

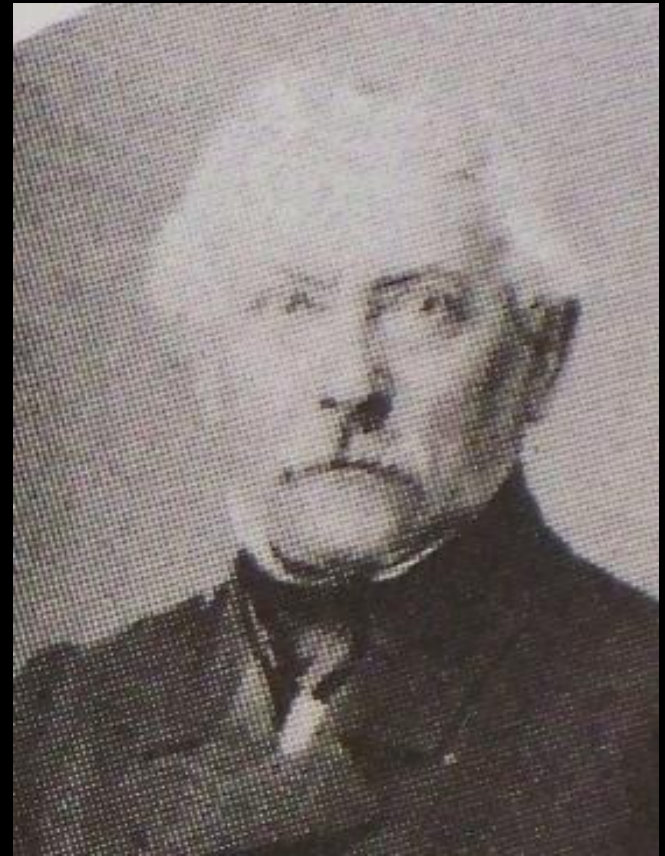
**Heinrich Wilhelm Schott (1794-1865)
and the importance of Brazil for aroid
systematics in the 19th century**

by

**Simon Mayo
Honorary Research Associate,
Royal Botanic Gardens Kew, UK**



“Stockily built and though not of especially strong physique, accustomed to deprivation and extremely frugal in his daily needs ...”
(Fenzl 1865)



Born 1794, died 1865

Schott was the architect of modern Araceae taxonomy.

His key formative experience were the 4 years he spent in Brazil: 1817-1821

This was his only tropical field experience and it determined his career thenceforth.



Heinrich Wilhelm Schott

Father Heinrich Schott, a well-known Gardener

Born in Brno in the Czech Republic, then called Brünn and part of the Austrian Empire.

Aged 7, moved to Vienna.

Father Heinrich appointed Head Gardener at University of Vienna



“Born among flowers ... and thenceforth surrounded by them, he early grew fond of nature ... and ... used his free hours for the care of plants.” (Fenzl 1865)



At 15 (1809) he started work as assistant gardener in the University Garden of Vienna.



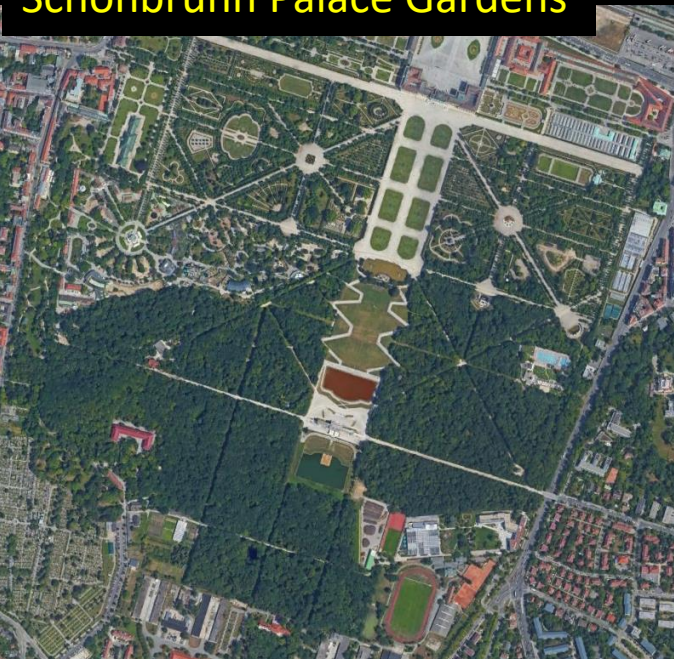
At 21 (1815) he was appointed Court Gardener at the Upper Belvedere Palace, responsible for the Garden of the Austrian Flora

Vienna



University Botanic Garden

Schönbrunn Palace Gardens



Schott spent his life working in the imperial gardens of Vienna.

He rose to become Director of the Imperial Schönbrunn Palace Gardens and Zoo from 1845 to 1865.



Belvedere Palace

“Schott grew up under eyes of the two Jacquin’s, and the iron rod of his father.”



**Nikolaus Josef von Jacquin
(1727-1817)**



**Josef Franz von Jacquin
(1766-1839)**

The Barons Jacquin (father and son), successive Directors of the University Garden and Schott’s teachers at Vienna University.

Brazilian Expedition 1817-1821



Emanuel Pohl

Prince Metternich



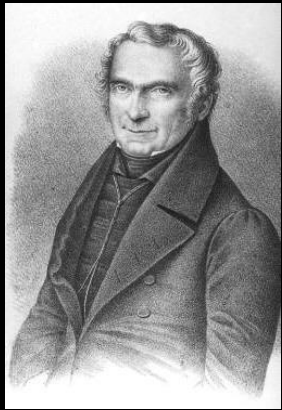
Emperor Francis I



Archduchess Leopoldina



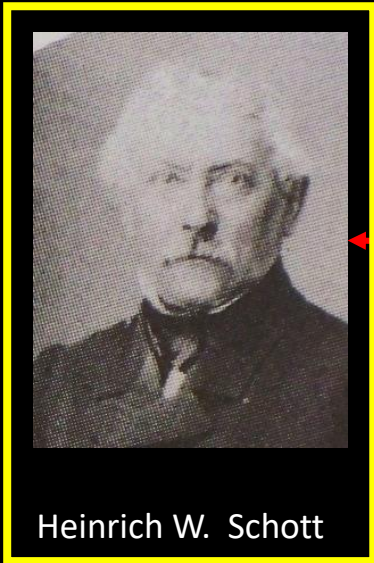
Crown Prince Pedro



Johann Natterer



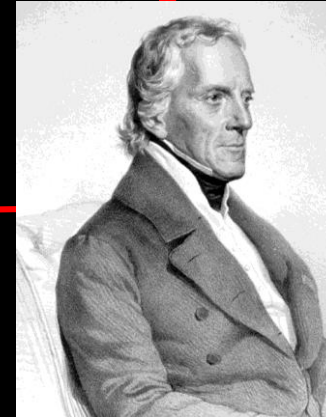
Johann C. Mikan



Heinrich W. Schott



Baron Joseph Jacquin



Karl von Schreibers

At 23, Schott was chosen as a member of the Austrian Scientific Expedition to Brazil



Schott's main role was to make an acclimatization garden in Rio for plants and animals

He stayed in Brazil from 5 November 1817 to 1821.

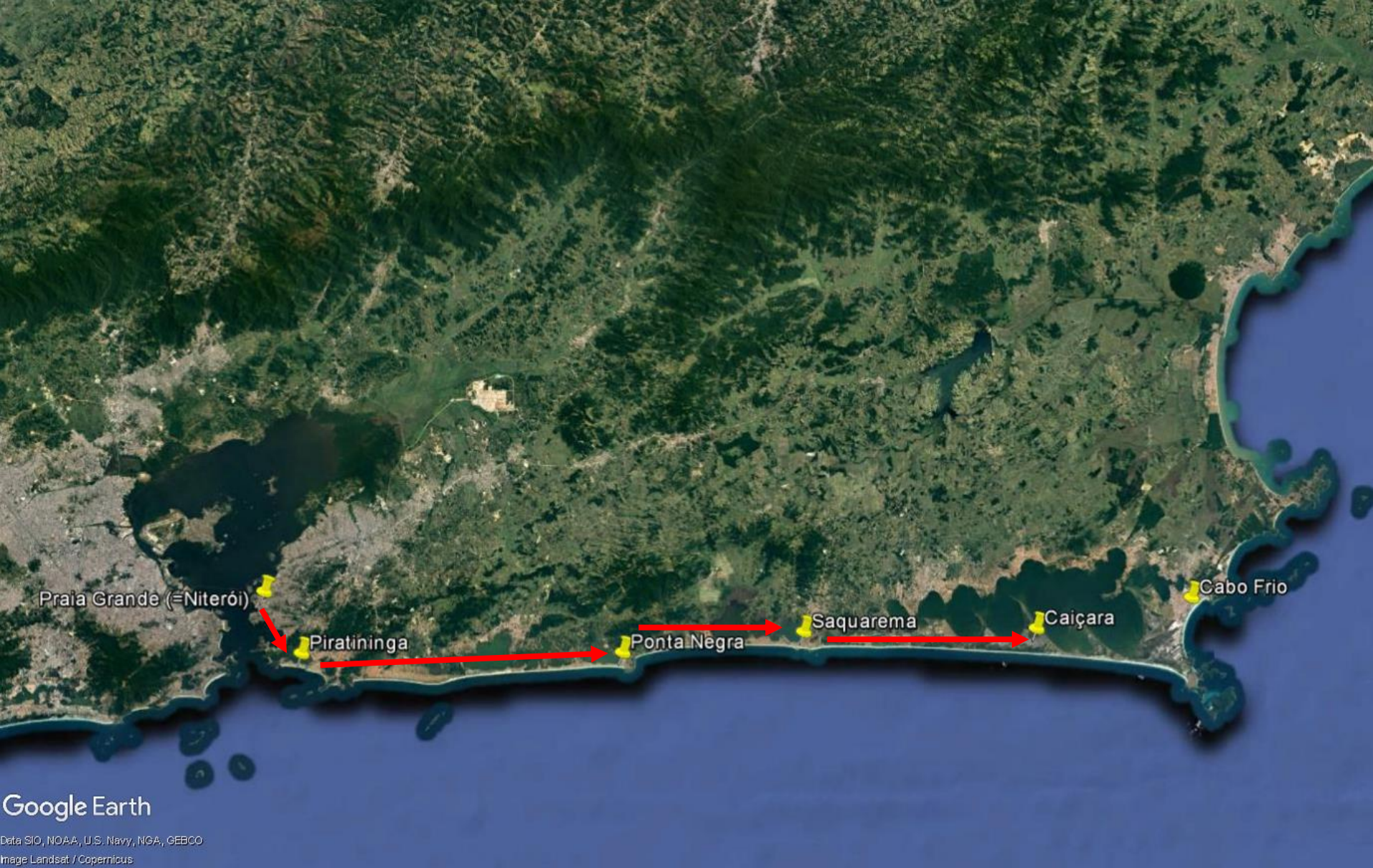
Rio de Janeiro 1817



Rio de Janeiro 2018 (Central area)



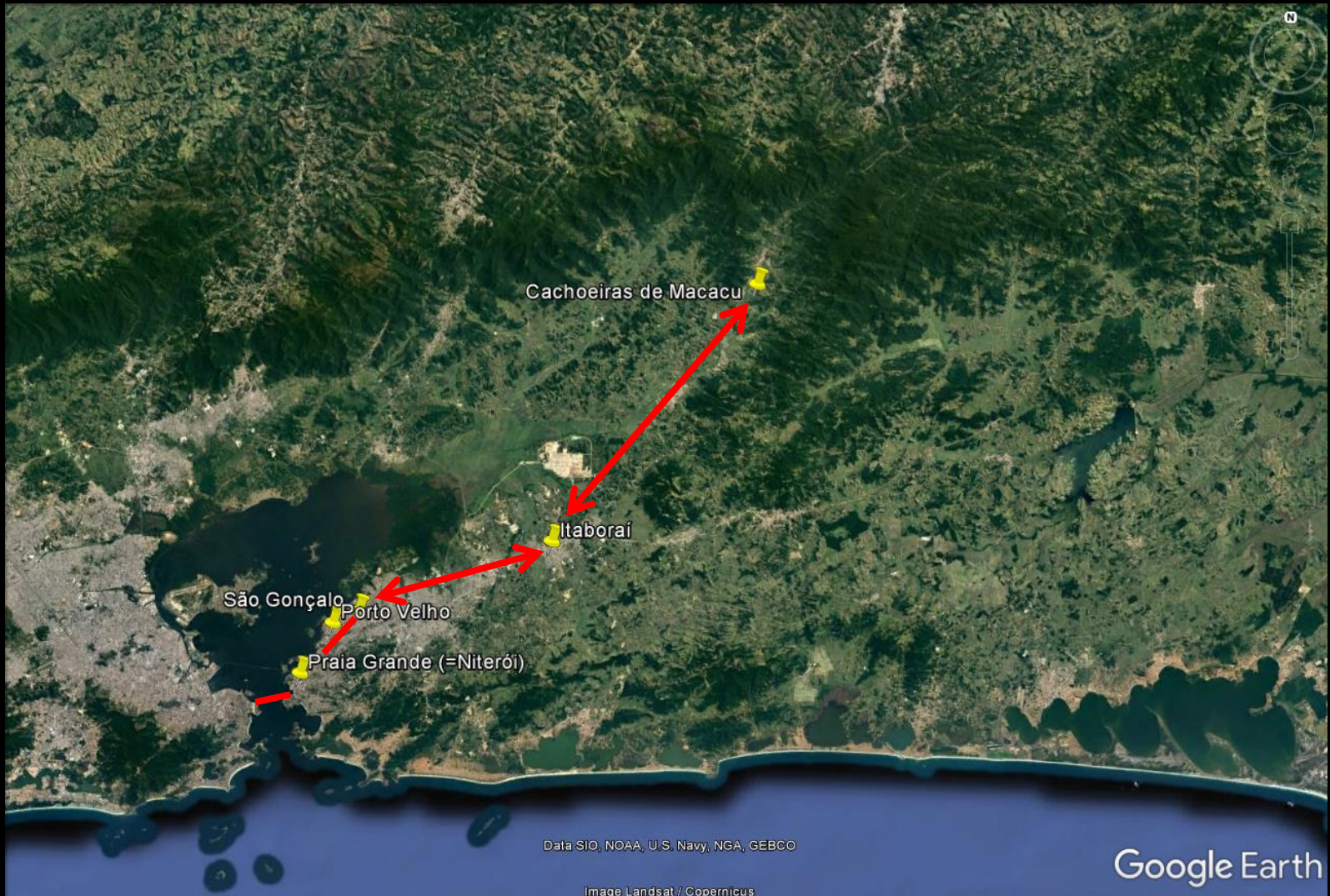
Schott's created his garden in the grounds of the residence of the Austrian Ambassador. He collected around the city of Rio and this is probably when he first became acquainted with Brazilian Araceae and made living collections which he later worked on in Vienna.



Schott's 1818 expedition to Cabo Frio with Mikan and the artist Buchberger. They had to turn back early after Buchberger suffered a serious accident.



Schott's long expedition in the state of Rio de Janeiro : 4 June – 1 October 1819



Schott's third expedition was to collect high quality timber species in the headwaters of the Rio Macacu: 25 January – 2 March 1820.

Araceae are hardly mentioned at all in his diaries, and none of the many plants he described in his first publications were aroids:

1820: Eight species of
Triplaris, *Roupala*,
Dorstenia and
Besleria

III.

Abhandlungen aus dem Gebiete der Natur- und Heilkunde.

Neue brasilianische Pflanzen. Gesammelt und nach
der Natur beschrieben von *Heinrich Schott*,
k. k. Gärtner in Brasilien.

Erste Lieferung.

1. TRIPLARIS SCANDENS.

T. fruticosa, scandens; foliis lanceolatis utrinque
angustatis; racemis spiciformibus, axillaribus, subsoli-

1827: Appendix to Sprengel's Systema Vegetabilium

77 species in various genera: e.g. *Brosimum*, *Roupala*, *Cordia*, *Solanum*, *Alseis*, *Dimorphandra*, *Hydrolea*, *Astronium*, *Coccoloba*, *Persea*, *Melanoxylon*, *Combretum*, *Swartzia*, *Begonia*, *Ruellia*, *Trigonia*, *Ficus*, etc.

A P P E N D I X.

HENRICI SCHOTT FASCICULUS PLANTARUM BRASILIENSIIUM.

Henricus Schott, hortulanus Vindobonensis, e Brasilia, quam 1817 et 1818 invisit, ingentem plantarum copiam reportavit. Earum fasciculum, ut curis posterioribus infererem, additis characteribus ad me missum cum sero acceperim, nolui tamen deesse juveni et doctrina et rei herbariae scientia instructo, quando praesertim cognovi ex ipsis exemplaribus, nova plura adesse, quae alios fugisse scrutatores viderentur. Itaque summa omnia feci, ut et hae symbolae, fueto ordine digestae, quamprimum in lucem prodirent.

CL. I.

1. *Brosimum microcarpon* Schott. nullo modo a Br. *Alicastro* Sw. diversum reor. Namque differentia ipsa a Schottio indicata „ramulorum petiolorumque hirtorum,“ ut exemplaria missa docuerunt, in cultis evanescit. Notandum tamen, hanc speciem, Jamaicae aliquin peculiarem, et Brasiliae incolam esse.
2. *Brosimum discolor* Schott. Br. foliis ovato-ellipticis acutis supra nitidis subtus glaucis, ramulis pubescentibus.

In 1829 and 1830, Schott publishes short diagnoses of new genera of Araceae in various issues of a general arts magazine of Vienna.

Since his return from Brazil in 1821, he had undertaken a revolutionary new taxonomic study of the genera of aroids.

Neotropical genera published here were *Anthurium*, *Dieffenbachia*, *Philodendron* and *Syngonium*

Wiener Zeitschrift
für
Kunst, Literatur, Theater
und
Mode.
Donnerstag, den 20. August 1829.

100

Von diesen Blättern erscheinen wöchentlich drei Nummern Text und ein colorirtes Modenbild, welche hier gegen Vorausbezahlung zusammen viertelj. um 6 fl., halbj. um 12 fl. und ganzjährig um 24 fl. C. M., damit ohne Kupfer viertelj. um 3 fl. 45 kr., halbj. um 7 fl. 30 kr. und ganzjährig um 15 fl. C. M. von M. Strauß's sel. Witwe in der Dorotheergasse No. 1108; für Auswärtige aber durch die k. k. Postämter um 23 fl. 12 kr. halbj. und 26 fl. 24 kr. C. M. ganzjährig zu haben sind. Durch die Buchhandlung Carl Gerold in Wien wird diese Zeitschrift in Monatsheften mit und ohne Kupfer für das In- und Ausland versendet.

Für Liebhaber der Botanik.

In den Gewächshäusern des k. k. Hofgartens zu Schönbrunn blühen jetzt folgende Gewächse:

Warmhauspflanzen:

Anthurium affine. (Schott.) Verwandter Blüthenschweif. Aus Brasilien. Aroideae.

- - *glaucum.* (Schott.) (*Pothos reflexus.* Hort. Berol.) Graugrüner Blüthenschweif. Aus Brasilien. Aroideae.

Die Gattung *Pothos*, so wie sie bis jetzt festgestellt war, begreift Gewächse, die hinsichtlich ihres Blüthen- und Fruchtbaues keineswegs übereinstimmend befunden werden können. Die erste Linné'sche Art war *Pothos scandens*, eine Pflanze, die uns durch Roxburgh's Flora indica näher bekannt gemacht worden ist, nach welcher der Character generis so zu stellen wäre:

Die Kolbenscheide nachenartig, aufrecht. Der Kolben kugelig, zurückgeschlagen. Kelchblätter 4? Eyerstock einfächerig, ein- bis dreifächerig. Die Eichen im Grunde des Faches befestigt. Der Same einweissfren?

(*Spatha cymbata erecta. Spadix globosus reflexus. Sepala 4? Ovarium uniloculare, ovulis 1 — 3 fundo affixis. Semina exalbuminosa?*)

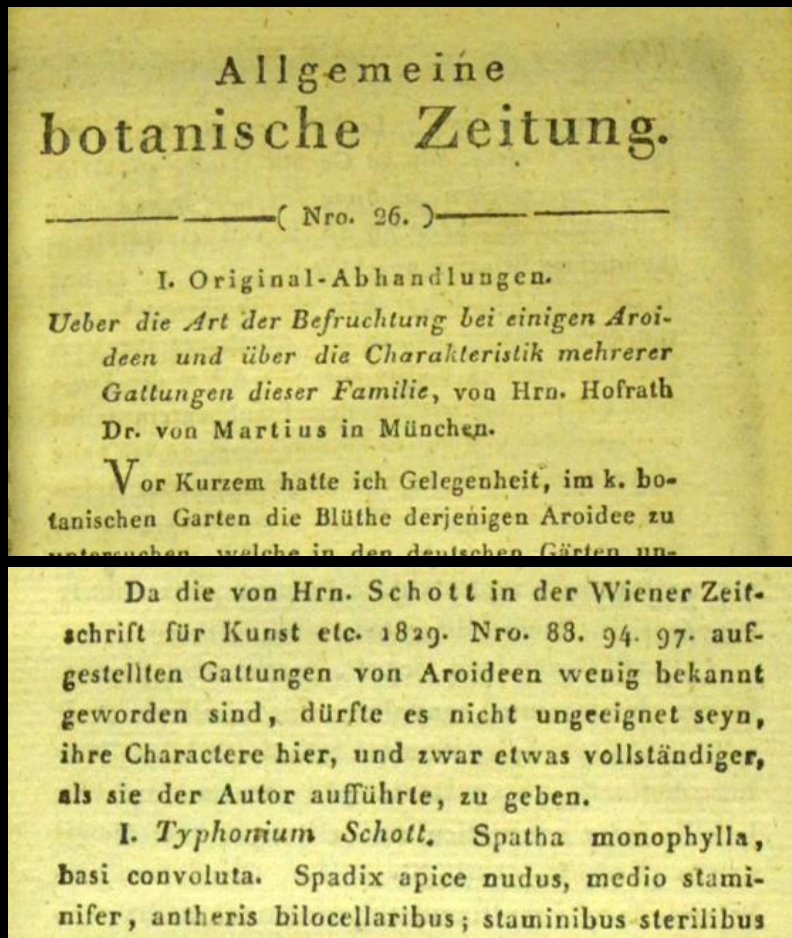
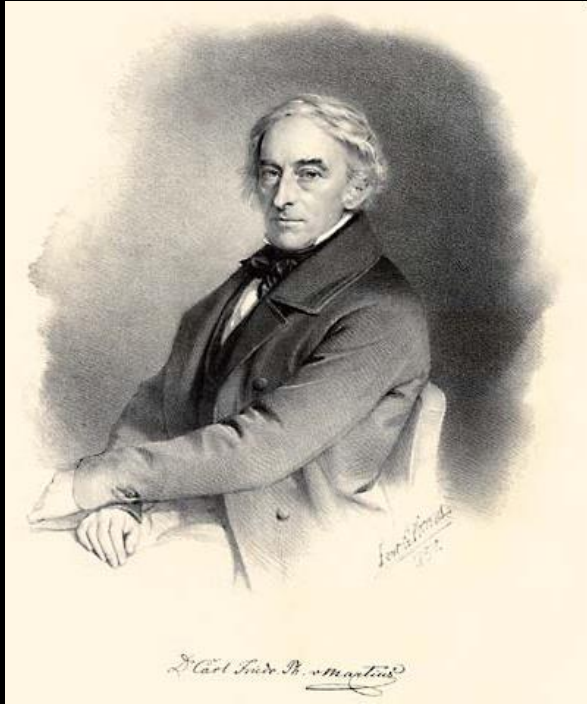
Anthurium hingegen, wohin wohl alle *pothos*-ähnlichen Gewächse Süd-Amerika's zu rechnen, wie z. B. *Antn. crassinervium*, *mycrostachyum*, *myosuroides*, *quinquenervium*, *angustatum*, *pedatum*, *digitatum*, *palmatum*, *gracile*, *lanceolatum*, *ascaule*, *violaceum*, *macrophyllum* und *cordatum*, welche bey Swartz, Kunth und anderen als *Pothos*-arten vorkommen, besitzt folgende Kennzeichen:

Die Kolbenscheide flach, zurückgeschlagen. Der Kolben langgezogen aufrecht. Kelchblätter 4! Eyerstock zweifächerig. Die Eichen 1 — 2 in jedem Fach, an der Scheidewand aufgehängt.

(*Spatha planiuscula reflexa. Spadix elongatus erectus. Sepala 4? Ovarium biloculare, ovulis 1 — 2 in quolibet loculo, septo appensis. Semina albuminosa.*)

In this short 1829 article, Schott dismembers the old Linnean *Pothos* into New World *Anthurium* and Old World *Pothos*.

Martius (1794-1868) and Schott were exact contemporaries and probably met each other in Rio de Janeiro in November 1817.



In 1831, Martius publishes interesting observations on Aroid pollination.

But he also republishes Schott's generic diagnoses "since [these] were little known it may not be inappropriate to give their diagnoses here, and indeed in somewhat more complete form than the author presented them".

1832: The Meletemata Botanica (= "Botanical Essays")

One year later, Schott publishes his first complete generic treatment of the Araceae.

New neotropical genera published here are *Acontias*, *Homalomena*, *Spathiphyllum* and *Xanthosoma*

MELETEMATA BOTANICA.

AUCTORIBUS

Henrico Schott & Stephano Endlicher.

OBSERVATIO III.

Aroidearum, quarum cum Balanophoreis affinitatis in superioribus a nobis facta est mentio, synopsin coronidis loco adjungimus; quo pacto non tantum utriusque classis magis patecet differentia, sed et amplissimam plantarum catervam, Botanicis vix non intactam, illustrandam iri confidimus.

AROIDEARUM SYNOPSIS AUCTORE H. SCHOTT.

CLASSIS AROIDEAE.

Monocotyledoneae. Flores ex axi elongato continui, absque perigonio manifesto. Folia.

ORDO III. ARACEAE Schtt.

Flores monoici, dioici v. ♀, conferti, spatha primum obvoluti (v. nudi?). Stamina antheris 2locularibus, extrorsis. Ovaria distincta, libera v. omnia connexa. Fructus baccatus, carnosus. Semina pulpâ munita, albuminosa v. exalbuminosa. Embryo axilis v. nudus — Vegetabilia caustico volatili foeta. Folia vernatione convolutiva, petiolata. Spatha: e lamina folii, petioli ope pedunculo concreti

♀ Poit.

obtecto, spiraliter exserti, spiris alternatis 2 antheris (?) (antheris 4locularibus, acta, saepe coadunata, placentis parietibus connati. Semina — Foliis petiolis dilatatis membranaceis coloratisque.

22

BALANOPHOREAE.

XXXVI. ANTHURIUM Schtt. Spatha abbreviata, reflexa, persistens. Spadix subsessilis, flosculis 4 andris. Ovaria 2locularia, loculis 2 ovulatis, ovulis axi appensis. Stigma oblongum. Baccae 2—4 spermae. Semina albuminosa.

Americanae tropicae subacaules, erectae v. scandentes; foliis palmatis, digitatis v. saepius foliolato unico perfecto, reliquis abortivis (petiolis apice tumidis), vaginis stipularibus (in speciminibus floriferis!) petiolo alternantibus, persistentibus.

A. acaule, *crassinervium*, *violaceum*, *digitatum*, *undatum* etc. Schtt. (*Pothi sp. americanae* Auct.)

XXXVII. SPATHIPHYLLUM Schtt. Spatha foliaris persistens. Spadix pedicellatus, abbreviatus; flosculis 5—8 andris. Ovaria 3locularia, loculis 2 ovulatis, ovulis axi appensis. Stigma 3lobum. Baccae 3loculares 3—6 spermae. Semina albuminosa.

t. Flores nudi.

ens, spadici appendiculato, infero-
tario remoti. Antherae sessiles. Ova-
Plantae rhizomate stolonifero peren-

mgato. Spadix spathae plicâ tubum
mplicis cellulaeformibus, marginatis,
luri — (6) loculare, ovulis diversa
nina albuminosa, testa spongiosa (?)

oici. ♂ stamina numerosa confertissima.
?)

Stephan Endlicher (1804-1849)

Endlicher and Schott were friends and collaborators.

In his *Genera Plantarum* (1837) Endlicher republished Schott's *Meletemata* classification of the Araceae.

Endlicher became Director of the Vienna Botanic Garden.

A brilliant scholar and polymath and co-founder of the *Flora brasiliensis* with Martius.



HENRICO SCHOTT

AMICO CARISSIMO

GRATUS

AUCTOR.

The dedication by Endlicher to Schott in the second supplement (1842) of his *Genera Plantarum*

l. 437. 438.

1702. Anthurium SCHOTT. Spatha abbreviata, reflexa, persistens. Spadix sessilis, cylindricus, floribus hermaphroditis ob-situs. Perigonium tetraphyllum. Stamina 4, perigonii foliolis opposita; filamenta linearia, complanata, antherae biloculares. Ovula in loculis bina, collateralia, ex apice axeos pendula, anatropa. Stigma sessile, oblongum. Bacca bilocularis, di-tetrasperma. Semina albuminosa, inversa. Embryo in axi albuminis parce carnosus orthotropus, extremitate radiculari supera. — *Herbae americanae tropicae, subacaules, erectae v. scandentes; foliis palmatis, digitatis, v. saepius lobis lateralibus abortivis specie integris, petiolis apice tumidis, vaginis stipularibus (in speciminibus floriferis) cum petiolo alternantibus, persistentibus.*

Anthurium Schott in *Wiener Zeitschr.* 1829. III. 828. Melet. 22. Lindl. in *Bot. Reg.* t. 1635. Pothi sp. americanae Auct. Jaeg. *Ic. rar.* 609. 611. Kunth in *Humb. et Bonpl. nov. gen. et sp.* t. 18—20. Hook. *exot. FL.* t. 35. 210. 211. *Bot. Mag.* t. 1375. 2801. 2953. 2987.

1703. Spathiphyllum SCHOTT. Spatha foliaria, persistens. Spadix pedicellatus, ab-

The treatment of *Anthurium* in Endlicher's *Genera Plantarum* (1837)

With the Meletemata and Endlicher's Genera Plantarum, Schott had set out his generic system of Araceae.

Between 1832 and 1852, Schott published nothing on Araceae and little on any other plants.

From 1852 onwards he begins to publish short articles on the Araceae in the newly founded "Oesterreichisches Botanisches Wochenblatt" – today the journal "Plant Systematics and Evolution"

In the next 10 years Schott produced his major works on the Araceae

Oesterreichisches Botanisches Wochenblatt.

Gemeinnütziges Organ

für

Botanik und Botaniker. Gärtner, Oekonomen, Forstmänner,
Aerzte, Apotheker und Techniker.

Wien, 6. Oct. 1853. III. Jahrg. № 40.

Das Oesterreichische botanische Wochenblatt erscheint jeden Donnerstag. Man pränumerirt auf dasselbe mit 4fl. C. M. oder 2 Rthlr. 20 Ngr. jährlich und zwar für Exempl., die frei durch die Post bezogen werden sollen, hlos bei der Redaction: Wieden Neumannsgasse Nr. 331 oder bei den betreffenden Postämtern, sonst in der Seidel'schen Buchhandlung am Graben in Wien; so wie bei allen Buchhandlungen des In- und Auslandes. Inserate die ganze Peltzeit 5 kr. C. M.

Inhalt: Eine *Aroidee*. Von H. Schott. — Flora von Südtirol. Von Fr. Ambrosi. — Botanische Notizen aus Griechenland. Von X. Landerer. — Vereine, Gesellschaften und Anstalten. — Mittheilungen. — Inserat.

Eine *Aroidee*.

Angezeigt von H. Schott.

Unter den vielen *Aroideen*, welche in letzter Zeit uns zugekommen, scheint eine bereits mehrmals zur Blüthe gelangte näherer Angabe werth zu sein. Ihre Diagnose und Benennung wäre, da sie der Gattung *Caladium* mit aller Sicherheit zugezählt werden kann, folgende:

Caladium asperulum S. petiolis pedunculisque verruculoso-exasperatis; foliorum lamina utrinque viridis, ovata, peltata, breviter-acuminata, inferne lobis obtusis brevibus sagittata; spathae tubo albo-virente.

Habitat in Insula St. Catharinae, Brasiliae?

Planta ex toto viridis. Petioli elongati, lamina duplo triplove longiores. Laminae fol. lobi retrorsi lobo terminali fere duplo breviores, approximati, ad medium usque connati. Pedunculi petiolis multo breviores. Spathae tubus sphaeroideo-ovoideus, lamina naviculari duplo brevior.

Wie schon oben angedeutet wurde, stammt diese Art *Caladium* aus St. Catharina. Auffallend ist sie von allen anderen Arten ihrer Gattung schon durch den gänzlichen Mangel aller anderen Farbe, als der grünen (am Kraute), verschieden. Hierzu kommt noch die ihr eigene, in ununterbrochenen Längslinien hervorgetriebene Rauigkeit feiner Wärcchen der Blatt- und Blüthenstiele, sowie die Bleichheit der nur von unten auf grünlichen Blüthenscheiden (*spathae*).

Bei dieser Gelegenheit scheint es passend einer Pflanze zu erwähnen, welche, obschon sie von dem ersten Autor derselben, der

AROIDEAE.

AUCTORE

☉ H. SCHOTT. ☉

LIBRARY
NEW YORK
BOTANICAL
GARDEN

1.

VINDOBONAE.

TYPIS CAROLI GEROLD ET FILII.

1853

In 1853 his “Aroideae” began to be published, which revealed the scale of his real ambitions.

The preceding 20 years had involved preparing a monograph on a grand scale.

This large format book contains revisions of 15 genera, including the neotropical *Spathiphyllum*, *Urospatha*, and *Heteropsis*.

Most species are illustrated by a full page drawing of exquisite artistry.

The book was published in 6 fascicles, between 1853 and 1857.

The artists were J. Oberer, J. Seboth and E. Nickelli.

HETEROPSIS Knth.

Spatha hians minuta, tandem decidua. Spadix stipitatus exiguus, pauciflorus, flosculis omnibus, exceptis summis rudimentariis, conformibus. Stamina 4, filamentis antherisque brevibus. Ovaria prismatica, bilocularia, loculis biovulatis, ovulis breviter-funiculatis, anatropis, stigmate sessili, rotundato, minuto.

Fructuuli brasilienses erecti lignosi, radicibus e collo stirpis exortis arborum ramis affixi. Rami tenues patentes, supra-axillares, non radicantes, internodiis petiolo multoties longioribus. Folia petiolo brevissimo ($1\frac{1}{2}$ —2 lin. longo), vaginulato, lamina integerrima, lacunis nullis, venis venisque densis, tenuissimis, varie anastomosantibus, pseudoneuris in margine duobus, tribus. Inflorescentiae solitariae in ramulis brevissimis, bractea majuscula instructis, l. terminales in ramulis gracilibus elongatis, 1—3-foliatis, bractea carentibus.

1. **H. salicifolia** Knth. foliis lanceolatis, longe-acuminatis, basi cuneatis, petiolo stipelloque spadice magis elongatis. (Tab. 58.)

Synon. *Heteropsis salicifolia* Knth. En. III. p. 60. (1841.)

Habit. in Brasilia.

2. **H. oblongifolia** Knth. foliis ovatis, l. ovato-oblongis, brevius-acuminatis, basi subobtusis, petiolo stipelloque spadice magis abbreviatis. (Tab. 59.)

Synon. *Heteropsis oblongifolia* Knth. En. III. p. 60. (1841.)

? *Descontium integerrimum*. Fl. Flum. 3. t. 119. (1827 etc.)

Habit. in Brasilia.

3. **H. Spruceana** Schtt. foliis lanceolatis, longe acuminatis, basi rotundatis l. obtusis, petiolo subnullo. stipello spadice brevissimo. (Tab. 60.)

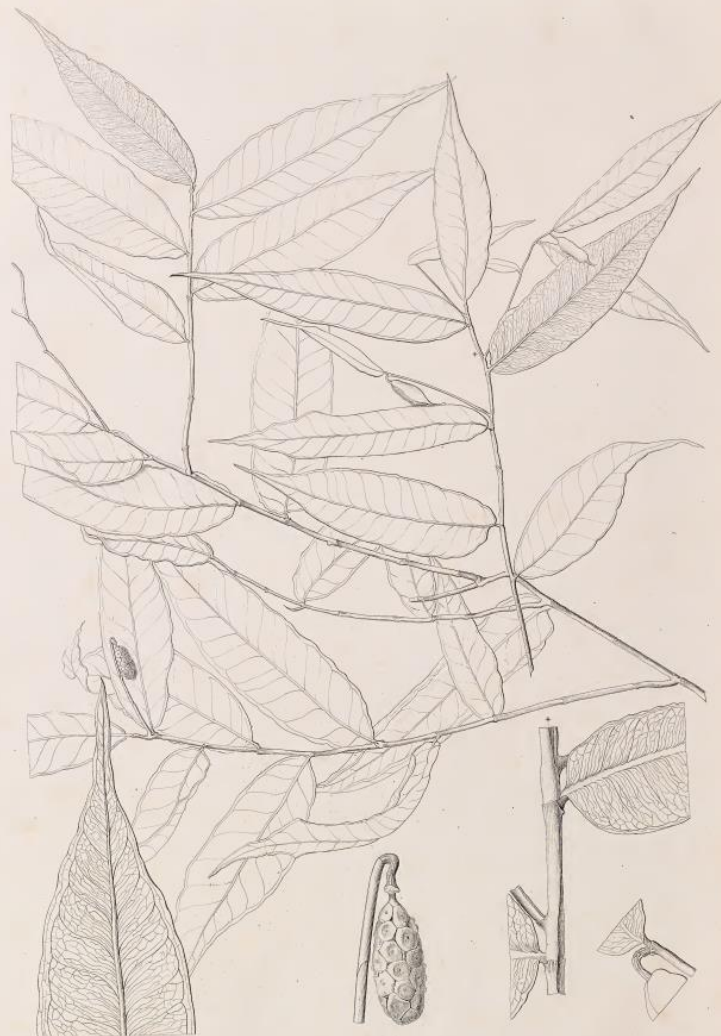
Synon. *Heteropsis* affinis *salicifoliae*. Coll. R. Spruce Nr. 2174.

Habit. in Brasilia boreali. (Rio Negro Spruce in Herb. Boissieri.)

Excludendae.

H. ovata Miq. Del. sem. 1843 = *Monstera ovata* Schtt.

H. surinamensis Miq. l. c. = *Monstera surinamensis* Schtt.



The species descriptions are very short and the emphasis is rather on the generic delimitation.

In 1856 he published his *Synopsis Aroidearum*.

This was intended to be a complete treatment of all species and genera.

But the bisexual-flowered genera, notably *Anthurium*, are absent.

PHILODENDRON *S.* Spatha post fecundationem reclusa, persistens, in fructu a basi soluta, decidua. Spadix spatham subaequans, interjectis staminodiis continuo androgynus. Ovaria plurilocularia, loculamentis pluriovulatis, ovulis axifixis. Semen oblongum, albuminosum.

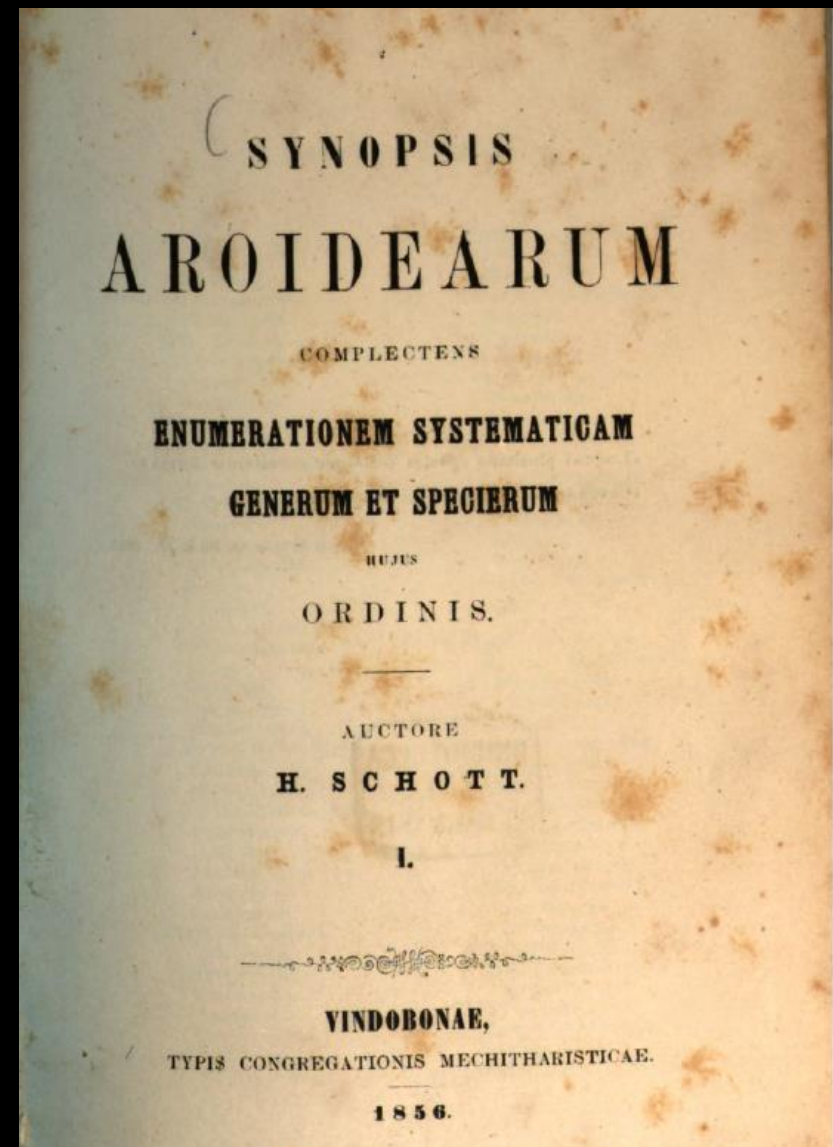
Venulae tenuissimae, subparallelae, approximativissimae, sursum excurrentes. — Americanae.

I. Lamina folii basi plus minusve cuneata.

Grex 1. **Boursia**. Rchnb.

Prorepens, adradicans. Stipulae (tandem) suboppositae. Lamina folii oblonga; venis nullis. Pedunculi solitarii.

1. **cannaefolium** Mart. (*in Flora p. 451. — 1831.*) Petiolus valde tumidus, semiteres, acietato-marginatus; lamina oblongo-elliptica inferne abruptius-angustata, costa petiolo multo tenuiore, venulis erecto-patentibus. Spathae tubus intus ad basin laete rubens, lamina flavide alba. Ovaria 7-8 locularia. Stami



The *Synopsis* contains Schott's first full revision of *Philodendron*

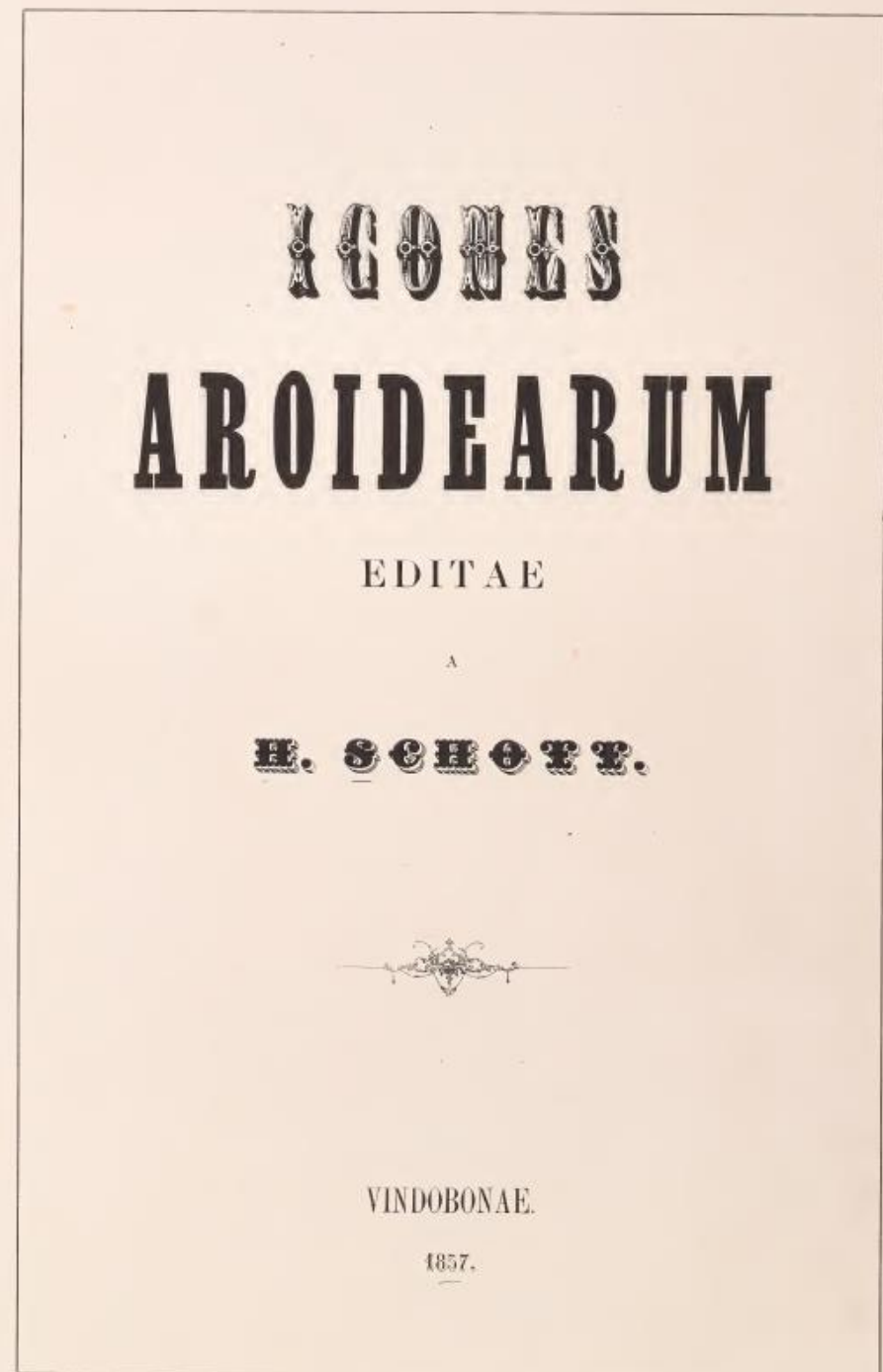
In the following year, 1857, another large format book began to appear, the *Icones Aroidearum*.

Whereas many of the plates in the *Aroideae* were drawings made from herbarium specimens, in the *Icones*, living plants cultivated at Schönbrunn Palace are shown.

Among these are species of the neotropical genera *Philodendron*, *Anthurium* and *Dieffenbachia*.

The book was published in 4 fascicles between 1857 and 1860.

Artist J. Oberer.



The combination of Schott's scientific direction and the outstanding quality of the Viennese artists he employed now produce real masterpieces of science and art combined.

In the most complete visual treatments, five separate plates are devoted to each species, as here with *Philodendron speciosum*, a species Schott collected himself in Rio de Janeiro, probably in 1817-18.

These sets of plates are comprehensive visual taxonomic statements.

No text accompanies the plates.



Philodendron speciosum Schott.



M. Schott



LITH. GARDNER

Philodendron speciosum Schott.



M. Schott

LITH. GARDNER

SECTION OF SPADIX IN VIEW

LITH. GARDNER

Philodendron speciosum Schott.



Philodendron speciosum Schott.



Philodendron speciosum Schott.

In the next year, 1858,
his large format *Genera
Aroidearum* appeared.

All known genera were
illustrated with detailed analyses
of the characters of the
reproductive organs.

Schott's genera were founded
on a meticulous analysis of the
spadix and spathe.

There he uncovered a wealth of
previously unsuspected
structural diversity which he
used for his classification.

Most neotropical genera then
known were now well defined.

1858
GENERA

A R O I D E A R U M

EXPOSITA

A

H. SCHOTT,

Phil. Doct. Hortorum ac vivariorum Caesarum praefecto, Ordinis Francisci Josephi equiti, Academiae Leopoldo-Carolinae
naturae-curiousorum et Caesareae scientiarum Vindobonensis socio. rel. rel.

No. Bot. Garden,

VINDOBONAE.

Typis Caroli Ueberreuter.

Prostat Olomucii apud Ed. Balzel.

1858.

PHILODENDRON Schott.

(Meletem. I. p. 19. 1832.)

Spathae tubus convolutus, cylindricus vel ventricosus, vegeto-persistens; faux leviter vel arctius constricta; lamina cymbiforis, ovata, oblonga vel lanceolata, plerumque erecta, post foecundationem reconvoluta, in fructum usque succulenter-persistens.

Spadix androgynus, erectus, spatham aequans; spica feminea: plus minusve cylindroidea, densi- ac multiflora, sessilis; spica mascula, parte neutra spadici, densiflora, inferne plerumque ovaria excedente, apicem, (id est antheras) versus ut plurimum attenuata, ovariis antherisque arcte-contigua, a feminea densissima, multiflora remota; appendix nulla.

Floresculi nudi; masculi: antherae 2—3—5—6 obpyramidato-prismaticae, dorso conjunctae, vertice truncatae; connectivum crassum; loculi appositi, antherae basin attingentes, apice sub vertice rimula brevi aperientes, et pollen e rimis flosculosum farcimulose exserentes; feminei: ovaria 2—3—4—5- vel plurilocularia; stigmata sessilia, hemisphaerice-convexa, distantia, succo decolori tandem oblecta; placentae secus axin protensae, pauci-vel multiovulatae, haud insignitae; funiculi longuli vel longi, patentes; ovula orthotropa, in cavitate superposita oblique-arrecto-conniventes; micropyle sursum spectans; neutri: e staminodiis antheriformibus, loculis destitutis compositi.

Fructus. Baccae dense-contiguae, spicam oviformem, oblongam, cylindroideam conformantes, cum spicae masculae residuis spatha primum obvallatae, tandem vel spatuae suprema parte irregulariter oblecta, et tubo irregulariter disrupto revolutisque fragmentis basi cinctae, vel spatha a basi ex toto disrupta et decidente denudatae, succulentae, loculos pariete (interno loculamenti), chartaceo, diaphano, tantum indutos clausos dissolventes.

Semen vel semina loculamentorum reliquiis leguminiformibus inclusa, funiculis erectis placentae longitudinaliter biserialiterque affixis sustentata, patenter erecta, ovoideo-oblonga, recta, epidermide succulenta, crassa, praecipue latere raphes obducta, strophiole haud manifeste distincto instructa; testa striato-costata, crassula; tegmen haud discernendum, chalaza minuta; micropyle tholispectans; albumen crassulum; embryo centralis.

Habitus. Ascendentor prorepens, scandens vel caudice firmo erecto praeditum, internodiis elongatis vel arcte contiguis insignitum genus. Petioli tenues vel crassi, imo ventricosi, juniorum speciminum omnes semper alte-vaginati, vaginis persistentibus, adultiorum, exceptis paucis, teretibus, vaginis stipularibus suboppositis. Lamina folii ab integerrima, oblonga in sagittatam, lobotam, partitam, pinnati- et bipinnati-sectam vergit. Venulae approximatae, tenuissimae, parallelae, in marginem transientes. Pedunculi breves, plerumque complures ex axilla. Spatha alba, flava vel rubra. Spadix flavus vel albidus, suaveolens.

Synonyma. Arum Veterum. Caladium Auctorum.

Geographica. Nisi in America non proveniens, tam australi quam septentrionali.

Etymologia. Vox composita ex *φίλος* amicus, familiaris et *δένδρον* arbor.

Explicatio tabulae 53. Philodendron rubens. S.

1. Spadix.
2. Spicae masculae pars, supra visa.
3. Eadem transverse per antheras secta.
4. Spicae pars transverse secta.
5. Eadem longitudinaliter secta.
6. Anthera antice visa.
7. Eadem postice.
8. Spicae femineae pars supra visa.
9. Eadem per ovaria secta.
10. Spicae femineae pars transverse secta.
11. Eadem longitudinaliter secta.
12. Ovarium demto pariete antico.
13. Spica fructifera.
14. Bacca a vertice.
15. Eadem a latere.
16. Eadem transverse secta.
17. Pars spicae fructiferae, longitudinaliter secta.
18. Baccae loculamentum, secessum, a latere.
19. Idem a parte placentae.
20. Semen a latere.
21. Idem antice visum.
22. Semen longitudinaliter sectum.
23. Idem transverse sectum.
24. Semen testa tantum obductum, antice.
25. Idem a latere.
26. Plantula recenter germinata.
27. Plantula in statu proveciore.

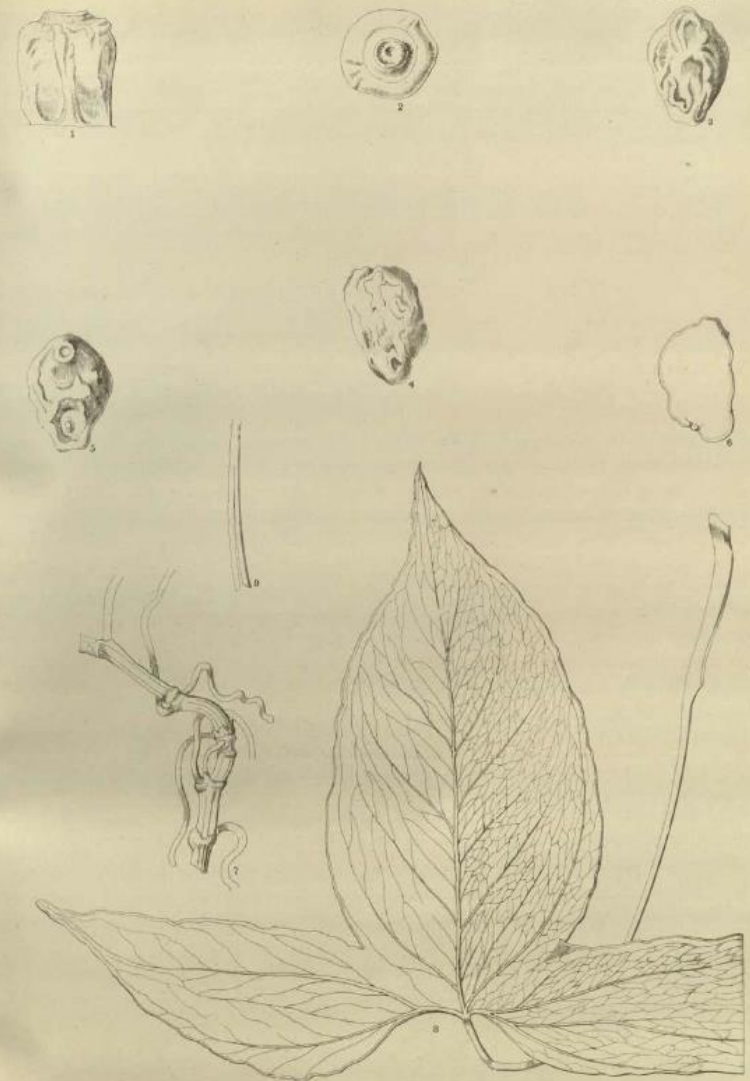
Omnia ex vivo, excepta fig. 1, aucta.

Very detailed description of reproductive organs.

Full explanation of the plate.



Philodendron Schott



Cercestis Schott

Some genera were much better known than others. *Philodendron* vs. *Cercestis*

In 1860, at the age of 66, Schott produced his final major taxonomic work on the Araceae

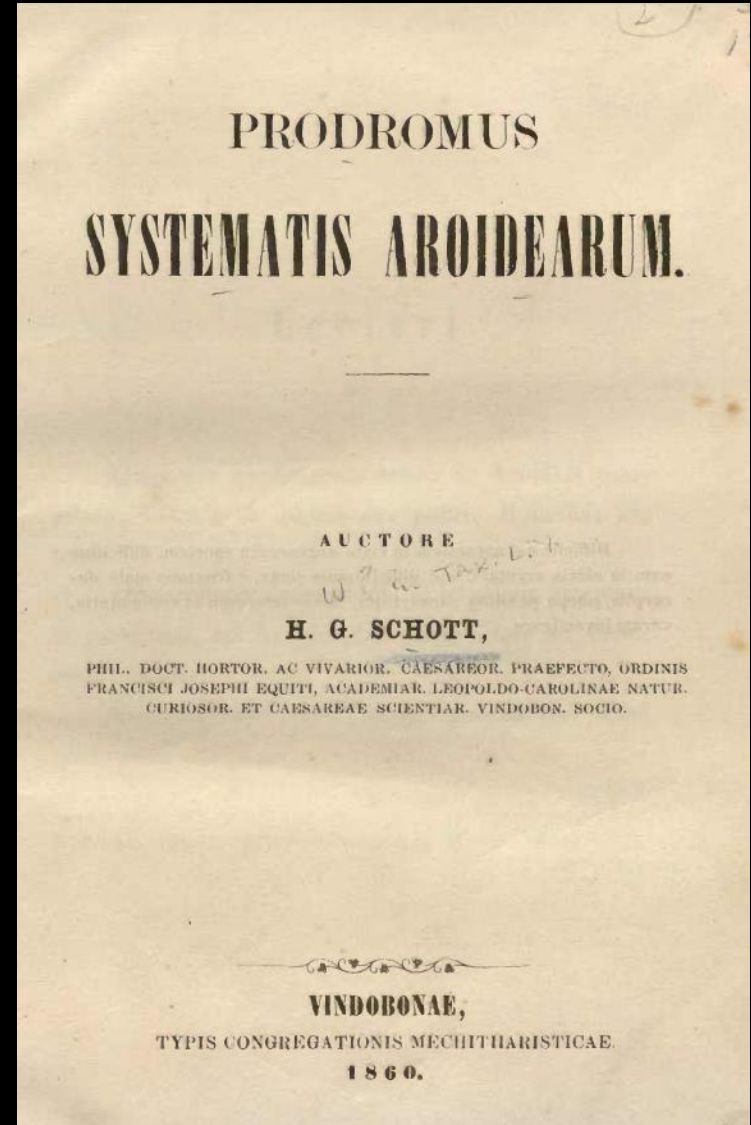
Prodromus Systematis Aroidearum
(= Forerunner of a System of the Aroideae)

“Prodromus” suggests that a bigger, more detailed work will follow.

But in fact this was Schott’s final statement of his Araceae classification.

The entire system is detailed, down to the level of species descriptions.

Here are to be found all the Brazilian species he knew and recognized.



At the beginning, Schott makes two interesting short statements

They show him as modest but also fiercely proud.

His understated tone is all the more powerful in the light of his extraordinary achievement.

*Difficile est naturalem in vivis cognoscere speciem, difficilium
eam in siccis scrutari, sed difficillimum certe, e frustulis male de-
cerptis, saepe pessime conservatis, immo interdum et commutatis,
veram investigare.*

It is difficult to become acquainted with a living natural species, more difficult to examine it when dried, but certainly extremely difficult to correctly track it down from small fragments, badly gathered, often very poorly preserved and indeed sometimes entirely changed.



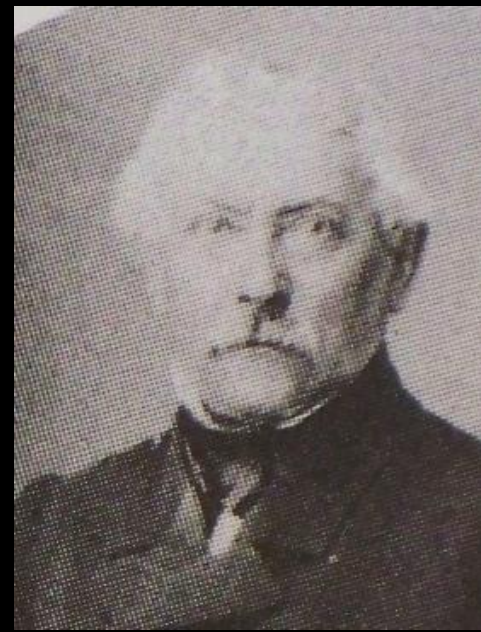
To the Reader

That which for forty years I have been able to compile, elicit and discern about the Aroideae, I here hand over to Botanists.

It is my eager desire that this little work, begun and completed with the greatest zeal and expense, should be received with kindness by lovers of Aroids.

I ask that my errors should be kindly forgiven. I did what I could.

From the Schoenbrunn Garden
May 1860.



L e c t o r i

s.

Quae per quadraginta annos de Aroideis compilare, eruere et dignoscere potui, Botanicis hic trado.

Opusculum summo studio et impensis inceptum et peractum, ab Aroideophilis liberalitate sit receptum, exopto.

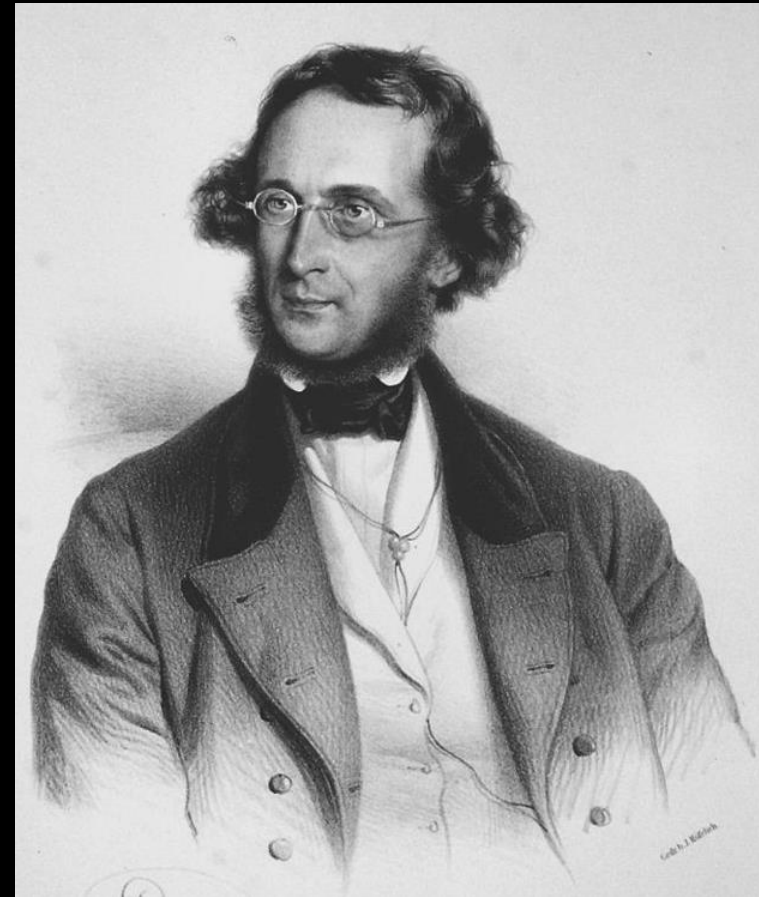
Errores rogo, benigne ut ignoscantur. Feci quae potui.

Ex Horto Schoenbrunnensi Maio 1860.

Schott's character

The ... harshness with which ... his father trained him, the ... conditions under which he matured ..., his later position as Director, ... and ... a long term disease which ... embittered his life ... conferred a certain harshness to the character of this energetic man, easily aroused to anger and as easily wounded but otherwise admirable ... and which isolated him.

... he was ... able to resist the severe effects of the tropical world and in his later years could endure labours that would have soon exhausted others. Because of his ... disease, in his later days he had virtually to forgo many ... agreeable things of life such as the pleasures of dining ..., which made him ... withdrawn and [prone to] sudden resentments and ill temper. ... he needed little sleep. It was easy for him to spend two thirds of the night every day of the week, working at his desk ... he was gifted with an exceptionally good and accurate memory ...



Eduard Fenzl, Director of the Imperial Austrian Natural History Cabinet – Schott's friend, colleague and biographer (1865).

The Aroideae Maximilianae

Schott's last work was exclusively about Brazilian Araceae

Published in 1879

14 years after Schott's death

1 year after Engler's treatment of Araceae for *Flora Brasiliensis*

AROIDEAE MAXIMILIANAE.

DIE

AUF DER REISE S^R. MAJESTÄT DES KAISERS MAXIMILIAN I. NACH BRASILIEN

GESAMMELTEN ARONGEWÄCHSE

NACH

HANDSCHRIFTLICHEN AUFZEICHNUNGEN VON H. SCHOTT

BESCHRIEBEN

VON

DR. J. PEYRITSCH.

MIT EINEM TITELBILDE UND 42 TAFELN IN FARBENDRUCK.



LEHMAN
BROOKLYN
BOTANICAL
GARDEN

WIEN

DRUCK UND VERLAG VON CARL GEROLD'S SOHN.

1879.



Prof. Dr Christa Riedl-Dorn, Director of Archive and History of Science Vienna Natural History Museum

The full story of Archduke Maximilian's expedition to Brazil is told in Dr Christa Riedl-Dorn's superb monograph :

“Blumen eines Kaisers” (Flowers of an Emperor)

BLUMEN EINES KAISERS

MAXIMILIAN VON MEXIKO UND SEINE BRASILIENEXPEDITION 1859—1860

CHRISTA RIEDL-DORN

INHALTSVERZEICHNIS

| | |
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| Österreichs Anteil an der Erforschung Brasiliens | Seite 5 |
| Maximilians Jugend | Seite 16 |
| Max als Schriftsteller | Seite 20 |
| Unglückliche Liebe zu Amalia von Braganza | Seite 21 |
| Maximilian als Marinekommandant und Generalgouverneur von Lombardo-Venetien | Seite 22 |
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| Die Weltumseglung der Fregatte “Novara” | Seite 40 |
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| Autobiographie von Heinrich Ritter Wawra von Fernsee | Seite 52 |
| Auszüge aus den Reiseberichten von Maximilian und Wawra | Seite 65 |
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“ ... Der Eindruck ist überwältigend. Man fühlt sich verlassen unter dem ersten Glanze der stummen Pflanzen und zieht stumm unter dem Drucke des heißen Mittags durch die unbelebte Märchenpracht, und plötzlich klingt es einem von allen Seiten unsichtbar entgegen. Dieser vom vollen Lebensdufte durchzogene Wald, dieser geheimnisvolle Schatten, unter dem die unbekanntnen Pflanzen ihre Mittagsruhe halten, und dazu dies merkwürdige Concert, brachten in mir jenen Jubel der entzückten Bewunderung hervor, der meine Brust seit dem ersten Schritte auf dem neuen Boden beseligend durchwogte. Solche Stunden der Wonne an der Natur hatte ich höchst selten, aber so vollkommen wie jetzt nie erlebt. Als ich durch die dichten Hallen des Waldes schritt, ließ ich in meiner Erinnerung die Bilder meiner vielen Reisen an mir vorüberziehen, und kam zum Schlusse, daß der Mensch, der Sinn für die Natur hat, drei große Bilder sehen müsse, um zu begreifen,

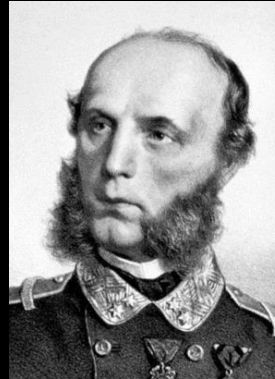
EINLEITUNG

was die Erde Erhabenes bietet: Einen Morgen in den Alpen, auf hohem Felsenkämme in der reinen Luft, fern vom Getriebe der Welt, umringt vom herrlichen Farbensmelz der reichen Alpenflora, vom tiefblauen Enzian, von der fröhlichen Alpenrose, von Stiefmütterchen und Vergißmeinnicht, von Nelken und Veilchen, umgeben von der kühlen Dämmerung, in die nach und nach die einzelnen Lichtschichten hinein leuchten, vor denen am silbernen Firmamente die Sterne erlöschen bis ein mächtiger Hauch des Erwachens über die Erde zieht, die Nebelkufen in den Thälern verschwinden, das glühende Gold im Osten sich mehrt, die Firne und Schneefelder im Rosenlichte immer kräftiger erglühen, die Tannen den Thau von den Aesten schütteln, und plötzlich die Sonne über die Zacken der Riesengebirge emporleuchtet, ihre Strahlen wie frohe Kunde in die grünen Thäler auf die schimmernden Seen sendend, und aus den Tiefen als Dank der Sang der Vögel, der Klang der

Archduke Ferdinand Maximilian's Expedition to Brazil

The ship and most personnel were of the Austrian Navy, of which Maximilian was head.

Wawra and Maly were responsible for plant collecting



W. von Tegetthoff
Admiral



A. von Jilek
Marine Surgeon
General



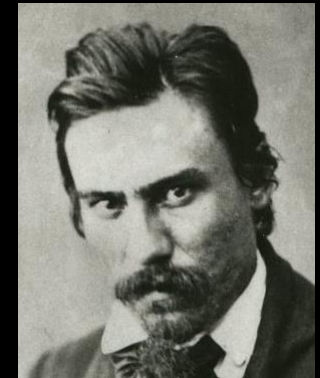
H. Wawra
Botanist and
Rapporteur (also
Marine Surgeon)



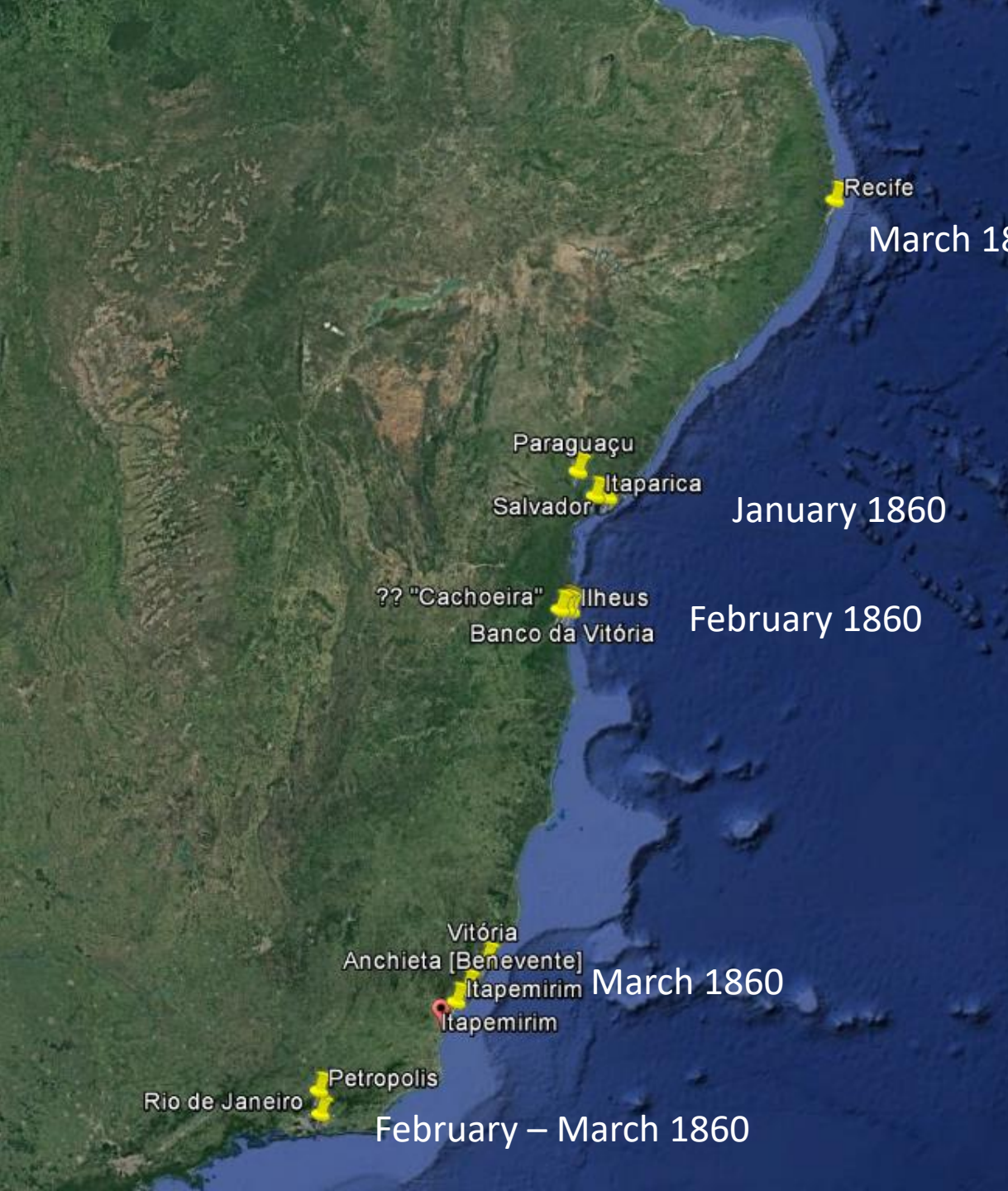
Archduke Ferdinand Maximilian of Austria
Supreme Naval Commander
Brother of the Emperor



Gardener and Plant
Collector



J. Selleny
Artist



March 1860

The collecting localities of F. Maly and H. Wawra during Archduke Maximilian's 1860 expedition.

January 1860

February 1860

March 1860

February – March 1860

The expedition was in Brazil from January – March 1860)

In the states of Bahia, Rio, Espírito Santo, Pernambuco

Maximilian planned two magnificent books to present the expedition's results:

Expedition ends April 1860



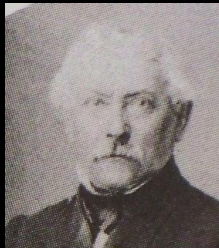
H. Wawra



Wawra completes his volume, published 1866

All results except the Araceae

The Editors



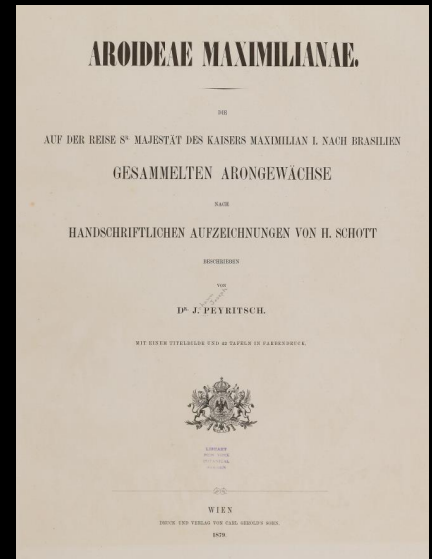
H.W. Schott dies 1865



Wawra called away to war 1866



T. Kotschy dies 1866



S. Reissek dies 1871



E. Fenzl retires 1875



J.J. Peyritsch completes and publishes 1879

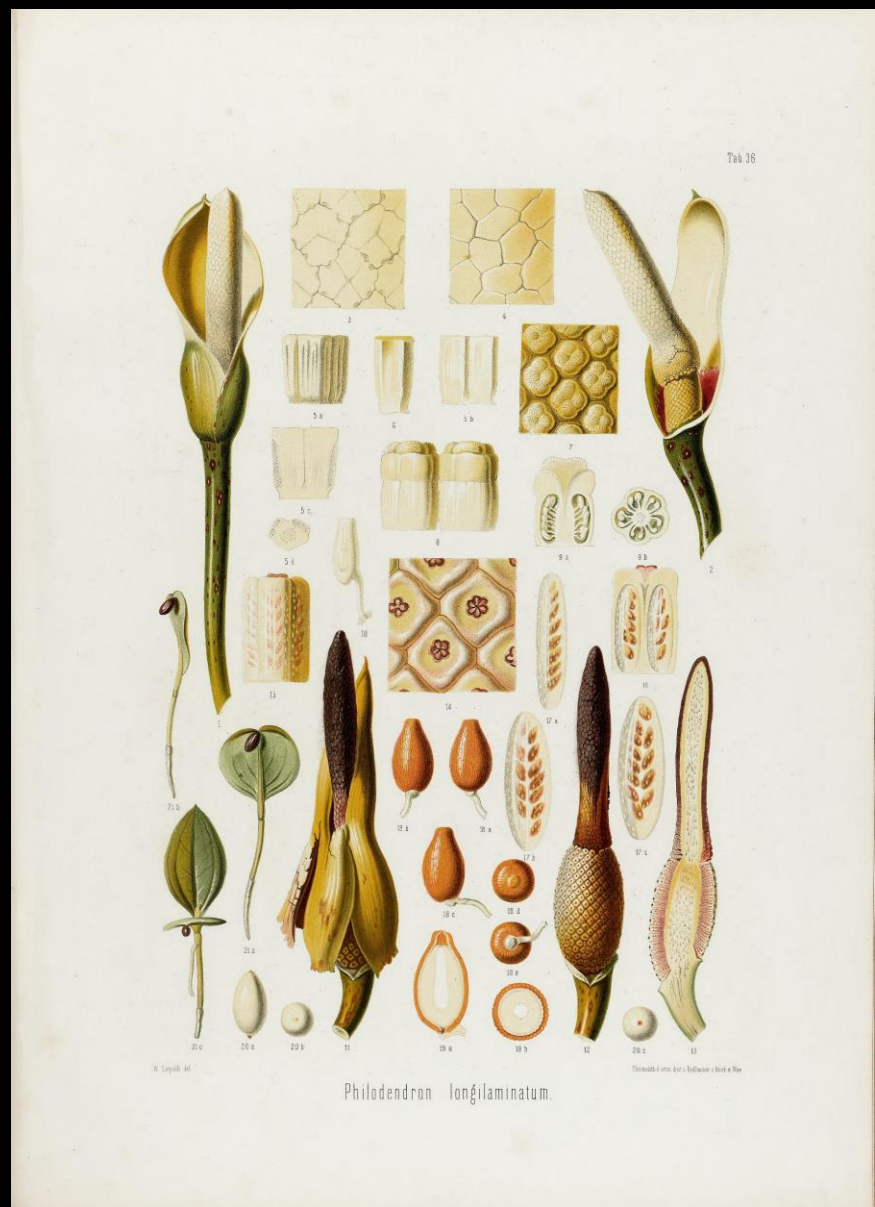


Joseph Selleny's Frontispiece showing Aroids in the Mata Atlantica of Brazil.

The *Aroideae Maximilianae* was funded by the imperial government of Austria.

It is a magnificent botanical and artistic monument to Maximilian, to Schott and to the scientific and aesthetic culture of mid 19th century Vienna.

Schott's own books were funded by himself alone.



Eighteen of the 38 species were described by Schott as new.
Philodendron longilaminatum from Ilhéus was one of them.

In the 14 years from Schott's death to publication, some species localities became confused. Wawra noted in his 1879 review that Schott had the original herbarium specimens collected by Maly, but these were lost.

In the case of *Dracontioides desciscens* Maximilian himself provides the evidence:

The locality given in Aroideae Maximilianae is apparently Tijuca in Rio de Janeiro:

Vorkommen: Im Districte Tijuca an offenen Stellen der Ebene, ein, wenn das Wasser zurücktritt. Sie wurde von Riedel in Brasilien

Description of Maly's collection in Itaparica in Bahia, by Archduke Maximilian (Recollections of My Life, vol. 3, p. 228, 1868):

large, stiff, glossy leaves. On the more marshy ground our delighted botanist discovered, amid attalea and astrocaryum, the rare aroidea, urospatha desciscens with its pointed, wedge-shaped, long, glossy leaves, together with many other flowers. We were the first people to bring this plant alive to Europe. The forest path conducted us to a

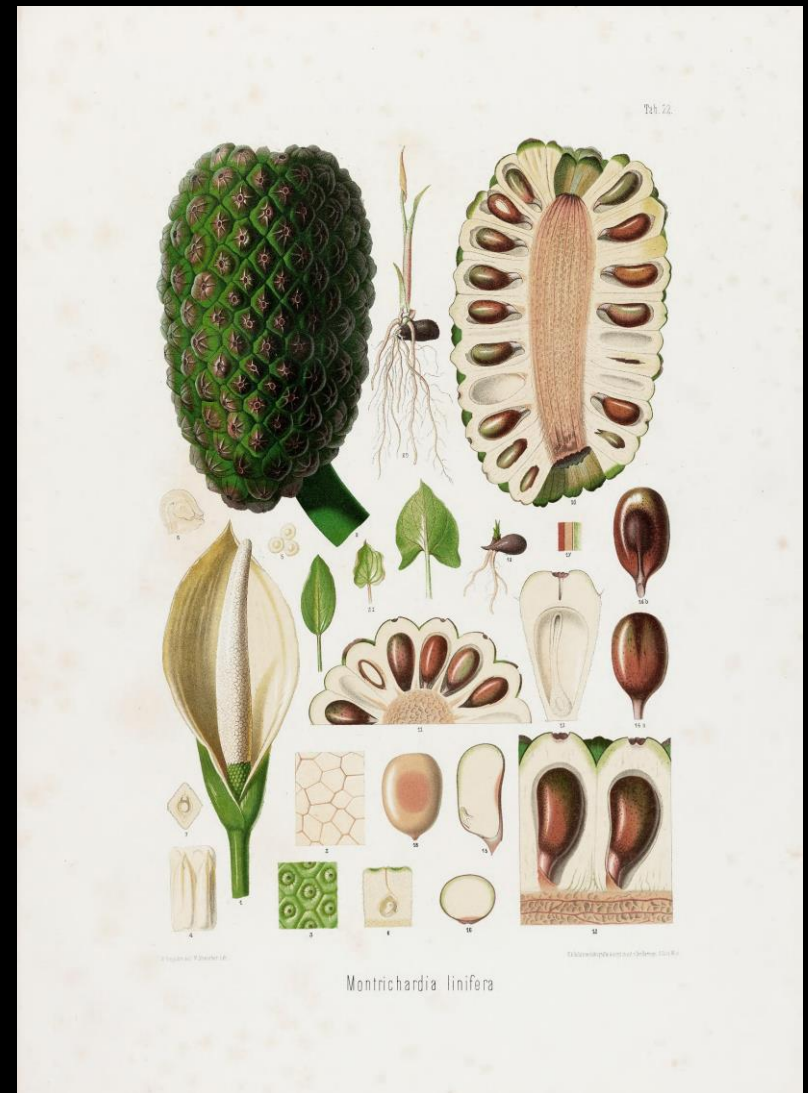
Dracontioides desciscens is known from Sergipe, Bahia and Espirito Santo, but not Rio de Janeiro.



The artist for the main plates was Wenzel Liepoldt, described by Riedl-Dorn (1992) as “the most recent and the last representative of the Viennese tradition of botanical illustration”.



Anthurium jilekii named by Schott for the expedition member Marine Surgeon General August von Jilek, Maximilian’s personal physician.



Montrichardia linifera, abundant around Salvador and mentioned several times by Maximilian in his *Recollections*.



Rhopalostegium Riedelianum

The most beautiful of the
Asterostigma species:

Asterostigma riedelianum

The imperial Philodendron

Philodendron imperiale

now *P. ornatum*



Philodendron imperiale

Desseins d'après les observations de J. B. de R. & de R.

K. Schum. del.



Philodendron imperiale

Desseins d'après les observations de J. B. de R. & de R.

K. Schum. del.



Philodendron imperiale.

K. Schum. del.

Desseins d'après les observations de J. B. de R. & de R.

The Schott Icones

During his career, Schott employed, at his personal cost, a number of outstanding artists in Vienna to illustrate living plants and herbarium specimens

This collection of around 3,500 drawings is in the Archive of the Vienna Natural History Museum.

The plates Schott published in his books are all based on originals in the Schott Icones.

The Schott Icones were published in a black-and-white microfiche edition in 1984, with a detailed catalogue prepared by Dan Nicolson.

H. W. Schott

ICONES AROIDEAE ET RELIQUIAE

Museum of Natural History, Vienna

Alphabetical Index

Compiled by Dan H. Nicolson

Introduction by Harald Riedl



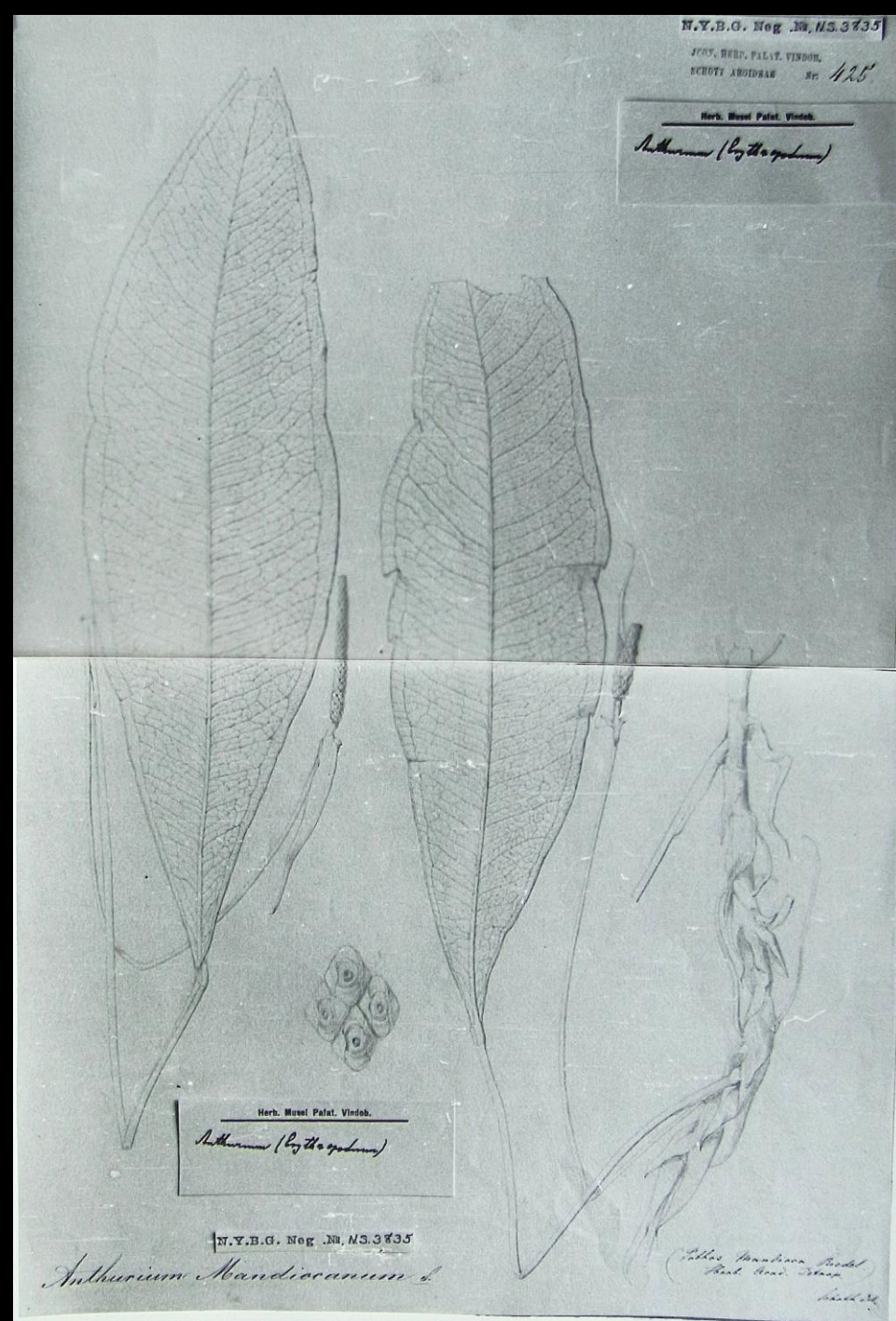
▲ IDC

Schott borrowed specimens from herbaria throughout Europe

This drawing shows a specimen collected by Ludwig Riedel in the Fazenda Mandioca north of Rio de Janeiro.

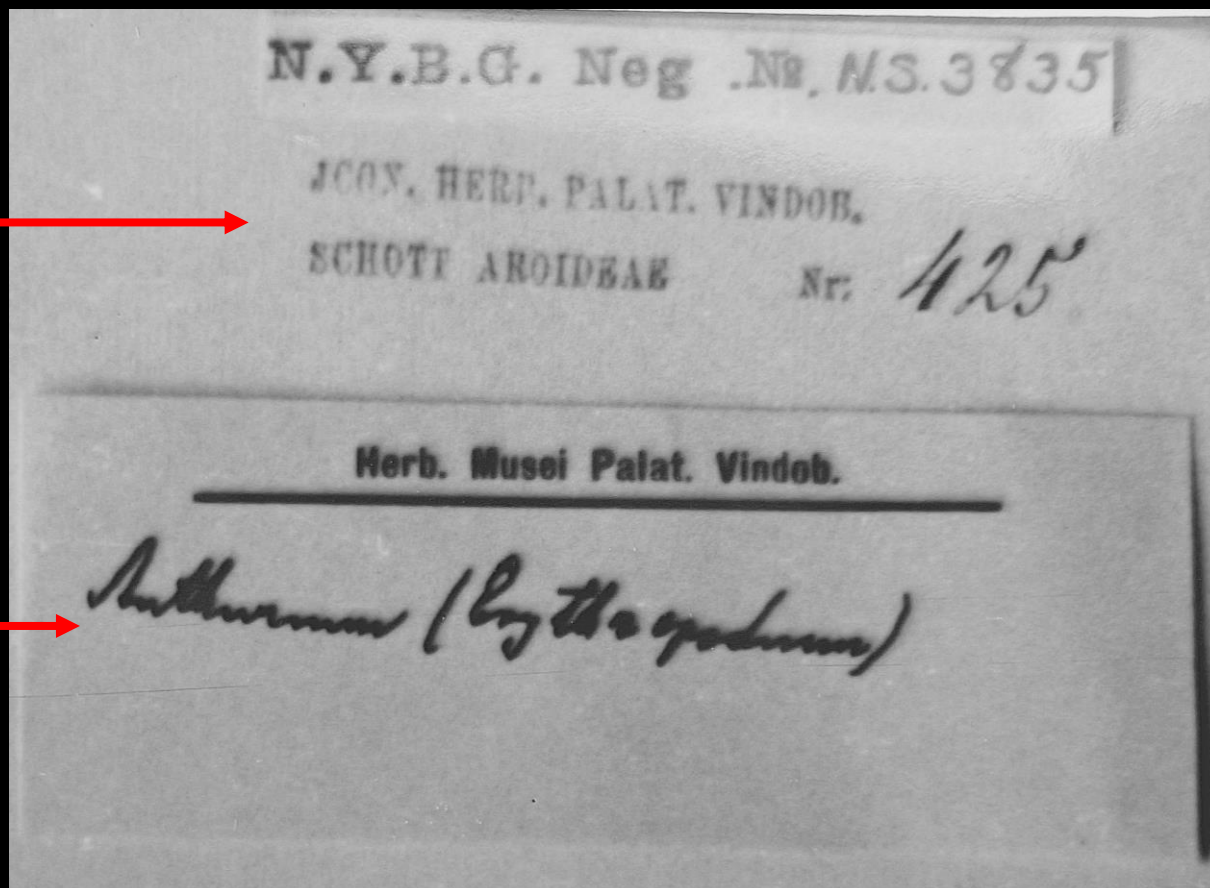
These were very accurately drawn in pencil, often with floral dissections.

These drawings sometimes show specimens that have since been destroyed, e.g. Kunth's specimens at the Berlin Herbarium.



Top right-hand corner:

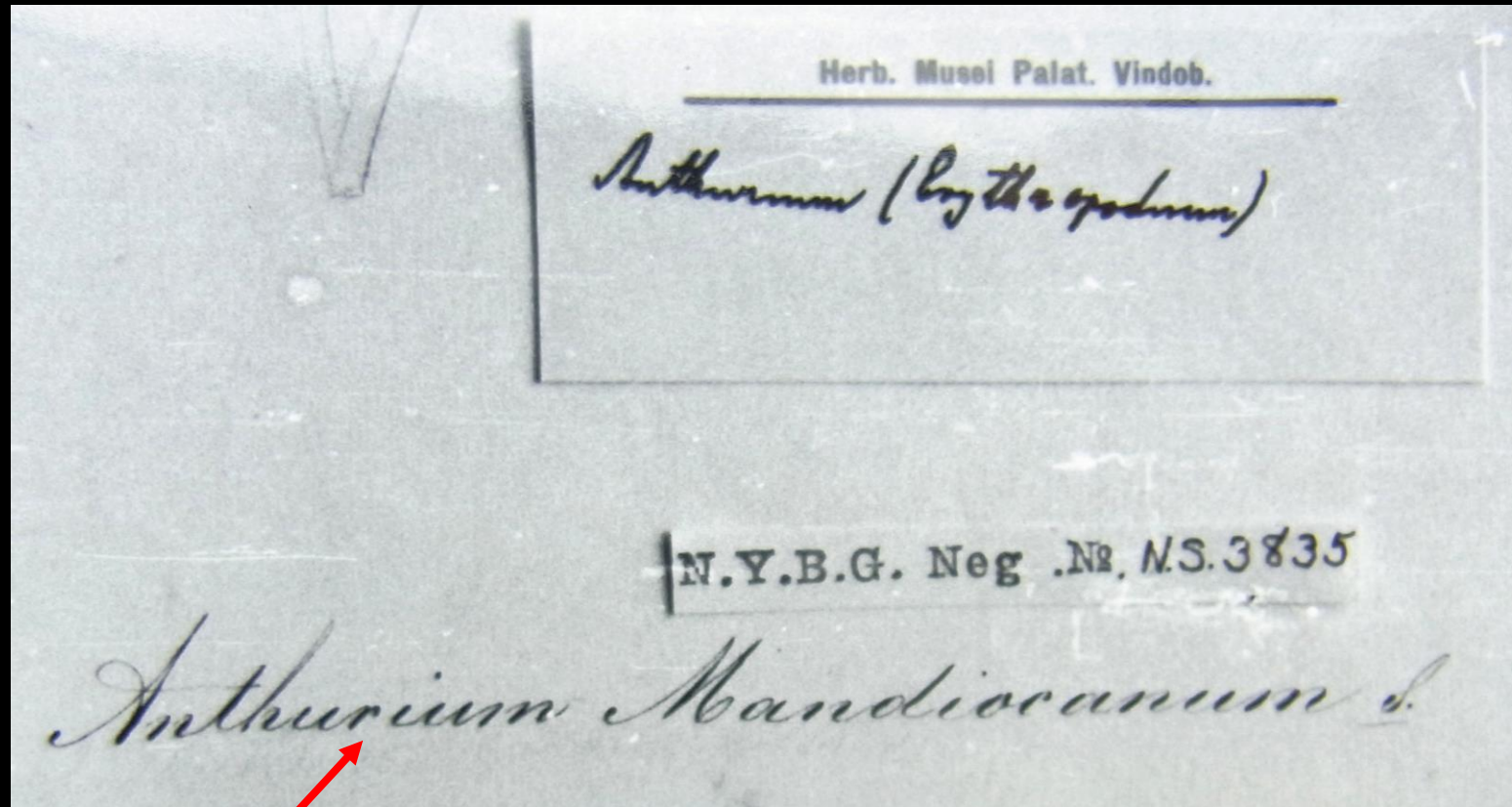
New York Botanical Garden negative number (a later addition)



Icon number

Later determination

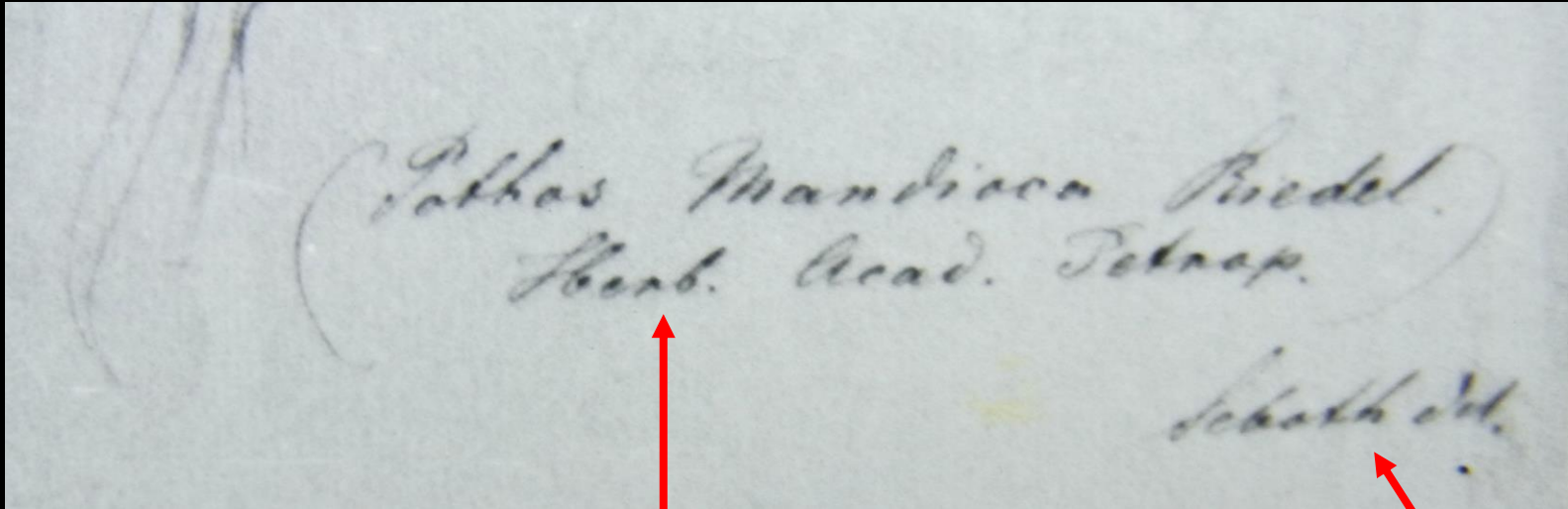
Bottom left-hand corner:



Schott's own determination written out in a fair hand in ink. His original pencil determinations are visible in some Icones.

This name is a synonym of *Anthurium intermedium*

Bottom right-hand corner: Data transcribed from specimen label



Artist's name "Seboth del."
= "Drawn by Seboth"

"Pothos Mandioca Riedel. Herb. Acad. Petrop."

Field determination = Pothos

Collecting locality = Mandioca [Fazenda Mandioca]

Collector = Riedel

Herbarium = Herbarium of the St Petersburg Academy of Sciences [LE]



The coloured drawings usually have no data on the plant origin written on them.

These were made from living plants cultivated by Schott at Schönbrunn.

Schott's Herbarium

Harald Riedl and Christa Riedl-Dorn describe the fate of Schott's own herbarium in their 1988 paper.

Schott's Araceae herbarium was destroyed during WW2.

None of the Schott Icones can be unambiguously linked to his own Brazilian collections.

TAXON 37(4): 846-854. NOVEMBER 1988

HEINRICH WILHELM SCHOTT'S BOTANICAL COLLECTIONS AT THE VIENNA NATURAL HISTORY MUSEUM (W)

*H. Riedl and Christa Riedl-Dorn*¹

Summary

A list of the taxa of Araceae in W. H. Schott's herbarium in Vienna which were lost at the end of World War II is given.

Parnell and Szujkó-Lacza (1987) recently published a paper on H. W. Schott's private herbarium at the National Museum of Natural History in Budapest. Its existence there had been suspected for a long time and its fate had been briefly described by one of us (H. Riedl, 1965). It was bought by the Emperor of Mexico, Maximilian, after Schott's death in 1865 and transferred to his residence. After the final disaster of his reign, Theodor Bilimek, a clergyman and entomologist, who had been in the emperor's company to the very last, managed to bring Schott's herbarium to the Budapest National Museum after his death. Though this last step had never been stated explicitly, it could be implied from Haynald's scientific bequest. Riedl (1965) also mentioned that 1379 specimens of Araceae had been acquired by the Vienna Natural History Museum and later destroyed at the end of World War II. In order to facilitate future research we give a list of the taxa that had been present in Vienna and are lost, these bear Schott's original nomenclature from files prepared in 1872 under the guidance of G. Beck v. Managetta. The specimens pertaining to these names are apparently not among those at BP (T. Croat, pers. comm.), but in case any duplicates of these are still extant in Budapest, they should be regarded as types for Schott's own taxa. In all other cases the plates, drawn mainly from living plants cultivated in Schoenbrunn Gardens by various artists of extraordinary skill (including Zehner, Seboth, Oberer, Nickeli, and Liepoldt) and preserved at the Archive, Department of Botany, Vienna Natural History Museum, should serve as types. Unfortunately, 80 plates out of this collection of more than 3400, either black and white or coloured, are also missing. All the taxa concerned are members of Lasioideae and represent the complete set of the following genera: *Cyrtosperma*, *Lasia*, *Podolasia*, *Urospatha*, *Ophione*, and *Dracontium* (including *Echidnium* and *Godwinia*). It is still possible that these missing plates will turn up at some unexpected place to which they had been sent on loan before World War II, in which case we would kindly request information.

The following species were present in Schott's herbarium in Vienna, but no longer exist there (the number of sheets is indicated in parentheses for each taxon).

The Aroids collected by Schott in Brazil

Schott mentions very few aroids in his expedition diaries of 1822.

The best evidence comes from his last major publication, in the citations of specimens in the *Prodromus Systematis Aroidearum* (1860)

85. *microphyllum*. Endl. (*Gen. p. 240. 1836.*) —
Petiolus semiteres, 5-7-pollicaris. Geniculum breve. Lamina fol. 2-2 $\frac{1}{2}$ (stirp. spontan.) 3-5 pollices (stirp. cultae) longa, 1-1 $\frac{1}{2}$ —2-2 $\frac{1}{2}$ pollices lata, ovata, basi ro-

Bacca breviter-ovoidea, pallida, vertice viridis. Semen stramineo coloris. — Brasilia, Rio Jan. S. — *vidi plant. spontaneam in summitate Corcovadis, et culta sicut et exsiccata specimina.*

Anthurium microphyllum – citation by Schott in his *Prodromus Systematis Aroidearum* (1860)

Most citations have little detail.

The key phrase is “v. v. spont et cult.”

32. *leptostachyum*. S. (*Oest. B. Wchnbl.* 1855. p. 66.) — Petioli 6-8-10 pollices longi. Geniculum longulum. Lamina fol. 9-13-pollicaris, medio 2-4 pollices lata, oblongula l. oblonga, basin versus sub rectilineo-cunea-

licaris, spatha semipollice circiter longior. Baccae sphaericae, minutae. Semen rubiginoso-purpureum. — Brasilia, Rio Jan. S. — v. v. spont. et cult.

Anthurium leptostachyum – citation by Schott in his *Prodromus Systematis Aroidearum* (1860)

The following species in the Prodrumus (1860) have the “v. v. spontan.” citation:

Caladium poecile, *Philodendron cannaefolium* (= *P. martianum*), *P. crassinervium*, *P. ornatum*, *P. eximium*, *P. speciosum*, *P. imbe*, *P. bipinnatifidum*, *Anthurium leptostachyum* (= *A. intermedium*), *A. affine*, *A. coriaceum*, *A. vellozianum* (= *A. parasiticum*), *A. olfersianum* (= *A. parasiticum*), *A. lucidum*, *A. microphyllum*, *A. ottonianum* (= *A. pentaphyllum*), *A. variabile* (= *A. pentaphyllum*), *A. undatum* (= *A. pentaphyllum*)

Other species have “S.” in the citation, but lack “v. spont.” or “v. spontan.”, which suggests species which he brought back from Brazil, but perhaps were collected by others and only cultivated by him in Rio:

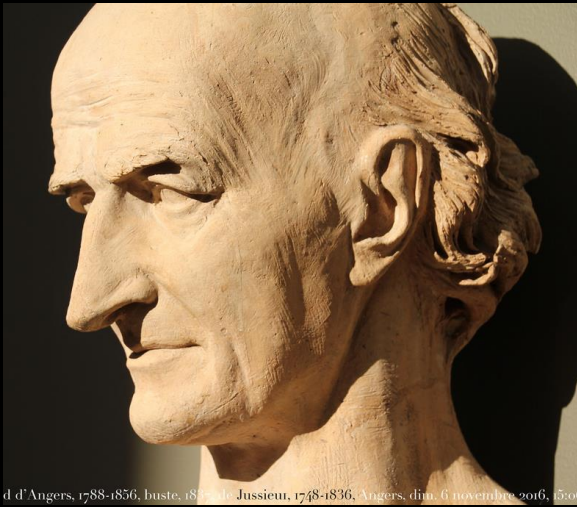
Philodendron bipennifolium, *P. pedatum*, *Monstera lanceaefolia* (= *M. adansonii*), *M. oblongifolia* (*M. adansonii*), *Anthurium trinervium*.

By 1865 Schott had recognized 161 Araceae species for Brazil

78% (125) he had described himself

Acontias pentaphyllus S. , *Acontias Riedelianus* S. , *Acontias striatipes* S. , *Adelonema erythropus* S. , *Alloschemone Poeppigiana* S. , *Anthurium acuminatum* S. , *Anthurium aduncum* S. , *Anthurium affine* S. , *Anthurium bellum* S. , *Anthurium Beyrichianum* Knth. , *Anthurium Chamissonis* S. , *Anthurium comtum* , *Anthurium consanguineum* Knth. , *Anthurium coriaceum* Endl. , *Anthurium erythropodum* Miq. , *Anthurium Gaudichaudianum* Knth. , *Anthurium gladiifolium* Schott. , *Anthurium grossum* S. , *Anthurium Harrisii* Endl. , *Anthurium Hoffmannseggii* S. , *Anthurium illepidum* S. , *Anthurium intermedium* Knth. , *Anthurium Jilekii* S. , *Anthurium Langsdorffii* S. , *Anthurium leptostachyum* S. , *Anthurium Lhotzkyanum* S. , *Anthurium Lindenianum* C. Kch. , *Anthurium longifolium* Knth. , *Anthurium lucidum* Knth. , *Anthurium Malyi* FM. , *Anthurium Mandiocanum* S. , *Anthurium Maximiliani* S. , *Anthurium microphyllum* Endl. , *Anthurium Olfersianum* Knth. , *Anthurium Ottonianum* Knth. , *Anthurium oxycarpum* Poepp. , *Anthurium pachiraefolium* S. , *Anthurium panduratum* Martius. , *Anthurium rubricaulis* Knth. , *Anthurium Sellowianum* Knth. , *Anthurium sinuatum* Benth. , *Anthurium solitarium* S. , *Anthurium Sonderianum* S. , *Anthurium trinerve* Miq. , *Anthurium trinervium* Knth. , *Anthurium undatum* S. , *Anthurium Urvilleanum* S. , *Anthurium variabile* Knth. , *Anthurium Vellozianum* S. , *Anthurium virgosum* S. , *Asterostigma colubrinum* S. , *Asterostigma concinnum* S. , *Asterostigma lineolatum* S. , *Asterostigma Luschnathianum* S. , *Asterostigma Tweedieanum* S. , *Asterostigma Vellozianum* S. , *Atimeta Martii* S. , *Atimeta Videniana* S. , *Caladium bicolor* Vent. , *Caladium poecile* S. , *Caladium sororium* S. , *Caladium Spruceanum* S. , *Caladium Vellozianum* S. , *Chersydrium Jararaca* S. , *Dieffenbachia consobrina* S. , *Dieffenbachia conspurcata* Schott. , *Dieffenbachia irrorata* Mart. , *Dieffenbachia lingulata* Mart. , *Dieffenbachia Spruceana* S. , *Echidnium Spruceanum* S. , *Heteropsis oblongifolia* Knth. , *Heteropsis Riedeliana* S. , *Heteropsis salicifolia* Knth. , *Heteropsis Spruceana* S. , *Monstera Blanchetii* S. , *Monstera expilata* S. , *Monstera Gaudichaudii* S. , *Monstera Klotzschiana* S. , *Monstera lanceaefolia* S. , *Monstera microstachya* S. , *Monstera oblongifolia* S. , *Monstera Velloziana* S. , *Montrichardia linifera* S. , *Philodendron (Boursia) longilaminatum* , *Philodendron (Doratophyllum?) disparile* S. , *Philodendron (Imbea) recurvifolium* , *Philodendron aceriferum* S. , *Philodendron Adamantinum* , *Philodendron aemulum* Schott. , *Philodendron alternans* S. , *Philodendron ambiguum* S. , *Philodendron amphibium* Knth. , *Philodendron bipennifolium* S. , *Philodendron bipinnatifidum* S. , *Philodendron Blanchetianum* S. , *Philodendron brevilaminatum* Schott. , *Philodendron cannaefolium* Martius. , *Philodendron corcovadense* Knth. , *Philodendron cordatum* Knth. , *Philodendron crassinervium* Lindl. , *Philodendron curvilobum* S. , *Philodendron cuspidifolium* Martius. , *Philodendron dolosum* S. , *Philodendron elaphoglossoides* S. , *Philodendron eximium* S. , *Philodendron hastatum* C. Kch. , *Philodendron Imbé* S. , *Philodendron Imperiale* , *Philodendron inops* S. , *Philodendron insigne* S. , *Philodendron lanceolatum* S. , *Philodendron linguifolium* S. , *Philodendron micranthum* Poepp. , *Philodendron muricatum* S. , *Philodendron oblongum* Knth. , *Philodendron ochrostemon* S. , *Philodendron ornatum* S. , *Philodendron pedatum* Knth. , *Philodendron Poeppigii* S. , *Philodendron propinquum* S. , *Philodendron pteropus* Martius. , *Philodendron Riedelianum* S. , *Philodendron Selloum* C. Kch. , *Philodendron Sonderianum* S. , *Philodendron speciosum* S. , *Philodendron squamiferum* Poepp. , *Philodendron Tweedieanum* S. , *Philonotium Spruceanum* S. , *Rhodospatha blanda* Schott. , *Rhopalostigmium Riedelianum* S. , *Spathicarpa Gardneri* S. , *Spathicarpa longicuspis* S. , *Spathicarpa platyspatha* S. , *Spathicarpa sagittifolia* S. , *Spathicarpa Tweedieana* S. , *Spathiphyllum cannaefolium* S. , *Spathiphyllum Gardneri* S. , *Spathicarpa [sic] cornuta* S. , *Stenospermatum [sic] Spruceanum* S. , *Syngonium Riedelianum* S. , *Syngonium Vellozianum* S. , *Taccarum Weddelianum* Brongn. (in litteris.) , *Thaumatophyllum Spruceanum* S. , *Tornelia Spruceana* S. , *Urospatha affinis* S. , *Urospatha caudata* S. , *Urospatha decipiens* S. , *Urospatha desciscens* S. , *Urospatha Langsdorffiana* S. , *Urospatha Poeppigiana* S. , *Urospatha quinquenervis* S. , *Urospatha Riedeliana* S. , *Urospatha sagittaeifolia* S. , *Urospatha Spruceana* S. , *Xanthosoma blandum* S. , *Xanthosoma Maximiliani* Schott. , *Xanthosoma striolatum* Martius. (in schedula) , *Xanthosoma utile* C.Kch. , *Zomicarpa Pythonium* S. , *Zomicarpa Riedeliana* S. , *Zomicarpa Steigeriana* FM.

Today these are recognized as 108 species of the 508 currently accepted for Brazil, i.e. 21% of the whole



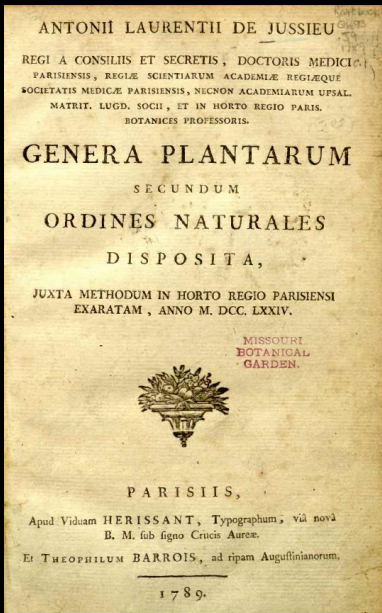
d'Angers, 1788-1856, buste, 1878; de Jussieu, 1748-1836, Angers, dim. 6 novembre 2016, 150f

Antoine Laurent de Jussieu (1748-1836)

Schott's scientific influences: The Natural System

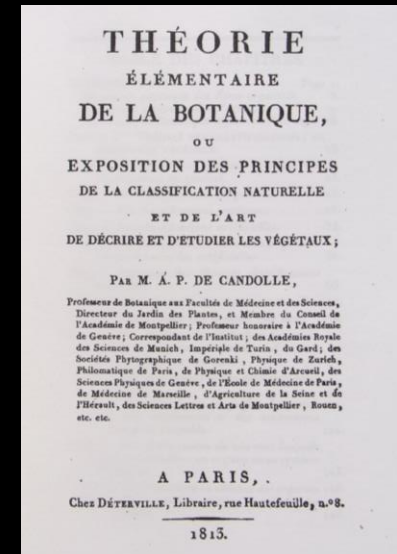
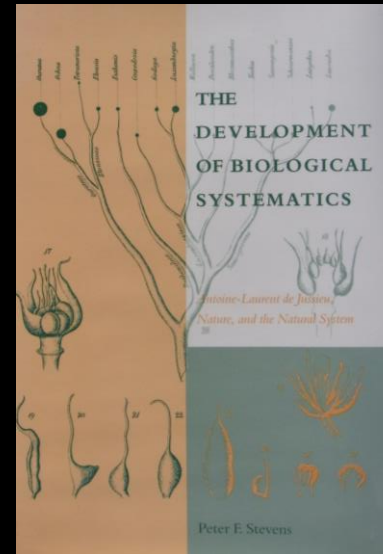


Augustin Pyramus de Candolle (1778-1841)



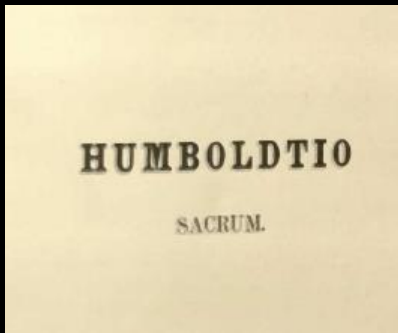
In Schott's lifetime
the dominant task
of botany was to
implement the
Natural System of
classification.

See Peter Stevens's
1994 monograph



Alexander von Humboldt

Schott made this fulsome dedication of the *Genera Aroidearum* (1858) to Humboldt in the last decade of his life.



Alexander von Humboldt
(1769 – 1859).

Cum longa ab hinc serie annorum puer admodum periculosissimo conflictarer morbo, **Tu, Vir excellentissime**, desiderio meo permotus, ad lectum mihi paene fatalem accedere haud gravatus es. Verba, quae tum e tuo fluxere ore, novos mihi, jam fere exstincturo, indidere spiritus, collapsasque refecere vires. Ita vitae ac pristinae restitus valetudini, ad adolescentiam perveni; **Tu vero, Vir gravissime**, non modo mei haud oblitus eras, verum, altiora tentantem, potenti **Tuo** patrocinio ita adjuvisti, ut mirabiles naturae species, plantarum praesertim, quae torridam ornant zonam, mihi videre contingeret. Reducem e tam remotis antipodum regionibus, quas **Tu** jam antea peragrasti, eadem gratia fovere perexisti, qua prius ad bonam spem sublevare dignatus eras. Vix igitur, **Vir celeberrime, Tuam** ulla subibit admiratio mentem, eum, quem **Tu** puerum **Tuo** benigno conspectu novis auxisti viribus, adultiorem fovisti, nunc, tacitis labentibus annis, ad senii limites deductum, nihil ardentius exoptare, quam fructum longi ac indefessi sui laboris, **Illi** offerre, cujus auxilio germina prima evolvi coepere. Dabis itaque, quod spero, **Vir excellentissime**, id humanissimis precibus meis, ut pagellas has, talia recogitanti Tibi oblatas animo, benigne accipere non dedigneris.

When Schott was a youth and gravely ill, a visit from the great Humboldt restored him to good health.

This meeting inspired Schott for the rest of his life.

Schott was member of a scientific elite

The Austrian Expedition to Brazil had launched Schott's brilliant career as scientific leader of the Austrian imperial gardens.

Very few European scientists in those days had four years first-hand experience of tropical plant life

Schott was a member of a small elite who had trod similar paths as Humboldt

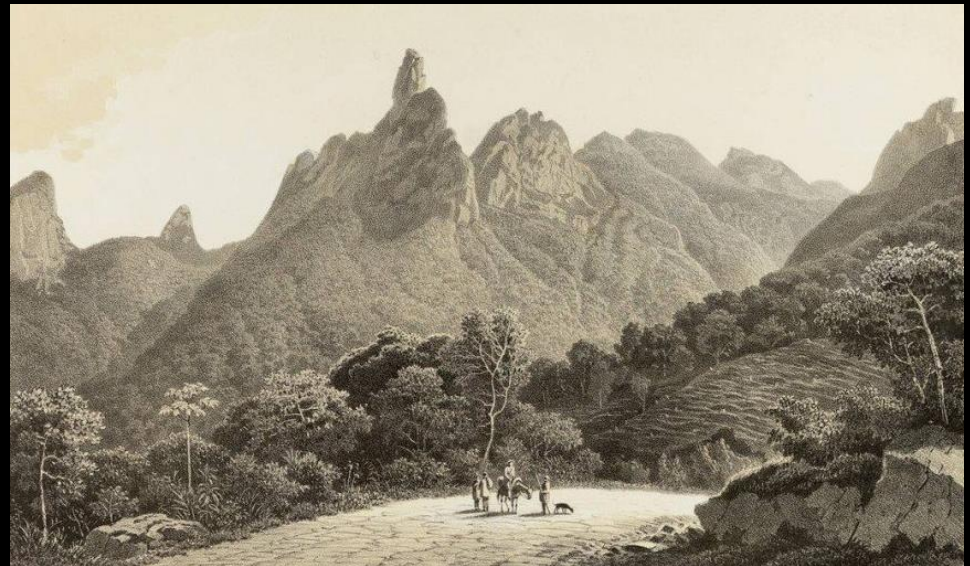
Like his contemporary Martius, Schott embarked on a lifelong aesthetic-scientific project :

The description of the natural order of the plant world

- in his Aroid publications
- and in his gardens



Carl Friedrich Philipp von Martius
(1794-1868)



Adolf Engler : Schott's Successor

Engler's first project with Araceae was the *Flora Brasiliensis* (1878)

In 1879 he published a complete species monograph of Araceae.

At this time he relied heavily on Schott's work, then only recently published (1853-1860)

Engler introduced evolutionary thinking into Araceae systematics.

He recast the family classification to reflect a evolutionary progression and specialization

He used anatomy and vegetative characters in the high level classification.



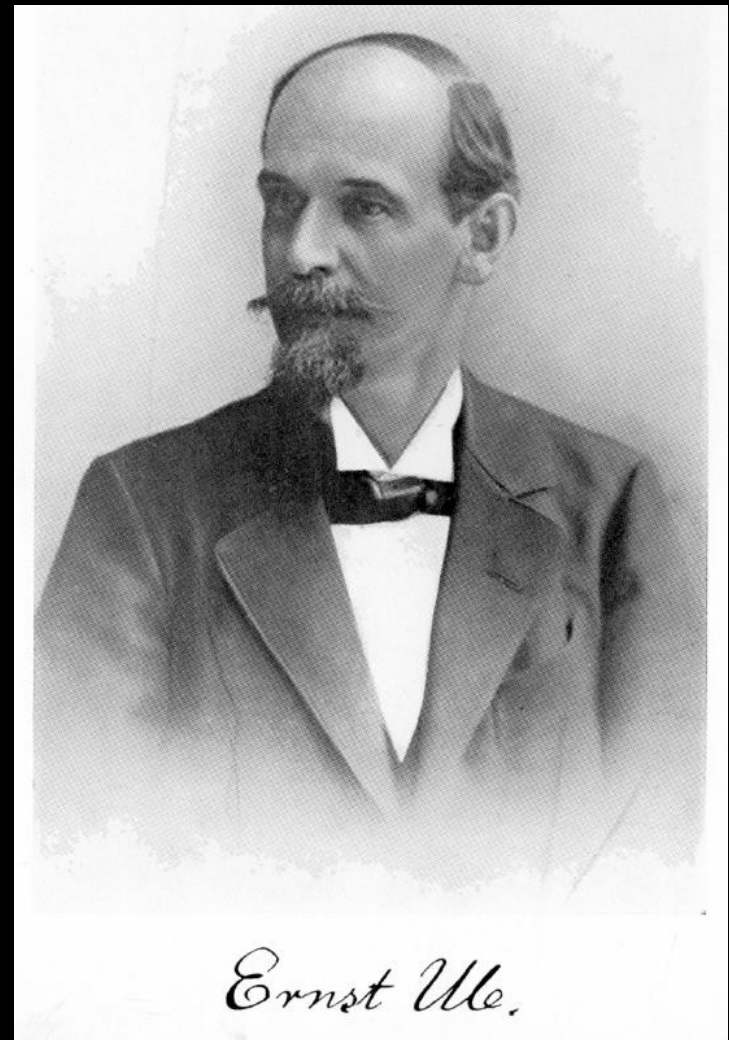
Adolf Engler (1844-1930) when a young man of 29, in 1873, just when he started work of the Araceae.

In his first family monograph, Engler (1879) recognized 147 species for Brazil.

118 species are recognized today ,
i.e. 23% of Brazil's Araceae.

In Engler's career the most important new contributions for Brazil came from the collections of Ernst Ule in the early 20th century.

Most of the subsequent growth of species discovered in Brazil came in the 20th and 21st centuries.



Acknowledgements

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