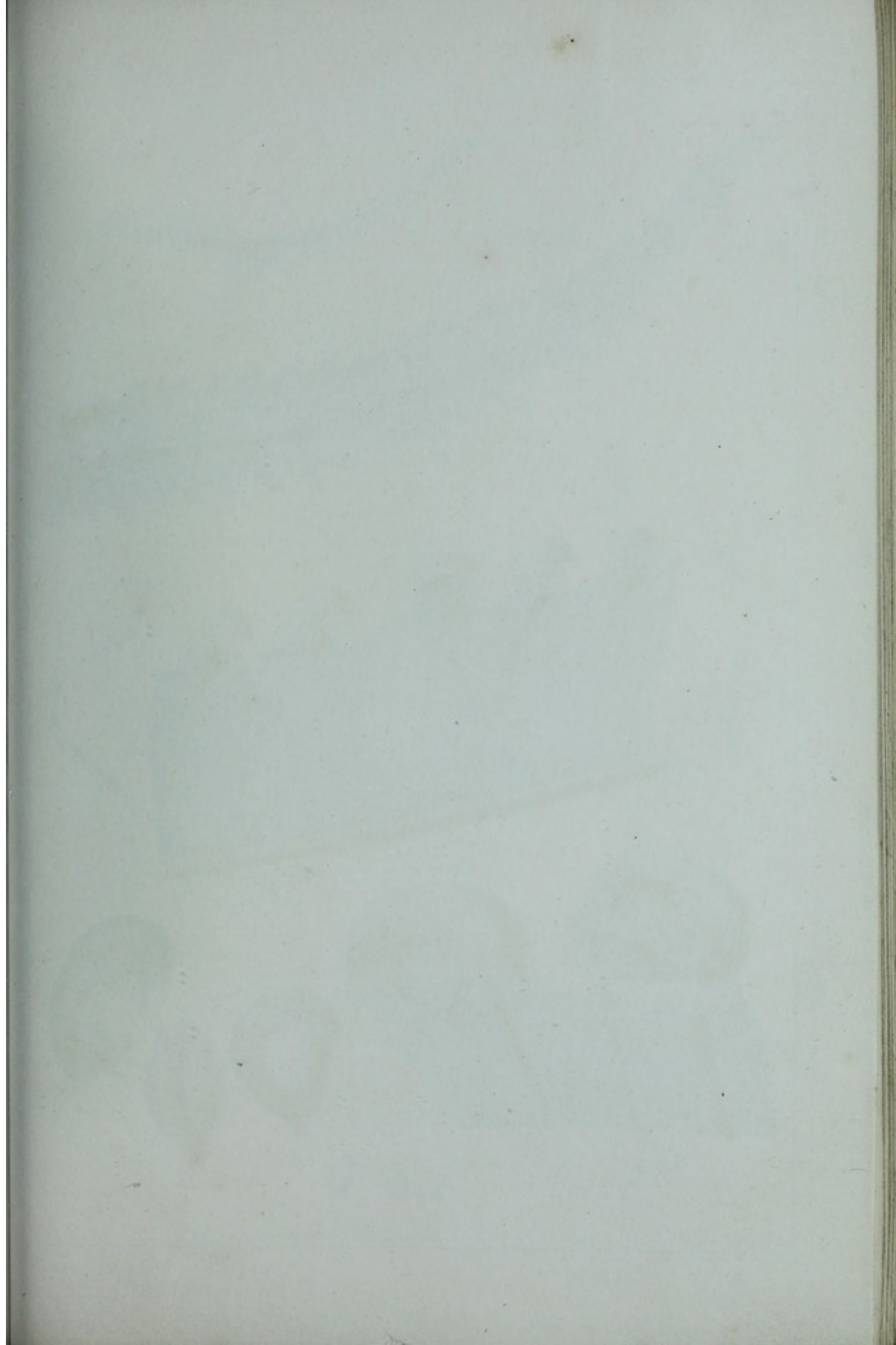
HAB. Luzon. *Cuming* (n. 87).

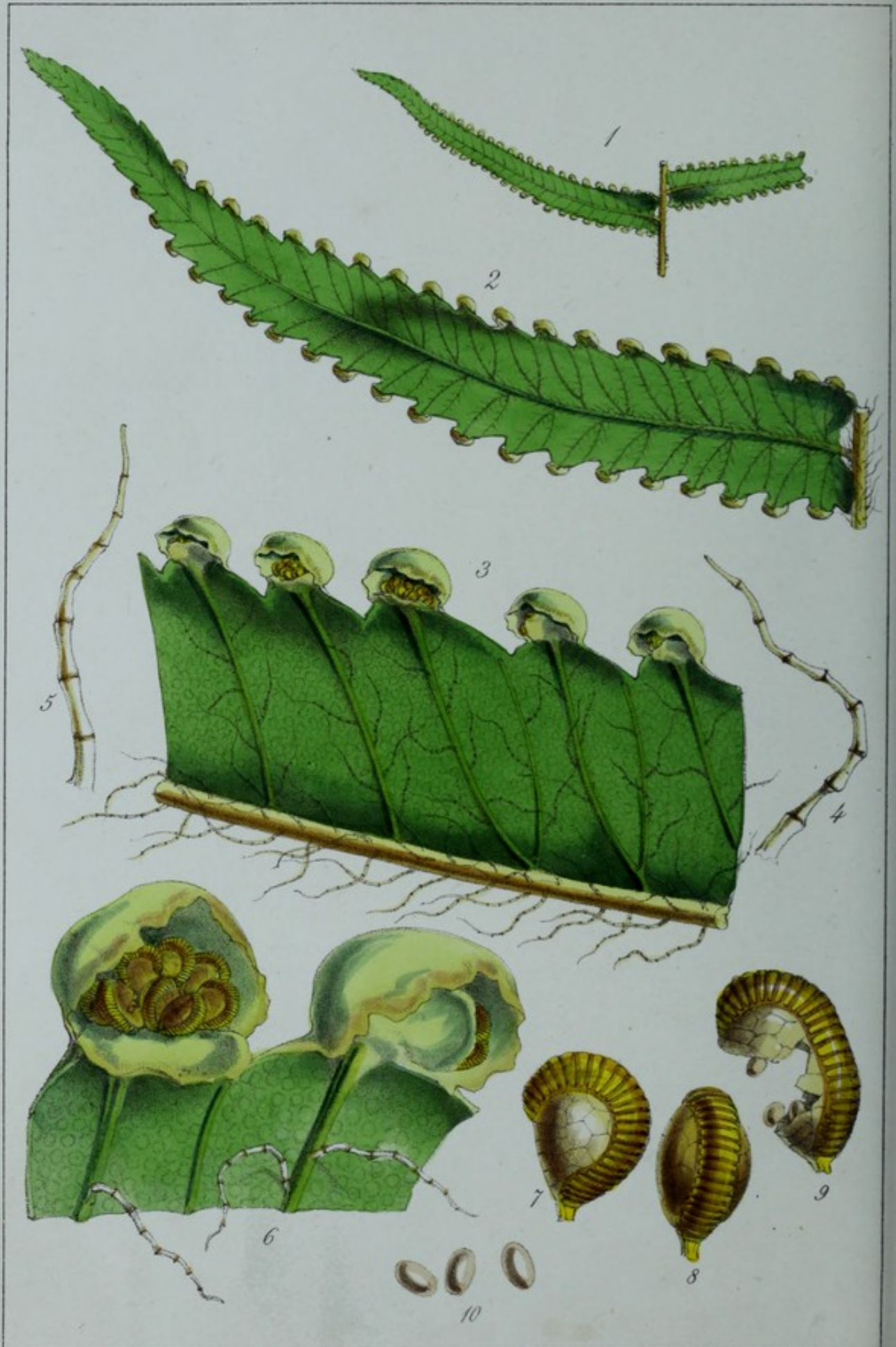
Two other species, *D. caudatum*, (*Polypodium*, *Reinw.*) a native of the island of Celebes, and *D. pilosum*, J. Sm. a native, like the one here represented, of Luzon, belong to this Genus. All grow on trees, and, as stated by the author of the Genus, agree in habit with *Drymaria quercifolia* and *coronans*, but differ by the fertile portion of their fronds being contracted into rachiform segments, bearing remarkably large sori.

TAB. XCV.—*Fig. 1.* Portion of the frond; *magnified: f. 2, 3.* Sterile and fertile segments; *nat. size: f. 4.* Portion of a fertile segment; *magnified: f. 5, 6.* Sporangia: *f. 7.* Sporules; *magnified.*















TAB. XCVI.

CYSTODIUM. *J. Sm.*

DICKSONIÆ sp. *Sm.*

*Sori* marginales, exserti, globosi, venas terminantes. *Indusium* duplex: *interius* (verum) subreniforme, parvum, planiusculum; *ext.* (accessorium) concavo-cucullatum, *interius* includens. *Fronde* bipinnatæ; *pinnæ* lanceolatæ, pedales; *pin-nulis* numerosis, *linearilanceolatis acuminatis, subfalcatis, sesquipollicem ad duas uncias longis, semipollicem latis, basi truncatis, brevissime petiolatis, marginibus æqualiter dentatis, dentibus subreflexis, soriferis.* *Venulæ* simplices vel rarius furcatæ, rectæ, parallelæ, apicibus liberis soriferis. *J. Sm.*

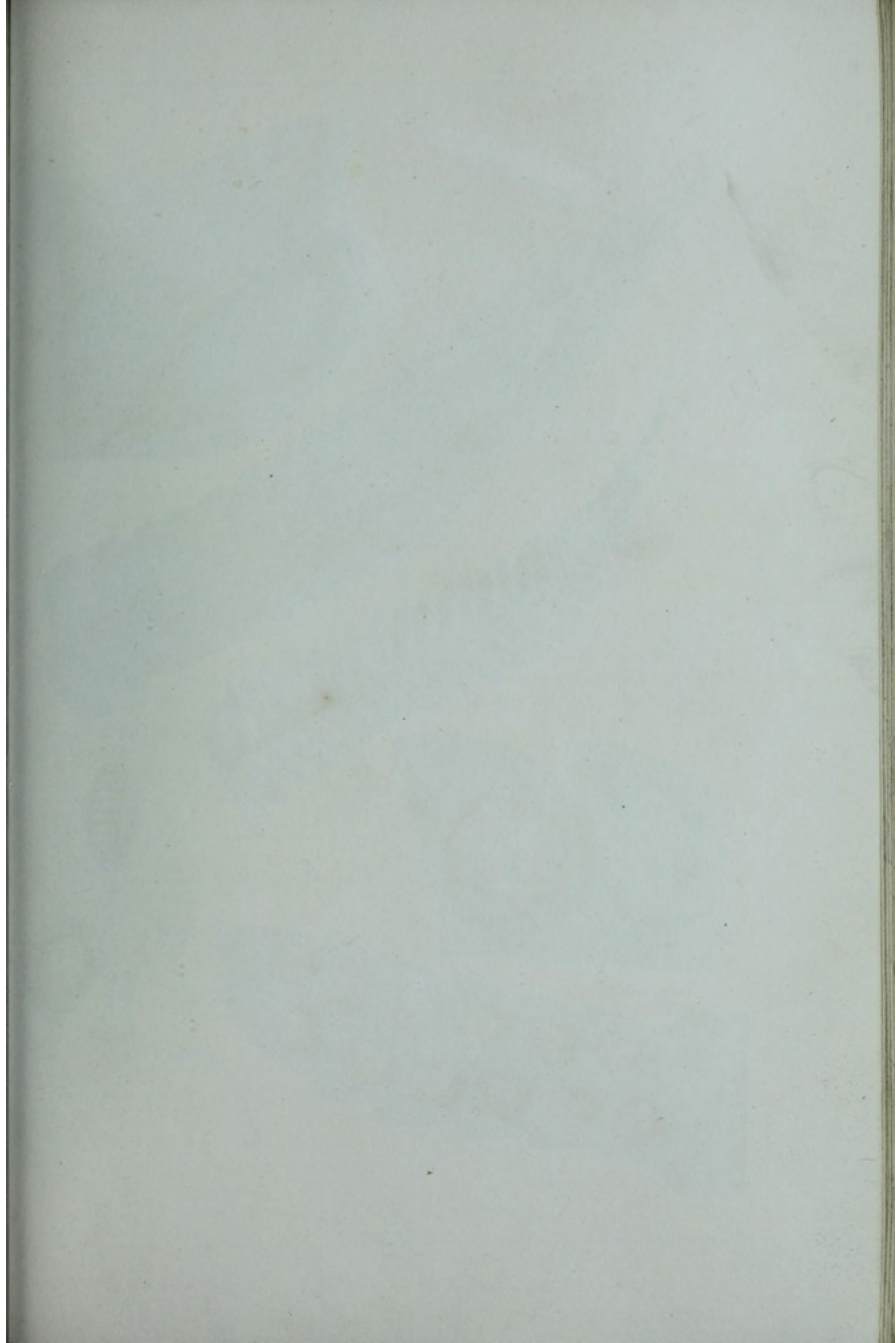
*Cystodium sorbifolium.* *J. Sm. in Hook. Journ. of Bot. ined.* *Dicksonia sorbifolia.* *Sm. in Rees' Cycl.*

"This Genus is founded upon a very rare Fern, a native of the Moluccas, but well described by Sir Jas. E. Smith in Rees' Cyclopædia: yet it does not appear to be taken up by any succeeding author. In its general character it comes nearest to *Deperia* (Hook. et Grev. TAB. NOSTR. XLIV. B), differing however entirely in habit and in the cowl-like form of the fertile teeth, which, being at equal distances and projecting beyond the margin, give to the Fern a striking and peculiar appearance. But it is necessary to observe that although the peculiar habit naturally induces us to view *Cystodium* as distinct, yet it is difficult to point out a character whereby it may be distinguished from other *Dicksoniæ*." *J. Sm.*

TAB. XCVI.—*Fig. 1.* Portion of a pinna; *nat. size*: *f. 2.* pinnule: *f. 3.* Portion of do.: *f. 4, 5.* hairs from the costa and veins: *f. 6.* *Sori*: *f. 7, 8, 9.* Sporangia: *f. 10.* Sporules; *magnified.*













TAB. XCVII.

PLEOCNEMIA, *Psod.*

*Polytrichum, Gled.*

*Pleocnemia Leucocoma, Psod.*—Hbch. *opusc. Tab. LXX, f. 2m. in Herb. Sapph.*  
*of Bot. t. 2, p. 111.*

Perfect specimens of this Plant in My Darling's collection (No. 28, 29, 30, 31) have enabled me to ascertain a very important secret, which, both Psod. and myself, as well as Gandeband have failed, in representing the size or duration of an individual, whether it is furnished with a sporocarpium or not. It will be seen by the figures that the ratio of the sterile to the fertile branches is great, that is, more than the fertile ones, owing to the greater development of leaf.

Tab. XCVII.—Fig. 1. Sterile branch of *Pleocnemia Leucocoma*, nat. size. / 2. Portion of the same, magnified. / 3. Fertile branch, nat. size. / 4. Fertile branch, magnified. / 5. Detail of the same more highly magnified. / 6, 7, Sporangia. / 8. Spore. / 9. Germinating spore, nat. size. All magnified.



TAB. XCVII.

PLEOCNEMIA. *Presl.*

POLYPODII sp. *Gaud.*

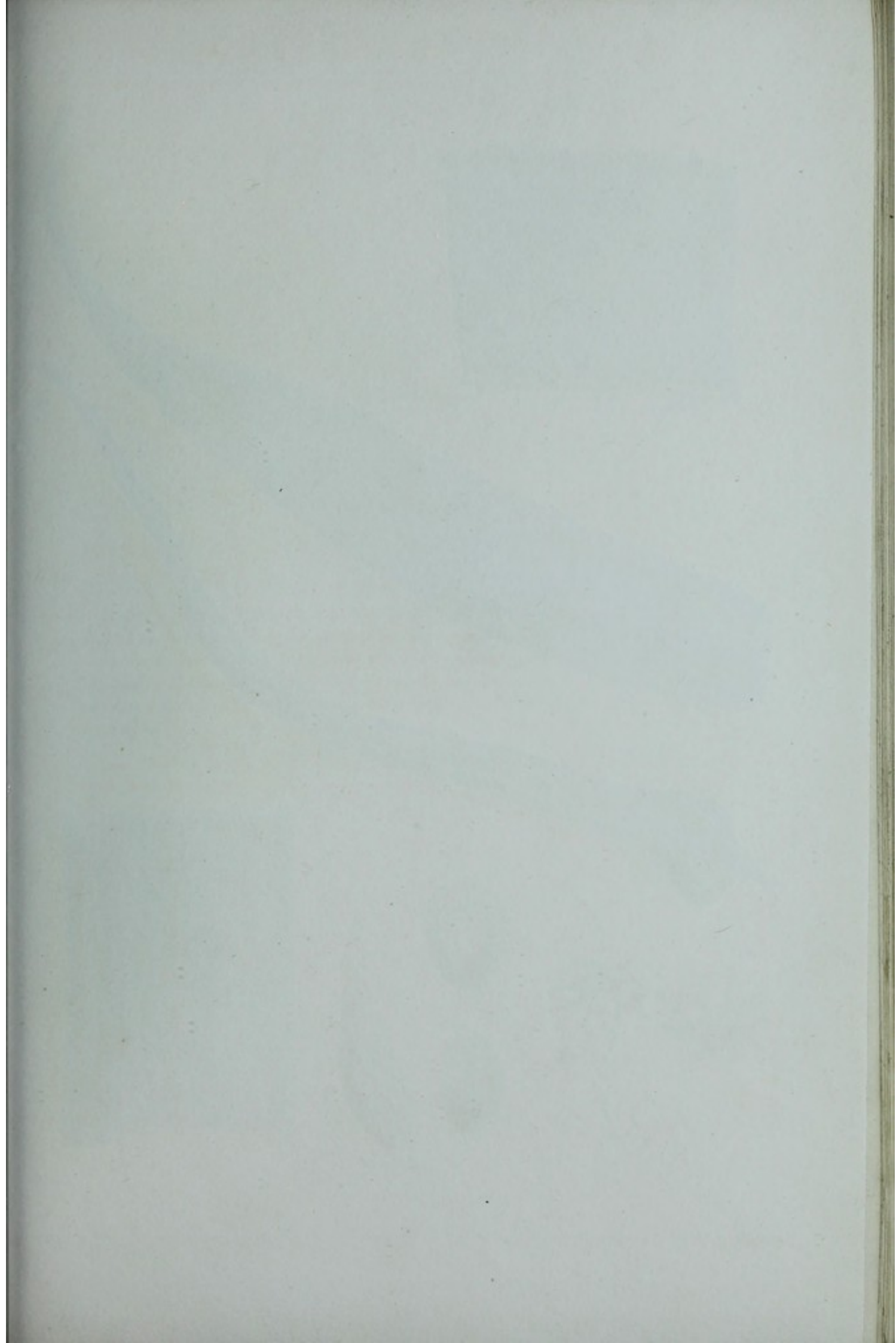
*Pleocnemia Leuceana*. *Presl.*—*Hook. supra* TAB. LXX. *J. Sm. in Hook. Journ. of Bot.* v. 3, p. 411.

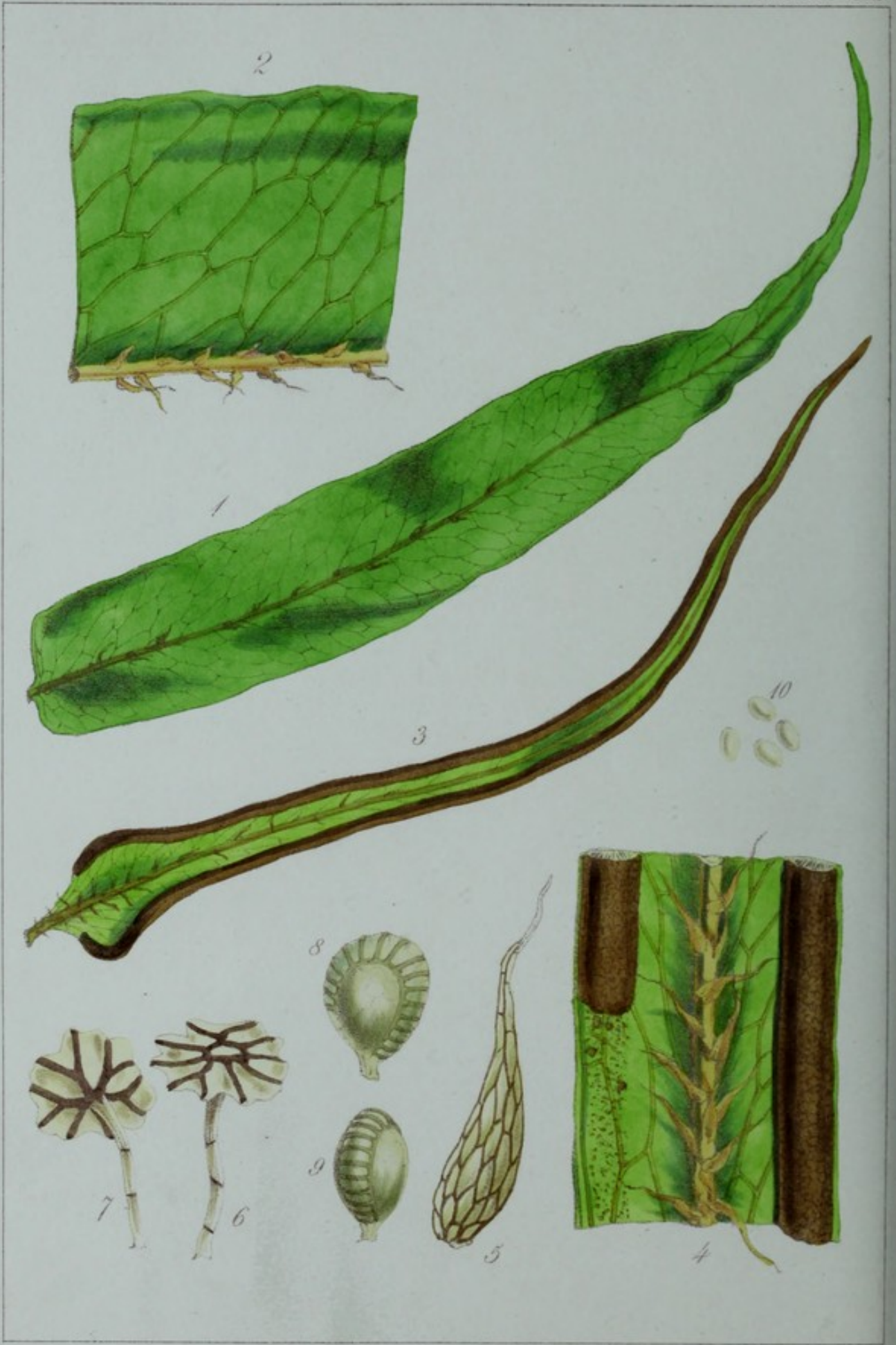
Perfect specimens of this Plant in Mr Cuming's collection (*nos.* 33, 34, 107, 289,) have enabled me to correct a very important error into which both *Presl* and myself, as well as *Gaudichaud*, have fallen, in representing the sori as destitute of an indusium, whereas it is furnished with a reniform one. It will be seen by our figures that the veins of the sterile lacinia<sup>a</sup> anastomose a good deal more than the fertile ones, owing to the greater development of frond.

TAB. XCVII.—*Fig.* 1. Sterile pinna of *Pleocnemia Leuceana*; *nat. size*: *f.* 2. Portion of the same; *magnified*: *f.* 3. Fertile pinna; *nat. size*: *f.* 4. Fertile lacinia; *magnified*: *f.* 5. Portion of the same more highly *magnified*: *f.* 6, 7. Sporangia: *f.* 8. Sporules: *f.* 9. Clavate hairs from among the sporangia; all *magnified*.











TAB. XCVIII

LOMAGRANNA. J. Sm.

*Syrus indicus*, elongatus, testaceus, Bursis marginalibus, latitudinalibus foris, marginibus  
 receptis, in pinnis "marginibus contractis. Præter 14-tripertitis, pinnis. Pinnis  
 Bursis lanceolatis, 4-6 nervis longis, simplicibus, cum radiis marginalibus: foribus  
 contractis cum marginibus spongiformis. Venis uniformis, reticulatis, striatis  
 hexagonis subquadratis formosis. J. Sm.

*L. pharidica*, J. Sm. in Hook. Journ. of Bot. v. 3, p. 492.

HAB. Japonia, Cavendish (n. 200).

This Genus is founded upon a solitary species from the island of Looe, which in its  
 has some affinity with *Stenodonta*, but is distinguished from that by its contracted  
 venation, which is similar to that of *Corymbium*, especially in view of the dissep-  
 imented spaces, but from which it differs, not only in habit and in the reticulated pattern,  
 but also in the spongy occupying only the marginal portion of the disk of the pinnæ in  
 that respect, bearing some similarity to *Lomocera*, and in its reticulated veins to *Lomocella*.  
 Probably this Fern may be the *Lepidochloa hexagonica* of Blume, though his description is  
 too brief to enable me to determine with certainty. J. Sm.

TAB. XCVIII. Figs. 1. Entire plant, and also J. S. Portion of the same; magnified. J. S.  
 Detail of pinnæ, and also J. S. Portion of the same; J. S. Detail from the same; J. S. 2. Yellowish  
 lines among the spongy; J. S. 3. Spongy; J. S. 4. Bursis; magnified.



TAB. XCVIII.

LOMAGRAMMA. *J. Sm.*

*Sorus nudus, elongatus, continuus, lineam marginalem latiusculam totum marginem occupans, in pinnis mutato-contractis. Frons bi-tripedalis, pinnata. Pinnæ lineari-lanceolatae, 4-6 uncias longæ, sessiles, cum rachi articulatae; fertiles contractæ toto margine sporangiferæ. Venatio uniformis, reticulata, areolas hexagonas subæquales formans. J. Sm.*

*L. pteroides. J. Sm. in Hook. Journ. of Bot. v. 3, p. 402.*

HAB. Luzon. *Cuming (n. 228).*

This Genus is founded upon a solitary species from the island of Luzon, which, in habit, has some affinity with *Stenochlæna*, but it is distinguished from that by its reticulated venation, which is similar to that of *Acrostichum*, especially to one or two of the simple-fronded species: but from which it differs, not only in habit and in the articulated petioles, but also in the sporangia occupying only the marginal portion of the disk of the pinnæ: in that respect bearing some similarity to *Lomaria*, and in its reticulated veins to *Litobrochia*. Probably this Fern may be the *Leptochilus lomarioides* of Blume, though his description is too brief to enable me to determine with certainty." *J. Sm.*

TAB. XCVIII.—*Fig. 1. Sterile pinna; nat. size: f. 2. Portion of the same; magnified: f. 3. Fertile pinna; nat. size: f. 4. Portion of the same: f. 5. Scale from the costa: f. 6, 7. peltate scales from among the sporangia: f. 8, 9. Sporangia: f. 10. Sporules; magnified.*



TAB. XXVIII.

LEODRAMMA V. 60.

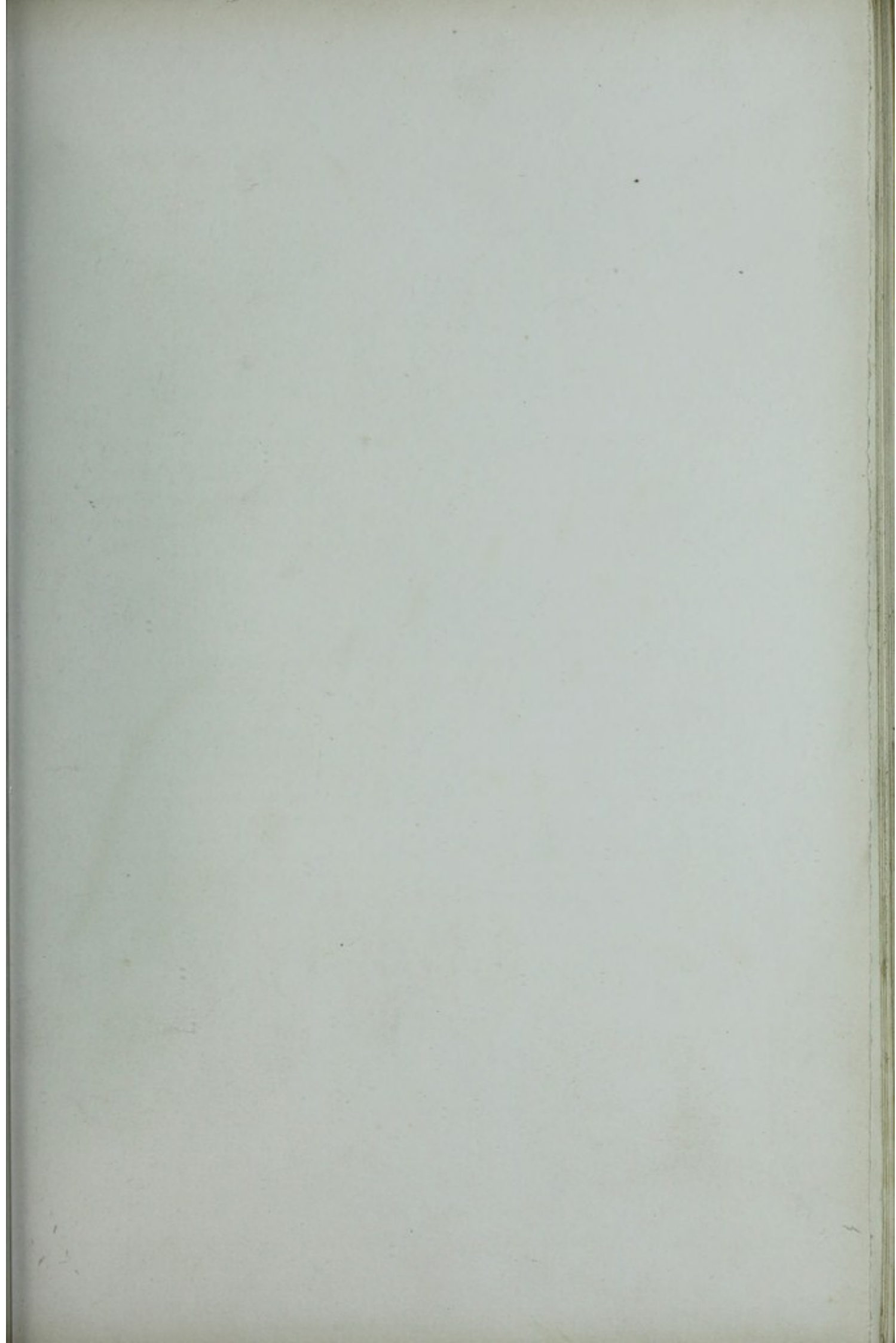
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TAB. XCIX

DIACALPE. III.

Stem glabrous, square, inflexion inferior, dichotomous, sessile, sphericum, vix  
 densa, hinc hinc incisa, pinnis lat. profis, demum vertice irregulariter sub-  
 pinnis; *Diapentemum pinnatifidum, vix elevatum*.—Frondis *frondulata, verticillata,*  
*diversipennis. Pinnis sublongis, ovatis-lanceolatis, rigida, pinnis pinnatis. Radice*  
*fibrosa. Vena pinnatis, venula obliqua in lat. pinnatis, venula in pinnis superioribus*  
*perforata. Sporangia in venula, lat. sessilibus, sphericis callosiformibus.*

*D. apiculata, III.*

*Man. Jav. Benth.*

A genus very closely allied to *Sphaeropteris* or *Fernandea*, Desf. (see Tab. XIV.) and  
 differing only in the absence of the stipes to the stem.

Tab. XCIX.—Fig. 1. Upper side of a stem; slightly magnified. / 2. Lower side of a stem  
 plant; slightly magnified. / 3. Pinnis of the stem; more highly magnified. / 4. Diagram of the  
 stem with the veins indicated; mag. 1/2. Part of the stem, the veins being removed. / 5. Stem  
 with the venulae shown; mag. 1/2. Part of the stem; the veins being removed. / 6. Stem  
 with the venulae shown; mag. 1/2. Part of the stem; the veins being removed. / 7. The same part again. / 8, 9. Sporangia; & 10. Sporangium, all seen in  
 the *Man. Jav.*



TAB. XCIX.

DIACALPE. Bl.

*Sori* globosi, sparsi. *Indusium* inferum, membranaceum, sessile, sphaericum, medio dorso venulae infimae insidens, primum integrum, demum vertice irregulariter rumpens. *Receptaculum* punctiforme, vix elevatum.—*Frondes fasciculatae, herbaceae, decompositae*. *Pinnae oblongae, crenato-lobatae, supra sparse pilosae*. *Rachis hirsuta*. *Venae pinnatae; venulae simplices rarius furcatae, venula infima superiore sorifera*. *Sporangia subsessilis, lato-annulata*. *Sporulae subreniformes*.

*D. aspidioides*. Bl.

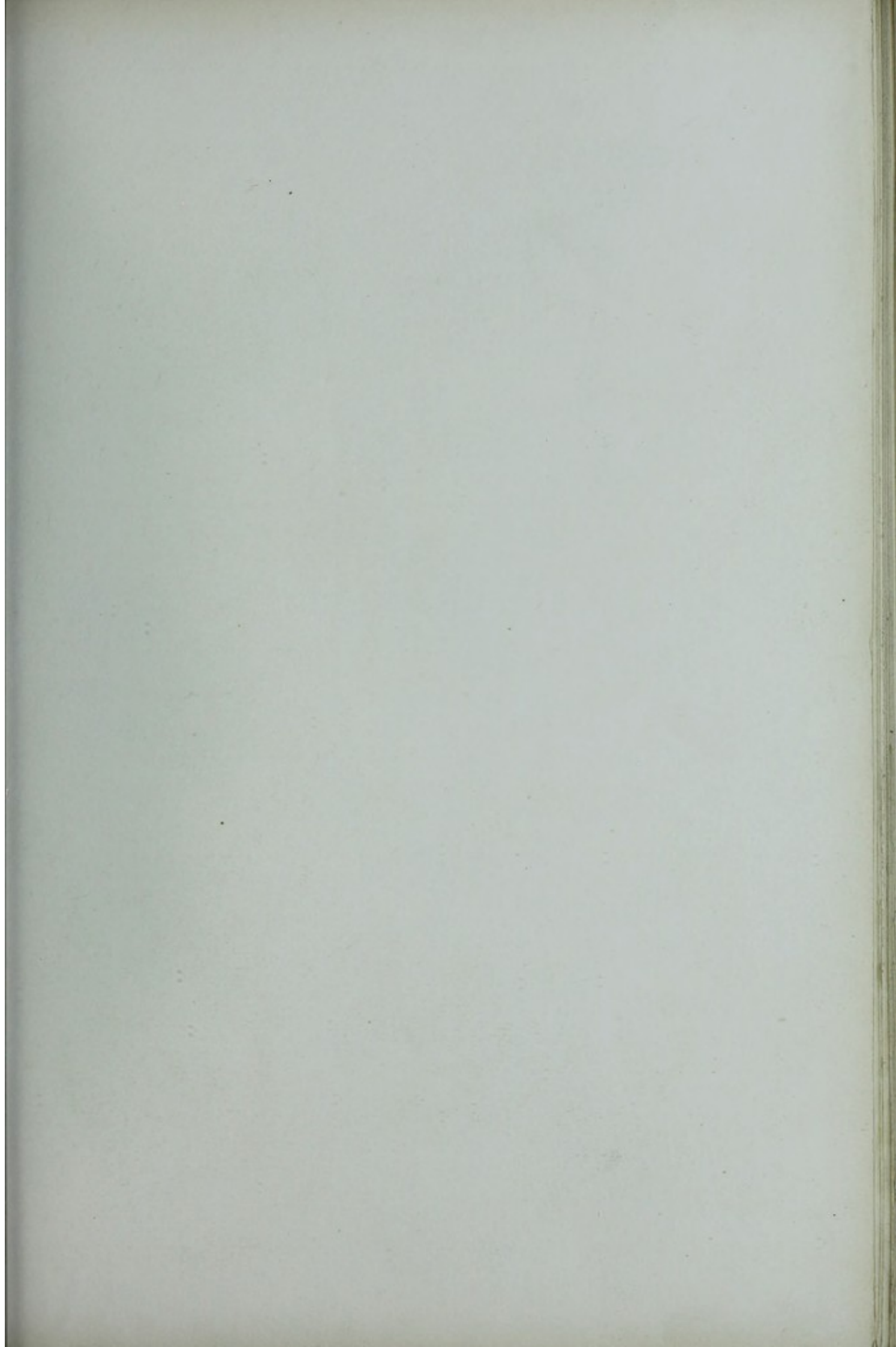
HAB. Java. Blume.

A Genus very closely allied to *Sphaeropteris*, or *Paranema*, Don, (see TAB. XIV.) and differing only in the absence of the stipes to the sorus.

TAB. XCIX.—*Fig. 1.* Upper side of a pinnule; slightly *magnified*: *f. 2.* Under side of a fertile pinna; slightly *magnified*: *f. 3.* Pinna of the same; more highly *magnified*: *f. 4.* Segment of the same with the entire indusium; *do.*: *f. 5.* Portion of the same, the sorus being removed: *f. 6.* Sorus with the indusium burst: *f. 7.* the same cut open: *f. 8, 9.* Sporangia: *f. 10.* Sporules; all more or less *magnified*.











TAB. C.

GYMNOSPHERA, II.

Sori globosa, sub modo rotundata dorso inserta. Receptaculum elevatum, subcy-  
 lindricum. Sporangia pollicellata, lato-ovoides (tenuis via obliqua) pila  
 vix distincta inserta. Sporulae ovales trilobae. Pila arborescens. Prospira  
 bipinnata; pinnae lanceolatae subrotundae, bifido-angulo-angulicordatae, lobis  
 pinnatifidis. Vena pinnata, vix distincta, angulata, fere ad marginem  
 vix distincta, vix distincta.

*Gymnospora cyathiformis*, III.—*J. Bot. in Herb. Journ. of Bot.* 7, 3, p. 117.

Herb. Botanic. Garden (n. 326).

To this *Gymnospora* may be referred *Polypodium pollicellatum* Walk. and *Cyathea* (number of  
 the same author (Cat. 4, 180). It has, with the above-mentioned habit and general structure of  
 frond of the *Cyathea* genus, but the elevated receptacle, but the nature of the sporangia  
 is not oblique and the vix distincta entirely distinct from the above.

Tab. C.—Fig. 1, a. Spindle point, slightly magnified; b. Portion of a sterile part, vix  
 distincta; c. d. Spindle point, slightly magnified; e. Portion of the same, vix distincta.  
 f. g. Sterile and a receptacle from which the sporangia are removed; h. One of the  
 sporangia; i. j. Spore; k. l. Spore, magnified.



TAB. C.

GYMNOSPHERA. Bl.

Sori globosi, nudi, medio venularum dorso inserti. Receptaculum elevatum, subcylindraceum. Sporangia pedicellata, lato-annulata (annulo vix obliquo) pilis apice clavatis immixta. Sporulæ obtuse trilobæ. Filix arborescens. Frondes bipinnatæ; pinnis lanceolatis subsessilibus subcoriaceo-membranaceis, lobatopinnatifidis. Venæ pinnatæ, venulæ simplices apice subclavatæ, fere ad marginem attingentes, medio soriferæ.

Gymnosphæra squamulata. Bl.—J. Sm. in Hook. Journ. of Bot. v. 3, p. 419.

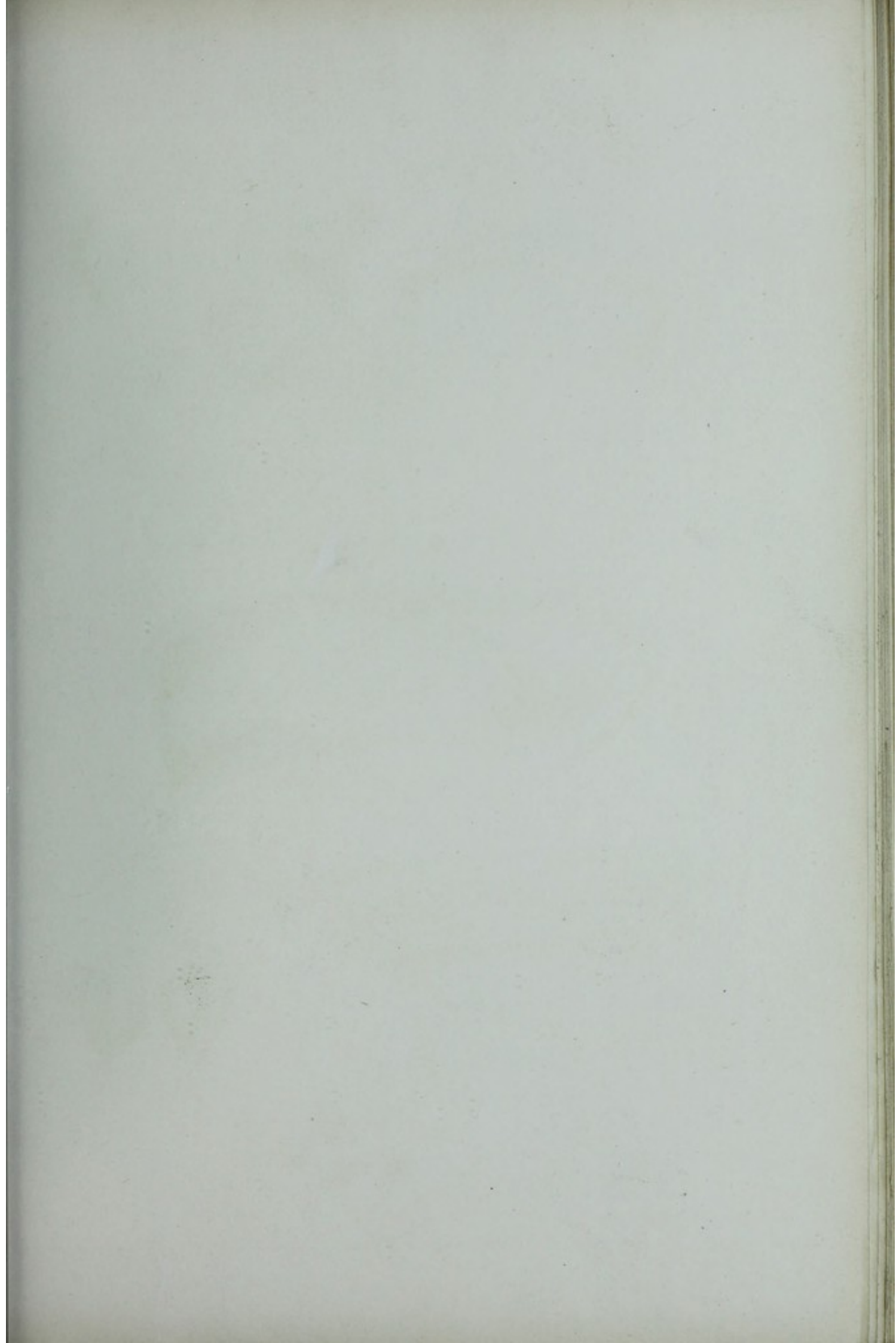
HAB. Malacca. Cuming (n. 396).

To this Genus may be referred *Polypodium giganteum*, Wall. and *Cyathea venulosa* of the same author (Cat. n. 180). It has quite the arborescent habit and general structure of frond of the Cyatheaceous Ferns, and the elevated receptacle; but the annulus of the sporangia is not oblique, and the sori are entirely destitute of indusium.

TAB. C.—Fig. 1, 2. Sterile pinna; slightly magnified: f. 2. Portion of a sterile pinna, more magnified: f. 3. Fertile pinna; slightly magnified: f. 4. Portion of do.; more highly magnified: f. 5. Sorus and a receptacle from which the sporangia are removed: f. 6. Clavate hair from among the sporangia: f. 7. Sporangium: f. 8. Sporules; magnified.









2



3



4

5



6





TAB. CL.

SYNAPHLERION, J. Sm.

LINDL. & J.

*Indivisus* spiculis marginalibus, lobulatis, vix elongatis vel vix elongatis formis —  
*Protheca* plurima vel bipartita. *Placenta* alba, lobulata, marginali, ovula  
*fertili* lobulata vel alba, ovula, lobulata, ovula. *Capsula* concentrica vel alba.  
*Vena* forata; vena angulata, angulata vel marginali, angulata  
 continua vel interrupta, angulata vel marginali. J. Sm.

*Synaphterium recurvatum* W. Sm.

W. Sm.

Agreeing in habit with *Lindera*, but differing in the venis, being subparallel,  
 similar to that respect to *Schizandra* (Tab. LXXXIII. B), but differing from it in the  
 midrib being serrate, and in being not on the upper margin. J. Sm. The habit  
 refers to it *Lindera* *sericea*, Wall. *L. lobulata*, Wall. and the very *S. obtusa*.

Tab. CL.—Fig. 1. Fertile placenta magnified. f. 2. Single placenta, more magnified. f. 3. Portion  
 of the vena with a part of the lobules removed to show the marginal cellulosum compound,  
 more magnified. f. 4, 5. Spermia; more magnified. f. 6. Spermia; more magnified.



TAB. CI.

SYNAPHLEBIUM. *J. Sm.*

LINDSÆÆ *sp.*

*Indusium speciale marginale, bilabiatum, soros oblongos vel continuos formans.—*

*Frondes pinnatæ vel bipinnatæ. Pinnæ oblongæ, dimidiatæ, marginè superiore fertili integro vel obtuse crenato, dentibus soriferis. Costa excentrica vel nulla.*

*Venæ furcatæ; venulæ angulatim anastomosantes ad marginem receptaculo continuo vel interrupto sporangifero unitæ. J. Sm.*

*Synaphlebiium recurvatum. Blume.*

HAB. Java.

“Agreeing in habit with *Lindsæa*, but differing in the venules simply anastomosing, similar in that respect to *Schizoloma* (TAB. LXXXIII. B.), but differing from it by the midrib being excentric, and in bearing sori on the superior margin.” *J. Sm.* Mr Smith refers to it *Lindsæa serpens*, Wall., *L. lobulosa*, Wall., and his own *S. obtusum*.

TAB. CI.—*Fig. 1. Fertile pinnæ; magnified: f. 2. Single pinna; more magnified: f. 3. Portion of the same with a part of the indusium removed to show the marginal soriferous receptacle; more magnified: f. 4, 5. Sporangia; more magnified: f. 6. Sporules; more magnified.*



TARCI

SYNOPSIS

INDEX

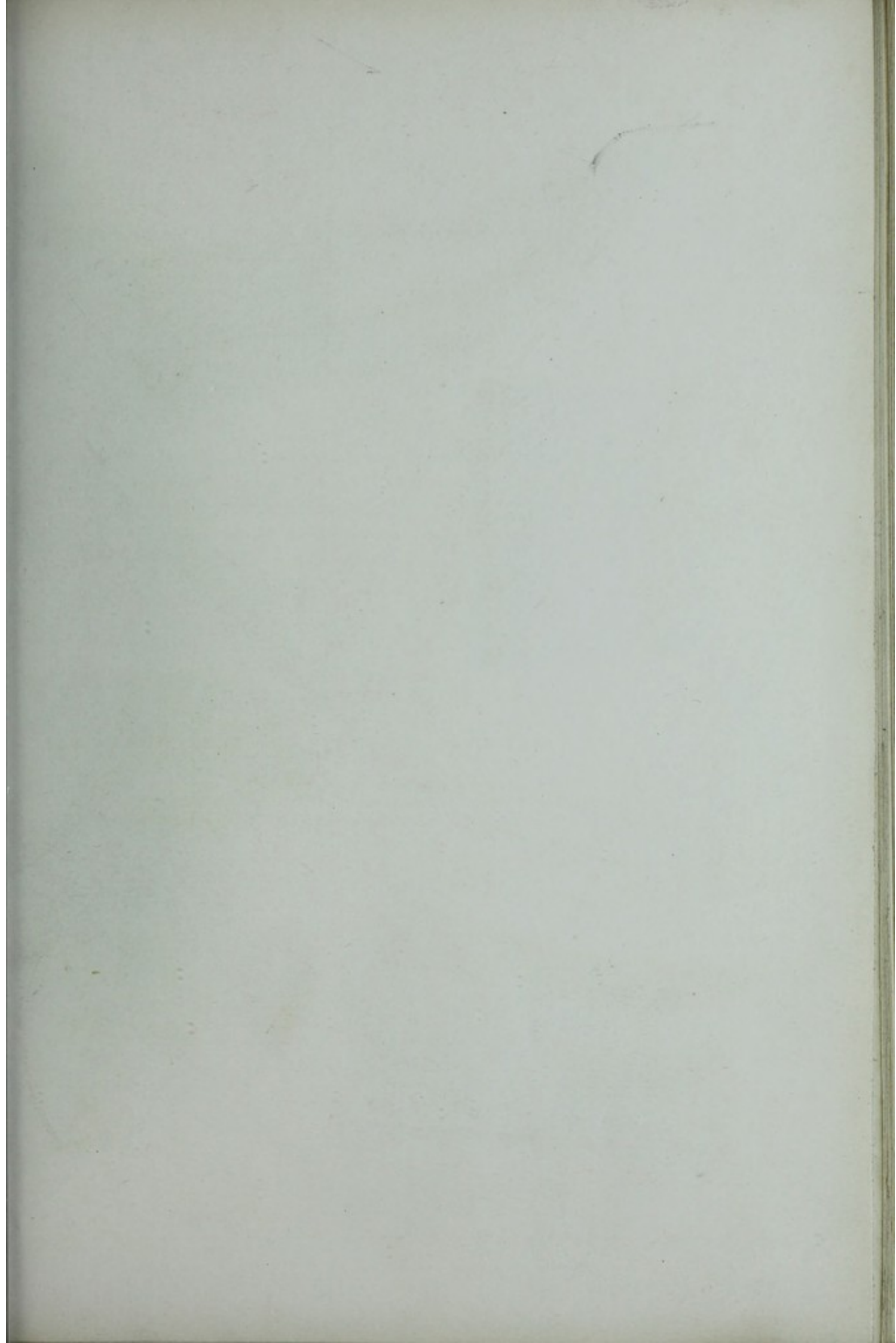
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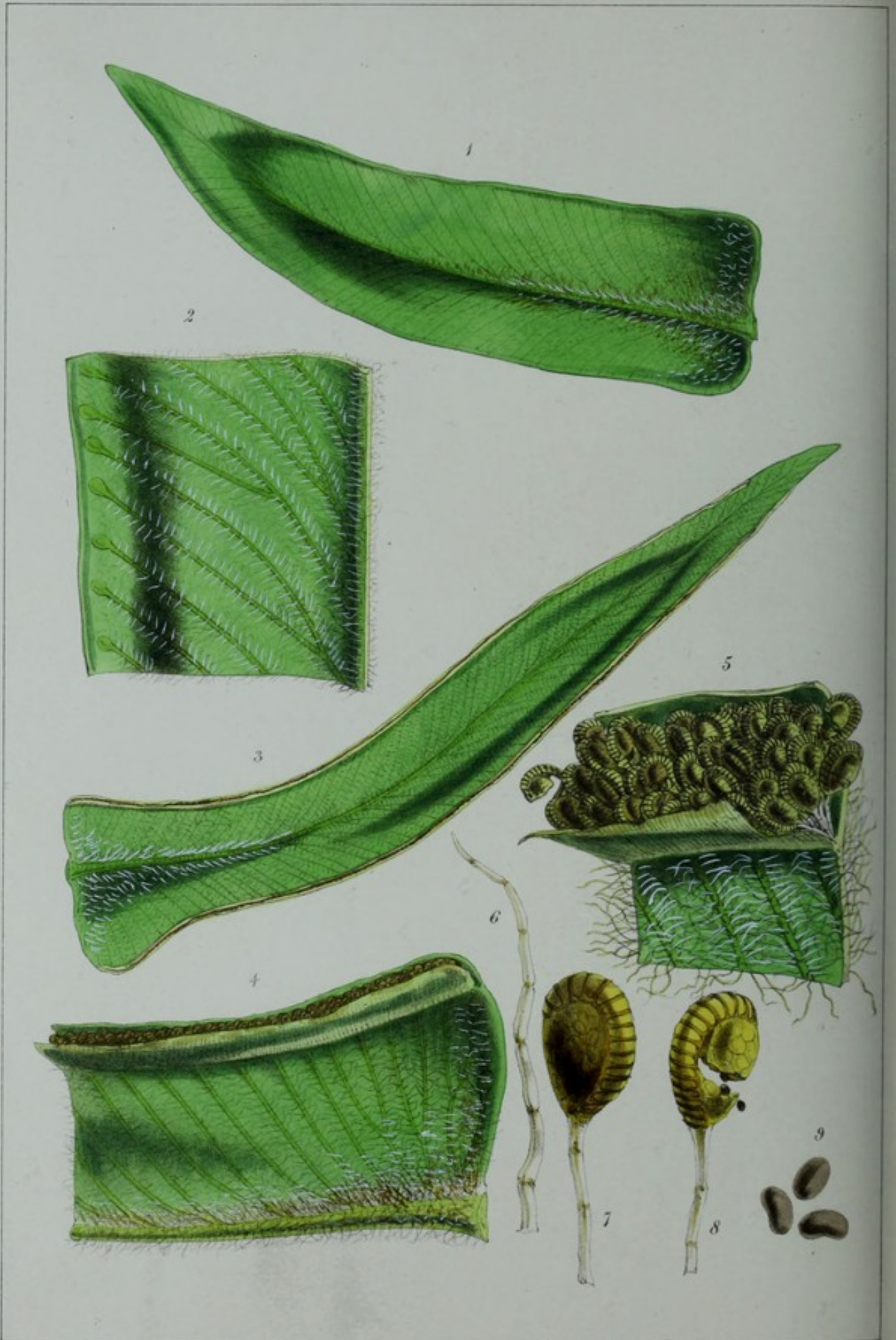
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TAB. CII.

PSOLIDA, J. Sm.

LINDERA sp. Aust.

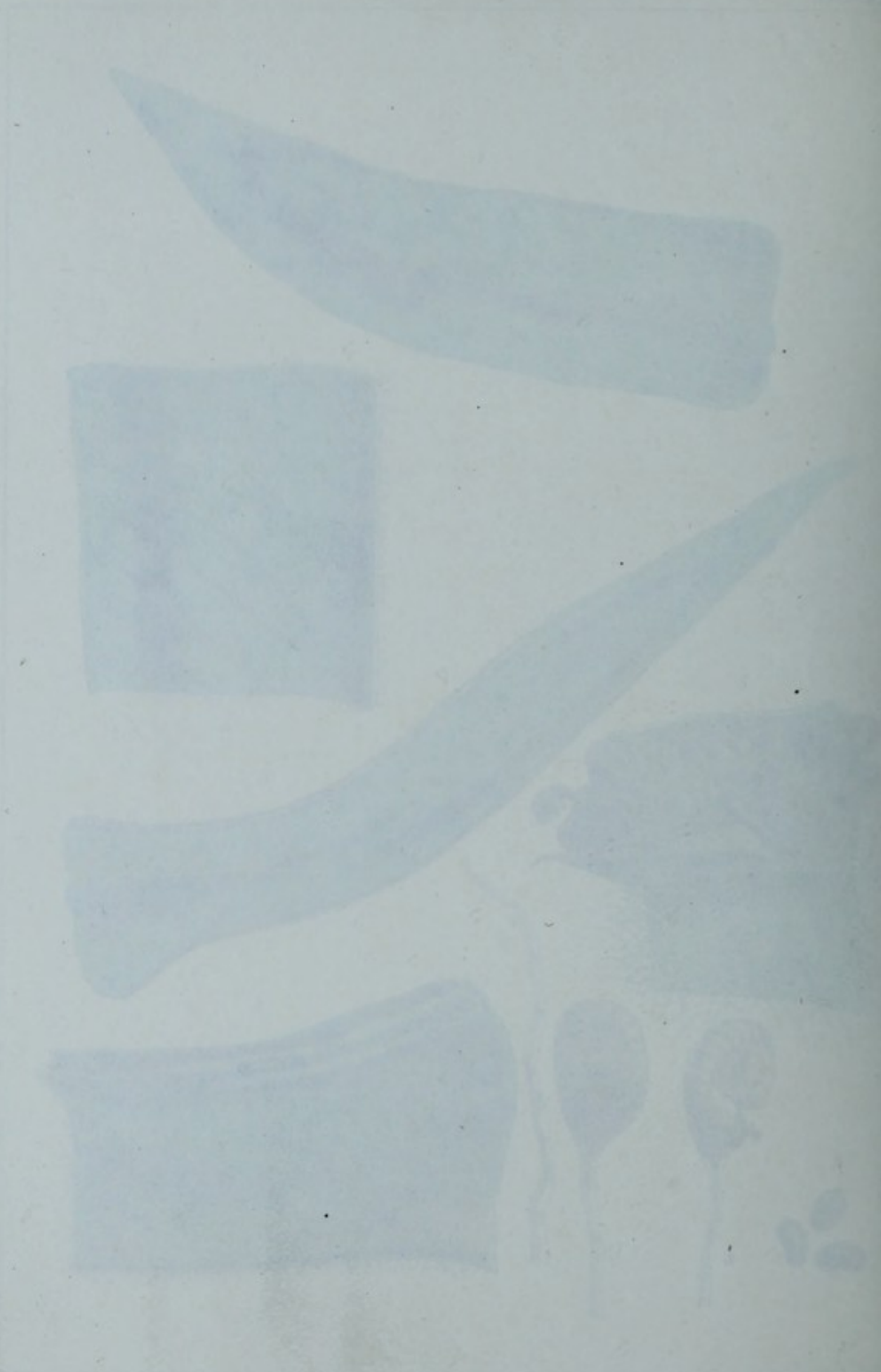
*Zadachia speciosa* marginalis, biflorata, lutea, pluvialis. *Sporangia* verticilla.  
 Frondes 1-2 pedalis, basi pinnatis. Pinnae oblongo-ellipticae, basi cuneatae,  
 lobatae basi truncatae, nervis brevibus, petiolatae petiolis cum costis  
 articulis. Costae venosae. Vagina furcata, ovula erecta, apicibus longioribus  
 sub-spermativis, ovula erecta, in pinnula sterili liberis. J. Sm.

*Lindera longicaulis* J. Sm. - *Lindera? longicaulis*, Wall.

HAB. East Indies.

The two Plants placed in this Class by Mr Smith are the *Lindera longicaulis* and *Psolida* (*Lindera*, Hook. & Grev. in Pil. t. 216) described by Wallroth, and he observes, that though *Psolida* resembles *Nepenthes* in having its fructification as that of *Lindera*, from which it differs in the ovary being deciduous, as in *Nepenthes* and *Polypodium*, but not like these having the ovary sessile usually thickened, and producing a style, usually subsessile in the form of a dot at the superior side, near the base of the frond.

Fig. 1. Small plant: f. 1. Portion of a sterile pinnule: f. 2. Fertile pinnule: f. 3. Portion of the latter: f. 4. Portion of the lobation, showing the sporangia on the margin: f. 5. High view of a pinnule: f. 6. Sporangia: f. 7. Spores, all magnified as they are represented.



TAB. CII.

ISOLOMA. *J. Sm.*

LINDSÆE *sp. Auct.*

*Indusium* speciale marginale, bilabiatum, lineare, planum. *Sporangia* verticalia.—  
Frondes 1—2-pedales, lineares, pinnatæ. Pinnæ oblongo-ellipticæ v. lanceolato-falcatæ basi truncatæ v. auriculatæ brevissime petiolatæ; petiolus cum rachi articulatus. Costa centralis. Venæ furcatæ: venulæ rectæ, apicibus receptaculo sporangifero continuo unitis, in pinnula sterili liberis. *J. Sm.*

*Isoloma lanuginosum. J. Sm.*—*Lindsæa*? *lanuginosa, Wall.*

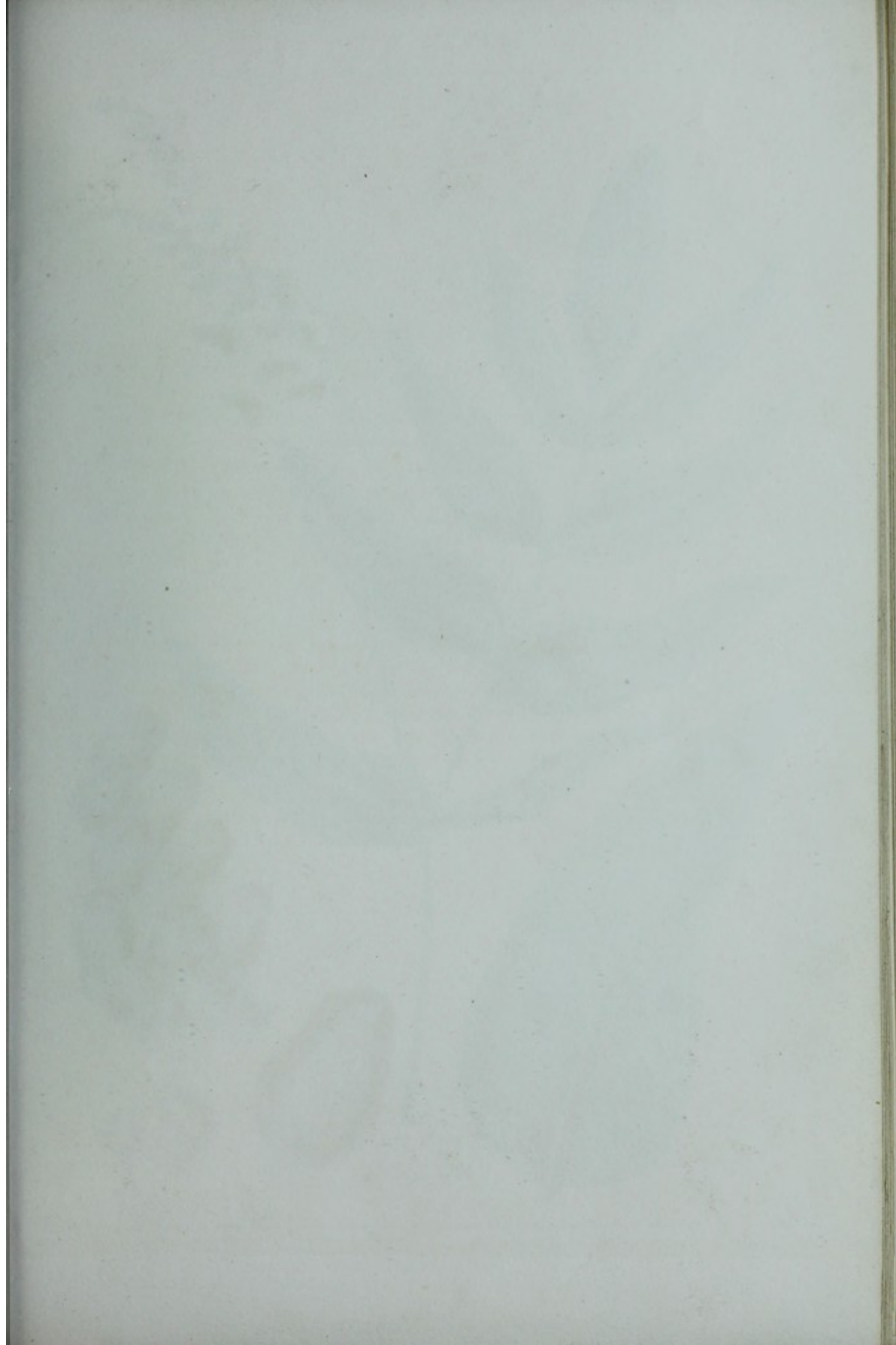
HAB. East Indies.

The two Ferns placed in this Genus by Mr Smith are the *Lindsæa lanuginosa* and *Vit-taria* (*Lindsæa*, Hook. et Grev. Ic. Fil. t. 226) *divergens* of Wallich: and he observes, that though *Isoloma* resembles *Nephrolepis* in habit, its fructification is that of *Lindsæa*, from which it differs in the pinnæ being deciduous, as in *Nephrolepis*, *Didymochlæna*, &c.; and, like them, having the sterile veinlets usually thickened, and producing a white chalky substance in the form of a dot on the superior side, near the margin of the frond.

*Fig.* 1. Sterile pinna: *f.* 2. Portion of a sterile pinna: *f.* 3. Fertile pinna: *f.* 4. Portion of the latter: *f.* 5. Portion of the indusium, showing the sporangia on the receptacle: *f.* 6. Hair from the pinna: *f.* 7, 8. Sporangia: *f.* 9. Sporules:—all more or less magnified.











TAB. CIII

ANEMIDICTION. J. Sw.

ANEMIA AMY

*Sporangia crata, vasculosa-reticulata, in epicas unilaterales dense paniculatas disposita, sessilib, biseriata, vertice completa-annulata, extrorsum longibacilliforme-dehiscentia. Indusium nullum. Sporangia obtusa, triangularia, echinata. — Filices America meridionali principis copiosae. Frondes viriditate persistens. Flosculi axillares. Vena fasciata, non raris interstitiis. Pedunculi pedicellati et basi fissilis, apice decompositi.*

Anemidiction *Phyllitidis*. J. Sw. in *Journ. of Bot. N. S. & C. Lond.* — *Anemidiction Phyllitidis*, Sw.

Has. Sw.

Mr. Sw. following up the idea which is early carried to a great extent and with regard and unusual length, that the slightest difference in structure is sufficient to constitute generic distinctions—has formed of *Anemidiction Phyllitidis* and some allied genera having the same construction, the genus *Anemidiction* has been proposed.

Fig. 1. Fronds, nat. size. J. 2. Part of the frond, Sw. — magnified.



TAB. CIII.

ANEMIDICTYON. *J. Sm.*

ANEMIÆ *Auct.*

*Sporangia* ovata, vasculoso-reticulata, in spicas unilaterales dense paniculatas disposita, sessilia, biseriata, vertice completo-annulata, extrorsum longitudinaliter dehiscentia. *Indusium* nullum. *Sporulæ* obtusæ, triangulares, echinatae.—*Filices Americæ meridionalis præcipue tropicæ*. *Frondes stipitatae pinnatæ*. *Pinnæ costatæ*. *Venæ furcatæ, non raro anastomosantes*. *Pedunculi geminati e basi frondis, spicis decompositis*.

*Anemidictyon Phyllitidis*. *J. Smith in Journ. of Bot. N. S. v. i. ined.*—*Anemia Phyllitidis, Sm.*

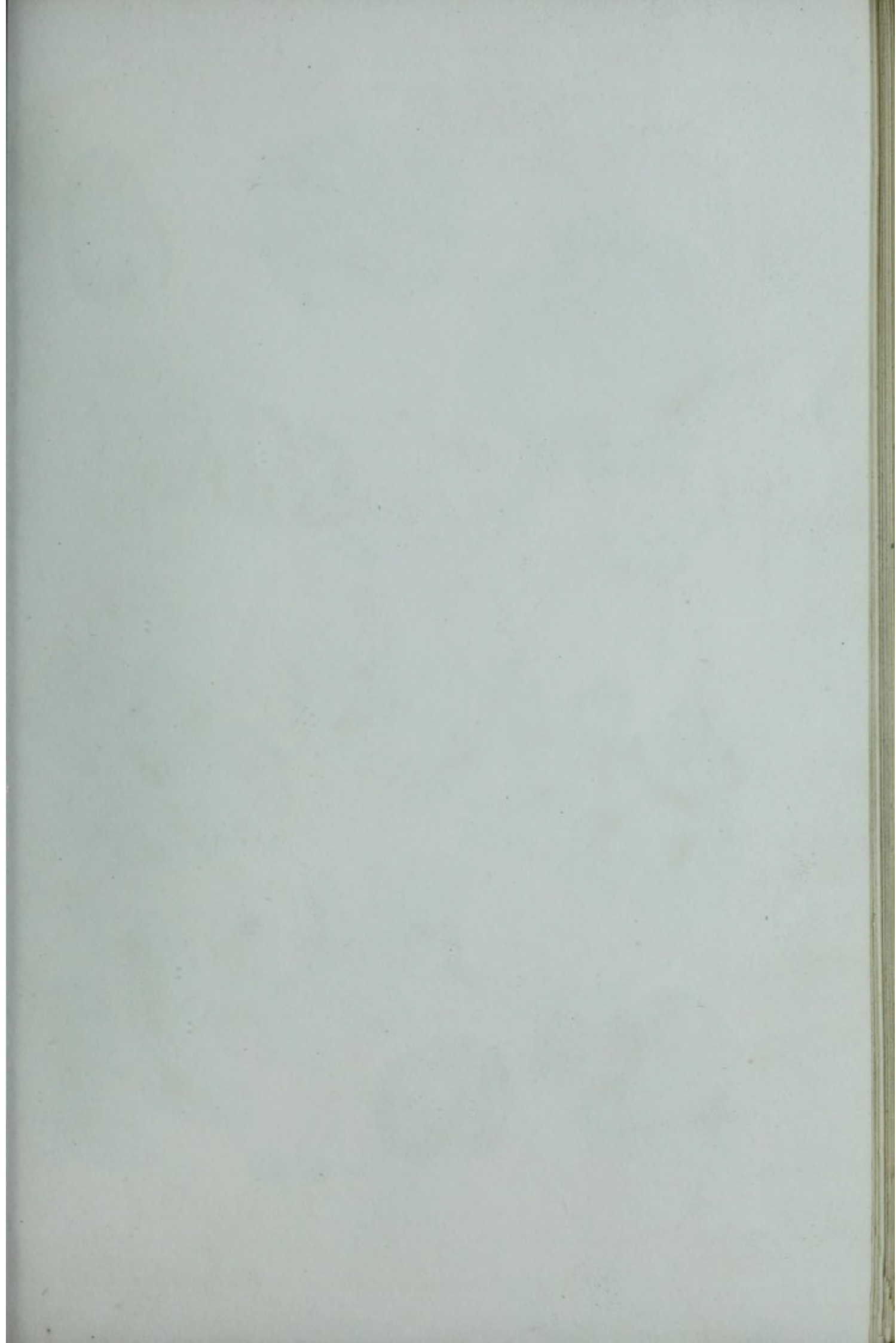
HAB. Brazil.

Mr Smith, following up the idea—which is surely carried to a most undue and inconvenient and unnatural length, that the slightest difference in venation is sufficient to constitute generic distinctions—has formed of *Anemia Phyllitidis* and some allied species, having the veins anastomosing, the genus *Anemidictyon* here represented.

*Fig. 1.* Frond; *nat. size*; *f. 2.* Portion of the fertile frond:—*magnified*.







A



B









TAB. CIV. A.

TROCHOPTERIS. *Gardn.*

*Sporangia* ovata, in laciniis loborum 2 inferiorum frondis biserialiter disposita, basi vasculoso-reticulata, vertice ad medium completo-annulata, hinc longitudinaliter dehiscencia. *Indusium* nullum. *Sporulæ* triangulares, striatæ, scabellæ.—*Filicula Brasiliensis*; fronde fere unciali, pilosa, 5-lobata, lobis 2 inferioribus laciniato-sectis, laciniis soriferis, lobis reliquis integris sterilibus. (*Venæ radiatæ repetitim furcatæ*.) *Gardn.*

*Trochopteris elegans*. *Gardn. Herb. Brazil, n. 4035, et in Hook. Lond. Journ. of Bot. v. i. p. 74. Tab. 4.*

HAB. Clefts of rocks on the summit of the Serra de Natividade, in the province of Goyaz, Brazil. *Mr Gardner.*

This beautiful and highly curious and new Fern, Mr Gardner has distinguished from *Anemia* (TAB. NOSTR. XC.) chiefly in consequence of the different habit. In *Anemia* he observes there are two kinds of fronds, the barren and fertile: here there is only one kind of frond, and that a simple, or only a lobed one, the two lower and deeper lobes (corresponding with the fertile ones in *Anemia*) bearing the sporangia on their lacinated margins.

TAB. CIV. A.—*Fig. 1.* *Trochopteris elegans*; *nat. size*: *f. 2.* Simple frond: *f. 3.* Portion of the fertile lobe: *f. 4.* Sporangium: *f. 5.* Sporules:—more or less *magnified*.

TAB. CIV. B.

MOHRIA. *Sw.*

OSMUNDÆ. *Lam. Schrad.* ADIANTI. *L.*

*Sporangia* sessilia, ovato-globosa, nuda, prope margines concavos paginæ inferioris frondis non contractæ inserta, distincta, reticulata, vertice annulata, extus longitudinaliter dehiscencia.—*Fronde cæspitosæ, stipitatae, bipinnatæ vel subtripinnatifidæ, subtus piloso-paleaceæ.* *Pinnæ oblongæ, obtusæ, patentes.* *Pinnulæ ovatæ, subcuneatæ, inciso-lobatæ, costatæ; venis dichotomis ultimis ante apices dentium evanescentibus; in frondibus fertilibus sporangiferis.* *Rachis alata.* *Pinnæ steriles latiores, planæ.*

*Mohria thurifraga*. *Sw. Sym. Fil. p. 159, et 385.—Adiantum Caffrorum, L. Osmunda thurifraga, Lam.*

HAB. South Africa.

Of this Genus, in many respects allied to *Trochopteris*, and consequently to *Anemia*, a second species, *M. crenata*, Desv., is found in Madagascar. Both are, however, confined to the southern hemisphere.

TAB. CIV. B.—*Mohria thurifraga.* *Fig. 1.* Portion of sterile frond: *f. 2.* Portion of fertile frond seen from beneath: *f. 3.* Smaller portion of do.: *f. 4.* Apex of a vein bearing a sporangium: *f. 5.* Sporangium: *f. 6.* Sporules:—all more or less *magnified*.



TRICHOPTERINAE

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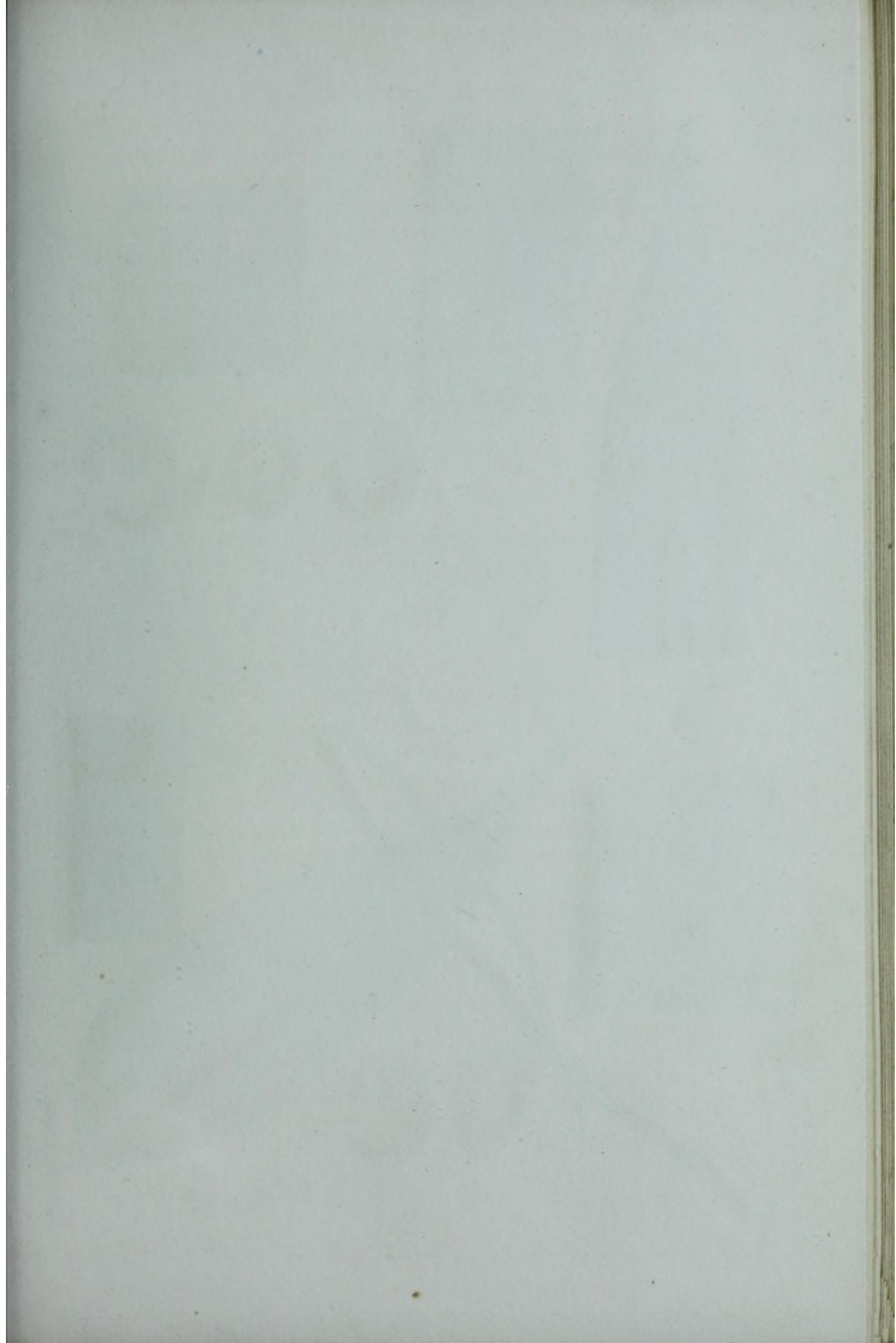
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TAB. CV. A.  
ELAPHOGLOSSUM, Schott.

ACROSTICHI sp. Auct. OFFICINA sp. Presl.

Sorus superficialis totam paginam inferiorem laminae frondis fertilibus plerumque contractis oblonga. — Frondes simpliciter, integre, obtuse vel linearilanceolatae, undae vel squamatae; fertilibus margine non raro ciliatissimo. Vena simpliciter vel furcata, interna; venulae parallelae, apicibus breviter et clavatis, intra marginem inflexionem terminantibus. J. Sm.

*Elaphoglossum simplex*, Schott. — J. Sm. in Hook. Journ. of Bot. v. iv. p. 146. — *Acrostichum simplex*, Sw.

HAB. West Indies and tropical parts of S. America.

At our TAB. LXXIX. A, while I have figured only that group of *Officina*, which has pinnate fronds, and the sori clothing both sides of the fertile pinna, I have at the same time given Presl's character, which includes *Elaphoglossum*, Schott. This Mr J. Smith again separates from *Officina*, with the character above given. It includes most of the old Genus *Acrostichum* with simple veins fronds.

TAB. CV. A. — Fig. 1. Portion of the head of *Elaphoglossum simplex* — nat. size; f. 2. Portion of the lower part; f. 3. Portion of the fertile head (one of the sporangia removed to show the venation); f. 4. Clavate hairs from among the sori; f. 5, 6, 7. Sporangia; f. 8. Spores — more or less magnified.

TAB. CV. B.

STENOCHLIS, J. Sm.

ACROSTICHI sp. Auct. LOMARIA sp. Koell. Willd. LAMIA sp. Presl.

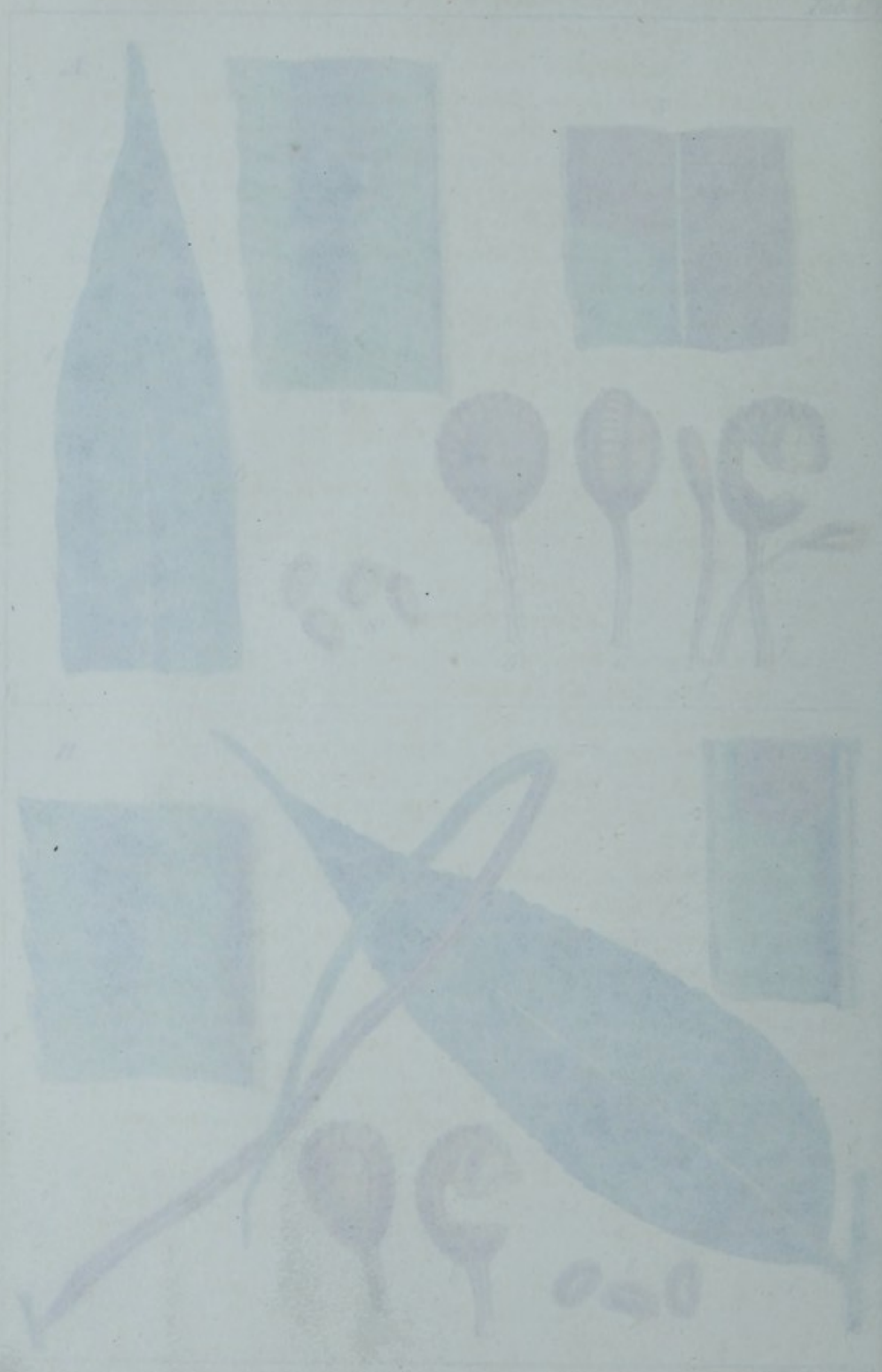
Sorus superficialis, totam paginam inferiorem laminae frondis simpliciter oblonga. — Frondes pinnatae, undae v. squamatae. Pinnae pinnatae v. simpliciter pinnatae. Pinnae fertiles lineares, marginibus membranaceis venis lobuliformibus. Vena simpliciter v. furcata interna; venulae parallelae, apicibus breviter et clavatis, intra marginem inflexionem terminantibus, et cuneatis et marginem membranaceum formantibus. J. Sm.

*Stenochlis scandens*, J. Sm. in Hook. Journ. of Bot. v. iv. p. 149. — *Acrostichum*, Linn. — *Lomaria*, Willd.

HAB. East Indies and the Philippine Islands. Cuming, Herb. Philipp. (n. 226.)

The several species of this group in Genus, as Mr J. Smith deems it, have been referred sometimes to *Acrostichum*, and sometimes to *Lomaria*, according as the margin has been considered an indusium or not. It certainly is not a true indusium, and therefore belongs to the *Acrostichum* family, whatever may be considered to be its status in some particular Genus. Presl includes it in his *Officina*. Mr Smith justly observes that at fig. 4. the representation of the branching of the veins is not correct; there is indeed a thickening of the substance transversely, where the veins terminate at the lower margin; and that, at that sight, gives the appearance of the veins ending transversely.

TAB. CV. B. — Fig. 1. Middle part of *Stenochlis scandens*; nat. size; f. 2. Portion of the same; magnified; f. 3. Fertile pinna; nat. size; f. 4. Portion of the same, the sporangia partially removed (the transverse union of the nerves incorrectly magnified); f. 5, 6. Sporangia; and f. 7. Spores; magnified.





TAB. CV. A.

ELAPHOGLOSSUM. Schott.

ACROSTICHI *sp. Auct.* OLFERSIÆ *sp. Presl.*

*Sorus superficialis totam paginam inferiorem frondis fertilis plerumque contractæ obtegens.*—Fronde*s simplices, integræ, oblongæ vel lineari-lanceolatæ, nudæ vel squamosæ; fertilium margine non raro membranaceo. Venæ simplices vel furcatæ, internæ: venulæ parallelæ, apicibus liberis et clavatis, intra marginem incrassatum terminantes. J. Sm.*

*Elaphoglossum simplex. Schott.—J. Sm. in Hook. Journ. of Bot. v. iv. p. 148.—Acrostichum simplex. Sw.*

HAB. West Indies and tropical parts of S. America.

At our TAB. LXXIX. A., while I have figured only that group of *Olfersia*, which has pinnate fronds, and the sori clothing both sides of the fertile pinnæ, I have at the same time given Presl's character, which includes *Elaphoglossum*, Schott. This Mr J. Smith again separates from *Olfersia*, with the character above given. It embraces most of the old Genus *Acrostichum* with simple entire fronds.

TAB. CV. A.—*Fig. 1.* Portion of the frond of *Elaphoglossum simplex*;—*nat. size: f. 2.* Portion of the barren frond: *f. 3.* Portion of the fertile frond (some of the sporangia removed to show the venation): *f. 4.* Clavate hairs from among the sporangia; *f. 5, 6, 7.* Sporangia: *f. 8.* Sporules;—more or less *magnified.*

TAB. CV. B.

STENOCHLÆNA. J. Sm.

ACROSTICHI *sp. Auct.* LOMARIÆ *sp. Kaulf. Wall. Willd.* OLFERSIÆ *sp. Presl.*

*Sorus superficialis, totam paginam inferiorem frondis fertilis contractæ obtegens.*—Fronde*s pinnatæ, nudæ v. squamosæ. Pinnæ petiolatæ, cum rachi articulatæ. Pinnæ fertiles lineares, marginibus membranaceis revolutis indusiiiformibus. Venæ simplices v. furcatæ externæ: venulæ parallelæ, apicibus exsertis serraturis cartilagineis formantibus, v. conniventibus et marginem incrassatum formantibus. J. Sm.*

*Stenochlæna scandens. J. Sm. in Hook. Journ. of Bot. v. iv. p. 149.—Acrostichum, Linn.—Lomaria, Willd.*

HAB. East Indies and the Philippine islands. *Cuming, Herb. Philipp. (n. 229.)*

The several species of this group, or Genus, as Mr J. Smith deems it, have been referred sometimes to *Acrostichum*, and sometimes to *Lomaria*, according as the margin has been considered an indusium or not. It certainly is not a true indusium, and therefore belongs to the *Acrostichum* family, whatever may be considered to be its claims to form a peculiar Genus. Presl includes it in his *Olfersia*. Mr Smith justly observes that at fig. 4. our representation of the anastomosing of the veins is not correct: there is, indeed, a thickening of the substance transversely, where the veins terminate at the broad margin; and that, at first sight, gives the appearance of the veins uniting transversely.

TAB. CV. B.—*Fig. 1.* Sterile pinna of *Stenochlæna scandens*; *nat. size: f. 2.* Portion of do.; *magnified: f. 3.* Fertile pinna; *nat. size: f. 4.* Portion of the same, the sporangia partially removed (the transverse union of the nerves incorrect); *magnified: f. 5, 6.* Sporangia: and *f. 7.* Sporules; *magnified.*



TAB. CV. A.

ELAPHOGLIUM.

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TAB. CV. B.

STENOCHLENA.

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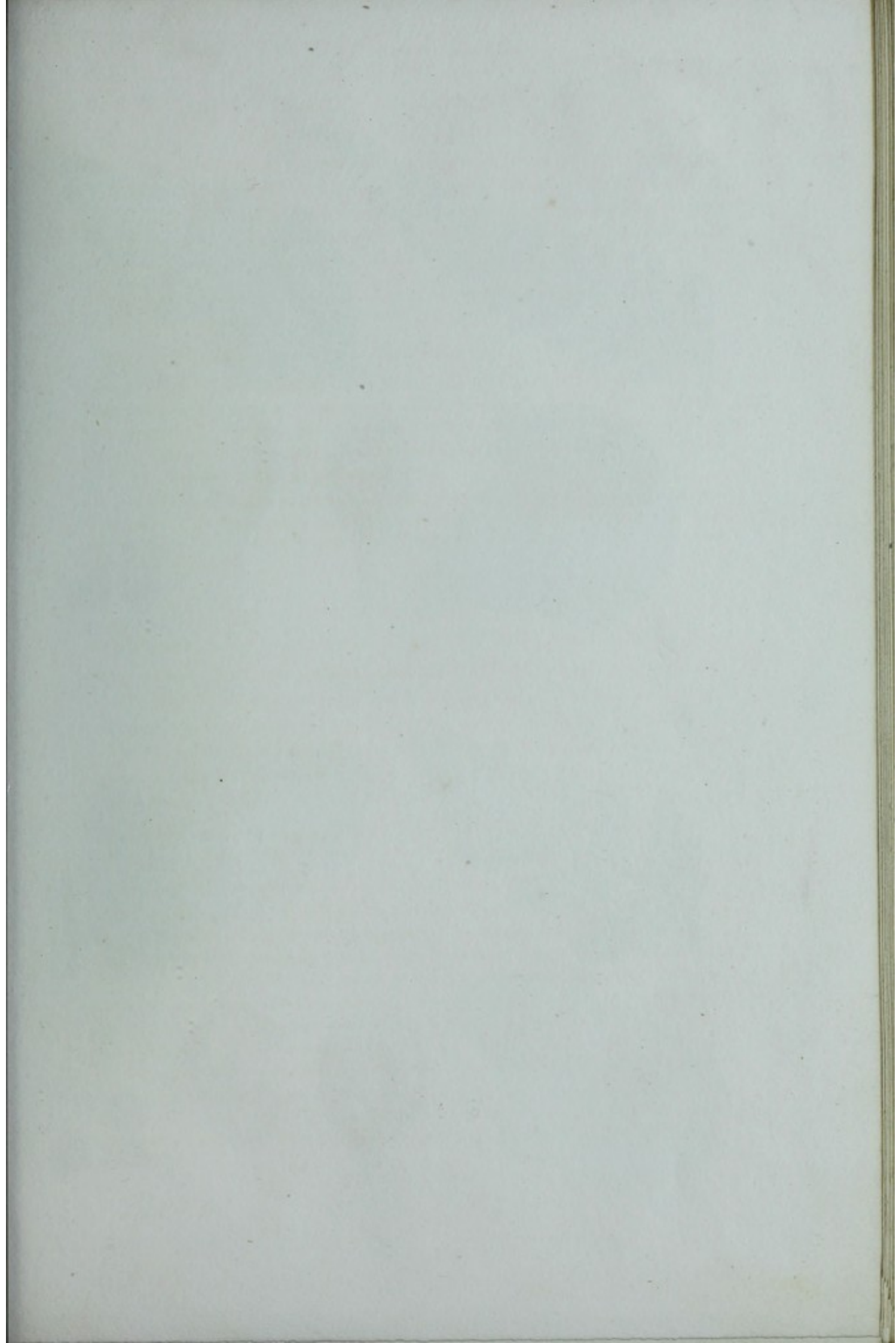
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A



B





TAB. CVI. A.

OCHROPTERIS, J. Sm.

AMERICA & INDIA. — *Umbelliferæ*, Boey.

*Scabi* marginatis, serratis, laciniatis, ad basin lobatis. *Indusium* triseriale oblongum, marginale, cu: apice venis 3-4 convergentibus, vix lobatis. — *Fili* 2-3-nervi: — *Frondes* distichæ, decussatæ. — *Stipes* cu: radice glabris, pubes. — *Fronda* villosa, cu: laciniis, oblongis, obtusis, marginatis, basi cuneatis, laciniatis, ad apicem vel ad squamam solum ciliatis, vel solum pinnatis, cu: petiolis. — *Vena* pinnatis furcata, radialis, curvata, apicem attingens. — *J. Sm.*

*Ochroptera pallens*, J. Sm. — *Adiantum*, Sw. — *Cheilanthes dentuloides*, Boey.

HAB. MARTICA.

\* The position and shape of the principal lobe in the principal leaves of this fern is not differing a natural combination with any of the neighbouring genera? J. Sm. Certainly it has little natural affinity either with *Adiantum* or *Cheilanthes*, with which it has been respectively united.

TAB. CVI. A. — Fig. 1. Plant, nat. size; J. 2. Pinnae: J. 3. Apex of a lobe in planis, with several lobes open; J. 4, 5, 6. Curved lines among the venis; J. 7, 8. Squamæ: J. 9. Squamæ magnified.

TAB. CVI. B.

CHEILANTHERA, Sw. J. Sm.

*Scabi* rotundati, marginata, ciliatis vel serratis. *Indusium* pinnatis rotundatis, raro oblongis, acuta apicibus, vel acuta 2-3, includens. — *Frondes* 2-3-nervi: — *Fronda* glabra, villosa, glaberrima, vel squamata. *Pinnule* ovato pinnatis et orbiculatis. *Stipes* pinnatis ciliatis. — *Scabi* solum ciliatis. — *Vena* furcata, radialis, curvata, apicem attingens. — *J. Sm.*

*Cheilanthes maculata*, J. Sm.

HAB. SOUTH OF EUROPE.

Greatly allied to *Adiantum* as well as to *Colopogon* and *Cheilanthes*: but the several species are generally included under *Cheilanthes* from a particular habit.

TAB. CVI. B. — Fig. 1. Plant of *Cheilanthes maculata*: J. 2. Pinnae: J. 3. Pinnae of the same: J. 4. Portion of the same, with one lobe open: J. 5, 6. Squamæ: J. 7, 8. Squamæ magnified.



TAB. CVI. A.

OCHROPTERIS. *J. Sm.*

ADIANTI *sp. Sw.* CHEILANTHES. *Bory.*

*Sori* marginales, transversi, interrupti, ad basin indusii. *Indusium* transverse oblongum, marginale, ex apice venularum 2—4 convergentium, intus liberum.—*Filix Mauritiana*.—*Fronde* deltoideæ, decompositæ. *Stipes* et *rachis* glabri, pallidi. *Pinnulæ ultimæ, seu lacinie, oblongæ, obtusæ, marginatæ, basi cuneatæ, decurrentes, ad apicem vel ad marginem soros solitarios, vel raro geminatos, gerentes.* *Venæ pinnatim furcatæ, radiatæ*: *venulæ rectæ, apicibus clavatis.* *J. Sm.*

*Ochropteris pallens. J. Sm.*—*Adiantum, Sw.*—*Cheilanthes davallioides. Bory.*

HAB. Mauritius.

“The peculiar and distinct habit is the principal feature that marks this as not forming a natural combination with any of the neighbouring genera.” *J. Sm.* Certainly it has little natural affinity either with *Adiantum*, or *Cheilanthes*, with which it has been respectively united.

TAB. CVI. A.—*Fig. 1.* Pinna, *nat. size*: *f. 2.* Pinnulæ: *f. 3.* Apex of a lobe or pinnule, with the sorus laid open; *f. 4, 5, 6.* Clavate hairs among the sporangia: *f. 7, 8.* Sporangia: *f. 9.* Sporules;—*magnified.*

TAB. CVI. B.

CHEILANTHES. *Sw. J. Sm.*

*Sori* rotundati, marginales, solitarii vel contigui. *Indusium* plerumque reniforme, raro oblongum, sorum unicum, vel soros 2—3, includens.—*Fronde* bitripinnatæ, glabræ, pilosæ, glandulosæ, vel squamosæ. *Pinnulæ nunc parvæ et orbiculares.* *Stipes plerumque ebeneus.* *Sori non raro confluentes.* *Venæ furcatæ*: *venulæ rectæ, apicibus liberis sporangiferis.* *J. Sm.*

*Cheilanthes suaveolens. J. Sm.*

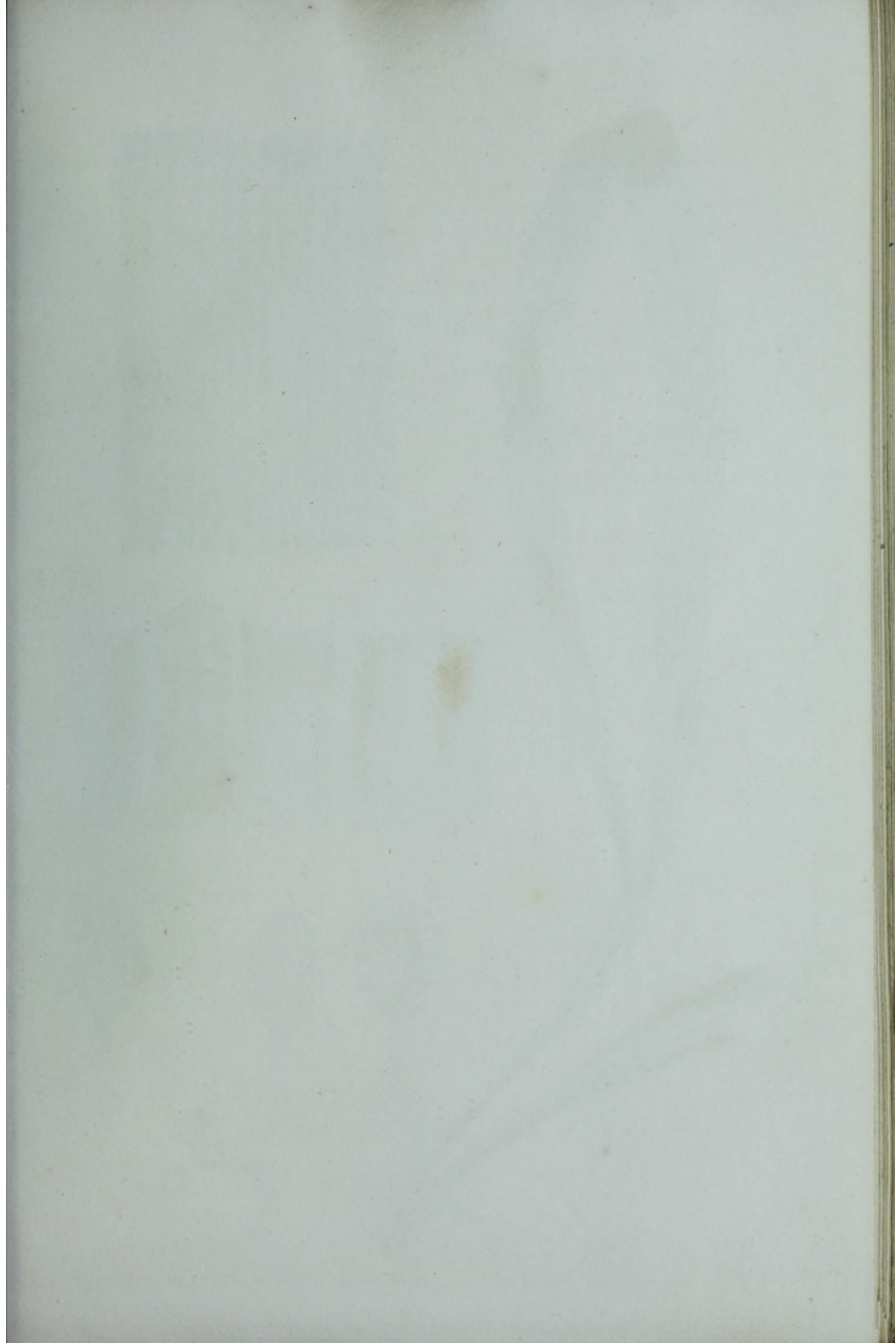
HAB. South of Europe.

Closely allied to *Adiantum* as well as to *Ochropteris* and *Cassebeera*: but the several species now generally included under *Cheilanthes* have a peculiar habit.

TAB. CVI. B.—*Fig. 1.* Pinna of *Cheilanthes suaveolens*: *f. 2.* Pinnule of the same: *f. 3.* Portion of the same, with one indusium laid open: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—all more or less *magnified.*











TAB. CVII.

POLYTAENIUM, Desv.

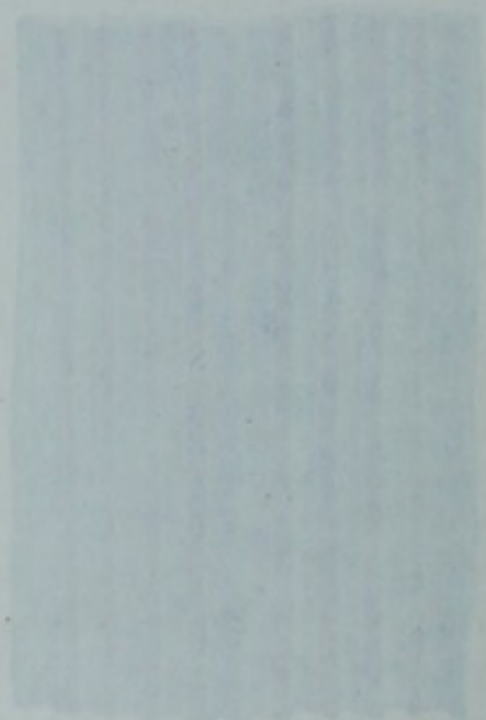
*Seri longissimae* costulae, interruptae, 3-4 later costulae et marginatae, lineares, interruptae, parallelae, venae longitudinales occupantes. *Induratio* nullum, et marginum elevati sulcatus. — *Pala* Americae tropicae. Frons *serpentina*, *laevigata*, *sericea*, *costata*, *venosa*. Venae longitudinales, *sericeae*, *venulae* *transversales* *obliquae* *antae* et *areolae* *clausulae* *farinaceae*. Radices *sericeae* *laevigatae*.

*Polytaenia* *laevigata*. Desv. — *Vittaria* *laevigata* et *Hemionitis* *laevigata*. Sw. — *Asplenium*. Kunt.

HAB. West India islands, and the tropical parts of the South American continent.

In *Vittaria* (TAB. LXV. B.) the lengthened setae are sunk into a groove at the very margin of the frond; in *Zosterophyllum* (TAB. LXXVI. B.) and *Pteropus* (TAB. CXXVII. B.) the solitary setae are sunk in a groove at a little distance from the margin; here the setae form several sudden lines or grooves, lying parallel with each other, between the stem and the margin; and these setae evidently have their weight on the longitudinal nerves and on them alone—the obliquely transverse ones, or venulae, being destitute of spines.

TAB. CVII. — Fig. 1. *Polytaenia* *laevigata*, var. *sericea*; 2. Part of the same; 3. *laevigata* *sericea*, with setae, (the spines are of two or three kinds to show the stem); 4. 5. 6. *laevigata*; 7. *laevigata* — setae or hair expanded.



## TAB. CVII.

### POLYTÆNIUM. *Desv.*

*Sori* longissimi continui, interrupti, 2—4 inter costam et marginem, lineares, immersi, paralleli, venas longitudinales occupantes. *Indusium* nullum, nisi margines elevati sulcorum.—*Filix Americae tropicæ*. Frondes *cæspitosæ, linearilanceolatae, sessiles, costatae, venosæ*. Venæ longitudinales, soriferæ, venulis transversalibus obliquis unitæ et areolas elongatas formantibus. Radices ferrugineo-tomentosæ.

*Polytænium lineatum*. *Desv.*—*Vittaria lanceolata et Hemionitis lineata*. *Sw.*—*An-trophyum*. *Kaulf.*

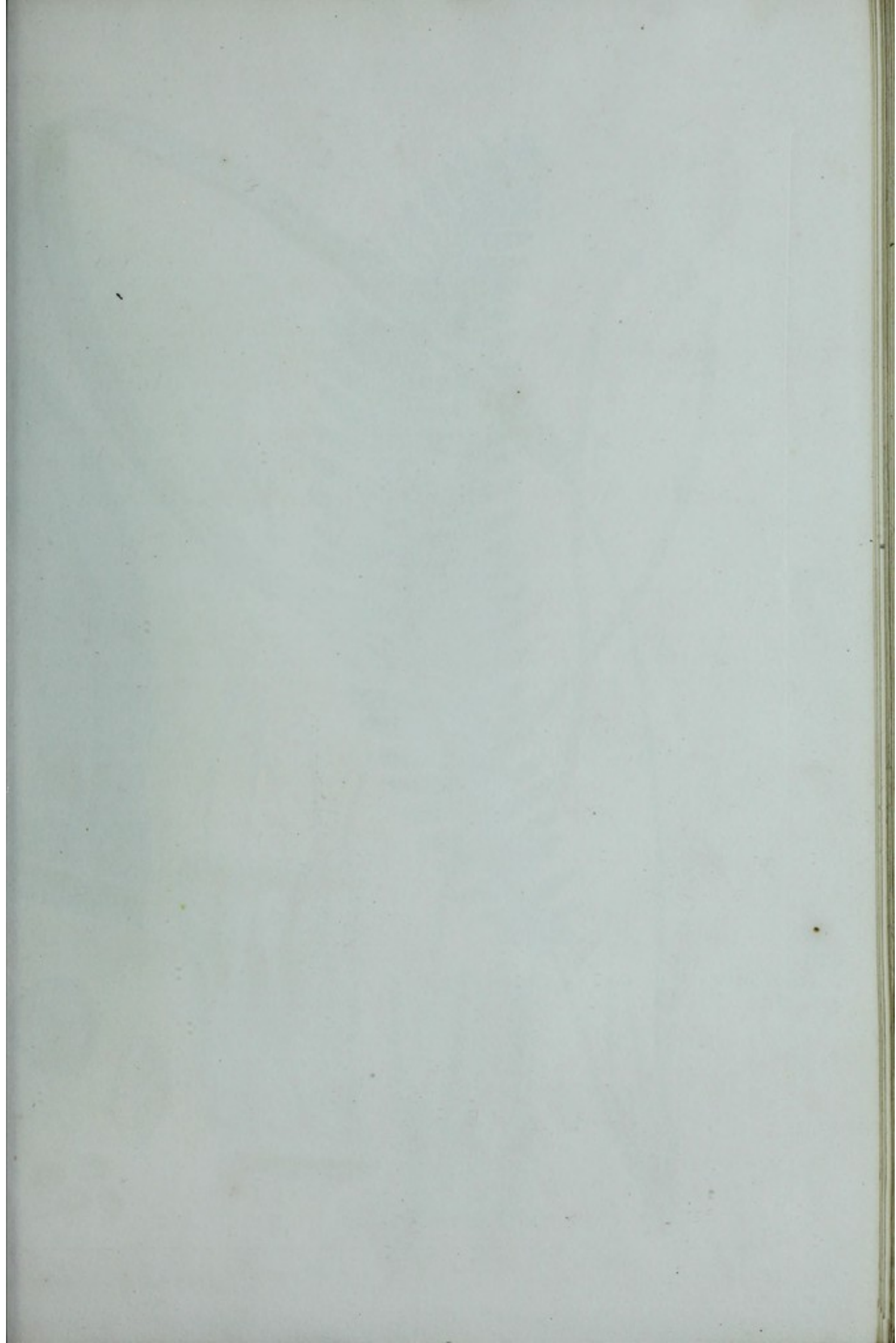
HAB. West India islands, and the tropical parts of the South American continent.

In *Vittaria* (TAB. LXV. B.) the lengthened sori are sunk into a groove at the very margin of the frond; in *Tæniopteris* (TAB. LXXVI, B.) and *Pteropsis* (TAB. LXXVII. B.) the solitary sori are sunk in a groove at a little distance from the margin: here the sori form several sunken lines or grooves, lying parallel with each other, between the costa and the margin; and these sori evidently have their origin on the longitudinal nerves and on them alone—the obliquely transverse ones, or venules, being destitute of sporangia.

TAB. CVII.—*Fig. 1. Polytænium lineatum; nat. size: f. 2. Portion of the same: f. 3. Lesser portion, with sori, (the sporangia removed from one receptacle to show the nerve): f. 4, 5, 6. Sporangia; f. 7. Sporules;—more or less magnified.*











TAB. CVIII.

TRICHOMANES, L.

(See GEN. CHAR. of TAB. XXXI.)

SUBGENUS HYMENOSTACHYA.—HYMENOSTACHYA, Bory.

Fronde fertiles distichales, contractae simplices, spinosae, per totam suam longitudinem soriferæ. Indusia membranacea unita.

*Trichomanes elegans*, Dodge.—*Hymenostachya diversiformis*, Bory.

HAB. Tropical South America. French Guiana.—Guayana, an island off the coast of Panama. *Mr. Bory.*

Another fern which may be considered a kind, a subgenus of *Trichomanes*, is the Fern of Bory, *Trichomanes spinosum*, B. Hoffm., of which a figure is given in Hook. Ex. Flor., Tab. 52. It is distinguished by having the fertile fronds bipinnate, and spined; but the indusia are free, nearly sessile on the rachis, and united by a membrane.

TAB. CVIII.—Fig. 1. Fertile and sterile frond of *Trichomanes elegans*; nat. size; 2. Portion of the sterile frond; 3. Portion of the fertile do.; 4. Tip of the indusium, seen and opened; 5. 6. Sori; 7. Spore;—magnified.



TAB. CVIII.

TRICHOMANES. L.

(See GEN. CHAR. et TAB. XXXI.)

Subgenus HYMENOSTACHYS.—HYMENOSTACHYS, Bory.

Frondes fertiles dissimiles, contractæ simplices, spicatæ, per totam suam longitudinem soriferæ. Indusia membrana unita.

*Trichomanes elegans*. Rudge.—*Hymenostachys diversiformis*. Bory.

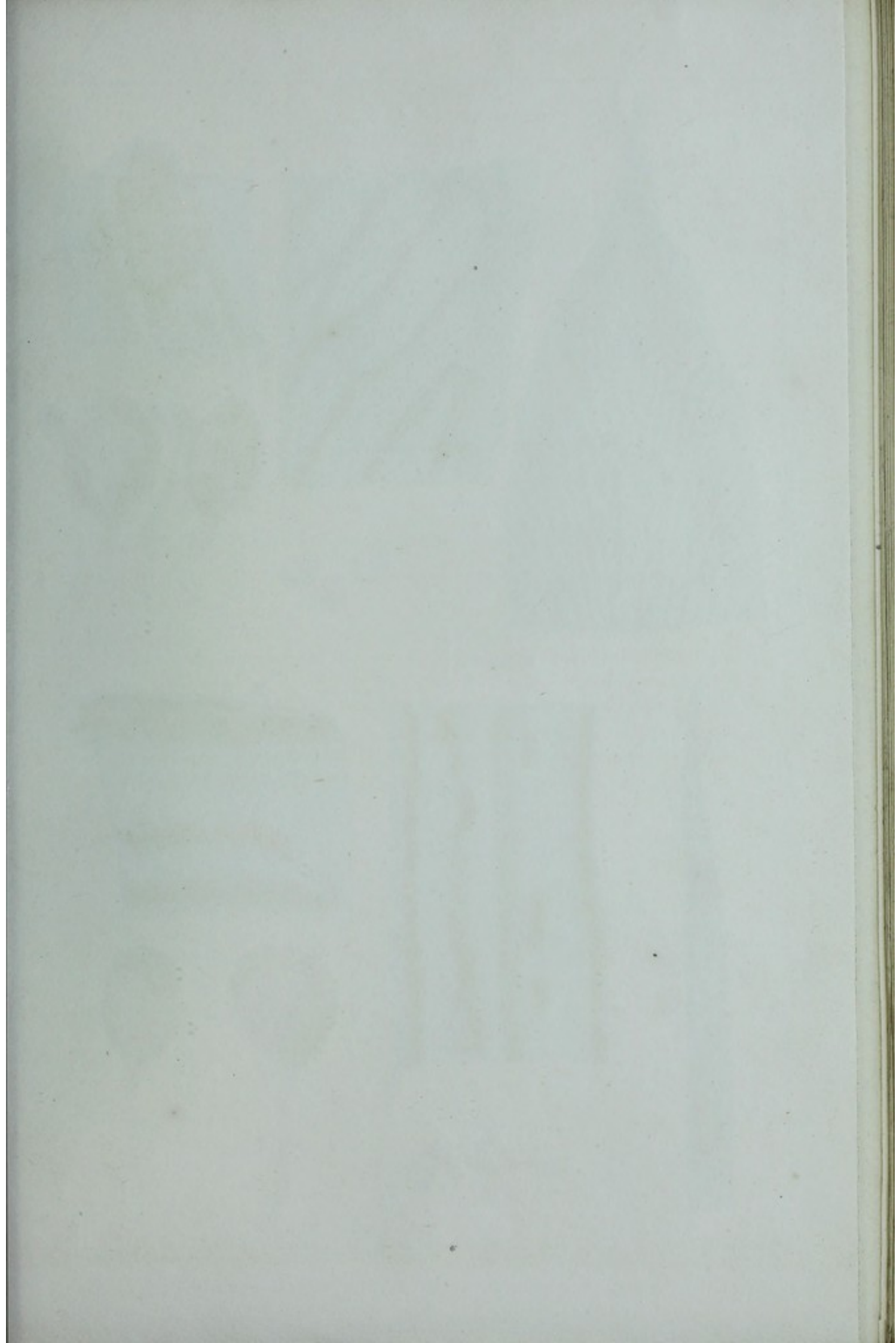
HAB. Tropical South America. French Guiana.—Gorgona, an island off the coast of Panama. Mr Barclay.

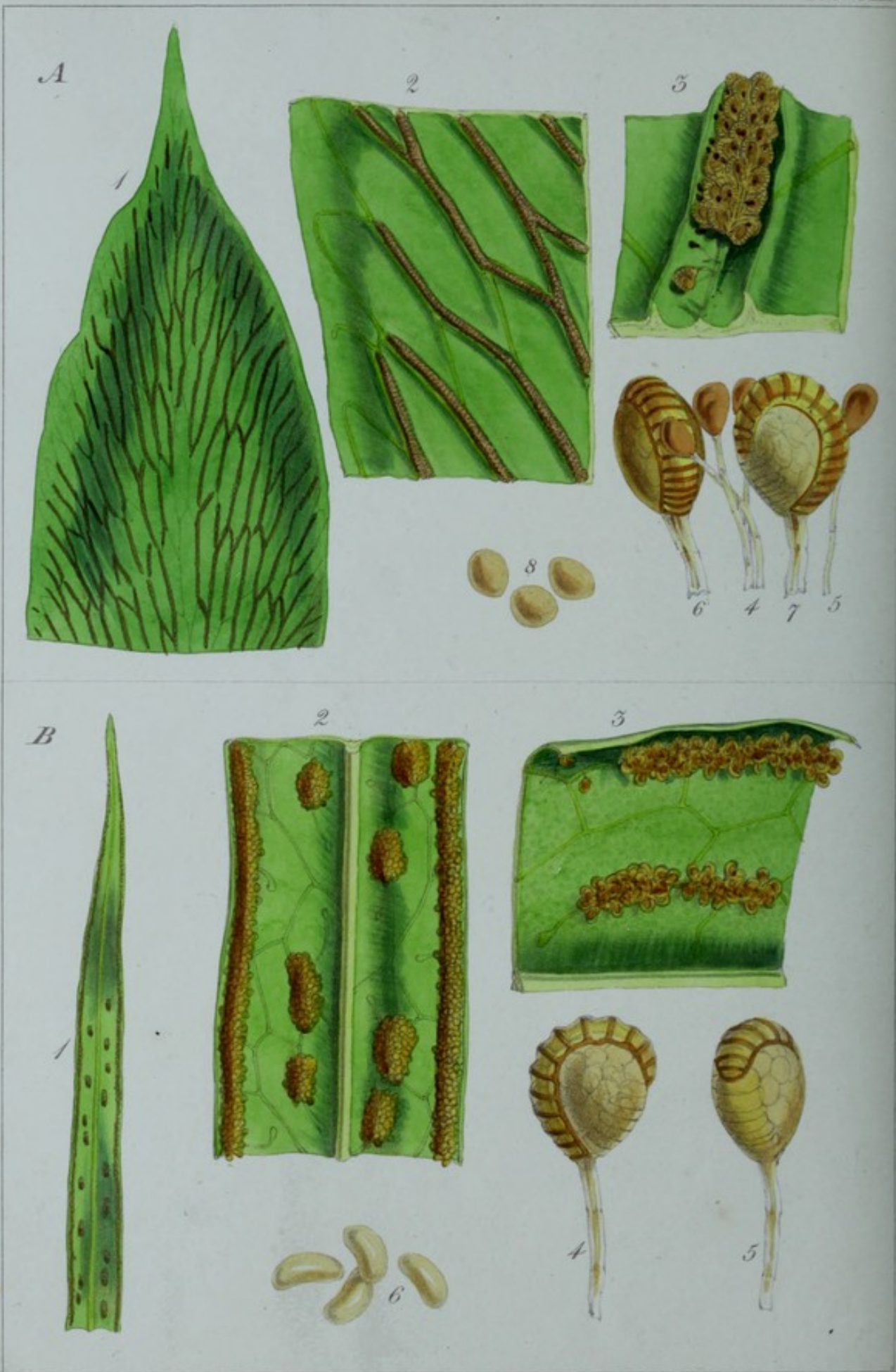
Another form which may be considered a third, a subgenus of *Trichomanes*, is the *Feea* of Bory, *Trichomanes spicatum*, R. Hedw., of which a figure is given in Hook. Ex. Flora, TAB. 52. It is distinguished by having the fertile fronds dissimilar, and spiked; but the indusia are free, nearly sessile on the rachis; not united by a membrane.

TAB. CVIII.—Fig. 1. Fertile and sterile frond of *Trichomanes elegans*; nat. size: f. 2. Portion of the sterile frond: f. 3. Portion of the fertile do.: f. 4. Two of the indusia, (one laid open): f. 5, 6. Sporangia: f. 7. Sporules;—magnified.











TAB. CIX. A.

ASTROPHYUM, J. Sm.

Sori longissimè, costalis, linearia, vixè brevèa, reticulata vixit minus linearia  
 vixè superficialia; saccorum asperitas perisporia circiter latissimalibus.—  
 Frondes simpliciter simpliciter, lacunatis, dupli-quadripliciter pinnatis, cus-  
 pitate vel emarginata. Vixè simpliciter simpliciter, vixè simpliciter simpliciter.  
 Habitus vixè simpliciter simpliciter.

*Astrophyum plantagineum*, Kunth.—*B. Linnæi, Hook. et Arn. Bot. Beech. Voy.* p. 14.

A. Linnæi, Berg in *Duperré Voy. Bot.* p. 255. t. 35. f. 2.

A Genus established by Kunth, but has been *Hemistictis*, with which Presl values it  
 is already observed, TAB. LXXIV. B. The entire character of the sori is by no means  
 constant, and even, except in the undivided frond, it cannot be distinguished from  
*Hemistictis*.

TAB. CIX. A.—Fig. 1. Portion of the frond of *Astrophyum plantagineum*, v. J. S. Showing the  
 form of the sori; f. 2. Portion of a sori; the opening through which the sori are  
 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

TAB. CIX. B.

DIBLEMMA, J. Sm.

Sori vixè superficialia, duplex; 1.—linearia, marginalia, costalis, vixè  
 marginalia vixè, 2.—sori longioribus, subulatis v. oblongis, in vixè linearibus  
 tenuissimis illis.—Frondes simpliciter simpliciter, lacunatis, dupli-quadripliciter  
 pinnatis, cuspidata vel emarginata. Vixè simpliciter simpliciter.  
 Habitus vixè simpliciter simpliciter; ramulis pinnatis, linearibus, vixè  
 J. Sm.

*Diblemma Somersii*, J. Sm. in *Hook. Journ. of Bot.* v. 16. p. 205.

HAB. Philippin Islands, Cebu.

\* This single-fronded fern has the venation of some species of *Argemone* and of *Clay*  
*argemone*, and is peculiar in having the simple rounded part of the frond, and the  
 pinnated elongated marginal parts of the latter on the same frond? J. Sm.—Only one species  
 is known.

TAB. CIX. B.—Fig. 1. Portion of *Diblemma Somersii*, var. vixè J. S. Showing the  
 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



TAB. CIX. A.

ANTROPHYUM. *Kaulf.*

*Sori* longissimi, continui, lineares, venis frondis reticulatis magis minusve immersi nunc superficiales; sulcorum marginibus plerumque elevatis indusiiformibus.—*Fronde simplices cæspitosæ, lanceolatæ, coriaceo-membranaceæ indivisæ, costatæ vel ecostatæ. Venæ uniformes reticulatæ, areolis elongatis subhexagoniis. Radices sæpe ferrugineo-tomentosæ.*

*Antrophyum plantagineum. Kaulf.*— $\beta$ . *Lessoni. Hook. et Arn. Bot. of Beech. Voy. p. 74.*

*A. Lessoni. Bory in Duperrey Voy. Bot. p. 255. t. 28. f. 2.*

A Genus established by Kaulfuss; but too near *Hemionitis*, with which Presl unites it; as already observed, TAB. LXXIV. B. The sunken character of the sori is by no means constant; and then, except in the undivided frond, it cannot be distinguished from *Hemionitis*.

TAB. CIX. A.—*Fig. 1.* Portion of the frond of *Antrophyum plantagineum*,  $\beta$ : *f. 2.* Smaller portion of the same: *f. 3.* Portion of a sorus; the sporangia in part removed from the receptacle: *f. 4, 5,* Glandular hairs found among the sporangia: *f. 6, 7.* Sporangia: *f. 8.* Sporules;—*magnified.*

TAB. CIX. B.

DIBLEMMA. *J. Sm.*

*Sorus* nudus, superficialis, duplex; 1.—linearis, marginalis, continuus, in venulam marginalem situs; 2.—*sori* irregulares, rotundati v. oblongi, in venulas breves anastomosantes siti.—*Fronde simplices, lineari-lanceolatæ, attenuatæ. Venæ reticulatæ, areolas inæquales formantes: venulæ plurimæ, liberæ, apice clavatæ. J. Sm.*

*Diblemma Samarensis. J. Sm. in Hook. Journ. of Bot. v. iv. p. 399.*

HAB. Philippine islands. *Cuming.*

“This simple-fronded Fern has the venation of some species of *Drymaria* and of *Drymoglossum*, and is peculiar in having the simple rounded sori of the former, and the compound elongated marginal sorus of the latter on the same frond.” *J. Sm.*—Only one species is known.

TAB. CIX. B.—*Fig. 1.* Portion of *Diblemma Samarensis*; *nat. size*: *f. 2.* Portion of the same: *f. 3.* Smaller portion: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—*magnified.*



TAB. CIX. A.

ANTROPHYUM KALII

For preparing certain kinds, very fine reticulate large minute masses  
are required; colour varying from brownish to reddish-brown.  
The most common is the one which is described in the  
text and which is very common in the  
latter part of the year.

Antrophyum plantagineum, Lam.—In the West of the  
Isle of Great Britain.

A. Lamour. How to prepare for the use of the  
A. Lamour. How to prepare for the use of the  
A. Lamour. How to prepare for the use of the  
A. Lamour. How to prepare for the use of the  
A. Lamour. How to prepare for the use of the  
A. Lamour. How to prepare for the use of the

The CIX. A.—The first of the two is the  
one of the most common and is the one which  
is described in the text and which is very  
common in the latter part of the year.

TAB. CIX. B.

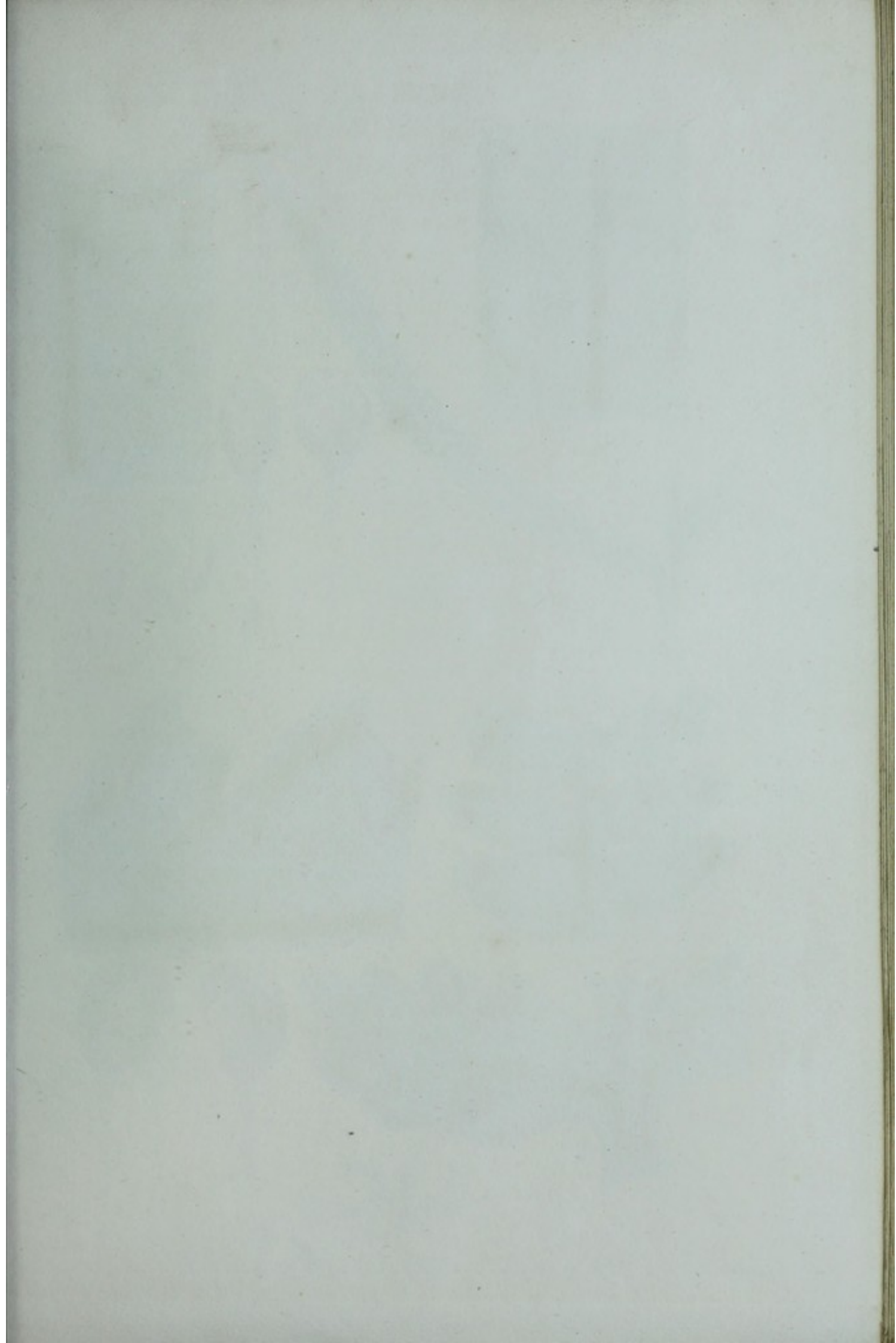
DILUENTIA A. C.

Some other specimens are found in the  
latter part of the year and are very  
common in the latter part of the year.  
The most common is the one which is  
described in the text and which is very  
common in the latter part of the year.

Diluentia A. C.—The first of the two is  
the one which is described in the text and  
which is very common in the latter part  
of the year.

The Diluentia A. C.—The first of the two  
is the one which is described in the text  
and which is very common in the latter  
part of the year.

The Diluentia A. C.—The first of the two  
is the one which is described in the text  
and which is very common in the latter  
part of the year.







TAB. CX. A.

SYNAMMIA. Presl. J. Sm.

Sori oblongi, rudi, crassiusculi, curvo venis lobis libere incidentes. — Filii (Chlorella) Rhizoma rugosum. Frenula albuginea, humiliter erecta, pinnata, pinnis adnatis, serrulatis. Vena pinnata, interna, transmissa, externa. Venulae oppositae, in arboribus capitulatis et ciliatis et unguibus in angustis et ciliatis inflexis supra lobos inflexis emergunt, libere, quibus venae rudi et secundariae in angulis vena ciliatae, libere, inflexis et ciliatis pinnis inflexis.

Synammia trilobata. Presl. — Polypodium trilobum. Cav.

HAB. Chili.

Under the *Polypodium trilobum* of Cavendish, Presl refers to this Genus the *Grammitis elongata* Sw. — which Mr J. Smith places in *Polypodium* (P.) — the same Genus with *Platydictyon* Presl.

TAB. CX. A.—Fig. 1. Portion of *Synammia trilobata*, nat. size; f. 2. Portion of the same; f. 3. Smaller portion, with lobes, showing the venation; f. 4. 5. Sporangia; f. 6. Sporangia in magnification.

TAB. CX. B.

LECANOPTERIS. J. Sm.

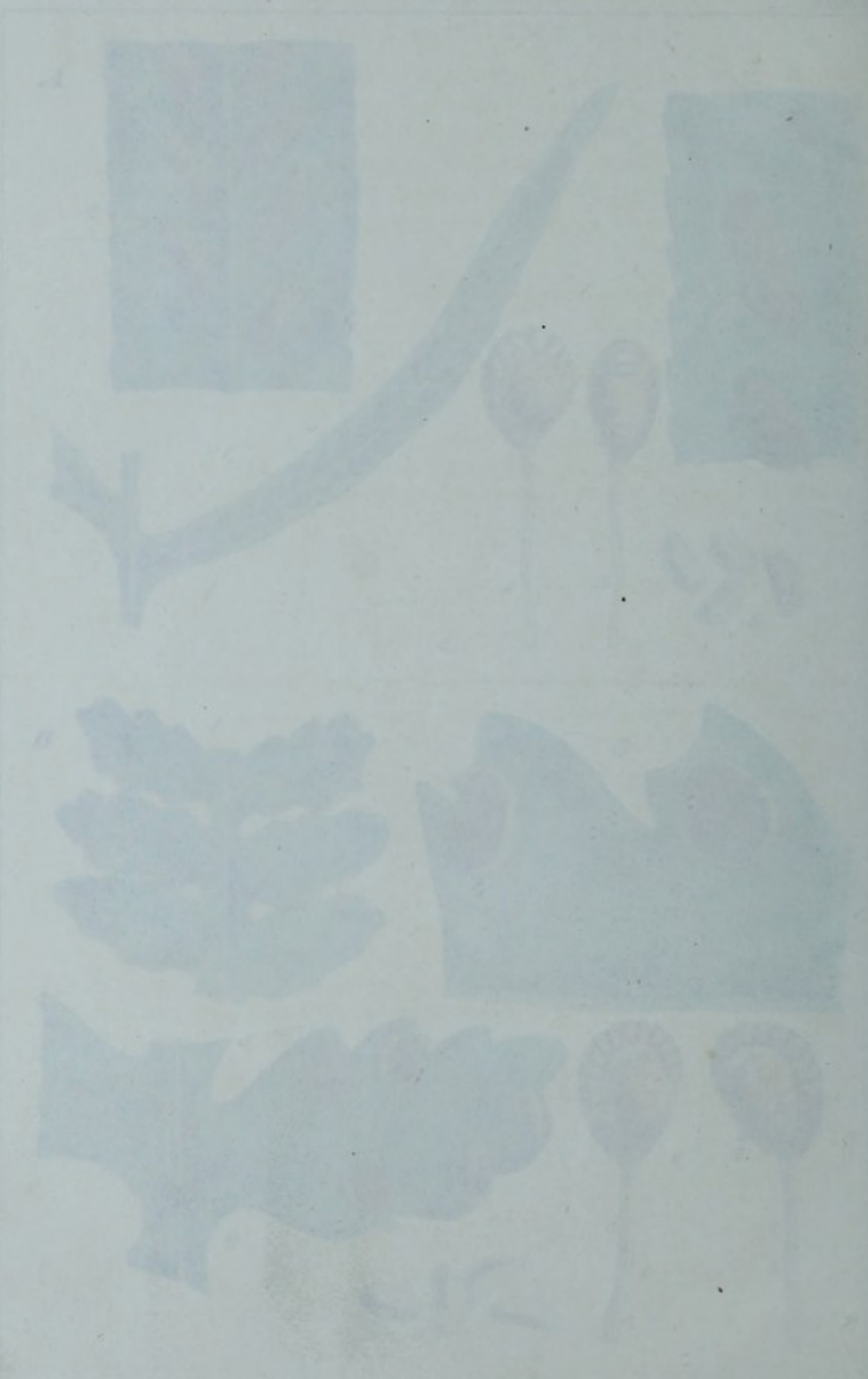
Sori apiculata dentata frontibus cartilagineis et operaturis lateralis (siccitate rufescenti). Receptaculum ovale orbiculatum, lobatum, concentricum, etique capsulis pilisque densissimis obductum. — Frenula ciliata, humiliter erecta, pinnata, pinnis adnatis, serrulatis. Vena pinnata. Venulae interne oppositae, in arboribus capitulatis et ciliatis et unguibus in angustis et ciliatis inflexis supra lobos inflexis emergunt, libere, quibus venae rudi et secundariae in angulis vena ciliatae, libere, inflexis et ciliatis pinnis inflexis.

Lecanopteris elongata. J. Sm.

HAB. Java. Philippin. Island. Ceylon.

This is a very remarkable Fern, peculiar in habit and with none as to its identification. The teeth of the sori are composed of two broad cartilaginous lobes, which bear the setae, and which form a considerably pointed base to the identification of *L. elongata* and *P. trilobum* among the Lobes.

TAB. CX. B.—Fig. 1. Portion of a frond; nat. size; f. 2. Smaller portion of the same; f. 3. Portion of the same; f. 4. Sporangia; f. 5. Sporangia in magnification.



## TAB. CX. A.

### SYNAMMIA. Presl. J. Sm.

*Sori* oblongi, nudi, crassiusculi, dorso venulæ infimæ liberæ insidentes.—*Filix Chilensis*. *Rhizoma repens*. *Frondes stipitatae, tenuiter coriaceae, pinnatae, pinnis adnatis, serrulatis*. *Venæ pinnatae, internæ, tenuissimæ, ramosæ*. *Venulæ oppositæ, in arcum angulatum confluentes et maculam hexagonoideam efficientes, infima supra basin inferioris emergens, libera, apicem versus sorifera, secundaria ex angulis arcus exorientes, liberæ, infimaque apice globoso-incrassatæ*. Presl.

*Synammia triloba*. Presl.—*Polypodium trilobum*. Cav.

HAB. Chili.

Besides the *Polypodium trilobum* of Cavanilles, Presl refers to this Genus the *Grammitis elongata*, Sw.:—which Mr J. Smith places in *Phlebodium* (Br.):—the same Genus with *Pleopeltis*, Presl.

TAB. CX. A.—*Fig. 1*. Portion of *Synammia triloba*; *nat. size*: *f. 2*. Portion of the same: *f. 3*. Smaller portion, with two sori, showing the venation: *f. 4, 5*. Sporangia: *f. 6*. Sporules;—*magnified*.

## TAB. CX. B.

### LECANOPTERIS. Bl.

*Sori* apicibus dentium frondis cartilagineorum et excavatorum immersi (siccitate reflexi.) *Receptaculum ovali-orbiculatum, latissimum, concaviusculum, undique capsulis pilisque densissimis obtectum*.—*Frons coriacea, lineari-lanceolata, pinnatifida, laciniis ovato-subrotundis, inciso-dentatis*. *Venæ pinnatæ*. *Venulæ internæ tenuissimæ, in maculas hexagonoideas anastomosantes, secundariæ liberæ, globuloso-incrassatæ, rectæ aut hamatæ*. Presl.

*Lecanopteris carnosa*. Blume.

HAB. Java. Philippine islands. Cuming.

This is a very remarkable Fern, peculiar in habit, and still more so in its fructification. The teeth of the segments are extended into broad cartilaginous lobules, which bear the sori, and which have a considerable resemblance to the fructification of *Nephroma* and *Peltidea* among the Lichens.

TAB. CX. B.—*Fig. 1*. Portion of a frond; *nat. size*: *f. 2*. Smaller portion of the same: *f. 3*. Portion of two sori: *f. 4, 5*. Sporangia: *f. 6*. Sporules;—*more or less magnified*.



TAB. CX. A.

DYNAMIA, Vol. 1, 2.

Very obscure, but, certainly, shows some degree of lateral symmetry. — Part 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Dynamia (Vol. 1, 2) — 100 specimens.

See also

Under the name of Dynamia (Vol. 1, 2) I have placed in my collection the following specimens: — 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

See also Vol. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

TAB. CX. B.

LECANOPTERIS, W.

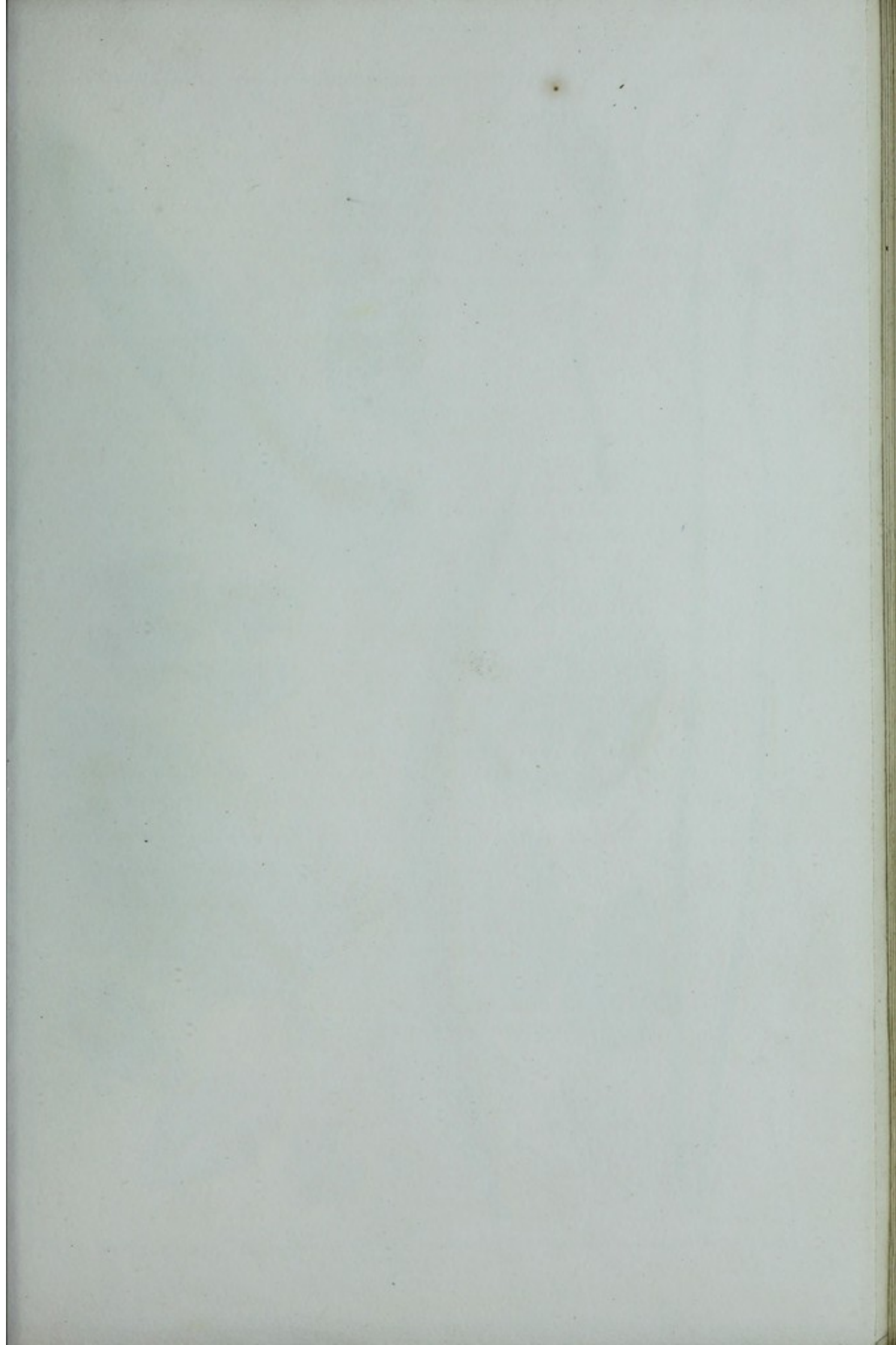
Very obscure, but, certainly, shows some degree of lateral symmetry. — Part 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

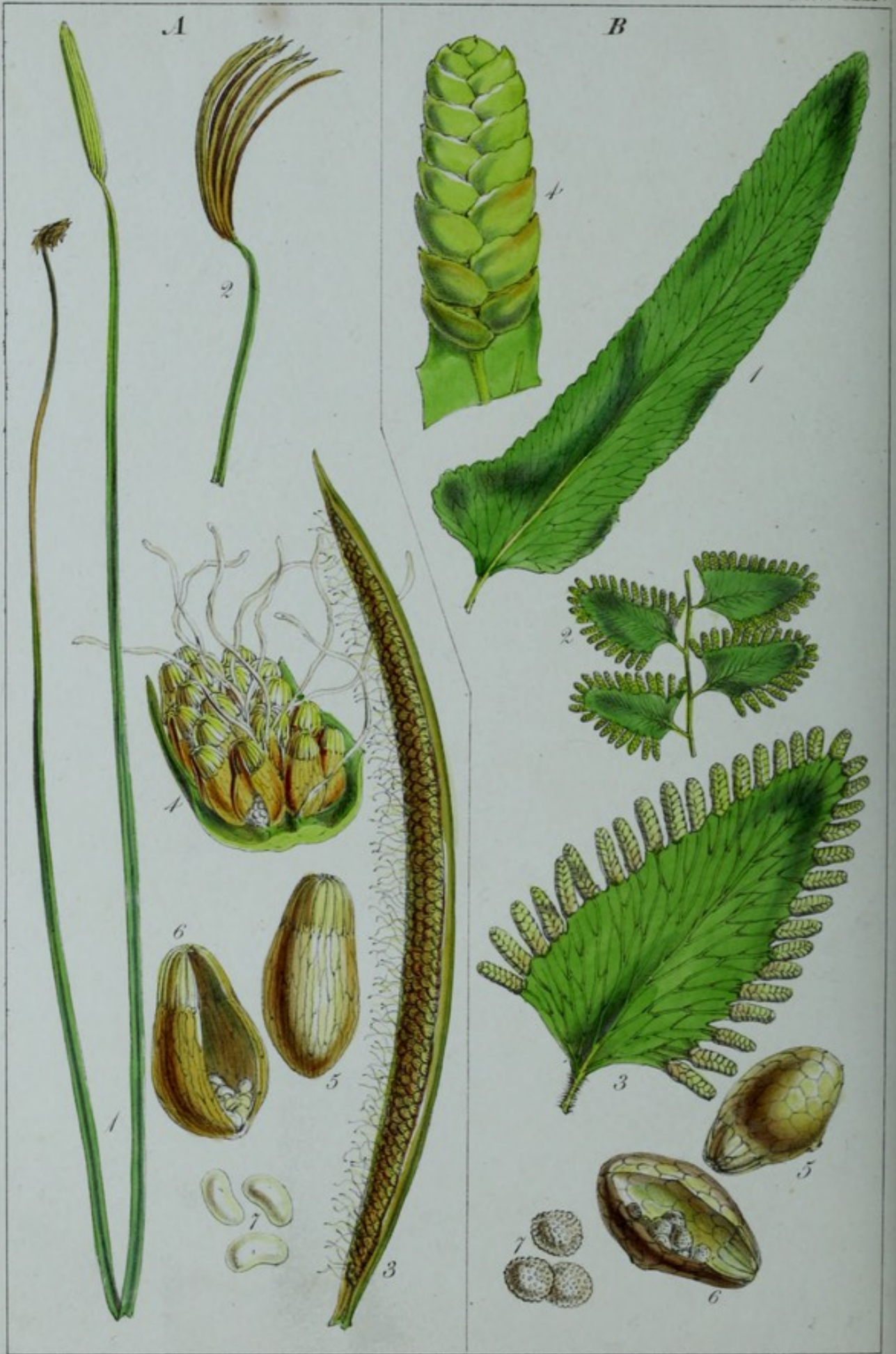
See also

Vol. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

This is a very obscure form, but, certainly, shows some degree of lateral symmetry. — Part 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

See also Vol. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.







TAB. CXL. A.

ACTINOSTACHYS, Wall.

*Sporobolus subquadrangularis*, appendicibus digitatis.—Ceterum ut in *Sabbula*,  
(Tab. Nunc. XIX.)

*Actinostachys pennula*.—*Sabbula pennula*, Sw.—*S. triflorula*, Schkult. Fil.  
Tab. 186.—*S. paniculata*, H.B.K.—*S. hirsuta*, Meyer.

The quadrilateral arrangement of the sporangia, and the digitate, not pinnate, appendages on which the sporangia are placed, led Dr. Wallich and others to consider these as sufficient characters to establish generic distinction. One character of *Sabbula* at Tab. XIX. was drawn up with the view of including both kinds of fructification. But as the plate (Tab. XIX.) only exhibits the true *Sabbula*, we here give Dr. Wallich's *Actinostachys*, to which also belong *S. signata*, Sw., from Cayenne, and *S. setigera*, Mart. The species consequently inhabit the E. Indies and S. America.

Tab. CXL. A.—*Actinostachys pennula*. Fig. 1. Plant, nat. size; f. 2. Upper portion of the same, the appendages more developed; nat. size; f. 3. Single appendage; f. 4. Portion of the same with the sporangia, cut through transversely; f. 5, 6. Sporangia; f. 7. Spores;—scale is five magnified.

TAB. CXL. B.

LYGODICTYON, J. Sm.

*Ficus pinnaris reticulata*.—Ceterum ut in *Lycopodium*, (Tab. XXVIII.)

*Lycopodium Forsteri*, J. Sm. *Lycopodium reticulatum*, Schkult.—*Cyrtoglossum reticulatum*, Forst.—*Hypolepta reticulata*, Willd.

As here *Lycopodium* (Tab. XXVIII.) the veins of the pinnæ are dichotomous, the veins are here, in the present genus, as Mr. J. Smith indicates it, the veins form a net-work by anastomosing with oblique angles or arches.

Tab. CXL. B.—*Lycopodium Forsteri*. Fig. 1. Single plant; magnified; f. 2. Part of pinnæ, nat. size; f. 3. Single entire pinnæ; magnified; f. 4. Spine of fructification; f. 5, 6. Sporangia; f. 7. Spores;—magnified.



## TAB. CXI. A.

### ACTINOSTACHYS. Wall.

*Sporangia* subquadriseptaria, appendicibus digitatis.—Cæterum ut in *Schizæa*, (TAB. NOSTR. XIX.).

*Actinostachys pennula*.—*Schizæa pennula*. Sw.—*S. trilateralis*. Schkuhr, Fil. Tab. 136.—*S. penicellata*. H.B.K.—*S. incurvata*. Meyer.

The quadriseptate arrangement of the sporangia, and the digitate, not pinnate, appendages on which the sporangia are placed, led Dr Wallich and others to consider these as sufficient characters to constitute generic distinction. Our character of *Schizæa* at Tab. XIX. was drawn up with the view of including both kinds of fructification. But as the plate (TAB. XIX.) only exhibits the true *Schizæa*, we here give Dr Wallich's *Actinostachys*, to which also belong *S. digitata*, Sw., from Ceylon, and *S. subtrijuga*, Mart. The species consequently inhabit the E. Indies and S. America.

TAB. CXI. A.—*Actinostachys pennula*. Fig. 1. Plant; nat. size: f. 2. Upper portion of the same, the appendages more developed; nat. size: f. 3. Single appendage: f. 4. Portion of the same with the sporangia, cut through transversely: f. 5, 6. Sporangia: f. 7. Sporules;—more or less magnified.

## TAB. CXI. B.

### LYGODICTYON. J. Sm.

*Venæ pinnarum reticulatæ*.—Cæterum ut in *Lygodio*, (TAB. XXVIII.)

*Lygodictyon Forsteri*. J. Sm. *Lygodium reticulatum*. Schkuhr.—*Ophioglossum scandens*. Forst.—*Hydroglossum polycarpum*. Willd.

In true *Lygodium* (TAB. XXVIII.) the veins of the pinnæ are dichotomous, the veinlets free; in the present genus, as Mr J. Smith considers it, the veins form a net-work by anastomosing, with oblong meshes or areolæ.

TAB. CXI. B.—*Lygodictyon Forsteri*. Fig. 1. Sterile pinna; magnified: f. 2. Fertile pinna; nat. size: f. 3. Single fertile pinna; magnified: f. 4. Spike of fructification: f. 5, 6. Sporangia: f. 7. Sporules;—magnified.



TAB XXI A

ACTINOTACHYS B&W

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(Tab. XXI A)

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Tab. XXI A

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TAB XXI B

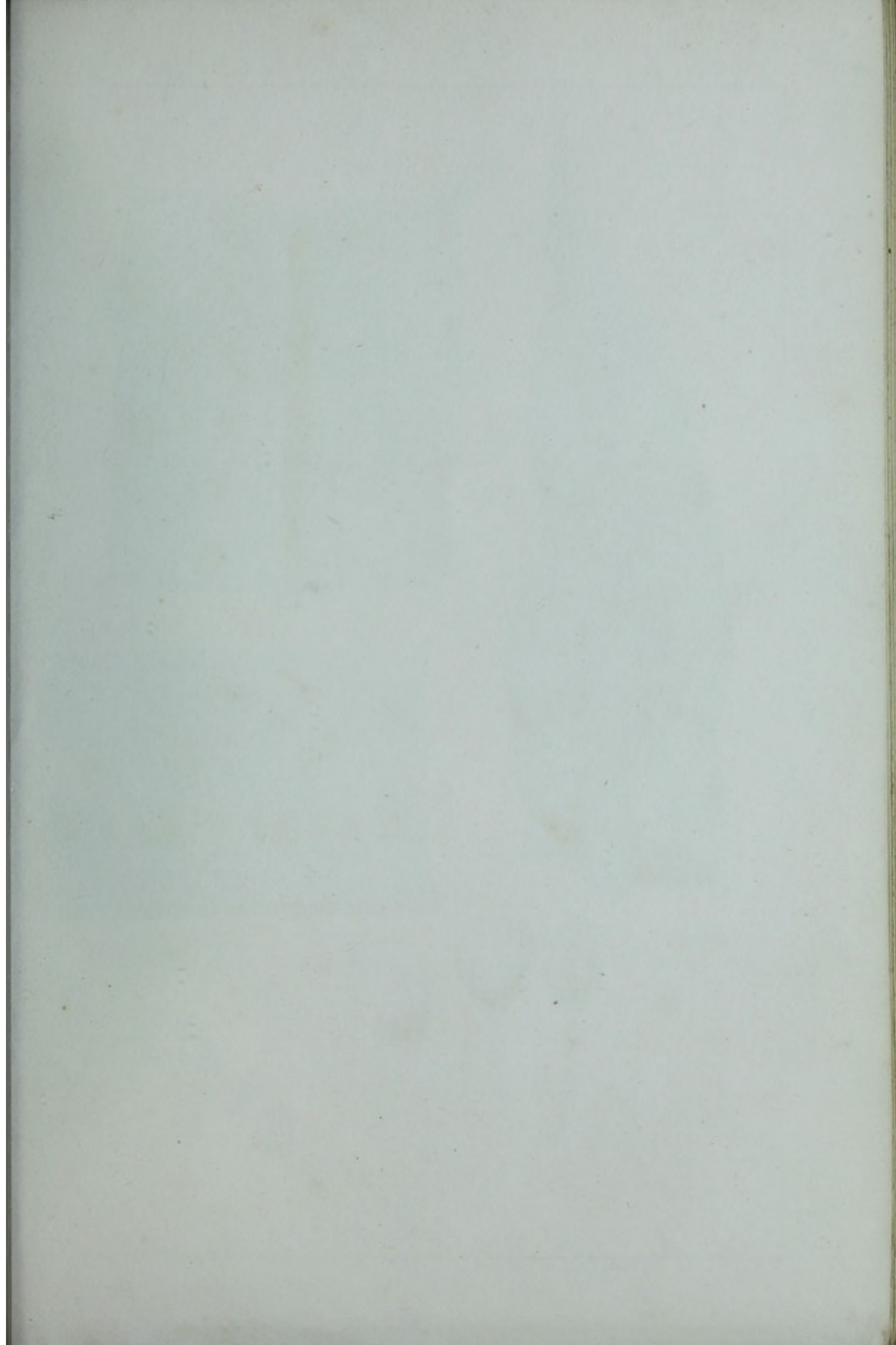
LYDINGTON X B

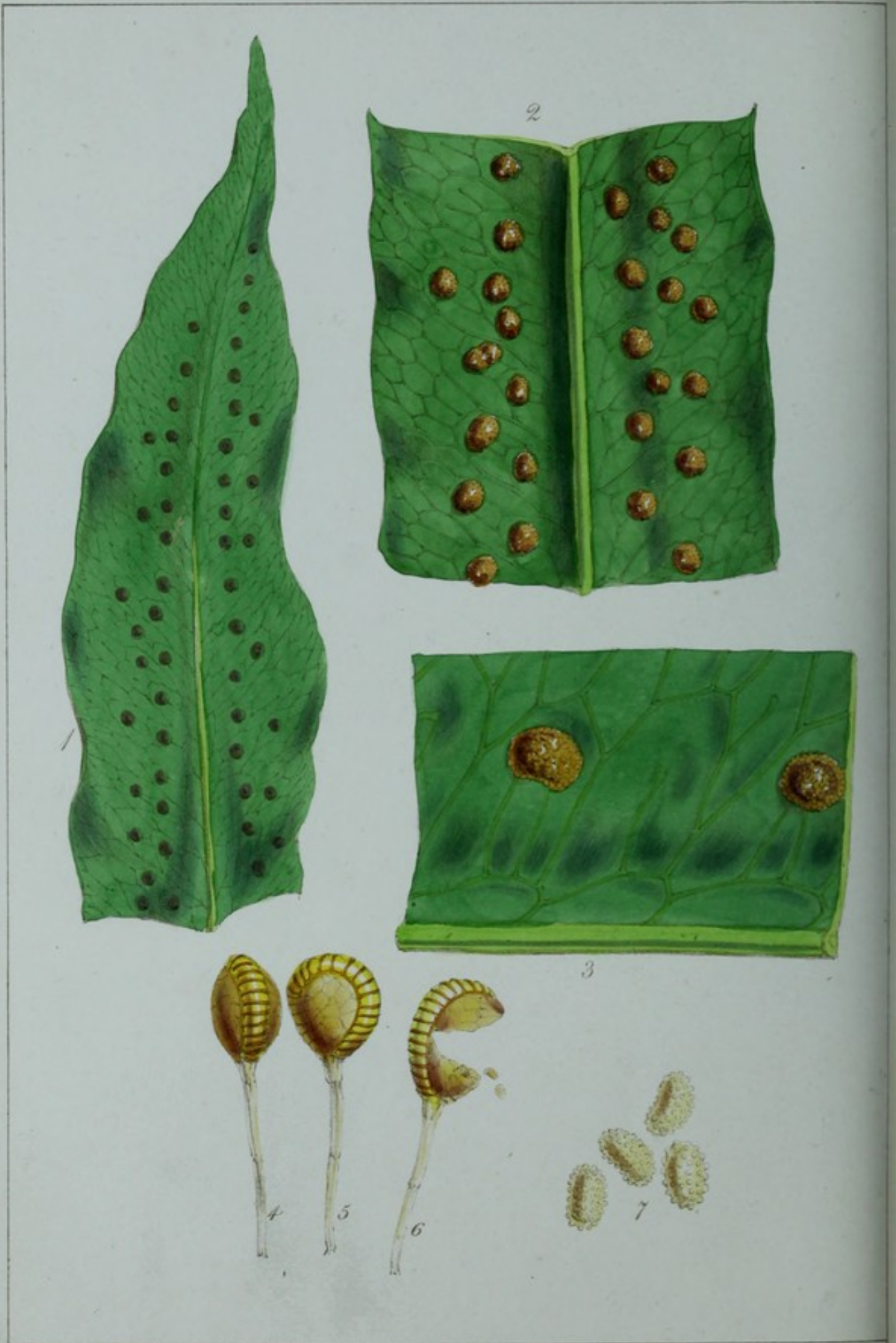
... .. (Tab. XXI B)

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... ..

The ... ..  
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... ..











TAB. CXII.

PHLEBODIUM. *Br. J. Sm.*

POLYPODIUM *Auct.* PLEOPELTIS *Humb. Presl.* \* SYNAMMIÆ *sp. Presl.*

*Sori rotundati, ovales, vel rarius oblongo-lineares, transversim uniseriales v. multiseriales.—Venæ pinnatæ seu varie ramosæ; venulæ arcuatæ v. angulatim anastomosantes, externe venulas secundarias duas, raro plures, transversim conniventes, apice soriferas, efficientes. Frondes simplices, integræ, pinnatifidæ v. pinnatæ, membranaceæ seu coriaceæ, nudæ v. squamuliferæ. Sori nunc seriatim dispositi inter duas venas primarias. J. Sm.*

*Phlebodium aureum.* (TAB. CXII.) *Polypodium. Linn.*

Mr Brown first distinguished this Genus "from *Drymaria*; and, from those species of it, especially, in which the principal vein of the sorus is distinctly marked, the transition is easy to *Polypodium aureum, decumanum*, and a few other species having anastomosing veins, and in which the sori are placed on the apices of two, or more, rarely 3, connivent ultimate ramuli, included in an area formed by the anastomosing secondary veins. But these species from the identity of habit, may be included in or appended to a more extensive group, whose anastomosing veins form areolæ or meshes, in each of which only one sorus exists, and that terminating a single branch. This section, which may be named *Phlebodium*, and whose species have either pinnate, deeply pinnatifid, or more rarely simple fronds, appears to me to be strictly natural, though it includes several species having the spurious indusium of *Pleopeltis*, and at least one with an oval, or at least oblong sorus," (I presume *Synammia elongata, Pr.* TAB. CX. A.)

It is the first group, or *Euphlebotium*, which is here represented. The 2d, (*Pleopeltis* of authors) is given at TAB. XVIII. A.

*Fig. 1.* Fertile segment of *Phlebodium aureum*; *nat. size*: *f. 2, 3.* Portions of the same: *f. 4, 5, 6.* Sporangia: *f. 7.* Sporules;—more or less *magnified.*



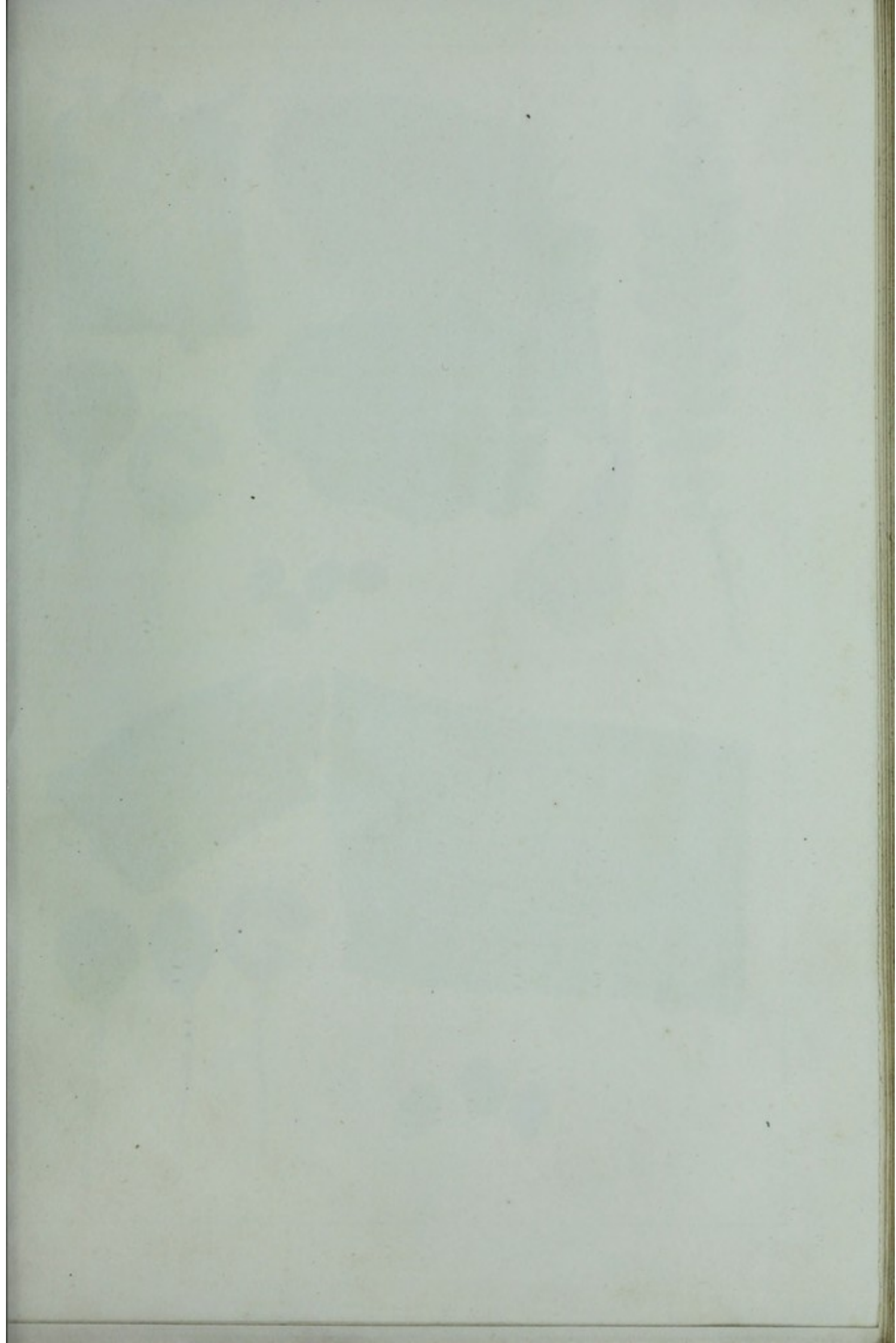
THE CXXII

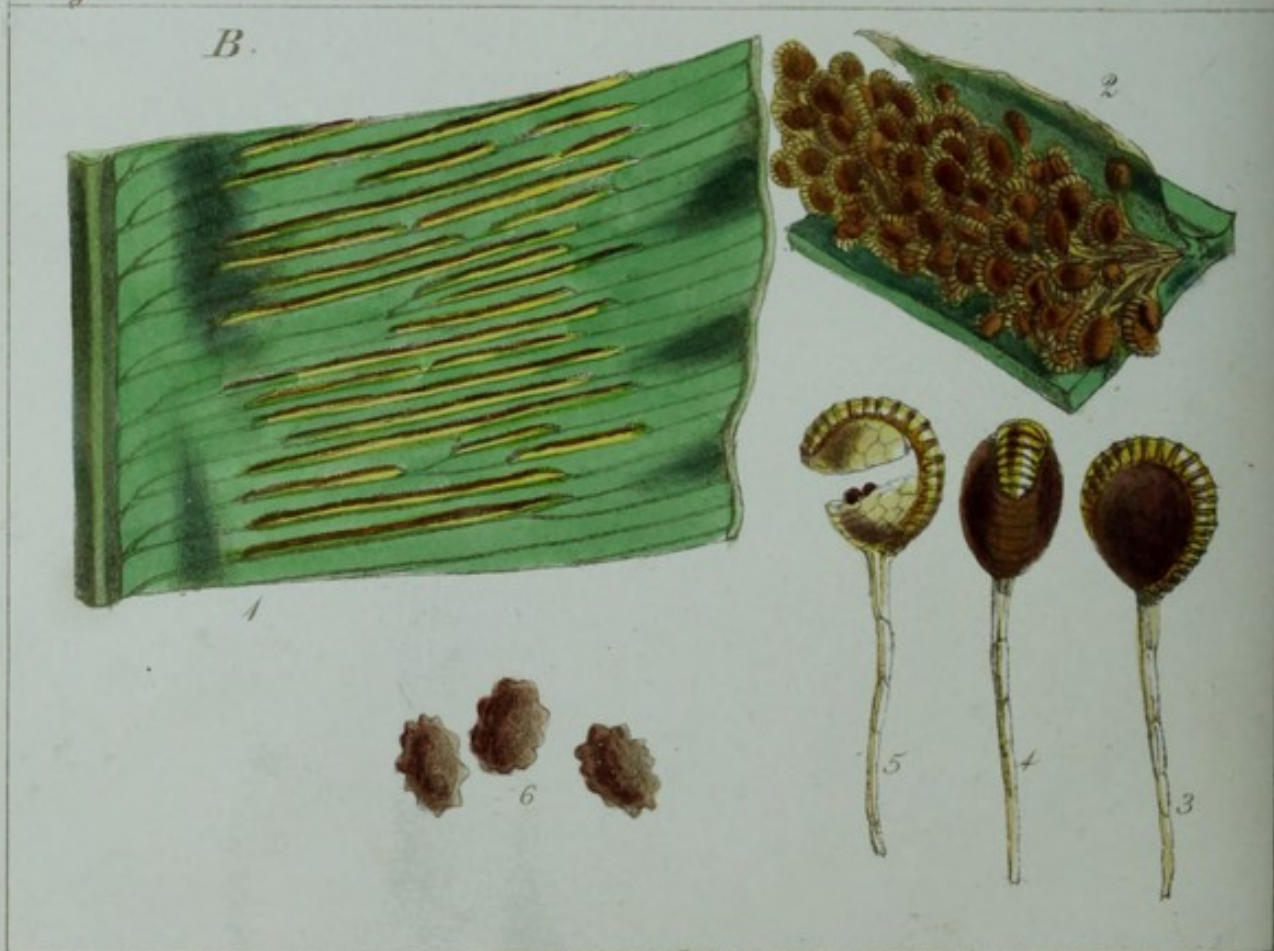
PHILOBOTRIS

Philibotris (CXXII) is a genus of the family ... It is characterized by ...

The genus is distinguished from other genera ... It is characterized by ...

The genus is distinguished from other genera ... It is characterized by ...







TAB. CXIII. A.

NEOTYPTERIS, L. f.

Leaf linear, elongate, angustate, pinnate bipinnate, all leaf surfaces striate  
all. Indurum firmum, angustatum, pinnatis, angustis, bipinnatis. Pinnulae  
angustae, angustae, bipinnatis, bipinnatis, bipinnatis. Young fronds  
angustae, angustae, angustae, angustae, angustae, angustae, angustae.

Neotyperis Linn. f. - Neotyperis Linn. f. - Neotyperis Linn. f.

The true affinity of this genus to *Asplenium* has been already pointed out by an earlier  
*Asplenium* *Asplenium*, in *Flora* Tab. 103. It differs, however, from that genus, upon  
which it is most nearly allied, in the replacement of the venation, and in the  
more extensive of veins on the under side of the leaf.

Tab. CXIII. A. - Fig. 1. Frond, with base of the petiole, of the male plant of  
*Neotyperis* Linn. f. - Fig. 2. Frond of the female plant of *Neotyperis* Linn. f.

TAB. CXIII. B.

NEOTYPTERIS, L. f.

Asplenium, Linn.

Leaf linear, elongate, angustate, pinnate bipinnate, all leaf surfaces striate  
all. Indurum firmum, angustatum, pinnatis, angustis, bipinnatis. Pinnulae  
angustae, angustae, bipinnatis, bipinnatis, bipinnatis. Young fronds  
angustae, angustae, angustae, angustae, angustae, angustae, angustae.

Neotyperis Linn. f. - Neotyperis Linn. f. - Neotyperis Linn. f.

The true affinity of this genus to *Asplenium* has been already pointed out by an earlier  
*Asplenium* *Asplenium*, in *Flora* Tab. 103. It differs, however, from that genus, upon  
which it is most nearly allied, in the replacement of the venation, and in the  
more extensive of veins on the under side of the leaf.

Tab. CXIII. B. - Fig. 1. Frond of a male plant of *Neotyperis* Linn. f. - Fig. 2. Frond of a  
female plant of *Neotyperis* Linn. f. - Fig. 3. Frond of a young plant of *Neotyperis* Linn. f.



## TAB. CXIII. A.

### CETERACH. Willd.

*Sori* lineares, elongati, dorso venularum superiorum insidentes. *Indusium* lineare, angustum, planum nunc obsoletum.—*Venæ internæ, flabellatæ, dichotomæ, marginem versus anastomosantes.* Frondes *cæspitosæ, subcoriaceæ, pinnatifidæ vel pinnatæ, dorso squamis membranaceis imbricatis ferrugineis densissime obtectæ.*

*Ceterach officinarum.* Willd.—*Grammitis.* Sw.—*Scolopendrium.* Sm.

The near affinity of this Genus to *Asplenium* has been already pointed out by us under *Asplenium Dalhousiæ*, Ic. Plant. TAB. 103. It differs, however, from that Genus, upon a closer investigation, remarkably in habit, in the reticulated marginal veins, and in the dense covering of scales on the under side of the frond.

TAB. CXIII. A.—*Fig. 1.* Frond; *nat. size: f. 2.* Fertile portion of do., part of the scales removed: *f. 3.* Sorus: *f. 4.* Scale: *f. 5, 6.* Sporangia: *f. 7.* Sporules;—*magnified.*

## TAB. CXIII. B.

### NEOTTOPTERIS. J. Sm.

#### ASPLENIUM. Auct.

*Sori* lineares, elongati, angustissimi, quandoque interrupti, ad latus superius venarum siti. *Indusium* lineare, angustissimum, planum, superne dehiscens.—Fronde *cæspitosæ, simplices, lineari-lanceolatæ, coriaceæ, marginatæ.* *Venæ furcatæ, transversæ, dense parallelæ, apicibus vena marginali incrassata conjunctæ.*

*Neottopteris Nidus.* J. Sm.—*Asplenium.* L.

This and two or three allied species, which form a section of *Asplenium*, according to Presl (his § THAMNOPTERIS), constitute a distinct Genus according to the views of Mr J. Smith; to which, however, in justice to Presl, the name of *Thamnopteris* should be retained.

TAB. CXIII. B.—*Fig. 1.* Portion of a fertile frond, slightly *magnified: f. 2.* Portion of a sorus: *f. 3, 4, 5.* Sporangia: *f. 6.* Sporules;—*more or less magnified.*



TAB. CXLII A.

DETERMINATION

Two distinct species, *Phaenocarpa* and *Phaenocarpa*, are shown in the figures. The first is a large, robust fly with a dark body and prominent wings. The second is a smaller, more slender fly with a lighter body and less developed wings. Both are shown in profile, facing right.

The first species, *Phaenocarpa*, is characterized by its large size and dark coloration. It has a broad thorax and a long, segmented abdomen. The wings are large and cover most of the body. The second species, *Phaenocarpa*, is smaller and more delicate. It has a narrower thorax and a shorter abdomen. Its wings are also large but appear more transparent and less developed than those of the first species.

Fig. 1. *Phaenocarpa* (large fly). Fig. 2. *Phaenocarpa* (smaller fly). Both are shown in profile, facing right.

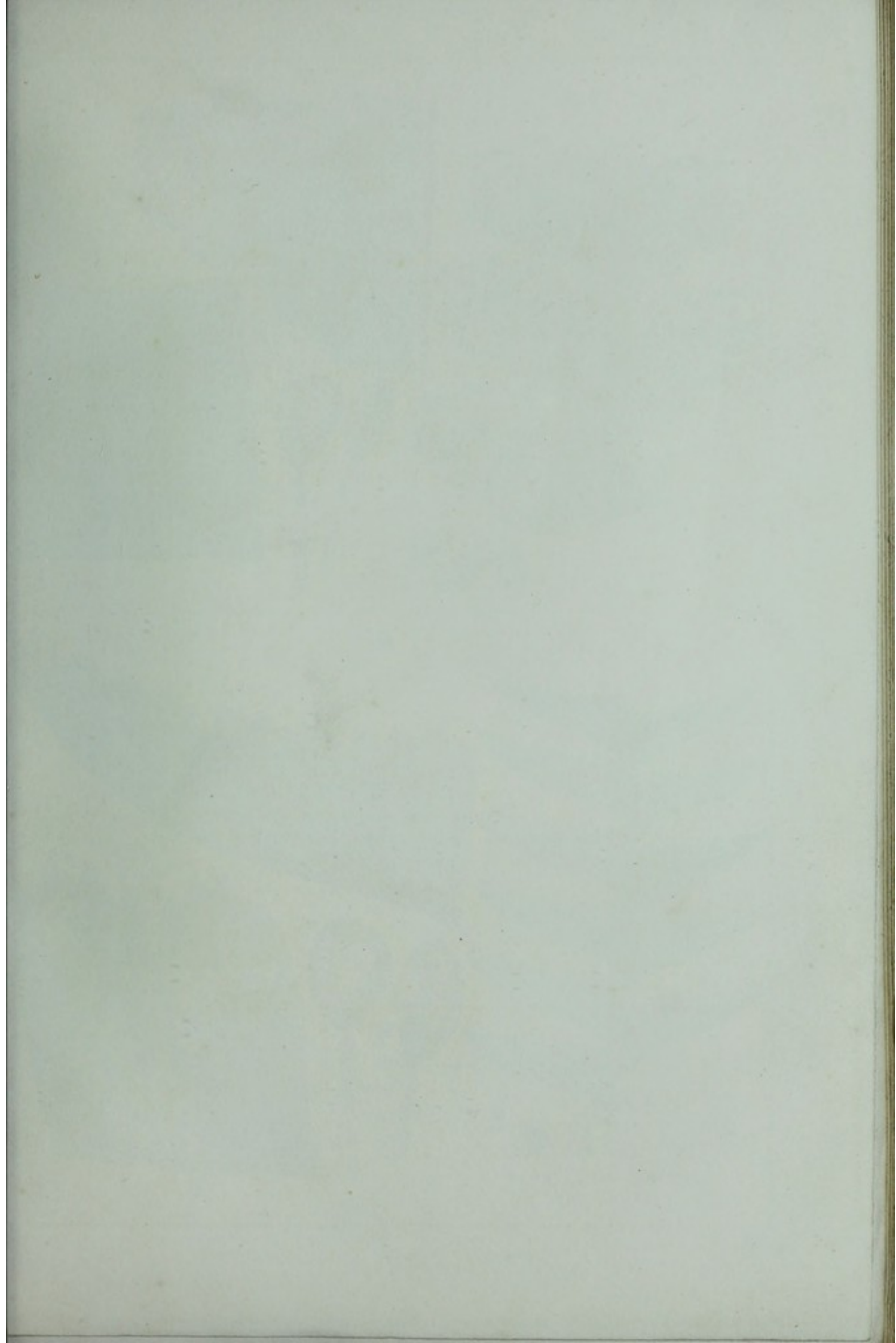
TAB. CXLII B.

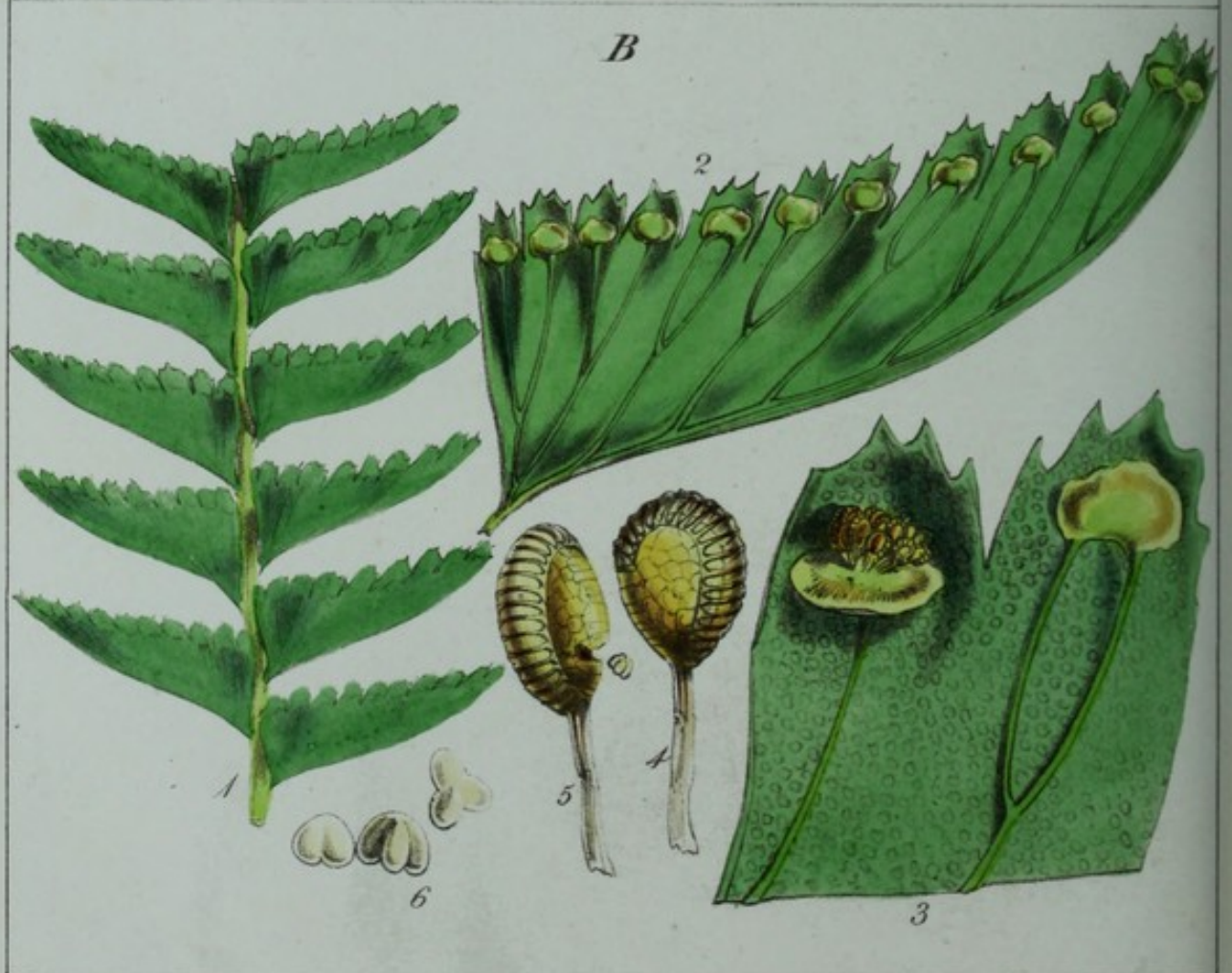
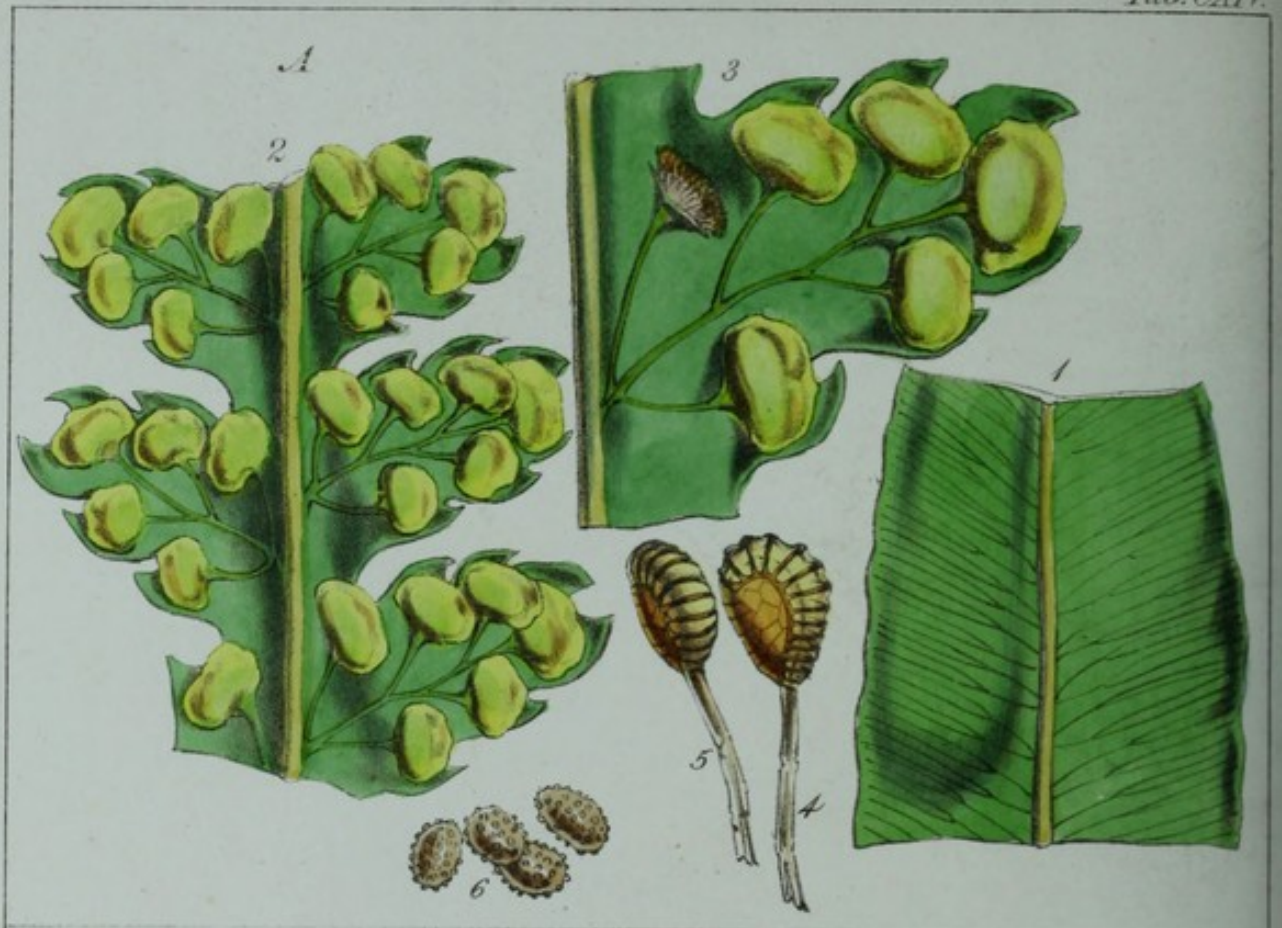
DETERMINATION

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Fig. 1. *Phaenocarpa* (large fly). Fig. 2. *Phaenocarpa* (smaller fly). Both are shown in profile, facing right.







TAB. CXIV. A.

HUMATA, Cap. J. Sm.

DAVALLIA sp. Auct.

Sori subrotundati, in dorso dentium, venulas terminantes. Indusium subrotundum  
v. reniforme, basi lato adhaerens superne et ad latera liberum.—Frondes (sive li-  
formes) simpliciter, simpliciter vel pinnatifidae. Venae simpliciter pinnatae vel  
unifurcatae. J. Sm.

*Humata heterophylla*, J. Sm.—*Davallia*. Sw.

This again constitutes a section of *Davallia* with Presl; while Mr J. Smith is of opinion  
that the thick veins and cartilaginous texture of the indusium will serve to keep *Humata* dis-  
tinct from the allied Genera.

TAB. CXIV. A.—Fig. 1. Portion of a sterile frond; f. 2, 3. Portions of the fertile frond; f. 4,  
5. Sori; f. 6. Spores;—enlarged.

TAB. CXIV. B.

ODONTOLOMA, J. Sm.

SACCOLOMA sp. Presl. DAVALLIA sp. Auct.

Sori rotundati, confluentes v. remoti. Indusium spatiale subrotundum, frondium  
dentibus brevius.—Frondes pinnatae v. bipinnatae; pinnae oblongo-lanceolatae,  
marginibus superioribus subintegris, dentatis v. laciniatis, dentibus segmentis v. ciliatis  
retortatis, nervis marginatis formantibus. Costa circumscissa v. nulla. Venae  
pinnatae; ramulae rectae, apicibus liberis serratis. J. Sm.

*Odontoloma Borjavianum*, J. Sm.—*Saccoloma*. Presl.

This genus separated from *Saccoloma*, Presl. (Tab. LVIII. B) on account of its distinct  
pinnae.

TAB. CXIV. B.—Fig. 1. Portion of a frond; and size of 5. Pinnae; f. 2. Portion of do. f. 3, 4, 5.  
Sori; f. 6. Spores;—enlarged.



## TAB. CXIV. A.

HUMATA. *Cav. J. Sm.*

DAVALLIÆ *sp. Auct.*

*Sori* subrotundati, in dorso dentium, venulas terminantes. *Indusium* subrotundum v. reniforme, basi lata affixum superne et ad latus liberum.—*Frondes* (*nunc bifformes*) coriaceæ, simplices vel pinnatifidæ. *Venæ* simpliciter pinnatæ vel unibifurcatæ. *J. Sm.*

*Humata heterophylla. J. Sm.—Davallia. Sm.*

This again constitutes a section of *Davallia* with Presl; while Mr J. Smith is of opinion that the thick veins and coriaceous texture of the indusium will serve to keep *Humata* distinct from the allied Genera.

TAB. CXIV. A.—*Fig. 1.* Portion of a sterile frond: *f. 2, 3.* Portions of the fertile frond: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—*magnified.*

## TAB. CXIV. B.

ODONTOLOMA. *J. Sm.*

SACCOLOMATIS *sp. Pr. DAVALLIÆ sp. Auct.*

*Sori* rotundati, confluentes v. remoti. *Indusium* speciale subrotundum, frondium dentibus brevius.—*Frondes* pinnatæ v. bipinnatæ; pinnæ oblongo-dimidiatæ, margine superiore subintegro, dentato v. laciniato, dentibus segmentisve obtusis unisoris, seriem marginalem formantibus. *Costa* excentrica v. nulla. *Venæ* furcatæ: venulæ rectæ, apicibus liberis soriferis. *J. Sm.*

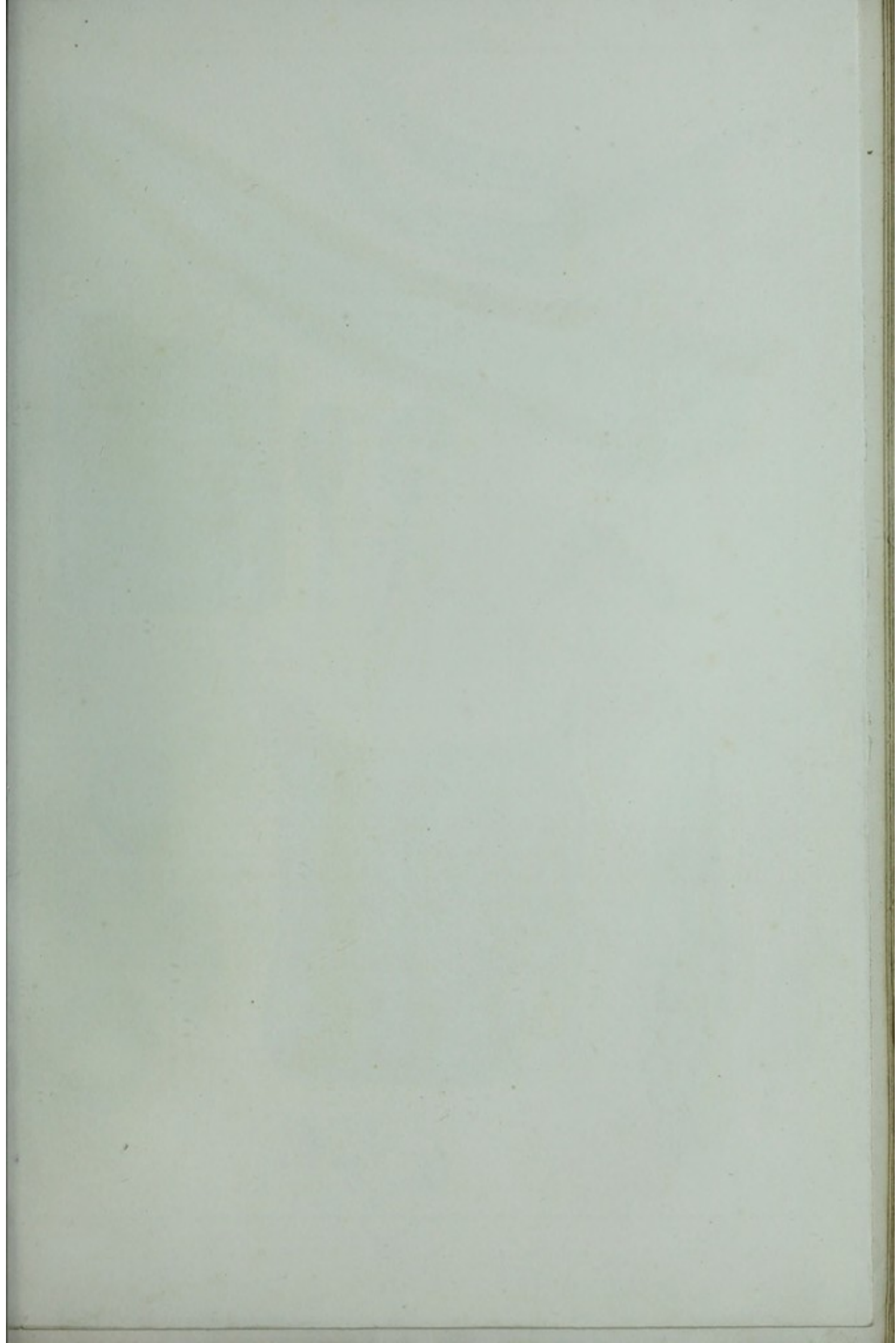
*Odontoloma Boryana. J. Sm.—Sacoloma. Presl.*

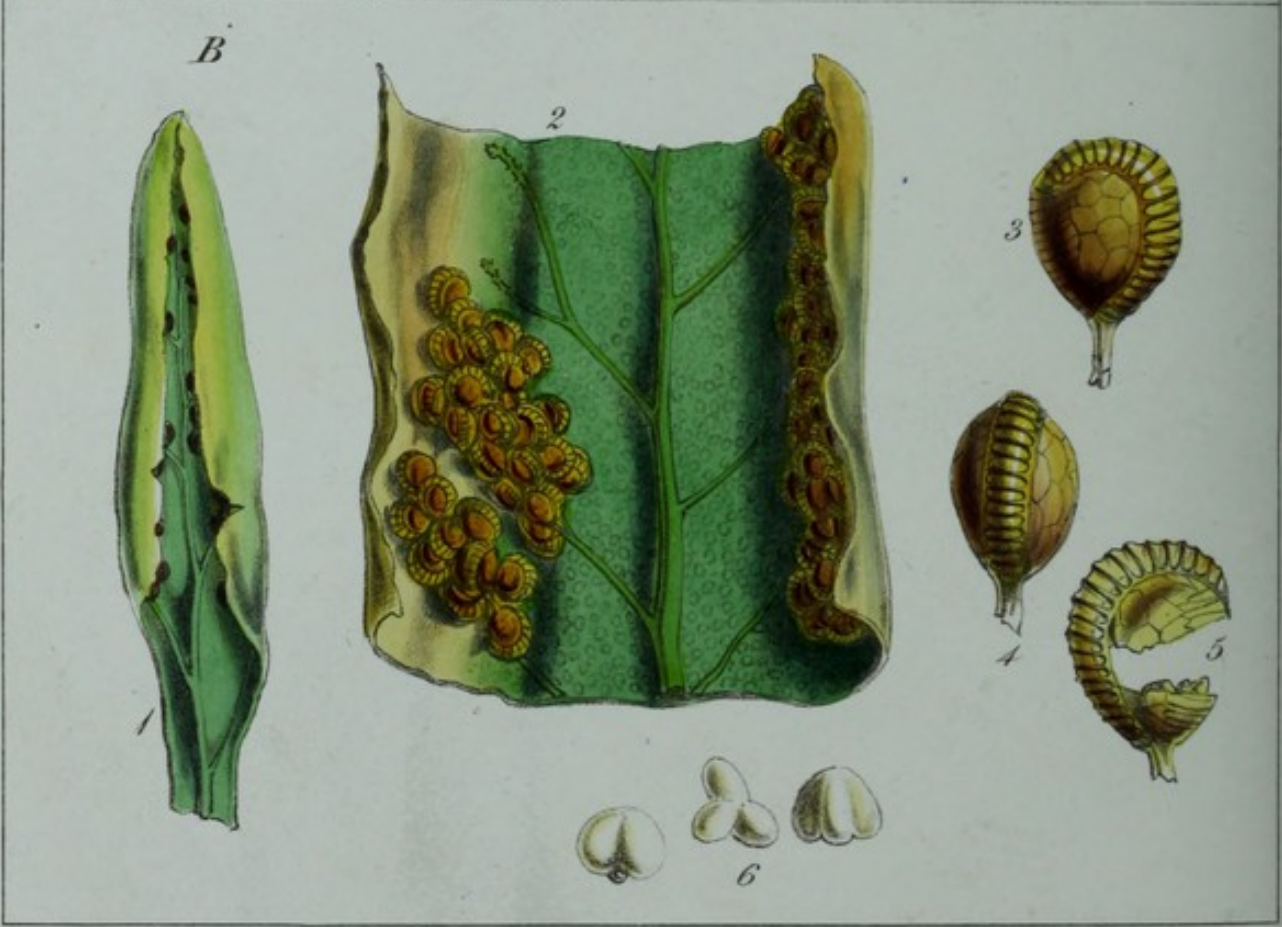
A Genus, separated from *Sacoloma*, Pr. (TAB. LVIII. B.) on account of its dimidiate pinnules.

TAB. CXIV. B.—*Fig. 1.* Portion of a frond; *nat. size*: *f. 2.* Pinna: *f. 3.* Portion of do.: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—*magnified.*











TAB. CIV. A.

PLATYLOMA, J. G.

Parasites of Insects, Animals, &c.

Microscopic, elongated, cylindrical, with a rounded anterior end, and a flattened posterior end. ...

Platyloma ... J. G. ...

Length of the ... is ... in ...

TAB. CIV. A.—Fig. 1. ...

TAB. CIV. B.

CRYPTOSOMMA, G.

Parasites of Insects, Animals, &c.

Microscopic, cylindrical, with a rounded anterior end, and a flattened posterior end. ...

Cryptosomma ... G. ...

The type of this genus is the ...

TAB. CIV. B.—Fig. 1. ...



## TAB. CXV. A.

### PLATYLOMA. *J. Sm.*

#### PTERIDIS *sp. Auct.* ALLOSORI. *Pr.*

*Sori* transversi, oblongi, lateraliter confluentes, sorum marginalem latum compositum formantes.—Fronde *pinnatæ v. bipinnatæ*. Stipes *plerumque ebeneus, glaber, pilosus v. squamiferus*. Pinnæ *cum rachi articulatæ*. Venæ *furcatæ: venulæ rectæ, sporangiferæ, apicibus liberis*.

*Platyloma Brownii. J. Sm.*—*Adiantum paradoxum. Br.*

I scarcely see how this Genus can be distinguished either in habit or character from the *Allosorus hastatus, Presl*, given as the type of *Allosorus* at our TAB. V. That plant, however, Mr J. Smith unites with *Cassebeera*, which he considers to differ from *Platyloma* by its narrower (compound) sorus.

TAB. CXV. A.—*Fig. 1.* Portion of a frond; *nat. size: f. 2.* Lesser portion: *f. 3.* Sori, in part removed from the receptacles: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—*magnified.*

## TAB. CXV. B.

### CRYPTOGRAMMA. *Br.*

#### PTERIS. *L.* ALLOSORUS. *Bernh.* GYMNOGRAMMITIS *sp. Pr.*

*Sori* lineares (*v. subrotundi*) venulis costæ (pinnulæ) obliquis insidentes. *Capsulæ pedicellatæ, receptaculo communi elevato nullo. Involucrum (indusium) commune (pinnulæ) marginale, continuum, disco venoso, margine scarioso libero, sæpius induplicato; parziale nullum.*—*Filiculæ glabellæ; frondibus cæspitosis bi-tripinnatifidis: centralibus mutato-contractis fertilibus, exterioribus sterilibus; involucris dorsum totum pinnulæ tegentibus; capsulis breve pedicellatis, annulo incompleto; sporulis trigonis, lævibus. Br.*

*Cryptogramma crispa. Br.*—*Pteris crispa. L.*—*Allosorus. Bernh.*

The type of this Genus is the *C. acrostichoides* of Arctic America, as Mr Brown informs us:—but our own *Pteris crispa* undoubtedly possesses the same generic structure. It is true that this is included in the *Allosorus* of Bernhardt; but the *Cheilanthes odora, Sw.* (*Adiantum pusillum, All. et Willd.*) seems to be the plant which Bernhardt had chiefly in view in forming that Genus, and now the name is applied to ferns of a totally different structure.

TAB. CXV. B.—*Fig. 1.* Fertile pinna; *nat. size: f. 2.* Portion of the same, the indusium laid open: *f. 3, 4, 5.* Sporangia: *f. 6.* Sporules.



TAR CXV. A.

PLATYDIMA. A. 20.

Platydimia A. 20. - Almond...

This tar is obtained from the... (faint text)

Platydimia A. 20. - Almond...

This tar is obtained from the... (faint text)

This tar is obtained from the... (faint text)

TAR CXV. B.

CRYPTOGAMA. A.

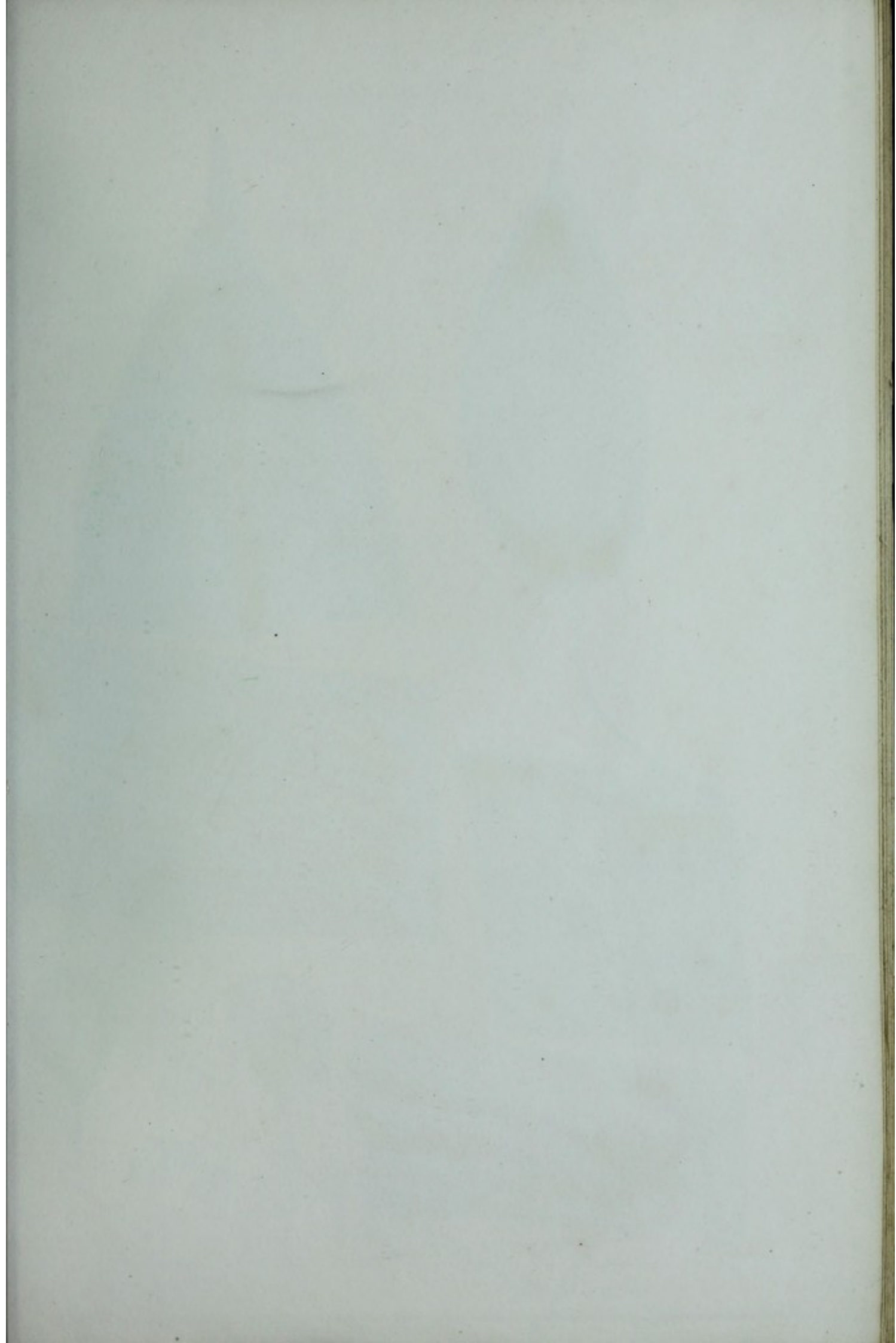
Platydimia A. 20. - Almond...

This tar is obtained from the... (faint text)

Platydimia A. 20. - Almond...

This tar is obtained from the... (faint text)

This tar is obtained from the... (faint text)







TAB. CXVI.

OXYCONIUM, *Fréd.*

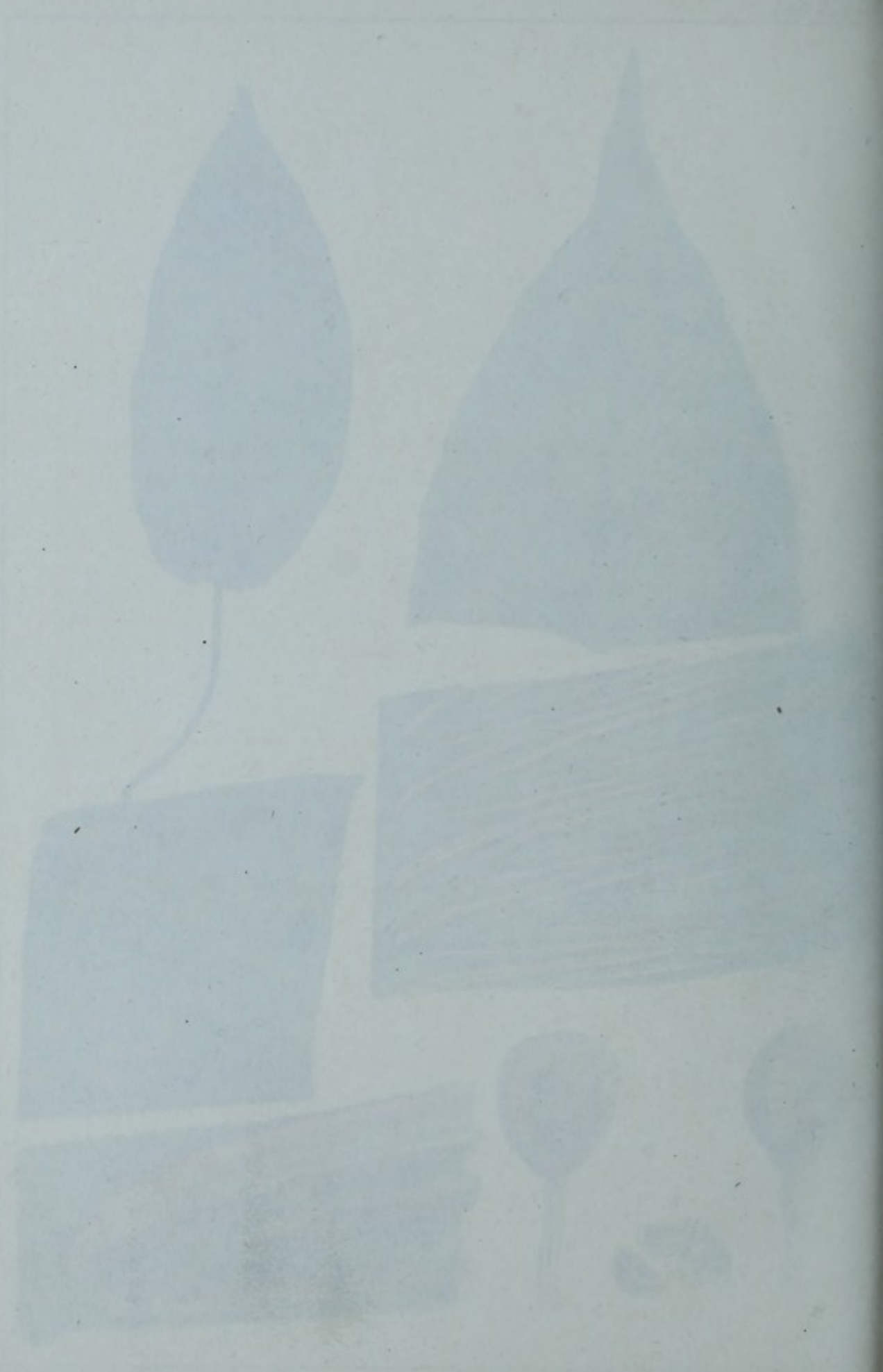
Dissectio. *Fréd.* - *Calcitrans, J. Sm. in Herb. Journ. of Bot.*

Frondibus elongatis, ellipticis, basi decurrentibus, et venis distinctis & parallelis  
primariis, et interjectis secundariis, et venis tertiis venis secundariis  
interjectis, planis, lobatis, non digitatis. - *Herbarium regium, Paris.*  
Frondibus elongatis, basi decurrentibus, et venis distinctis & parallelis  
primariis, et interjectis secundariis, et venis tertiis venis secundariis  
interjectis, planis, lobatis, non digitatis. - *Herbarium regium, Paris.*

Frondibus elongatis, basi decurrentibus, et venis distinctis & parallelis  
primariis, et interjectis secundariis, et venis tertiis venis secundariis  
interjectis, planis, lobatis, non digitatis. - *Herbarium regium, Paris.*

Frondibus elongatis, basi decurrentibus, et venis distinctis & parallelis  
primariis, et interjectis secundariis, et venis tertiis venis secundariis  
interjectis, planis, lobatis, non digitatis. - *Herbarium regium, Paris.*

Tab. CXVI. - Fig. 1. Frondibus elongatis, basi decurrentibus, et venis distinctis & parallelis  
primariis, et interjectis secundariis, et venis tertiis venis secundariis  
interjectis, planis, lobatis, non digitatis. - *Herbarium regium, Paris.*



TAB. CXVI.

OXYGONIUM. *Presl.*

DIPLAZII *sp. Presl.* CALLIPTERIS. *J. Sm. in Hook. Journ. of Bot.*

*Sori* lineares, elongati, bilaterales, seu duplices, aut venulæ superiori e furcatura primaria aut inferiori e furcatura secundaria, aut omnibus venis venulisque inserti. *Indusium* lineare, planum, bilaterale, seu duplex.—*Rhizoma repens.* Frondes *sparsæ, coriaceæ, longe stipitatæ, simplices, ovatæ (vel pinnatæ, J. Sm.), acuminatæ, aut ovato-lanceolatæ, acutæ, integerrimæ. Venæ pinnatæ, crebræ, supra prominulæ, uni-bifurcatæ rarius simplices venulisque parallelæ, versus marginem frondis arcu acutangulo uno-duobus apice venulifero anastomosantes, venulis ex apice angulorum emergentibus liberis acutis. Pr.*

*Oxygonium ovatum. Pr.—Asplenium. Wall.*

A Genus established by Presl, and which he says differs from *Anisogonium* (its near ally) in the veins and veinlets being parallel and forked; near the margin of the frond uniting in a double or single acute arch, again bearing a veinlet at their apex; and in the sori being (not always) bilateral or double. I find the veins of the sterile to anastomose much more than the fertile fronds in the species here figured.

TAB. CXVI.—*Fig. 1.* Sterile frond; *nat. size: f. 2.* Portion of the same to show the venation: *f. 3.* Portion of a fertile frond: *f. 4.* Lesser portion of the same: *f. 5.* Portions of sori: *f. 6, 7.* Sporangia: *f. 8.* Sporules;—*magnified.*



TAB. CLVI.

OSTEONUM PLAC.

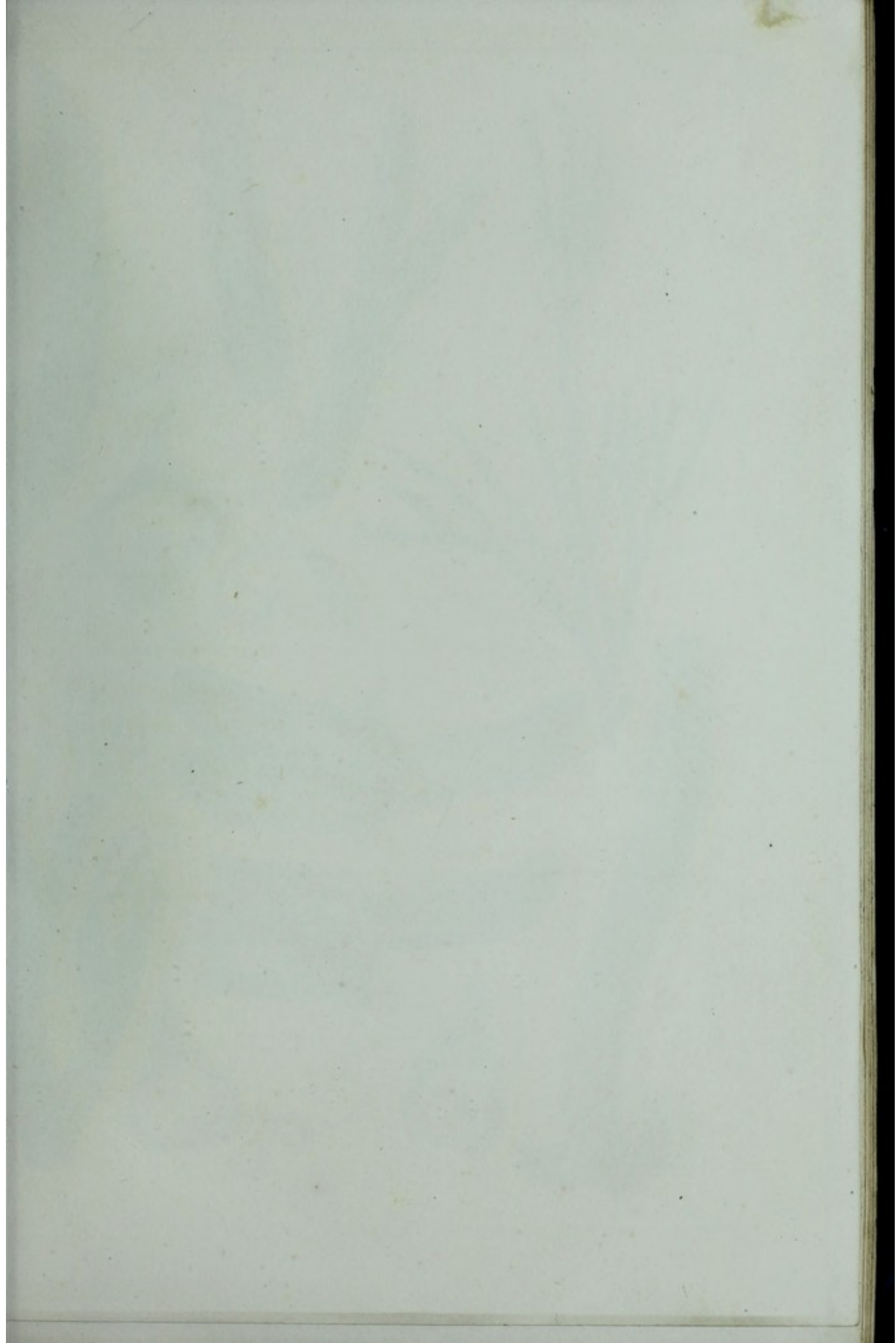
—Ductus in 7. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

The figures represent the various parts of the bone, showing the structure of the cancellous and compact tissue, and the arrangement of the vessels and nerves. The figures are arranged in a regular order, and each is accompanied by a descriptive label. The labels are in Latin, and refer to the different parts of the bone, such as the shaft, the ends, and the various processes. The figures are arranged in a regular order, and each is accompanied by a descriptive label. The labels are in Latin, and refer to the different parts of the bone, such as the shaft, the ends, and the various processes.

Osteonum Plac. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

A bone is a hard, white, fibrous substance, which is composed of a variety of parts. The shaft of the bone is the longest part, and is composed of a central canal, surrounded by a layer of compact tissue, and an outer layer of cancellous tissue. The ends of the bone are composed of a variety of parts, and are connected to other bones by ligaments and cartilages. The bone is a very important part of the body, and is essential for the support and movement of the body.

The bone is a very important part of the body, and is essential for the support and movement of the body. It is composed of a variety of parts, and is connected to other bones by ligaments and cartilages. The bone is a very important part of the body, and is essential for the support and movement of the body.



A



B





TAB. CXVII. A, B.

LYCOPODIUM, Linn.

The character of the Orders has been given at Tab. LXXXVIII.

Dr Gaertn. and myself have attempted, in the Botanical Miscellany, vol. 2, p. 263, to divide this very extensive Genus into natural groups, as follows:

I. *EXTRIFLATA*. (Polypodiata. Mart.)

A. *Saxifraga*. (Cypripis. Gaertn.) (This is illustrated at our Tab. LXXXVIII.)

B. *Splachnata*. (Sporangia. Gaertn.) in which belong the well-known *L. complanatum*, and *L. clavatum*, and *L. Phlegmaria*.

II. *STRICATA*. (Oligosticha. Mart.)

A. *Complanata*. (Tristicha. Mart.) caulis compressus cum foliis distichis alternatis; stipulis rudimentis. This group is illustrated at our present plate, Tab. CXVII. A, in the instance of *L. complanatum*, L.

B. *Stachygyneandrica*. (Tetrasticha. Mart.) foliis distichis, stipulis Martiiis, semper superioribus (quasi)que inferioribus; of which *L. stricoides*, Wall. Tab. Miscell. CXVII. B, is an example.

Tab. CXVII. A.—Fig. 1. Portion of *L. complanatum*, L.; see note; f. 2. Branch with leaves and stipules; f. 3. Spore; f. 4. Part of male of the capsule; f. 5. Sporangium completed.

Tab. CXVII. B.—Fig. 1. Portion of *L. stricoides*, Wall.; see note; f. 2. Branch; and f. 3. Side of a portion of the stem with leaves and stipules; f. 4. Spore; f. 5. Sporangium and male side of capsule; granules operculis; f. 6. Sporangium and male side, with large granules, of operculum completed.



TAB. CXVII. A. B.

LYCOPODIUM. *Linn.*

The character of the Genus has been given at TAB. LXXXVIII.

Dr Greville and myself have attempted, in the Botanical Miscellany, vol. 2. p. 363, to divide this very extensive Genus into natural groups, as follows :

I. EXSTIPULATA. (*Polysticha. Mart.*)

A. Selagines. *Capsulis axillaribus.* (This is illustrated at our TAB. LXXXVIII.)

B. Spicata. *Sporangiis spicatis:* to which belong the well-known *L. cernuum*, and *L. clavatum*, and *L. Phlegmaria.*

II. STIPULATA. (*Oligosticha. Mart.*)

A. Complanata. (*Tristicha. Mart.*) *ramis compressis cum foliis distichis decurrentibus coadunatis; stipulis uniseriatis.* This group is illustrated at our present plate, TAB. CXVII. A, in the instance of *L. complanatum. L.*

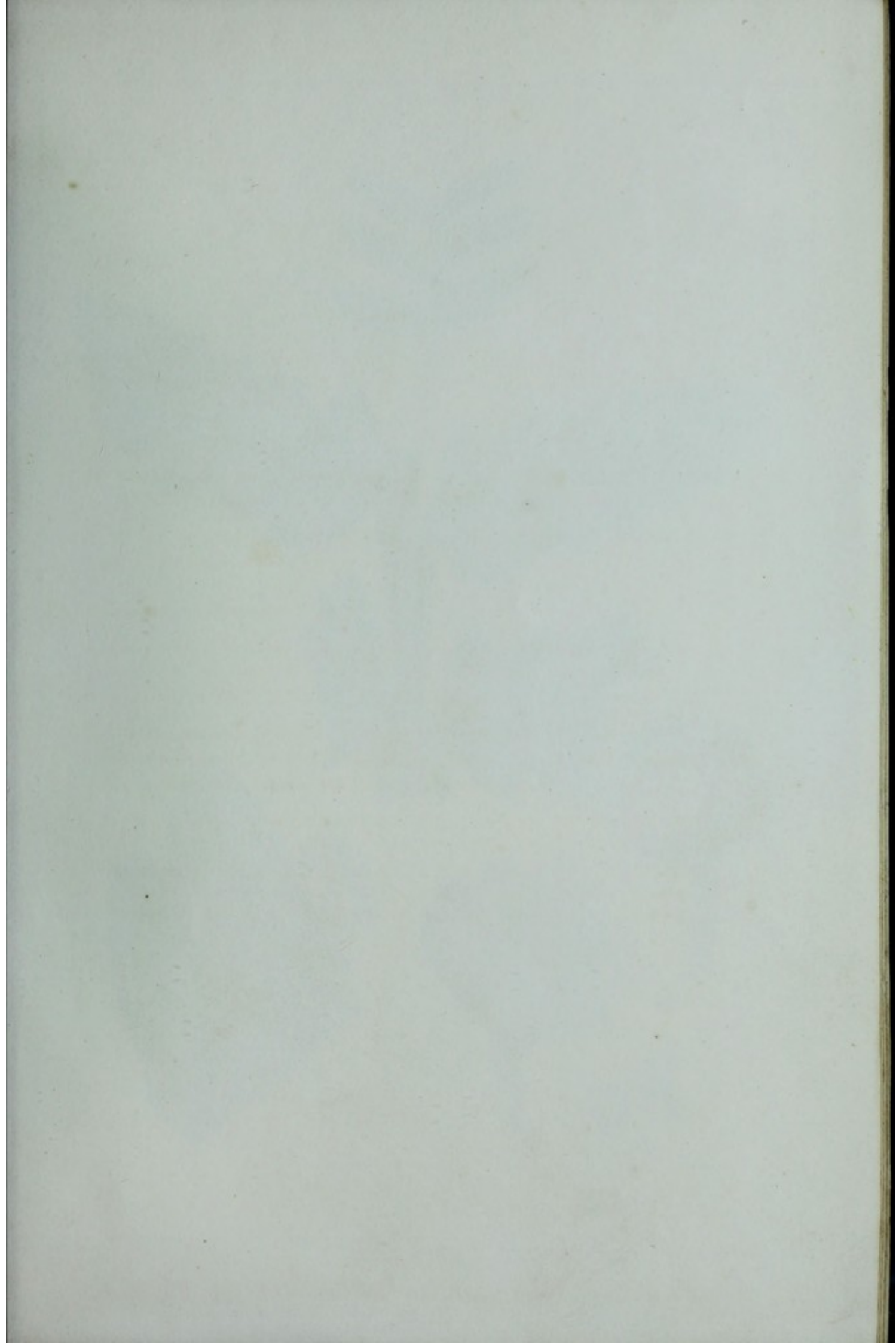
B. Stachygynandrum. *Beauv. (Tetrasticha. Mart.) foliis distichis, stipulis biseriatis, semper superioribus (sporangiiis biformibus);* of which *L. atroviride*, Wall. TAB. NOSTR. CXVII. B, is an example.

TAB. CXVII. A.—*Fig. 1.* Portion of *L. complanatum, L.*; *nat. size:* *f. 2, 3.* Branches with leaves and stipules: *f. 4.* Spike: *f. 5.* Fertile scale of the spike: *f. 6.* Sporangium;—*magnified.*

TAB. CXVII. B.—*Fig. 1.* Portion of *L. atroviride, Wall.*; *nat. size:* *f. 2.* Upper: and *f. 3.* under side of a portion of the stem with leaves and stipules: *f. 4.* Spike: *f. 5.* Sporangium and scale, with minute granular sporules: *f. 6.* Sporangium and scale, with large grains or sporules;—*magnified.*















TAB. CXVIII.

EUPODIUM. *J. Sm.*\*

*Indusium stipitatum*.—Cæterum ut in *Marattia* (TAB. NOSTR. XXVI.)

*Eupodium Kaulfussii*. *J. Sm. in Hook. Gen. Fil. sub tab. 26.*—*Marattia alata*.  
*Kaulf. En. Fil. p. 32. (Obs. sub M. lævi.) Raddi, Fil. Bras. p. 74. t. 83, 84.*  
(*non Sm.*)

*Kaulfuss* seems to have been the first to notice that a *Marattia* of Brasil, the *M. alata* of *Raddi*, not of *Smith*, had stipitate indusia. Mr *J. Smith* has hence constituted of it the Genus *Eupodium*; on the same principle that *Sphæropteris* is kept distinct from *Diacalpe*.

TAB. CXVIII.—*Fig. 1.* Small portion of *Eupodium Kaulfussii*, upper side; *nat. size*: *f. 2.* Lesser portion of the same, with fructification, seen from beneath: *f. 3.* Two sori: *f. 4, 5.* Sori removed from the frond: *f. 6.* Sporules;—*magnified.*

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\* In *Hook. Journ. of Bot. v. 4. p. 190. Obs.*



TAB. CVIII

PLATE III

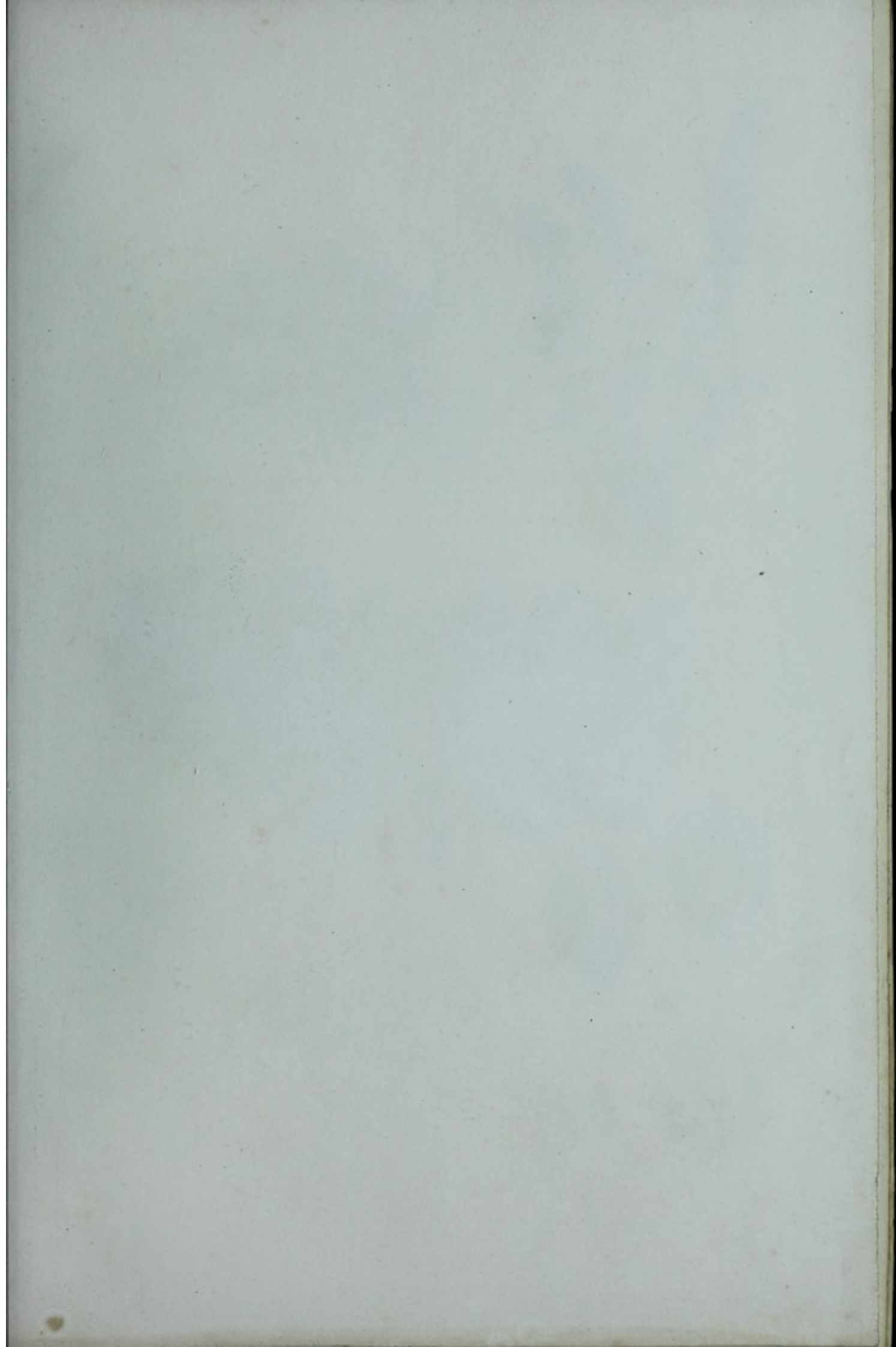
Section of the ... (Tab. No. 100)

Section of the ... (Tab. No. 101)

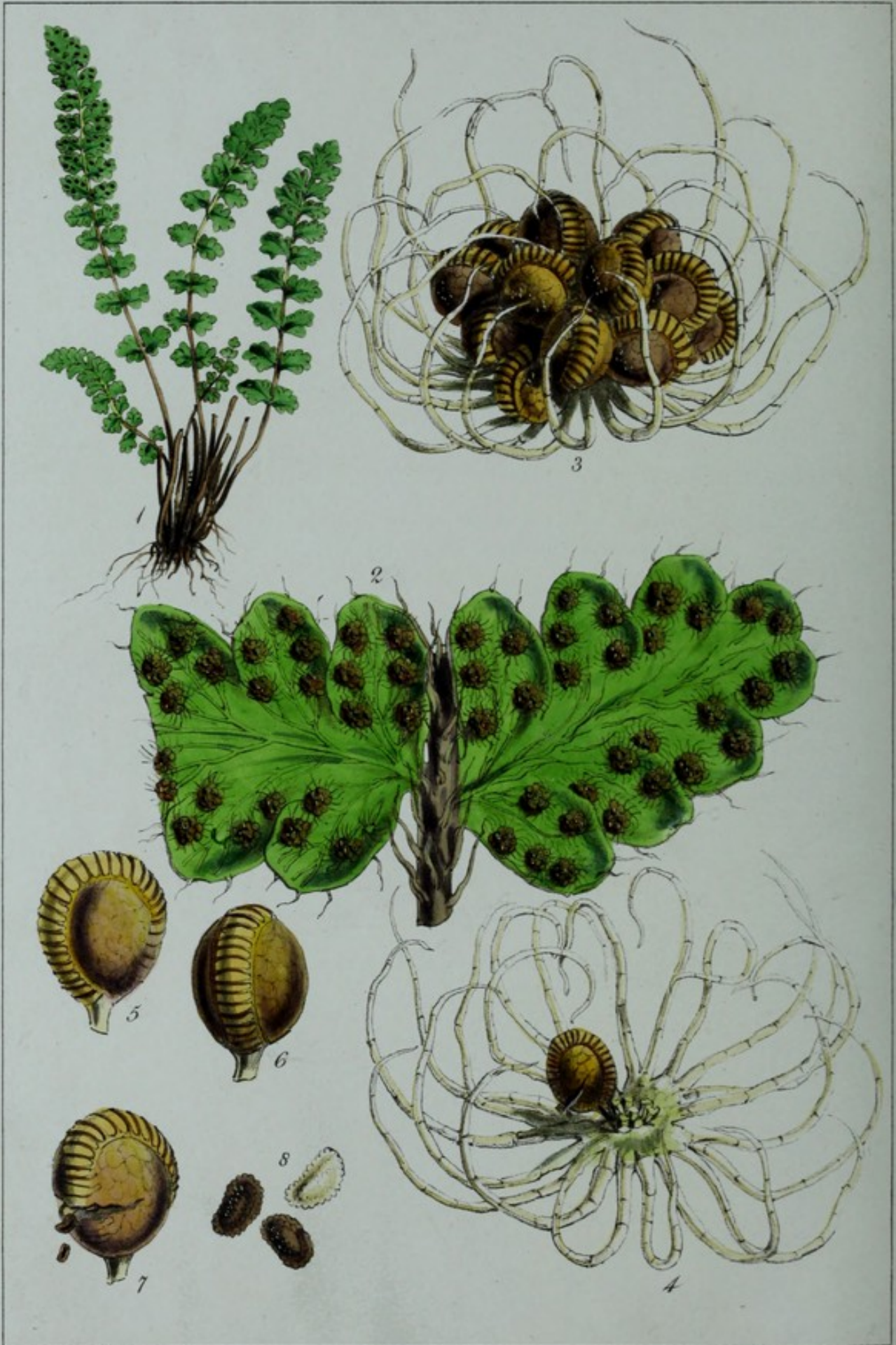
Section of the ... (Tab. No. 102)

Section of the ... (Tab. No. 103)

Section of the ... (Tab. No. 104)









THE XIX

CHAPTER

and ... ..

The ... ..

The ... ..



TAB. CXIX.

WOODSIA. Br.

*Sori* dorsales, subrotundi, medio venularum inserti. *Indusium* calyciforme, apertum, margine crinitum, includens *sporangia* pedicellata; receptaculo communi elevato nullo.—*Filiculæ*, frondibus *cæspitosis*, *tenerrimis*, *pinnatim divisis*, *pilis simplicibus squamulisque angustis instructæ*. *Venæ pinnatæ*, *venulis furcatis apice liberis clavatis*. Br.

*Woodsia hyperborea*. Br.—Polypodium. Sw. Presl.

The hairs of the inferior indusium are readily enough seen both in *W. hyperborea*, and *W. Ilvensis*, the original species of this Genus; but the membrane or indusium itself can only be discovered by very careful dissection. We have ourselves, in the *Icones Filicum*, considered the *Woodsia Perrinniana*, which has no villous margin to the indusium, to belong to the present Genus; and Mr J. Smith has united with it both *Hymenocystis*, C. A. Meyer, (TAB. NOSTR. III.) and *Physematium*, Kaulf., admirably figured in Kunze, Anal. Pterid. t. 27.; all of which agree sufficiently in habit and venation, though there are some discrepancies in the indusium. *Hypoderris*, Br. (TAB. NOSTR. I.) with a similar indusium to that of *Woodsia*, differs totally in habit and venation.

TAB. CXIX.—Fig. 1. *Woodsia hyperborea*; nat. size: f. 2. Pinnæ: f. 3. Sorus: f. 4. Indusium: f. 5, 6, 7. Sporangia: f. 8. Sporules;—magnified.



TAB. CLIX.

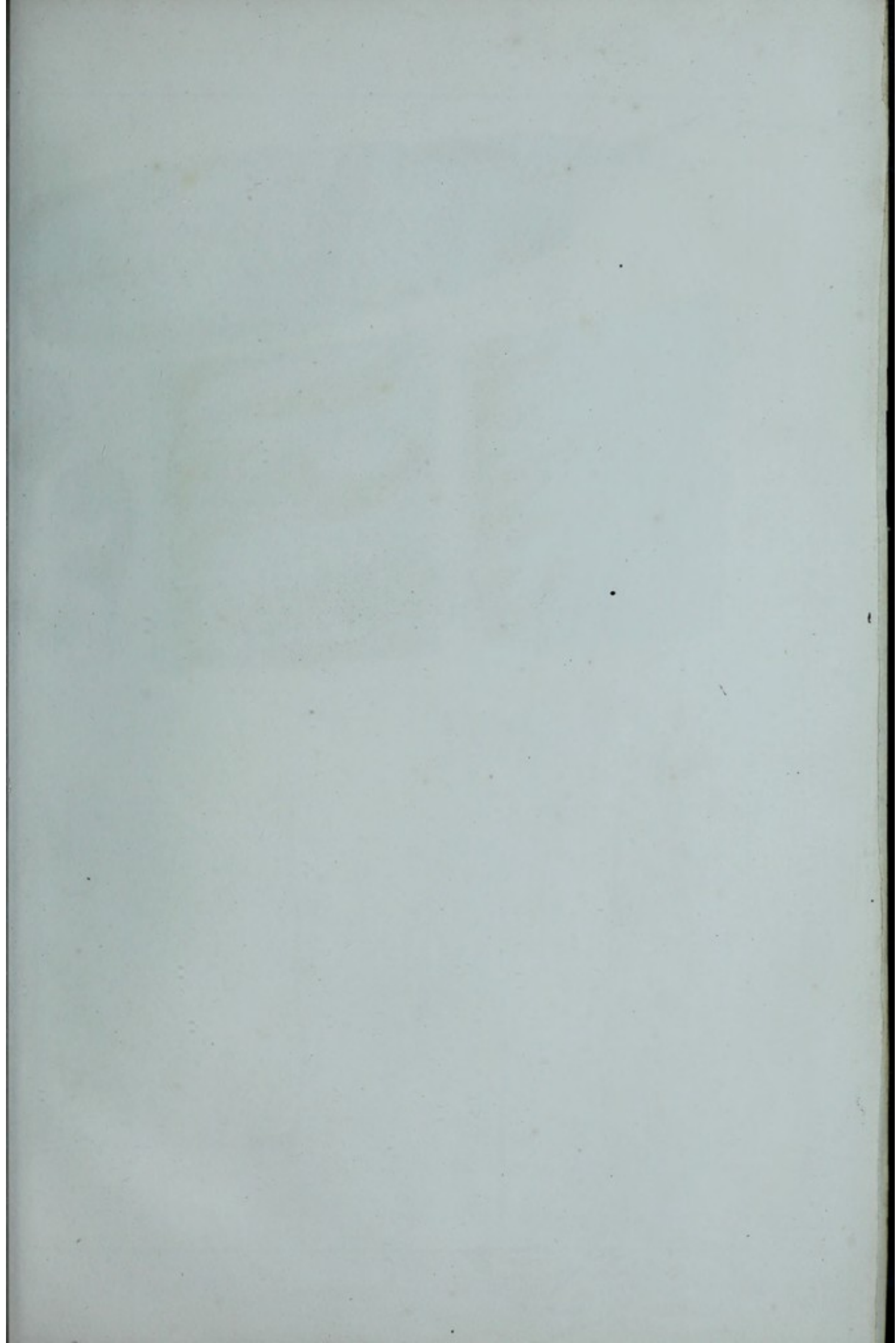
WOODSIA.

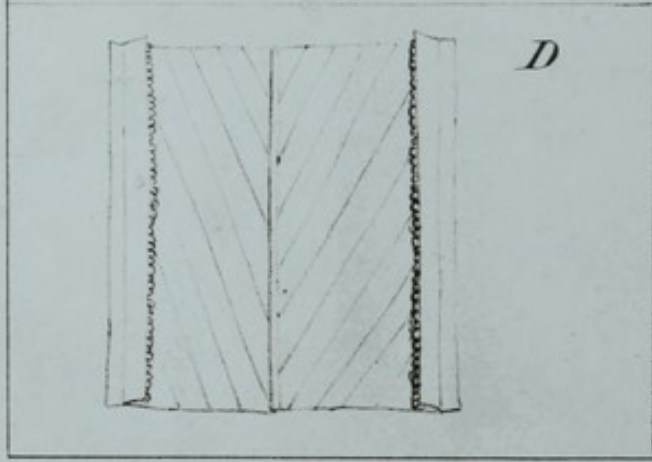
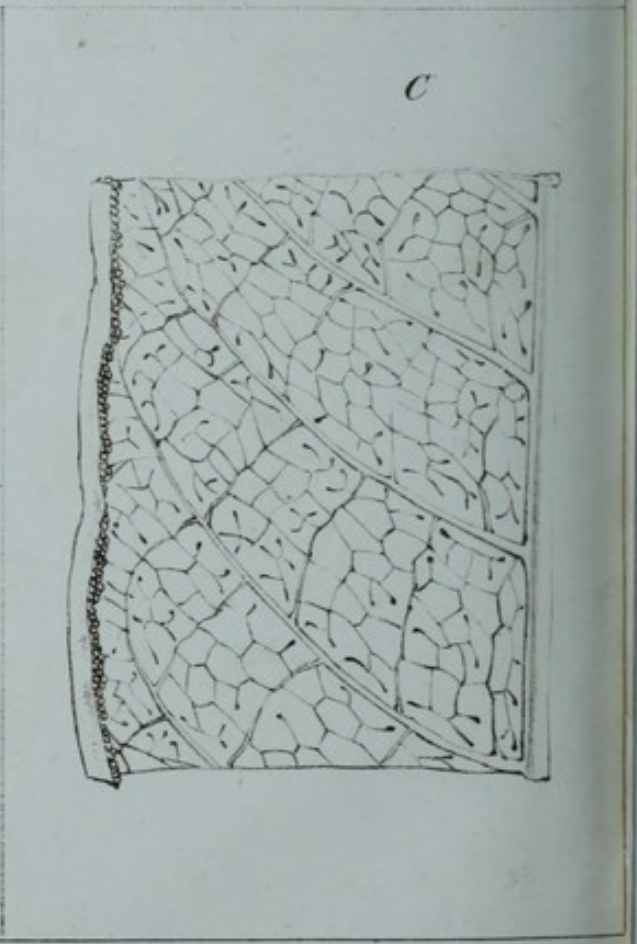
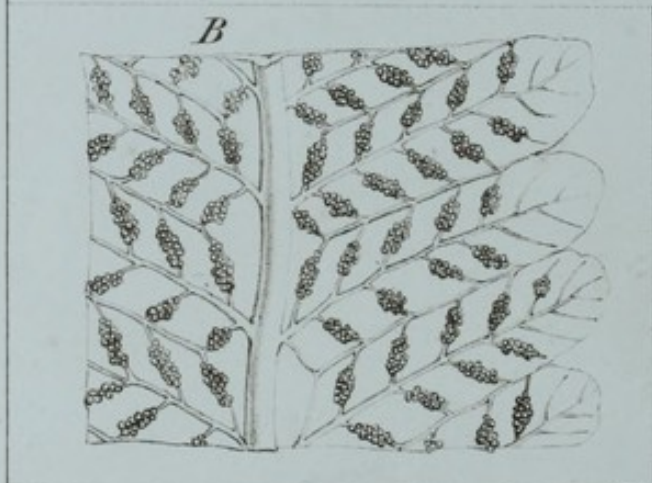
Woodia ...

Woodia ...

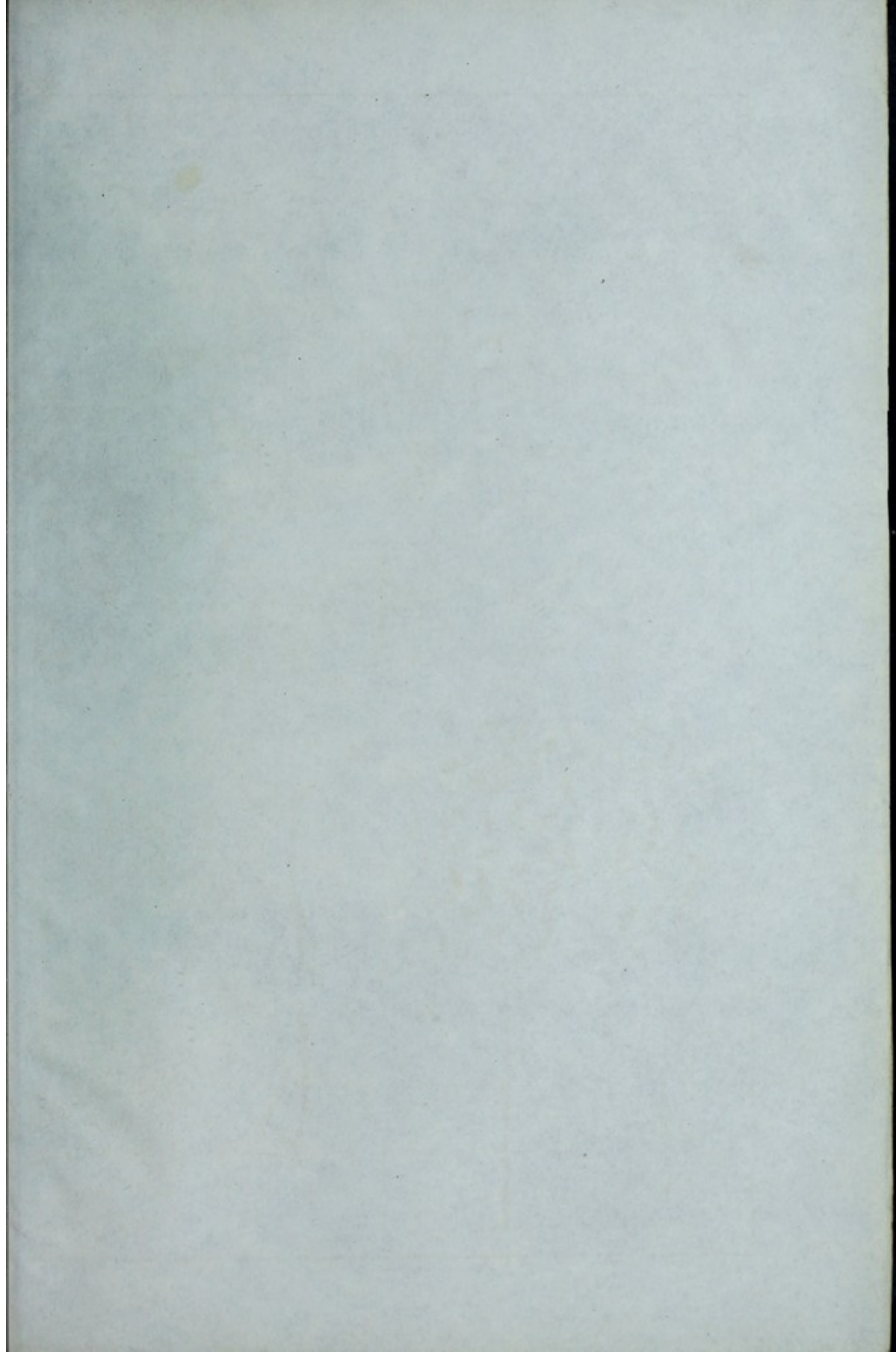
The habit of the ...

Tab. CLIX—Fig. 1. Woodia ...













## SUPPLEMENT.

### TAB. CXX. A.

#### ALLANTODIA. *Br.*

*Sori* in venas primarias basin versus lateraliter inserti, oblongo-cylindrici. *Indusium* tenuissimum, membranaceum (demum nigricans), sorum arcte involvens, infraque cum venulæ utrinque insertum, margine insertionis superiori v. interiori dehiscens, deinde reflexum.—*Fronde* *pinnatæ*; *pinnæ alternæ, oblongæ, integerrimæ*. *Venæ patentæ, reticulatæ, versus marginem præcipue maculas oblongas subhexagonas formantes*. *Br.*

*Allantodia Brunoniana*. *Wall. Pl. As. Rar. t. 52.*—*Hemidictyum Brunonis*. *Presl.*

I quite agree with Mr J. Smith in restricting the Genus *Allantodia* to the present plant, already published by Dr Wallich, as a native of the East Indies, but previously known to Mr Brown from specimens collected in Otaheite, and whose lines of fructifications, as Dr Wallich well observes, "before the bursting of the indusium, are perfectly cylindrical, and look like a number of microscopical sausages, the singular appearance of which is so happily indicated in the name of the Genus."—Its place is near *Athyrium*.

TAB. CXX. A.—*Fig. 1.* Pinna; *nat. size*: *f. 2.* Portion of do.: *f. 3.* *Sori* in different states: *f. 4, 5.* Sporangia: *f. 6.* Sporules;—*magnified*.

### TAB. CXX. B.

#### STEGNOGRAMME. *Bl.*

##### GYMNOGRAMMITIS *sp. Bl.*

*Sori* dorso venarum insidentes, lineares, parvi.—*Fronde* *sparsæ, herbacæ, pinnatæ*.

*Venæ pinnatæ, prominulæ, simplices, inferiores oppositæ in arcum antice acutangulum anastomosantes, supremæ apice libero acuto desinentes*. *Venula ex angulo arcus cujuslibet emergens, inferiores in sinum arcus superioris, suprema in sinum laciniarum frondis excurrentes*. *Presl.*

*Stegnogramme aspidioides*. *Bl.*—*Gymnogramme stegnogramme*. *Bl. Fil. Jav.*

TAB. CXX. B.—Portion of a pinna;—*magnified*. (*from Presl.*)

### TAB. CXX. C.

#### AMPHIBLESTRA. *Presl.*

*Sori* marginales, lineares, continui interruptique. *Indusium marginarium, lineare, angustum, scariosum*.—*Fronde* *herbacæ tripartitæ, partitionibus pinnatifidis, aut una basi pinnatis, laciniis pinnisque oblongo-lanceolatis acuminatis repandodontatis*. *Venæ pinnatæ, distantes, costæformes, ramosissimæ*. *Venulæ in maculas hexagonoideas inæquales anastomosantes, maculas minores ramuliferas continentes*. *Ramuli (venulæ secundariæ) simplices ramosique, recti aut incurvi, apice capitellato libero desinentes*. *Presl.*

*Amphiblestra latifolia*. *Pr.*—*Pteris*. *H.B.K.*

TAB. CXX. C.—Portion of pinna;—*magnified*. (*from Presl.*)

### TAB. CXX. D.

#### HAPLOPTERIS. *Bory.*

*Sorus* linearis, submarginalis, continuus, crassus. *Indusium* inframarginale, scariosum, latum.—*Fronde* *fasciculatæ, coriacæ, simplices, venis lineatæ*. *Venæ pinnatæ, distantes, internæ, simplices*. *Pr.*

*Haplopteris scolopendrina*. *Pr.*—*Pteris*. *Bory.*

This plant is included by Mr J. Smith in his *Tæniopsis*, along with *Vittaria linearis*, &c. which have no indusium.

TAB. CXX. D.—Portion of a frond;—*magnified*. (*from Presl.*)



APPENDIX

TAB. CXX. A.

ALLANTOIA. 20.

... in ... (demonstrating) ...

... in ... (demonstrating) ...

... in ... (demonstrating) ...

TAB. CXX. B.

STROPHOMYIA. 21.

STROPHOMYIA. 21.

... in ... (demonstrating) ...

... in ... (demonstrating) ...

TAB. CXX. C.

AMPHIBIESTA. 22.

... in ... (demonstrating) ...

... in ... (demonstrating) ...

TAB. CXX. D.

HAPTOPTERIS. 23.

... in ... (demonstrating) ...

... in ... (demonstrating) ...

# SYNOPSIS OF THE GENERA OF FERNS

## ENUMERATED IN THIS WORK.

The following is Presl's arrangement of Ferns, the most full and complete that has yet been published, and by which those Subscribers, who wish to do so, can arrange the Plates and Descriptions of the present Work.

### ORD. I. FILICES, *Presl*,

(who however excludes the Hymenophylloid Tribe, which are here introduced.)

#### SUBORD. I. HELICOGYRATÆ, *Bernh.*

##### TRIBE I. GLEICHENIACEÆ, *Kunze*

- 1.\* *Gleichenia*, *Sm.* TAB. XLI. A.
2. Do. (*Calymella*, *Pr.*) TAB. XLI. B.
3. *Platyzoma*, *Br.* TAB. XLI. C.
4. *Mertensia*, *Willd.* TAB. XXXIX.
5. *Sticherus*, *Pr.*

(A Genus unknown to me, as it is to Presl, founded however by that author on the *Mertensia laevigata*, Willd., and *Gleichenia lanigera*, Don; and said to differ from *Mertensia* by the sori being arranged in a double series.)

##### TRIBE II. CYATHEACEÆ, *Br.*

6. *Cyathea*, *Sm.* TAB. XXIII.
- Schizocæna*, *J. Sm.* TAB. II.
7. *Disphenia*, *Pr.*

(This appears to be the true *Cyathea arborea*, with the receptacle of the sporangia split in age, or from some other cause.)

8. *Cnemidaria*, *Pr.* TAB. IV.
9. *Hemitelia*, *Pr. Br.* (in part). TAB. XLII. A.

\* The Nos. before the Genera correspond with the Nos. in Presl's "Tentamen Pteridographiæ."

10. *Trochopteris*, *Pr.* TAB. XXXIV.

11. *Metaxya*, *Pr.* TAB. XLII. B.

12. *Alsophila*, *Br.* TABS. IX, XXI.
- Gymnosphæra*, *Bl.* TAB. C.

13. *Matonia*, *Br.*

(This assuredly does not harmonize with this tribe. It belongs rather to *Aspidiariæ*; which see.)

#### SUBORD. II. CATHETOGYRATÆ, *Bernh.*

##### COHORS I. HYMENOPHOREÆ, *Pr.*

##### TRIBE I. PERANEMACEÆ, *Pr.*

14. *Peranema*, *Don*, TAB. XXII.
- Diacalpe*, *Bl.* TAB. XCIX.
15. *Physematium*, *Kaulf.*

(This is considered to be illustrated by *Woodsia*, *Br.* TAB. CXIX, and by *Hymenocystis*, *Mey.* TAB. III.)

##### *Hypoderris*, *Br. J. Sm.* TAB. I.

16. *Thyrsopteris*, *Kze.* TAB. XLIV. A.
17. *Cibotium*, *Kaulf.*

(This will be found, together with *Thyrsopteris* and *Deparia*, *Hook. et Grev.*, in *Dicksoniaceæ*.)

##### TRIBE II. ASPIDIACEÆ, *Pr.*

##### SECT. I. NEPHRODIARÆ, *Pr.*

18. *Lastrea*, *Pr.* TAB. XLV. A.
19. *Oleandra*, *Cav.* TAB. XLV. B.
20. *Nephrolepis*, *Schott*, TABS. XXV, XLVIII. A.
21. *Nephrodium*, *Schott*, TAB. XLVIII. B.



SYNOPSIS.

SECT. II. ASPIDIARIE, Pr.

22. *Polystichum*, Schott, TAB. XLVIII. C.  
 23. *Phanerophlebia*, Pr. TAB. XLIX. A.  
 (Mr J. Smith brings *Amblya*, n. 78, here.)  
 24. *Cyclodium*, Pr. TAB. XLIX. B.  
 25. *Cyrtomium*, Pr. TAB. XLIX. C.  
 26. *Sagenia*, Pr. TAB. LIII. A.  
*Fadyena*, Hook. TAB. LIII. B.  
*Mesochlæna*,\* Br. TAB. XXIV.  
 27. *Aspidium*, Schott. TAB. XXXIII.  
 (77. Pr.) *Pleocnemia*, Pr. TABS. LXX, XCVII.  
 (The presence of an indusium proves that this should be removed from *Polypodiaceæ*, and placed here.)  
 (13. Pr.) *Matonia*, Br. TAB. XLIII.  
 (*Prionopteris*, Wall. Cat. n. 184.)  
 28. *Didymochlæna*, Desv. TAB. VIII.

TRIBE III. ASPLENIACEÆ, Pr.

SECT. I. CYSTOPTERIDÆ, Pr.

29. *Cystopteris*, Bernh. TAB. LII. B.  
 30. *Acrophorus*, Pr.  
 (This seems to be the same with *Cystopteris*, only with the sorus situated at the apex of a veinlet.)  
 31. *Leucostegia*, Pr. TAB. LII. A.  
 (Mr J. Smith unites several species of *Davallia*, Pr., with this, and places in *Davalliaceæ*.)  
 32. *Ragiopteris*, Pr.  
 (Is the same with *Onoclea*.)  
 33. *Onoclea*, Linn. TAB. LXXII.

SECT. II. BLECHNACEÆ, Pr.

34. *Athyrium*, Roth, TAB. XVI.  
 35. (36. Pr.) *Woodwardia*, Sm. TAB. XVII.  
 36. (35. Pr.) *Doodia*, Br. TAB. LIV. A.  
 37. *Blechnum*, Linn. TAB. LIV. B.  
 (*Sadleria*, Kaulf.)  
*Salpichlæna*, J. Sm. TAB. XCIII.

SECT. III. ASPLENIARIE, Pr.

38. *Asplenium*, Linn. TABS. VI, XXX.  
 39. *Plenasium*, Pr.  
 (This is *Asplenium*, according to Link; but, according to Mr J. Smith, the two species of this Genus are, both, the barren fronds of *Osmunda Javanica*.)

- Allantodia*, Br. SUPPL. TAB. CXX. A.  
*Ceterach*, Willd. TAB. CXIII. A.  
*Neottopteris*, J. Sm. TAB. CXIII. B.  
 40. *Hemidictyum*, Pr. TAB. LV. A.  
 (Excluding *Allantodia*, Br.)

SECT. IV. DIPLAZIÆ, Pr.

41. *Diplazium*, Sw. TAB. LV. B.  
 42. *Anisogonium*, Pr. TAB. LVI. A. B.  
 43. *Digrammaria*, Pr. TAB. LVI. C.

44. *Oxygonium*, Pr. TAB. CXVI.

(Mr J. Smith unites this and the preceding Genus under *Callipteris*, Bory.)

SECT. V. SCOLOPENDRIÆ, Pr.

45. *Scolopendrium*, Sm. TAB. LVII. B.  
 46. *Antigramma*, Pr. TAB. LVII. A.  
 47. *Camptosorus*, Link, TAB. LVII. C.

TRIBE IV. DAVALLIACEÆ, Gaud.

SECT. I. DAVALLIÆ, Pr.

48. *Microlepia*, Pr. TAB. LVIII. A.  
 49. *Saccoloma*, Kaulf. TAB. LVIII. B.  
 50. *Davallia*, Sm. TAB. XXVII.  
*Humata*, Cav. TAB. CXIV.  
*Loxsona*, All. Cunn. TAB. XV.  
 51. *Stenolobus*, Pr.  
 (Is *Davallia*.)

HYMENOPHYLLÆ, Endl.

- Hymenophyllum*, Sm. TAB. XXXII.  
*Trichomanes*, Linn. TABS. XXXI, CVIII.

SECT. II. LINDSEACEÆ, Pr.

- Isoloma*, J. Sm. TAB. CII.  
 52. *Lindsæa*, Dryand. TAB. LXIII. A.  
 53. *Schizoloma*, Gaudich. TAB. LXIII. B.  
*Synaphlebium*, J. Sm. TAB. CI.  
*Dictyoxiphium*, Hook. TAB. LXII.

TRIBE V. DICKSONIACEÆ, Pr.

54. *Balanium*, Kaulf. TAB. XX.  
*Cystodium*, J. Sm. TAB. XCVI.  
 55. *Culcita*, Pr. TAB. LX. A.  
 56. (57. Pr.) *Leptopleuria*, Pr. LX. B.  
 57. (56. Pr.) *Dicksonia*, Pr. TAB. LXI. A.  
 58. *Patania*, Pr. TAB. LXI. B.  
 (*Sitolobium*, Desv., J. Sm.)  
 (17. Pr.) *Cibotium*, Kaulf. TAB. XXV.  
 (16. Pr.) *Thyrsopteris*, Kze. TAB. XLIV. A.  
 (The two preceding Genera are arranged in *Peranemaceæ* by Presl.)

*Deparia*, Hook. TAB. XLIV. B.

TRIBE VI. ADIANTIACEÆ, Pr.

SECT. I. ADIANTARIE, Pr.

59. *Haplopteris*, Pr. SUPPL. TAB. CXX. D.  
 (*Tæniopsis*, J. Sm., in part.)  
 60. (61. Pr.) *Pteris*, L. TAB. LXIV. A.  
 61. (60. Pr.) *Lomaria*, Willd. TAB. LXIV. B.  
 62. *Monogonia*, Pr.  
 ("Expurganda," Link.—it is *Pteris arguta*, Poir.)  
 63. *Campteria*, Pr. TAB. LXV. A.  
 64. *Litobrochia*, Pr. TAB. LXV. B.  
 (Including *Dryopteris*, J. Sm.)  
 65. *Amphiblestra*, Pr. SUPPL. TAB. CXX. C.

\* Sub nom. *Sphaerostephani*, J. Sm.



SYNOPSIS.

66. *Allosorus*, *Bernh.* TAB. V.  
*Platyloma*, *J. Sm.* TAB. CXV. A.  
*Cryptogramma*, *Br.* TAB. CXV. B.  
*Ceratodactylis*, *J. Sm.* TAB. XXXVI.  
*Onychium*, *Kauf.* TAB. XI.  
*Jamesonia*, *Hook. et Grev.* TAB. XIII.  
67. *Cassebeera*, *Kauf.* TAB. LXVI. A.  
68. *Adiantum*, *Linn.* TAB. LXVI. B.  
*Hewardia*, *J. Sm.* TAB. LXXXIX.  
*Ochropteris*, *J. Sm.* TAB. CVI. A.  
69. *Cheilanthes*, *Sw.* TAB. CVI. B.

SECT. II. LONCHITIDÆ, *Pr.*

70. *Hypolepis*, *Bernh.* TAB. LXVII. A. B.  
 (Sub nom. *Cheilanthes*.)  
 71. *Lonchitis*, *L.* TAB. LXVIII. A.

COHORS II. GYMNOSOREÆ, *Pr.*

TRIBE VII. VITTARIACEÆ, *Pr.*

72. *Vittaria*, *Sm.* TAB. LXVIII. B.  
 73. *Prosaptia*, *Pr.*  
 (Is *Polypodium*, according to *J. Sm.*)

TRIBE VIII. POLYPODIACEÆ, *Pr.*

SECT. I. STRUTHIOPTERIDÆ, *Pr.*

74. *Struthiopteris*, *Willd.* TAB. LXIX. A.

SECT. II. POLYPODIÆ, *Pr.*

75. *Polypodium*, *Pr.* TAB. LXIX. B.  
 76. *Goniopteris*, *Pr.* TAB. XXXVIII.  
 77. *Pleocnemia*,\* *Pr.* TAB. LXX. A.  
 (107.) *Stenosemia*,† *Pr.* TAB. XCIV.  
 78. *Ambliia*, *Pr.*  
 (*J. Smith* refers this to *Phanerophlebia*, n. 23.)  
 79. *Goniophlebium*, *Pr.* TAB. LXX. B.  
 80. *Marginaria*, *Bory*, TABS. XIV, LI.  
 81. *Campyloneurum*, *Pr.* TAB. LXXI. A.  
 (*Cyrtophlebium*, *Br. J. Sm.*)  
 82. (83. *Pr.*) *Dictyopteris*, *Br.* TAB. LXXI. B.  
 83. (82. *Pr.*) *Pleopeltis*, *H.B.K.* TAB. XVIII.  
*Phlebodium*, *Br. J. Sm.* TAB. CXII.  
 84. *Phymatodes*, *Pr.* TAB. XXIX.  
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 85. *Aglaomorpha*, *Schott*, TAB. XCI.  
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*Dryostachyum*, *J. Sm.* TAB. XCV.  
 86. *Niphobolus*, *Kauf.* TAB. LXXXIII.

SECT. III. LECANOPTERIDÆ, *Pr.*

87. *Lecanopteris*, *Bl.* TAB. CX. B.

\* Incorrectly represented without indusium. See in *Aspidiaceæ*, after n. 27.

† This Genus has the sori scattered, sometimes oblong, sometimes round. It must therefore be removed from *Acrosticheæ*, where *Presl* has placed it, and rank with *Polypodiæ* or *Grammitidæ*.

88. *Calymmodon*, *Pr.*  
 (Is *Grammitis*.)

TRIBE IX. GRAMMITACEÆ, *Pr.*

- (93. *Pr.*) *Synammia*, *Pr.* TAB. CX. A.  
 89. *Monogramma*, *Schk.* TAB. LXXXIV.  
 90. *Grammitis*, *Pr.* TAB. LXXXII.\* B.  
 91. *Stegnogramme*, *Bl. SUPPL.* TAB. CXX. B.  
 92. *Meniscium*, *Schreb.* TAB. XL.  
 93. *Synammia*, *Pr.*  
 (See above.)  
 94. *Microgramma*, *Pr.* TAB. LXXXIII. A.  
 95. *Loxogramme*, *Pr.* TAB. LXXXIII. B.  
*Polytaenium*, *Desv.* TAB. CVII.  
*Antrophyum*, *Kauf.* TAB. CIX. A.  
*Diblemma*, *J. Sm.* TAB. CIX. B.  
 96. *Selliguea*, *Bory*, TAB. LXXXIV. A.

SECT. II. HEMIONITIDÆ, *Pr.*

97. (96. *Pr.*) *Hemionitis*, *Linn.* TAB. LXXIV. A.  
 98. (97. *Pr.*) *Gymnogramma*, *Desv.* TAB. XXXVII.  
 (Including *Leptogramme*, *J. Sm.*)  
*Ceterach*, *Willd.*  
 (See in *Blechnaceæ*.)

TRIBE X. TÆNITIDÆ, *Pr.*

99. *Pleurogramme*, *Pr.* TAB. LXXV. A. (and TAB. LXXXII. A.)  
*Jenkinsia*, *Hook.* TAB. LXXXV. B.  
 100. *Notholæna*, *Br.* TAB. LXXXVI. A.  
*Tæniopteris*, *Hook.* TAB. LXXXVI. B.  
 101. *Pteropsis*, *Pr.* TAB. LXXVII. A.  
 102. *Tænitis*, *Sw.* TAB. LXXXVII. B.  
*Lomagamme*, *J. Sm.* TAB. XCVIII.  
 103. *Drymoglossum*, *Pr.* TAB. LXXXVIII. A.

TRIBE XI. ACROSTICHACEÆ, *Pr.*

104. *Polybotrya*, *H.B.K.* TAB. LXXXVIII. B.  
*Elaphoglossum*, *Schott*, TAB. CV. A.  
*Stenochlæna*, *J. Sm.* TAB. CV. B.  
 105. *Olfersia*, *Raddi*, TAB. LXXXIX. A.  
 106. *Aconiopteris*, *Pr.* TAB. LXXXIX. B.  
 107. *Stenosemia*, *Pr.*  
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 108. *Campium*, *Pr.* TAB. LXXX. A.  
 109. *Platynerium*, *Desv.* TAB. LXXX. B.  
 110. *Acrostichum*, *Linn.* TAB. LXXXI. A.  
 111. *Pœcilopteris*, *Pr.* TAB. LXXXI. B.  
 112. *Gymnopteris*, *Bernh.* TAB. LXXXV.  
*Photinopteris*, *J. Sm.* TAB. XCII.

\* TAB. LXXXII. will be placed here, although it contains a genus [figure A. *Pleurogramme*,] that belongs to *Tænitidæ*, and which is again given in its proper place.

SYNOPSIS.

The following Orders are not included by Presl in his Work :

ORD. II. PARKERIACEÆ, *Hook.*  
*Ceratopteris*, *Brongn.* TAB. XII.  
*Parkeria*, *Hook.* TAB. L.

ORD. III. SCHIZÆACEÆ, *Mart.*  
*Schizæa*, *Sm.* TAB. XIX.  
*Actinostachys*, *Wall.* TAB. CXI. A.  
*Lygodictyon*, *J. Sm.* TAB. CXI. B.  
*Lygodium*, *Sw.* TAB. XXVIII.  
*Anemia*, *Sw.* TAB. XC.  
*Anemidictyon*, *J. Sm.* TAB. CIII.  
*Trochopteris*, *Gardn.* TAB. CIV. A.  
*Mohria*, *Sw.* TAB. CIV. B.

ORD. IV. OSMUNDACEÆ, *Mart.*  
*Osmunda*, *Linn.* TAB. XLVI. A.  
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ORD. V. MARATTIACEÆ, *Kaulf.*

*Marattia*, *Sw.* TAB. XXVI.  
*Eupodium*, *J. Sm.* TAB. CXVIII.  
*Angiopteris*, *Hoffm.* TAB. X.  
*Danaea*, *Sm.* TAB. VII.  
*Kaulfussia*, *Bl.* TAB. LIX. A.

ORD. VI. OPHIOGLOSSEÆ, *Br.*

*Ophioglossum*, *Linn.* TAB. LIX. B.  
*Botrychium*, *Sw.* TAB. XLVII. A.  
*Helminthostachys*, *Kaulf.* TAB. XLVII. B.

ORD. VII. LYCOPODIACEÆ, *Sw.*

*Lycopodium*, *Linn.* TABS. LXXXVIII, CXVII. A. B.  
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\* The figure at TAB. 67, A, (as well as B,) should be referred to *Hypolepis*.

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