

## Typi Swartziani Orchidacearum Indiae Occidentalis in Herbario Vindobonense conservandi

F. Pupulin\*

### Abstract

A leading authority in the taxonomy of the Orchidaceae, Olof SWARTZ contributed a large number of taxa new to the science from his journey to the Caribbean in 1784–1786. Most of Swartz's collections are kept at the Regnellian Herbarium (part of Swedish Museum of Natural History), but duplicates of the materials he collected in the West Indies may be found today in several European herbaria, including the herbarium of Joseph Banks (now at the British Museum), the herbarium of the Bergius Foundation in Stockholm, the Carl Peter Thunberg herbarium at the Uppsala University, and the herbarium of the Botanical Garden & Museum of the Natural History Museum of Denmark, University of Copenhagen. Less known is the rich collection of Swartz' type specimens conserved at the Naturhistorisches Museum in Vienna, which are incorporated in the herbarium of Heinrich Gustav Reichenbach. In view of the importance of historic type material to provide nomenclature stability, mainly for what concerns old binomials, and the ongoing effort to form a register of all the Caribbean taxa published by Swartz, an annotated catalogue of Swartz' type material at W is presented. The quality of the material at W is mostly outstanding, and it is important for taxonomists working on the Caribbean, and in general with the Neotropical orchid flora, to take in consideration W in their search for original Swartz specimens. Forty-four sheets corresponding to 41 species originally described by Swartz on the basis of West Indian collections are included in the catalogue, 43 of which are isotypes and one a drawing of type. Other drawings by Swartz, mounted on the specimen sheets, are also annotated in the catalogue. Homotypic synonyms based on Swartz' names are listed, together with the currently accepted nomenclature for each taxon.

**Key Words:** Olof Swartz; Herbarium Naturhistorisches Museum Wien; Orchidaceae, types.

### Zusammenfassung

Olof Swartz beschrieb nach seiner Reise in die Karibik eine große Anzahl von Taxa. Die meisten seiner Belege befinden sich im Regnell-Herbarium (S), Dubletten seiner Aufsammlungen von den Westindischen Inseln sind in zahlreichen Sammlungen: BM (Herbarium Banks), SBT (Bergius), UPS (Thunberg) und Copenhagen. Weitgehend unbekannt ist die reiche Sammlung von Swartz' Typusbelegen im Naturhistorischen Museum Wien (W), wohin sie mit dem Herbarium H.G. Reichenbach fil. gekommen sind. In Hinblick auf die Wichtigkeit historischen Typus-Materials für die Stabilität der Nomenklatur und die Bestrebungen, eine Zusammenstellung aller karibischen Taxa zu erstellen, wird ein Katalog der in W vorhandenen Orchideen-Typusbelege von Swartz präsentiert. Die Qualität des Materials in W ist hervorragend und daher wichtig für alle Forscher im karibischen Raum. 44 Bogen, die zu 41 Arten gehören, die von Swartz beschrieben wurden, sind in diesem Katalog gelistet. Davon sind 43 Isotypen und 1 eine Zeichnung eines Typus. Auch andere Zeichnungen von Swartz, die auf den Bogen montiert sind, werden erwähnt. Es werden die homotypischen Synonyme, sowie die aktuelle taxonomische Position der Taxa angegeben.

---

\* Prof. Franco Pupulin, Lankester Botanical Garden, University of Costa Rica, P.O. Box 1031-7050 Cartago, Costa Rica. – Harvard University Herbaria, Cambridge, MA, U.S.A. – Marie Selby Botanical Gardens, Sarasota, FL. U.S.A. – Ángel Andreetta Research Center on Andean Orchids, University Alfredo Pérez Guerrero, Ecuador. – fpupulin@cariari.ucr.ac.cr

## Introduction

The Swedish botanist Peter Olof Swartz (Norrköping 1760 – Stockholm 1818) is well known for the important collections of plants he made in the West Indies in 1784–1786, among which orchids, ferns, and mosses are particularly represented. Swartz arrived in Jamaica in October, 1783, and botanised in the island until December, 1784, when he left for Hispaniola, where he collected plants in Haiti. He also visited Cuba and other smaller islands for a short period, but no official dates of his stays were recorded. Since June, 1785, he had returned to Jamaica, where he stayed until 1786, when he sailed for London concluding his tropical journey (STEARNS 1980).

The descriptions, drawings, and specimens gathered during his visit to Jamaica and Hispaniola served as the basis for Swartz' publications on West Indian botany (SWARTZ 1788, 1791, 1794, 1799, 1805, 1797–1806), providing the material for several nomenclatorial types at the generic and specific ranks. As one of the leading authorities of his times in the taxonomy of the Orchidaceae, Swartz contributed a large number of taxa new to the science from his journey to the Caribbean. In his „Nova genera & species plantarum; seu, Prodromus " (SWARTZ 1788), he described 2 new genera and 67 new orchid species. In the next eighteen years, Swartz added 6 new West Indian genera and 7 new species of Orchidaceae, based on his own collections and other gatherings by Samuel Fahlberg (1758–1834) from Jamaica and Saint-Barthélemy (SWARTZ 1799, 1805, 1806).

Most of the personal collections of Swartz are to be found at the Swedish Museum of Natural History's Regnellian Herbarium (part of S\*), where they were acquired by the Royal Swedish Academy of Sciences after his death in 1818. 'Swartz' herbarium formed part of the collections which in 1819 became the Swedish Museum of Natural History (NORDENSTAM et al. 1994). Liberal and generous with his collections to his compatriots and other botanists of his time, Swartz freely distributed specimens, and duplicates (but in some cases also unicates, i.e. *Epidendrum labiatum*, *Orchis hirtella*) of the materials he collected on his journey to the West Indies are found today in several European herbaria. An important collection is hosted in the herbarium of Joseph Banks (now at BM), where Swartz studied Caribbean materials during his stay in London in 1786. Other are found in the herbarium of the Bergius Foundation (SBT) in Stockholm (NORDENSTAM et al., 1994), in the Carl Peter Thunberg herbarium, Museum of Evolution at the Uppsala University (UPS-THUNB), and in the Botanical Garden & Museum of the Natural History Museum of Denmark, University of Copenhagen (C).

Less known to the students of the Caribbean orchid flora is the rich collection of Swartz' Type specimens conserved at the Naturhistorisches Museum in Vienna, which are incorporated in the herbarium of Heinrich Gustav Reichenbach (Leipzig 1823 – Hamburg 1889). The circumstances under which these materials were obtained by Reichenbach are unclear. Maybe he received a loan when still at the University of Leipzig, where he had been appointed extraordinary professor of botany in 1855, shortly after obtaining his diploma, or after moving to Hamburg as professor of botany and director of the botanic gardens at the Hamburg University, a position he occupied since 1863 until his death. What is sure, he had Swartz' herbarium at hand before 1866, if in his "Beiträge zu

einer Orchideenkunde Central Amerikas" he expressly stated: "Typi Swartziani herbarii holmiani ac propii praesto sunt" (REICHENBACH, 1866: 79).

When Reichenbach died, on 6 May 1889, it was anticipated that the Herbarium of the Royal Botanic Gardens, Kew, would soon be enriched with his collections, but eventually his herbarium, drawings and seeds, botanical library and instruments, were bequeathed to the Imperial Hof Museum at Vienna, under the extraordinary conditions that the orchid collections were to remain in sealed cases and not to be opened until 25 years after his death. Respecting the terms of the will, the materials of Reichenbach's herbarium were not mounted at the Hof Museum until 1914, and the overlooked Caribbean collections by SWARTZ were incorporated among Reichenbach's specimens without particular annotations.

The presence of Swartz' Type material in the Reichenbach herbarium was noted by ACKERMAN (1995), NIR (2000), DRESSLER & FOLSOM (2005), and PUPULIN (2007), but no attempt was done before to systematically revise the vast collections of Orchidaceae at Vienna and to annotate the specimens (mostly types) collected by SWARTZ in the West Indies.

It is important for taxonomists working on the Caribbean, and in general with the Neotropical orchid flora, to take in consideration W in their search for original SWARTZ specimens. Swartz's specimens from the West Indies, especially types, are frequently cited from herbaria that only possess very fragmentary materials, while the quality of the specimens at W let us suppose they were part of the principal Swartz herbarium.

Forty-four sheets corresponding to 41 species originally described by Swartz on the basis of West Indian collections were retrieved at W, 43 of which are isotypes and 1 drawing of type. Other drawings by Swartz were mounted on the specimen sheets, and are accordingly annotated in the catalogue. Types of 29 Swartz' names based on Caribbean material were not located at W, namely, *Cranichis aphylla*, *C. luteola*, *C. oligantha*, *C. pauciflora*, *C. stachyodes*, *Epidendrum claviculatum*, *E. filiforme*, *E. funale*, *E. labiatum*, *E. palmifolium*, *E. patens*, *E. proliferum*, *E. racemiflorum*, *E. sessile*, *E. subulatum*, *E. undulatum*, *Malaxis umbelliflora*, *Neottia calcarata*, *Oncidium altissimum*, *O. carthaginense*, *Orchis habenaria*, *O. plantaginea*, *Satyrium hyrtellum*, *S. adnatum*, *S. orchioides*, *S. spirale*, *S. elatum*, *Serapias flava*, and *S. polystachya*. It is noteworthy, however, that most of this taxa pertains to the orchid tribes Orchidoideae and the primitive Epidendroideae (sensu CHASE & al. 2003), which had particularly complex taxonomic histories, and the corresponding specimens may be perhaps misplaced under older, disused generic names.

The Orchid Specimen Database at the Natural History Museum, London (BM) (NHM 2008), the database of the Swartz herbarium at the Department of Phanerogamic Botany, Swedish Museum of Natural History, Stockholm (S) (NRM 2008), the type database at the Botanical Garden & Museum, Natural History Museum of Denmark, University of Copenhagen (C) (UNIVERSITY OF COPENHAGEN 2008), the database of the Botanical Museum, now Botany Section of the Museum of Evolution at Uppsala University, Sweden (UPS) (UPPSALA UNIVERSITY 2008), and the catalogue of the herbaria at the Conservatoire and Botanical Gardens of the Ville de Genève (G) (CJB 2008) were consulted to check for duplicates of Swartz collections, and type materials listed there where included into the notes to this paper under the respective taxa.

The numbers given to the sheets in the catalogue are the ones of the Reichenbach Orchid Herbarium and the additional number of W which is assigned during the ongoing databasing process at the Herbarium of the Naturhistorisches Museum, Vienna. All scans will also be available on the Virtual Herbaria\* (VITEK, pers. comm. 2008).

### Catalogue

1. *Cranichis diphylla* Sw., Prodr.: 120 (1788); emend. in Fl. Ind. Occ.: 1423–1424 (1806).

Type: Jamaica. "Habitat inter muscos in uliginosis montium altissimorum Jamaicae australis", O. Swartz s.n.

Isotype: W Rchb-Orch 16037 [W 0016962], cited by NIR (2000: 72) (Fig. 1). Fertile. Mounted with 2 drawings: a) ink drawing, tracing of the specimen, with enlarged details of the lip and a sepal, labeled "Cranichis diphylla Sw! Herb. Holm! Sw!"; b) pencil drawing, labeled "W16952 / Cranichis diphylla" SWARTZ' original determination, on separate label: "Cranichis diphylla - Swartz [alia manu] – Dt. Swartz". Determination on the specimen sheet [alia manu]: "Cranichis / diphylla / Swartz."

Other isotypes are known at BM (FAWCETT & RENDLE 1910), C, G, S, and UPS.

2. *Cranichis muscosa* Sw., Prodr.: 120 (1788); emend. in Fl. Ind. Occ.: 1429–1430 (1806).

Type: Jamaica. "Habitat in sylvis umbrosis subhumidis montium Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 16033 [W 0016961], cited by NIR (2000: 72) (Fig. 2). Fertile. Mounted with an ink tracing of the specimen. SWARTZ' original determination, on separate label: "Cranichis muscosa - Swartz [alia manu] – Dt. Swartz" Determination on the specimen sheet [alia manu]: "Cranichis / muscosa / Swartz."

Four isotypes are known at BM (FAWCETT & RENDLE 1910, GARAY & SWEET 1974), C, S, and UPS (ACKERMAN 1995).

3. *Cymbidium muricatum* Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799); emend. in Fl. Ind. Occ.: 1454 (1806).

≡ *Dichaea muricata* (Sw.) LINDL., Gen. Sp. Orchid. Pl. 209 (1833).

Type: Jamaica. "Parasiticum in truncis muscosis arborum, versus juga montium Jamaicae australis", O. Swartz s.n.

= *Dichaea morrisii* FAWC. & RENDLE, J. Bot. 48: 107. 1910; emend. in FAWCETT & RENDLE, Flora of Jamaica 1: 139, plate 30, Fig. 13-16. 1910.

Lectotype (DRESSLER & FOLSOM 2005): W Rchb-Orch 25291 [W 0016972] (Fig. 3). Fruiting. SWARTZ' original determination on the specimen sheet: "muricatum fl. Ind. Occ."; [alia manu]: "Dichaea muricata / Lindl."

Although NIR (2000) has taken as type of *E. muricatum* one of the two small, vegetative specimens at Copenhagen (C) that are labeled "missit Swartz, Herbarium Vahljanum," (DRESSLER & FOLSOM 2005), the specimen at Vienna has three leafy stems with two cap-

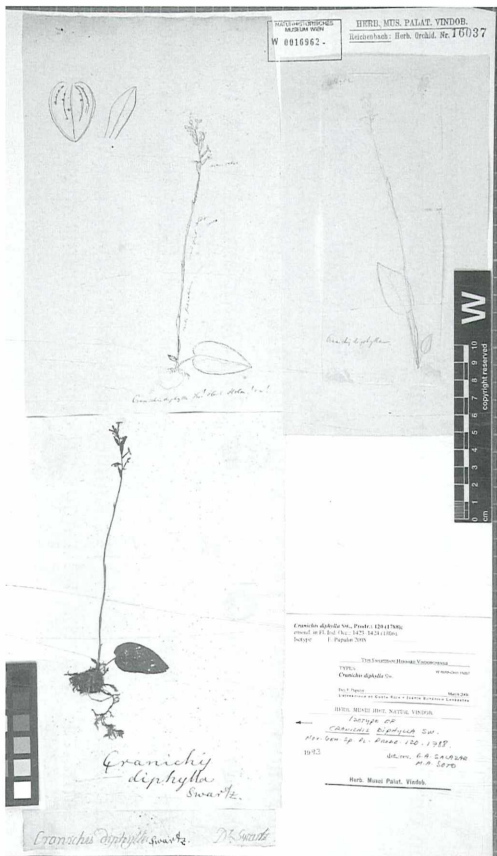


Fig. 1: *Cranichis diphylla* Sw.: Isotype [W Rchb-Orch 16037].

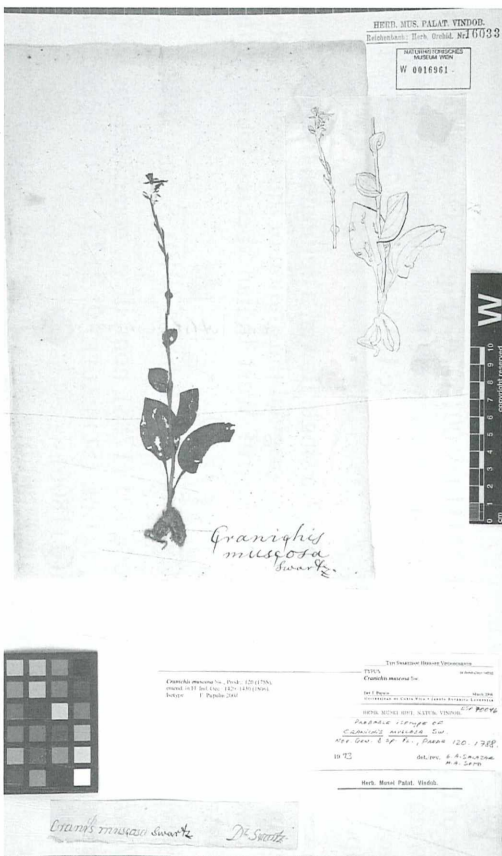


Fig. 2: *Cranichis muscosa* Sw.: Isotype [W Rchb-Orch 16033].

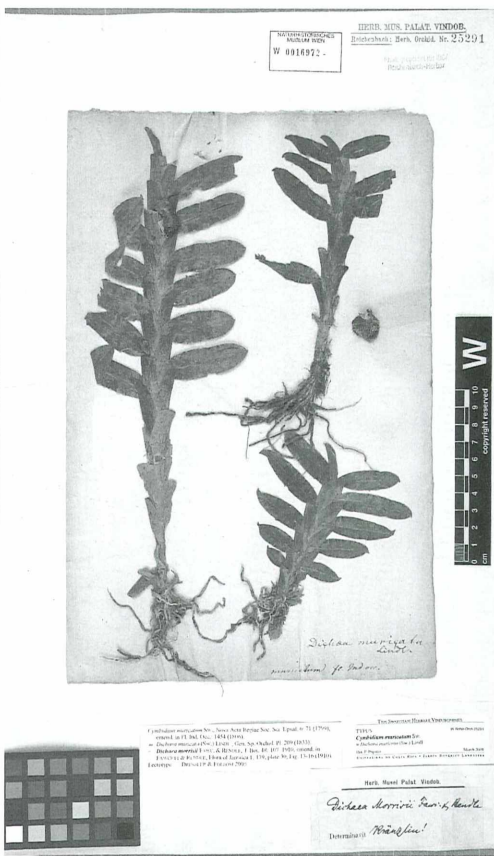


Fig. 3: *Cymbidium muricatum* Sw.: Lectotype [W Rchb-Orch 25291].

sules and bears autograph determinations by SWARTZ. As the name *Dichaea muricata* has been widely and constantly applied, throughout its distribution range, to a number of species of a different group (subgenus or sect. *Dichaea*, lacking leaf abscission layers), and considering the long-standing confusion about the identity of *Cymbidium muricatum*, which has been persistently used for taxa not including its type, the Committee on Spermatophytes has recently approved a proposal to reject *Cymbidium muricatum*, conserving *D. morrisii* (BRUMMIT 2007). Two isotypes are known at BM (cited by NIR 2000, but not recorded in NHM 2008) and S (GARAY & SWEET 1974).

4. *Epidendrum alpestre* Sw., Prodr. 125 (1788)  
 ≡ *Dendrobium alpestre* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 84 (1799); emend. in Fl. Ind. Occ.: 1545–1546 (1806)  
 ≡ ***Pleurothallis alpestris*** (Sw.) LINDL., Gen. Sp. Orchid. Pl.: 7 (1830)  
 ≡ *Humboltia alpestris* (Sw.) KUNTZE, Revis. Gen. Pl. 2: 667 (1891)  
 ≡ *Antilla alpestris* (Sw.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 255 (2004).  
 Type: Jamaica. "Habitat in altissimis montibus Jamaicae australism, super ramos arborum", O. Swartz s.n.

Drawing of type: W Rchb-Orch 33111 [W 0016970] (Fig. 4). Original determination on the drawing: "Wickst. [Julian Emanuel WIKSTRÖM, 1789–1856, the successor of Swartz at the Swedish Museum of Natural History since 1818] Sw. Adn. Bot. / Tab I " / "5 Dendrob. alpestre Sw." / "Sw. [dl.]"

The drawing illustrates the plant habit, a single flower, a pollinated flower and a detail of the column and the labellum. No other original illustration of this taxon is known, even among Swartz' unpublished drawings of West Indian species found at the Royal Swedish Academy of Sciences (KIGER 1976).

Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

5. *Epidendrum anceps* Sw., Prodr. 121 (1788), nom. illeg., non *E. anceps* JACQ. (1763)  
 ≡ ***Epidendrum bifarium*** Sw., J. Bot. (SCHRADER) 2: 212 (1799); emend. in Fl. Ind. Occ.: 1509–1510, t. 5, f. 2 b–d (1806).  
 Type: Jamaica. "Provenit in Montibus altis Jamaicae australis, supra truncos parasiticum", O. Swartz s.n.

Isotype: W Rchb-Orch 26534 [W 0016964] (Fig. 5). Fertile. SWARTZ' original determination on the specimen sheet: "Epidendrum / (E. anceps. Prodr) – bifarium fl. ind. occ. (Swartz scripsit)"

An original illustration of the species is kept at the Royal Swedish Academy of Sciences, among Swartz' unpublished drawings of West Indian plants (KIGER 1976). Other isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

6. *Epidendrum angustifolium* Sw., Prodr.: 123 (1788); emend. in Fl. Ind. Occ.: 1512 (1806).  
 ≡ ***Encyclia angustifolia*** (Sw.) SCHLTR., Notizbl. Bot. Gart. Berlin-Dahlem 7: 277 (1918).  
 ≡ *Encyclia angustifolia* (Sw.) NIR, Lindleyana 9: 147 (1994), isonym.  
 Type: Jamaica. "Habitat ad ramos arborum in summis montibus Jamaicae", O. Swartz s.n.

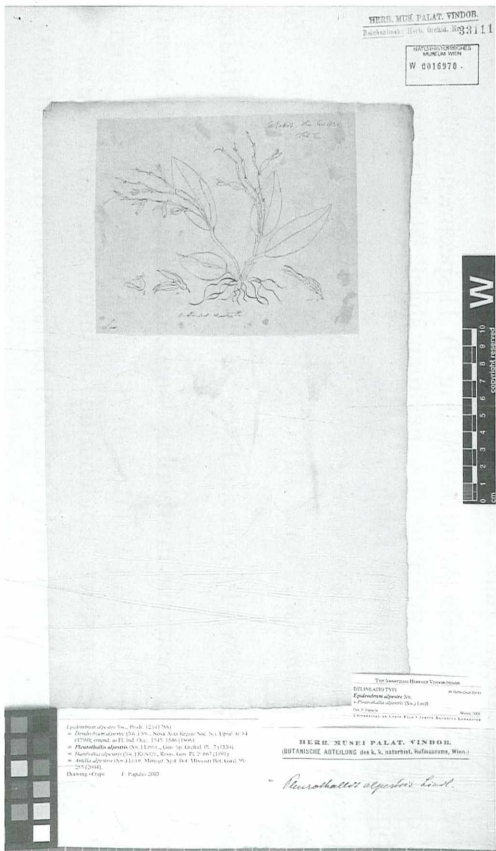


Fig. 4: *Epidendrum alpestre* Sw.: drawing of type [W Rchb-Orch 33111].

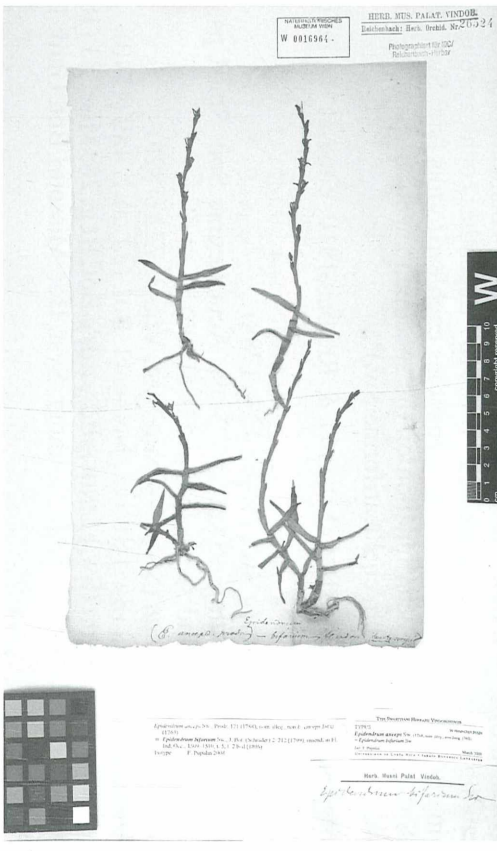


Fig. 5: *Epidendrum anceps* Sw.: Isotype [W Rchb-Orch 26534].

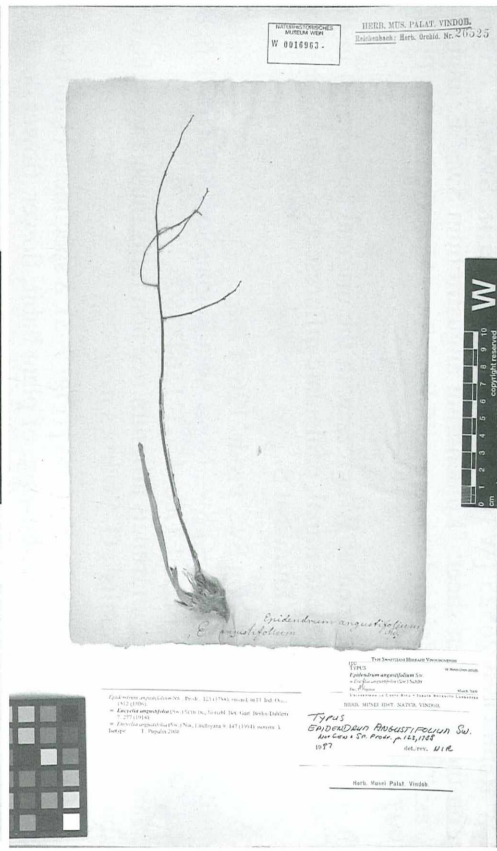


Fig. 6: *Epidendrum angustifolium* Sw.: Isotype [W Rchb-Orch 26525].



Isotype: W Rchb-Orch 26525 [W 0016963] (Fig. 6). Sterile. SWARTZ' original determination on the specimen sheet: "Epidendrum angustifolium Sw. / E. angustifolium" Annotate as: "TYPUS / Epidendrum angustifolium Sw. / Nov. Gen. & Sp. Prodr. P. 123, 1788 / 1997, det. Nir"

Although sterile, the specimen at W agrees with the original description in the ovate, grooved pseudobulbs and the terminal, paniculate inflorescence with loose, short lateral branches. Another isotype is known at S.

7. *Epidendrum cochlearifolium* Sw., Prodr. 126. 1788.

≡ ***Lepanthes cochlearifolia*** (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 86, t. 5, f. 6 a–b. 1799; emend. in Fl. Ind. Occ. 1563–1564. 1806.

Type: Jamaica. "Habitat in truncis arborum nec non rupis muscis vestitis, in summis montibus Jamaicae australis", O. Swartz s.n.

Isotype: W Rchb-Orch 16037 [W 0016937] (Fig. 7–8). 8 specimens (1 fertile). Mounted with 3 drawings: a) SWARTZ' ink drawing, of plant habit, flower, flower detail and fruit, labeled "Wickst. Sw. Adn. Bot. / Tab II b / "b[?] Lepanthes cochlearifolia / Sw. dl."; b) pencil drawing of the plant habit, labeled "W16916 / Lepanthes cochlearifolia / Sw."; c) ink drawing of the plant habit, labeled "Lepanthes cochleariformis [sic] Sw! / Fl.[?] W. 16915" SWARTZ' original determination on the specimen sheet: "Lepanthes cochlearifolia / Swartz. / (Epidendrum cochleariforme Sw.)"

Other isotypes are known at BM (FAWCETT & RENDLE 1910, cited as the holotype in NHM 2008), S, and UPS.

8. *Epidendrum corniculatum* Sw., Prodr.: 123 (1788)

≡ *Dendrobium corniculatum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83 (1799); emend. in Fl. Ind. Occ.: 1537–1538 (1806).

≡ *Cymbidium corniculatum* (Sw.) SPRENG., Syst. Veg. 3: 722 (1826)

≡ ***Specklinia corniculata*** (Sw.) STEUD., Nomencl. Bot. (ed. 2) 1: 489 (1840)

≡ *Pleurothallis corniculata* (Sw.) LINDL., Edwards's Bot. Reg. 28: Misc. 83 (1842)

≡ *Sarcinula corniculata* (Sw.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 105: 209 (2006).

Type: Jamaica. "Incolit truncos vetustos arborum Jamaicae interioris", O. Swartz s.n.

Isotype: W Rchb-Orch 26609 [W 0016978] (Fig. 9). 11 specimens (3 fertile, 4 fruiting). SWARTZ' original determination on the specimen sheet: "corniculatum prodr."; alia manu: "Specklinia / emarginata / Lindl."

Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

9. *Epidendrum diffusum* Sw., Prodr.: 121 (1788); emend. in Fl. Ind. Occ.: 1503–1504 (1806).

≡ ***Seraphyta diffusa*** (Sw.) PFITZER, in ENGL. & PRANTL (eds.), Nat. Pflanzenf. 2(6): 142 (1889).

Type: Jamaica. "Parasiticum in arboribus Jamaicae temperatoris", O. Swartz s.n.

Isotype: W Rchb-Orch 26526 [W 0016960] (Fig. 10). Fertile. SWARTZ' original determination on the specimen sheet: "Epidendrum / diffusum Sw." Annotate as: "Typus"

Two isotypes are known at BM (cited by NIR 2000, but not recorded in NHM 2008) and UPS.



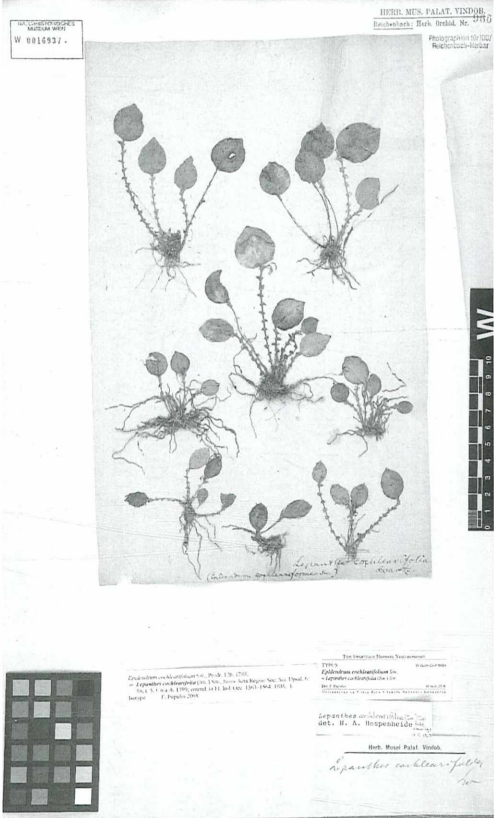


Fig. 7: *Epidendrum cochlearifolium* Sw.: Iso-type [W Rchb-Orch 16037].

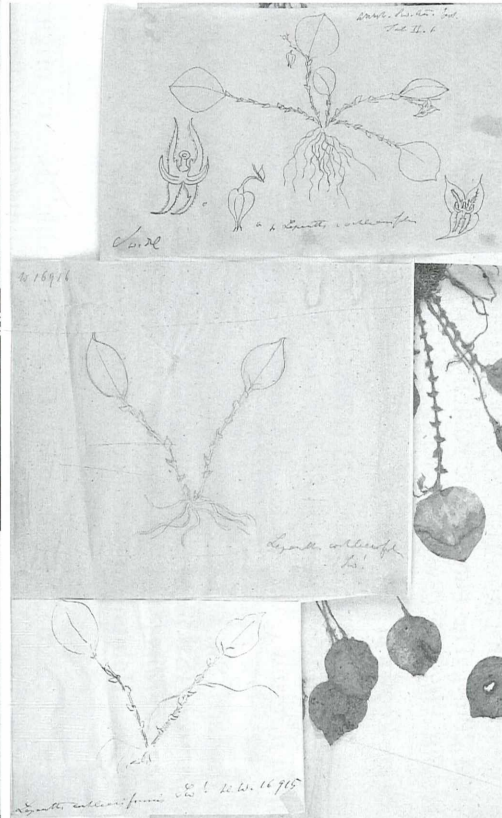


Fig. 8: *Epidendrum cochlearifolium* Sw.: drawing of type [W Rchb-Orch 16037].

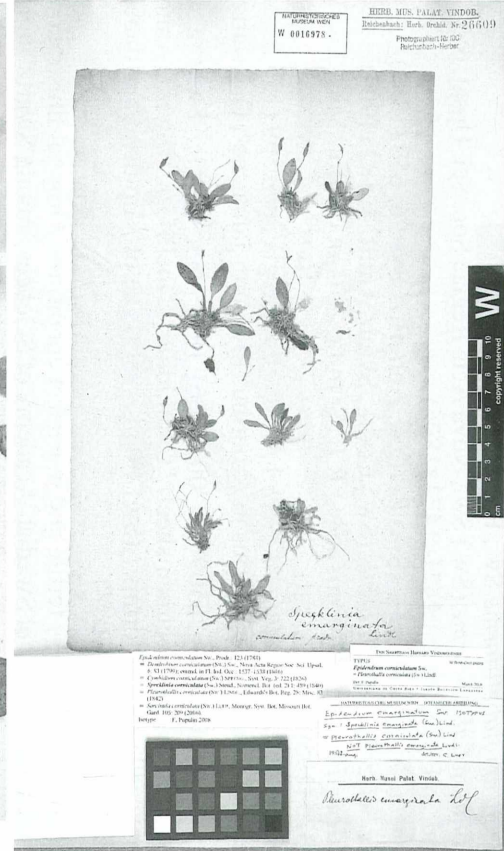


Fig. 9: *Epidendrum corniculatum* Sw.: Isotype [W Rchb-Orch 26609].

10. *Epidendrum flabelliforme* Sw., Prodr.: 123 (1788)  
 ≡ *Cymbidium flabelliforme* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 73 (1799);  
 emend. in Fl. Ind. Occ.: 1471–1472 (1806).  
 ≡ *Zygopetalum flabelliforme* (Sw.) RCHB.F., Ann. Bot. Syst. 6: 652 (1863).  
 ≡ *Warszewiczella flabelliformis* (Sw.) COGN., Symb. Antill. 4: 182 (1909).  
 ≡ *Cochleanthes flabelliformis* (Sw.) R.E. SCHULT. & GARAY, Bot. Mus. Leaf. 18(6):  
 324–325 (1959)  
 ≡ *Chondrorhyncha flabelliformis* (Sw.) ALLEN, Phytologia 8(7): 369 (1962).  
 Type: Jamaica. "Provenit rarius in Arboribus Montium Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 26509 [W 0016966] (Fig. 11). Fertile. SWARTZ' original determination on the specimen sheet: "*Cymbidium flabelliforme* Swz." Annotate as: "*Warszewiczella flabelliformis* / (Sw) Cogn – ISOType of / *Epidendrum flabelliforme* Sw. / X/2005 det. Szlachetko"

The specimen at Vienna is fertile and in perfect conditions. Original illustrations of the species is kept at the Royal Swedish Academy of Sciences, among Swartz' unpublished drawings of West Indian plants (KIGER 1976) and at the Natural History Museum of London (NHM 2008). The name is the basionym of the currently accepted binomial *Cochleanthes flabelliformis* (Sw.) R.E. SCHULT. & GARAY.

Two isotypes are known at BM (FAWCETT & RENDLE 1910) and UPS (ACKERMAN 1995).

11. *Epidendrum fragrans* Sw., Prodr.: 123 (1788) et Nova Acta Regiae Soc. Sci. Upsal. 6: 67, t. 5, fig. 2 (1799); emend. in Fl. Ind. Occ.: 1487–1488, t. 5, f. 2 a (1806)  
 ≡ *Anachelium fragrans* (Sw.) ACUÑA, Bol. Estac. Exper. Agron. Santiago (Cuba) 60: 86 (1938).  
 ≡ *Encyclia fragrans* (Sw.) LEMÉE, Fl. Guyane Franç. 1: 418 (1955), comb. inval.  
 ≡ *Encyclia fragrans* (Sw.) DRESSLER, Brittonia 13 (3): 264 (1961).  
 ≡ *Prosthechea fragrans* (Sw.) W.E. HIGGINS, Phytologia 82 (5): 377 (1997 [1998]).  
 Type: Jamaica. "Habitat super truncos arborum vetustos Jamaicae interioris", O. Swartz s.n.

Isotype, W Rchb-Orch 26532 [W 0016942] (Fig. 12). Fertile. SWARTZ' original determination on the specimen sheet: "*E. fragrans*"; alia manu: "*Epidendrum / fragrans* Sw." Annotate as: "Typus"

The specimen at W is fertile and in perfect conditions. An original drawing of *E. fragrans* by Swartz was recorded among the botanist's unpublished illustrations of Antillean species at the Royal Swedish Academy of Sciences (KIGER 1976).

Other isotypes are known at BM, S, and UPS (GARAY & SWEET 1974).

12. *Epidendrum glaucum* Sw., Prodr.: 124 (1788).  
 ≡ *Dichaea glauca* (Sw.) LINDL., Gen. Sp. Orchid. Pl.: 209 (1833).  
 ≡ *Cymbidium glaucum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799);  
 emend in Fl. Ind. Occ.: 1457–1458 (1806).  
 ≡ *Dichaeopsis glauca* (Sw.) SCHLTR., Beih. Bot. Centralbl. 36 (2): 519 (1918)  
 ≡ *Epithecia glauca* (Sw.) SCHLTR., Orchis 9: 26. (1915), non KNOWLES & WESTC. (1838).  
 Type: Jamaica. "Lectum in arboribus versus summum jugum Montium caeruleorum Jamaicae australis," O. Swartz s.n.

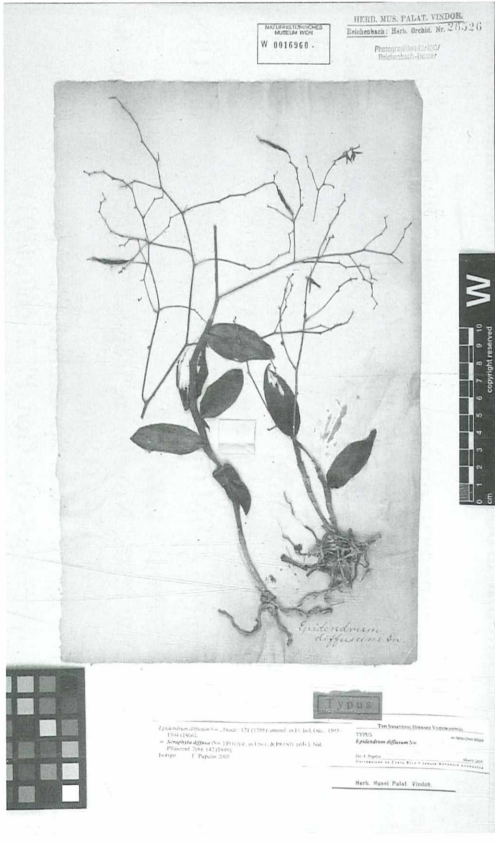


Fig. 10: *Epidendrum diffusum* Sw.: Isotype [W Rchb-Orch 26526].

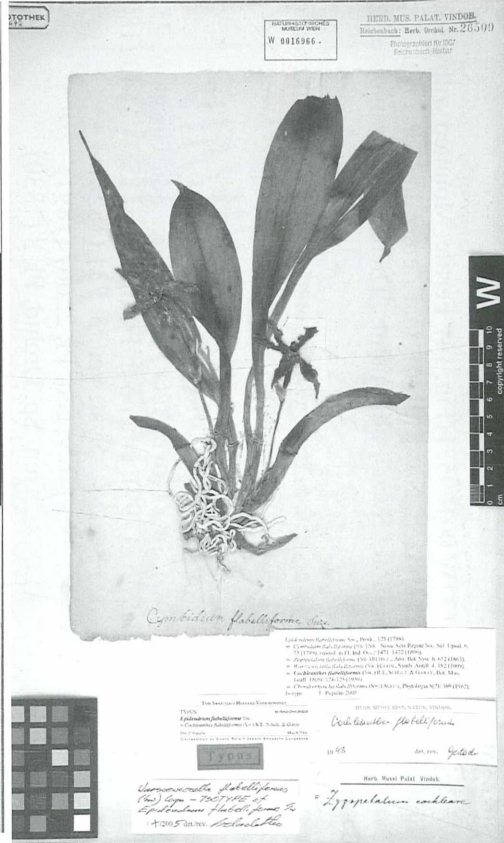


Fig. 11: *Epidendrum flabelliforme* Sw.: Iso-type [W Rchb-Orch 26509].



Fig. 12: *Epidendrum fragrans* Sw.: Isotype [W Rchb-Orch 26532].

Isotype, W Rchb-Orch 25295 [W 0016956] (Fig. 13). Sterile. SWARTZ' original determination on the specimen sheet: "Cymbidium glaucum fl. ind. occ."; alia manu: "Dichaea / glauca"

Although sterile, the specimen at W unmistakably belongs to *D. glauca*. Among West Indian taxa of *Dichaea*, *D. glauca* is the only species to present erect, always simple and strongly flattened (ancipitous) stems, provided with glaucous sheaths and leaves, and with simultaneous inflorescences. Furthermore, plants of *D. glauca* are distinctive in showing distinctly thick roots (to 3.5 mm in diameter) produced only at the base of the stems (PUPULIN 2007). Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

13. *Epidendrum graminoides* Sw., Prodr.: 125 (1788)

≡ *Cymbidium graminoides* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799); emend in Fl. Ind. Occ.: 1459–1460 (1806).

≡ *Dichaea graminoides* (Sw.) LINDL., Gen. Sp. Orchid. Pl. 209 (1833).

Type: Jamaica. "Incolit arbores Regionis temperatae montium Jamaicae australioris," O. Swartz s.n.

Isotype: W Rchb-Orch 25413 [W 0016957] (Fig. 14). Fertile. Mounted with an analytical drawing and notes by Reichenbach. SWARTZ' original determination on the specimen sheet: "Cymbidium graminoides / Swz."; alia manu: "Dichaea / graminoides / Lindl." Annotate as: "Typus"

The specimen at W is fertile and in perfect conditions. The name is the basionym of *Dichaea graminoides* (Sw.) LINDL. Two isotypes are known at BM (FAWCETT & RENDLE 1910) and UPS.

14. *Epidendrum lanceola* Sw., Prodr. 123 (1788)

≡ *Dendrobium lanceola* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799), and J. Bot. (Schrader) 2: 236 (1799); emend in Fl. Ind. Occ. 1539–1540 (1806)

≡ *Pleurothallis lanceola* (Sw.) SPRENG., Syst. Veg. 3: 731 (1826)

≡ *Humboltia lanceola* (Sw.) KUNTZE, Rev. gen. Pl. 2: 667 (1891)

≡ *Specklinia lanceola* (Sw.) LINDL., Gen. Sp. Orchid. Pl. 8 (1830).

Type: Jamaica. "Parasiticum arborum altissimis montibus Jamaicae australis," O. Swartz s.n.

A) Isotype: W Rchb-Orch 24678 [W 0016976] (Fig. 15). 2 specimens, sterile. SWARTZ' original determination on the specimen sheet: "Epidendr. lanceola Sw. / O. Swartz"; other determination: "Specklinia lanceola / det. Lindley 1835". Annotate as: "Typus"

B) Isotype: W Rchb-Orch 24679 [W 0016977] (Fig. 16). 5 specimens, sterile. SWARTZ' original determination on the specimen sheet: "Dendrobium lanceola Swz."; [alia manu:] "Specklinia lanceola / Lindl." Annotate as: "Typus"

Three other isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

15. *Epidendrum laxum* Sw., Prodr.: 125 (1788)

≡ *Dendrobium laxum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 84 (1799); emend. in Fl. Ind. Occ.: 1547–1548 (1806)

≡ *Pleurothallis laxa* (Sw.) LINDL., Gen. Sp. Orchid. Pl.: 7 (1830)

≡ *Humboltia laxa* (Sw.) KUNTZE, Revis. Gen. Pl. 2: 667 (1891).





Fig. 13: *Epidendrum glaucum* Sw.: Isotype [W Rchb-Orch 25295].

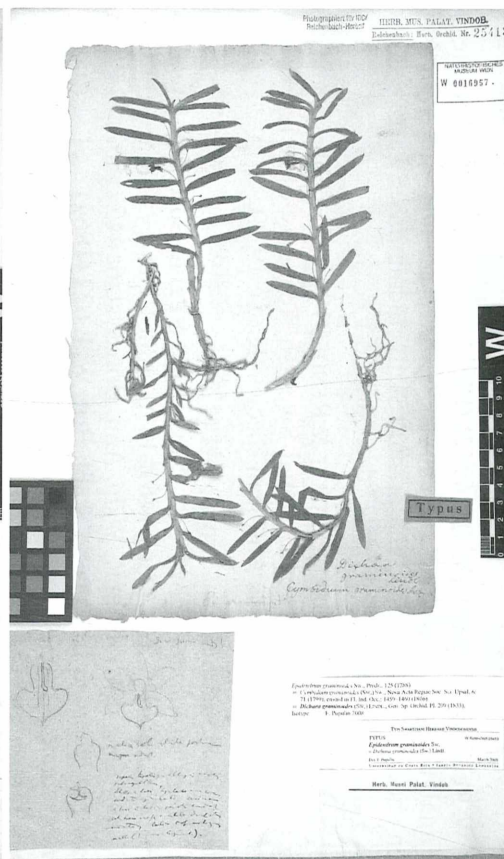


Fig. 14: *Epidendrum graminoides* Sw.: Iso-type [W Rchb-Orch 25413].

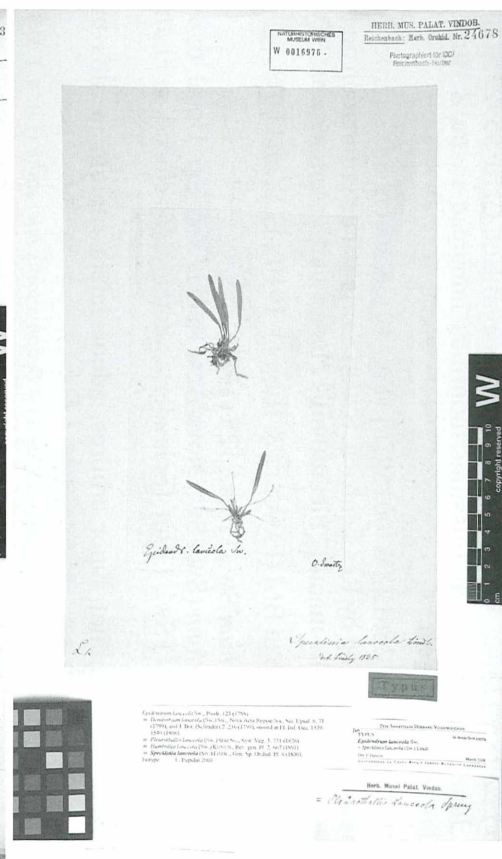


Fig. 15: *Epidendrum lanceola* Sw.: Isotype [W Rchb-Orch 25678].

- ≡ *Antilla laxa* (Sw.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 255 (2004).  
Type: Jamaica. "Habitat in altissimis montibus Jamaicae australis, super ramos arborum", O. Swartz s.n.

Isotype: W Rchb-Orch 26612 [W 0016975] (Fig. 17). 3 specimens, sterile. Mounted with an analytical drawing by Reichenbach. SWARTZ' original determination on the specimen sheet: "laxum"; [alia manu:] "Pleurothallis / laxa Lindl." Annotate as: "Typus"

Four isotypes are known at BM (FAWCETT & RENDLE 1910), G, S, and UPS.

16. *Epidendrum micranthum* Sw., Prodr.: 125 (1788)

- ≡ *Dendrobium micranthum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 84. 1799.  
≡ *Stelis micrantha* (Sw.) Sw., J. Bot. (Schrader) 2: 240 (1799); emend. in Fl. Ind. Occ.: 1553–1554 (1806).

Type: Jamaica. "Habitat super arbores, adque latera rupium in altis montibus Jamaicae", O. Swartz s.n.

Annot.: not *Epidendrum micranthum* LINDL. (1841) ≡ *Scaphyglottis micrantha* (LINDL.) AMES & CORRELL.

Isotype: W Rchb-Orch 26481 [W 0016947] (Fig. 18). 3 specimens, 2 fertile. Mounted with an analytical drawing by Reichenbach. SWARTZ' original determination on the specimen sheet: "micranthum"; alia manu: "Stelis micrantha / Swartz." Annotate as: "Isotypus / Stelis micrantha Sw. / 1997 det. Nir"

Four isotypes are known at BM (FAWCETT & RENDLE 1910), C, G, and S, and an original drawing by Swartz is kept at the Royal Swedish Academy of Sciences among the unpublished illustrations of his Antillean species (KIGER 1976).

17. *Epidendrum montanum* Sw., Prodr.: 121 (1788)

- ≡ *Cymbidium montanum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72–73 (1799); emend. in Fl. Ind. Occ.: 1469–1470 (1806)  
≡ *Bletia montana* (Sw.) RCHB.F., Walp. Ann. Bot. Syst. 6: 445 (1862)  
≡ *Tetramicra montana* (Sw.) GRISEB., Fl. Brit. W. I. 622 (1864)  
≡ *Octadesmia montana* (Sw.) BENTHAM, J. Linn. Soc. 18: 311 (1881)  
≡ *Dilomilis montana* (Sw.) SUMMERH., Taxon 10: 253 (1961).

Type: Jamaica. "Parasiticum in Arboribus. Lectum in Montibus caeruleis Jamaicae australis", O. Swartz s.n.

Isotype, W Rchb-Orch 26515 [W 0016933] (Fig. 19). Fruiting. SWARTZ' original determination on the specimen sheet: "Cymbidium montanum Sw"

The viennese specimen is in good conditions and it has fruits.

Two isotypes are known at BM (FAWCETT & RENDLE 1910, ACKERMAN 1995) and UPS.

18. *Epidendrum nutans* Sw., Prodr.: 121 (1788); emend. in Fl. Ind. Occ.: 1499–1500 (1806).

Type: Jamaica. "Parasiticum in Arboribus Montium Jamaicae occidentalis", O. Swartz s.n.

Isotype: W Rchb-Orch 26518 [W 0016965] (Fig. 22). Fertile. SWARTZ' original determination on the specimen sheet: "Epidendrum / nutans Sw"

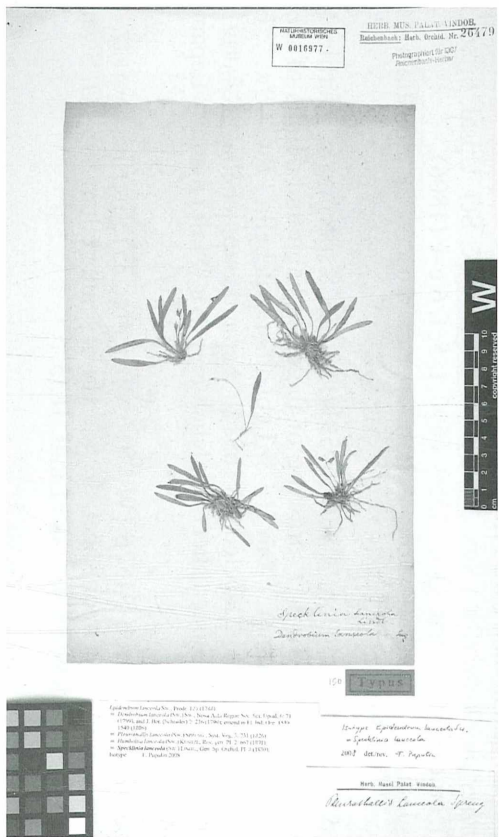


Fig. 16: *Epidendrum lanceola* Sw.: Isotype [W Rchb-Orch 26479].

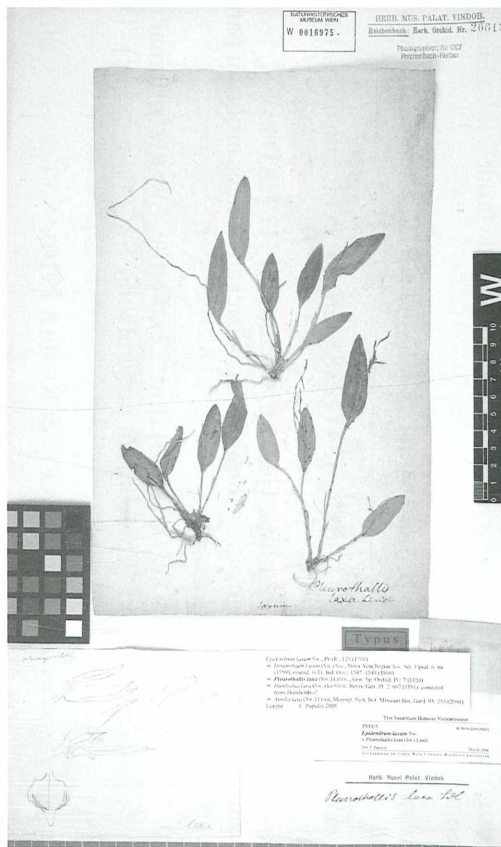


Fig. 17: *Epidendrum laxum* Sw.: Isotype [W Rchb-Orch 26612].

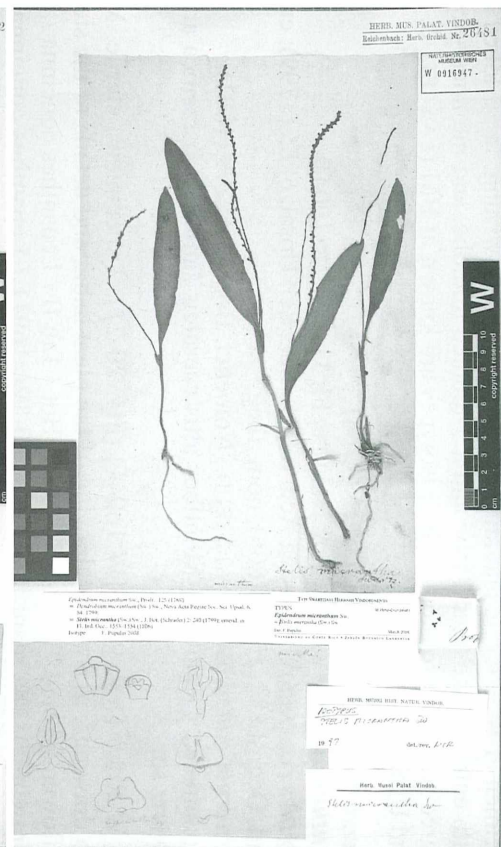


Fig. 18: *Epidendrum micranthum* Sw.: Isotype [W Rchb-Orch 26481].



The specimen at W is fertile and annotated in Swartz' handwriting; the 3-lobed lip, provided with entire, ovate lateral lobe and a 3-toothed midlobe, and the linear-acuminate petals agree with the protologue. Two isotypes are known at BM (FAWCETT & RENDLE 1910) and UPS.

19. *Epidendrum ovale* Sw., Prodr.: 125 (1788)

≡ *Lepanthes ovalis* (Sw.) FAWC. & RENDLE, Fl. Jam. 1: 71 (1904).

≡ *Lepanthes concinna* Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 85 (1799); emend. in Fl. Ind. Occ.: 1557–1558 (1806), nom. illeg.

≡ *Epidendrum concinnum* (Sw.) STEUD., Nomencl. Bot. ed. 1: 299 (1821).

Type: Jamaica. "Habitat in Montibus altis caeruleis Jamaicae, parasitica arborum", O. Swartz s.n.

Isotype: W Rchb-Orch 9664 [W 16941] (Fig. 20-21). 2 specimens, sterile. Mounted with two drawings: a) SWARTZ' drawing of the plant habit, and details of the stem bract and the flower, labeled "Wickst. Sw. Adn. Bot / Tab II / Lepanthes concinna / Sw."; b) pencil drawing of the plant habit, labeled "W. 16911 / Lepanthes concinna / Sw."; SWARTZ' original determination on the specimen sheet: "ovale prodr."; [alia manu:] "Lepanthes / concinna Swartz."

Three isotypes are known at BM (FAWCETT & RENDLE 1910, cited as the holotype in NHM 2008), K, and S.

20. *Epidendrum polybulbon* Sw., Prodr.: 124 (1788); emend. in Fl. Ind. Occ.: 1491–1492 (1806)

≡ *Dinema polybulbon* (Sw.) LINDL., Gen. Sp. Orchid. Pl. 111 (1831).

Type: Jamaica. "Provenit in altis Montibus Jamaicae, ad truncos arborum parasitica", O. Swartz s.n.

Isotype: W Rchb-Orch 25411 [W 0016936] (Fig. 23). Fertile. SWARTZ' original determination on the specimen sheet: "Epidendrum polybulbon / Sw"; [alia manu:] "Dinema / polybulbon / Lindl."

Another isotype is known at BM (FAWCETT & RENDLE 1910).

21. *Epidendrum pulchellum* Sw., Prodr.: 125 (1788)

≡ *Lepanthes pulchella* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 86, f. 6 C-E (1799); emend. in Fl. Ind. Occ.: 1559–1600, t. 5, f. 6 c–e (1806).

Type: Jamaica. "Habitat supra Arbores in ter muscos in altissimis Montibus Jamaicae", O. Swartz s.n.

A) Isotype: W Rchb-Orch 9665 [W 0016939] (Fig. 24). 8 specimens, 3 fertile. Mounted with two drawings: a) SWARTZ' drawing of the plant habit and details of the flower, labeled "Wickst. Sw. Annot. / Tab II / 3. Lepanthes pulchella / Sw. / Sw."; b) pencil drawing of the plant habit, labeled "W16912 / Lepanthes pulchella"; SWARTZ' original determination on the specimen sheet: "pulchellum prodr."; [alia manu:] "Lepanthes pulchella / Swartz."

B) Isotype: W Rchb-Orch 54526 [W 0016940] (Fig. 25). Sterile. SWARTZ' original determination on the specimen sheet: "Epidendrum / pulchellum Sw. / O. Swartz"; alia manu: "Lepanthes pulchella Sw. / det Lindl. 1835"



Fig. 19: *Epidendrum montanum* Sw.: Isotype [W Rchb-Orch 26515].

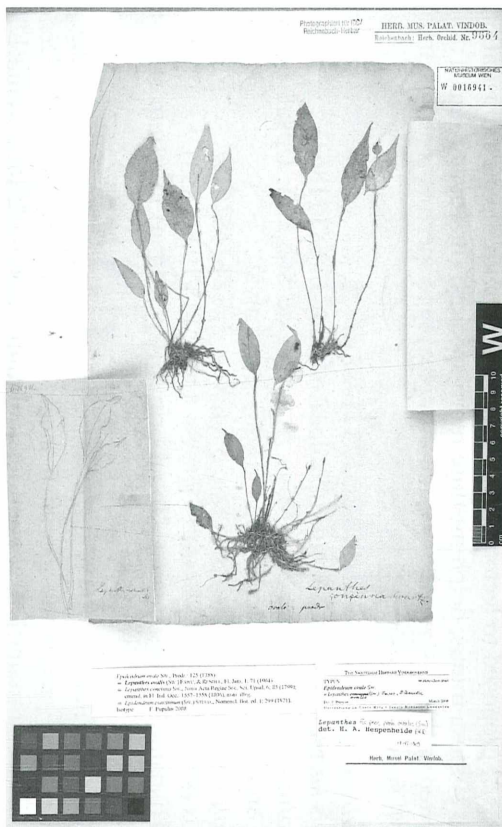


Fig. 20: *Epidendrum ovale* Sw.: Isotype [W Rchb-Orch 9664].

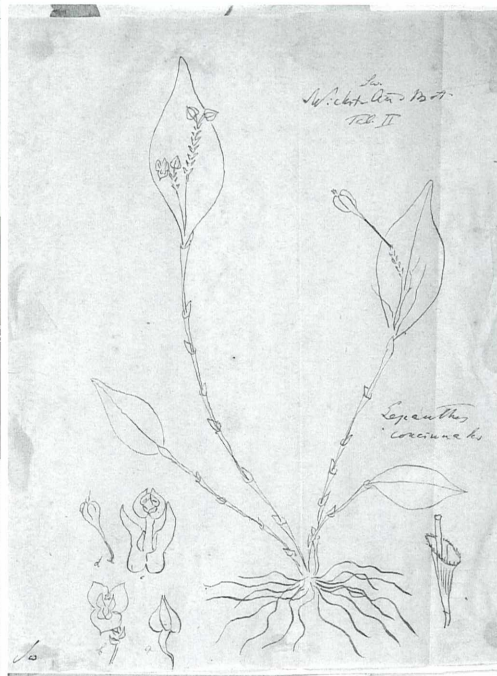


Fig. 21: *Epidendrum ovale* Sw.: Drawing of isotype [W Rchb-Orch 9664].

Three other isotypes are known at BM (FAWCETT & RENDLE 1910, cited as the holotype in NHM 2008), S, and UPS.

22. *Epidendrum sanguineum* Sw., Prodr.: 124 (1788).

≡ *Dendrobium sanguineum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 82 (1799); emend. in Fl. Ind. Occ.: 1529–1530 (1806)

≡ *Broughtonia sanguinea* (Sw.) R. BR., Hort. Kew. Ed. 2, 5: 217 (1813).

Type: Jamaica. "Provenit non procula litoribus Oceani Jamaicae alluentis, in arboribus vetustis Bombacis, Rhizophorae, Conocarpi etc. cum Epidendrum nodosum Linn.", O. Swartz s.n.

Isotype: W Rchb-Orch 25407 [W 0016943] (Fig. 26). Fertile. SWARTZ' original determinations on the specimen sheet: "E. sanguineum [in pencil]" / (*Dendrobium sanguineum* / Sw.); "Herb / Swartzii"; alia manu: "Broughtonia / sanguinea / R. Brown"

The specimen at W is fertile and in excellent conditions, the flowers still holding the original colour. Another isotype is known at BM (FAWCETT & RENDLE 1910).

NIR (2000: 52) proposed to lectotypify *E. sanguineum* with Sloane's illustration of *Viscum radice bulbosa minus, delphinii flore rubro specioso* (in Voyage Jam. 1: t. 121, fig. 2. 1707), cited in SWARTZ' protologue, but the actual type specimens at BM and W made his proposal superfluous.

23. *Epidendrum satyrioides* Sw., Prodr.: 123 (1788)

≡ *Ionopsis satyrioides* (Sw.) RCHB.f., Walp. Ann. Bot. 6: 683 (1863)

≡ *Dendrobium testiculatum* Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83 (1799); emend. in Fl. Ind. Occ.: 1533–1534 (1806), nom. inval.

≡ *Cybelion testiculatum* (Sw.) SPRENG., Syst. Veg. 3: 721 (1826)

≡ *Ionopsis testiculata* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 193 (1833).

Type: Hispaniola and Jamaica. "In arboribus (Crescentia) montium Hispaniolae et Jamaicae rarius", O. Swartz s.n.

Isotype: W Rchb-Orch 12990 [W 0016944] (Fig. 27). 5 specimens, 2 fruiting. SWARTZ' original determinations on the specimen sheet: "Satyrioides (in pencil)"; "Dendrobium testiculatum"; [alia manu:] "Cybelion testiculatum / Spreng."; [alia manu:] "Ionopsis testiculata / Lindl."

Two isotypes are known at BM (FAWCETT & RENDLE 1910, GARAY & SWEET 1974, ACKERMAN 1995) and S (GARAY & SWEET 1974, ACKERMAN 1995).

24. *Epidendrum serrulatum* Sw., Prodr.: 121 (1788)

≡ *Cymbidium serrulatum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72 (1799); emend. in Fl. Ind. Occ.: 1465–1466 (1806)

≡ *Microepidendrum serrulatum* (Sw.) BRIEGER, in: SCHLECHTER: Die Orchideen, ed. 3: 556 (1974), nom. illeg.

≡ *Encyclia serrulata* (Sw.) H. DIETR., Rev. Jard. Bot. Nac. Habana 5: 49 (1984).

≡ *Prosthechea serrulata* (Sw.) W.E. HIGGINS, Phytologia 82: 380 (1997 [1998]).

Type: Jamaica. "In arboribus parasiticum versus cacumen montium caeruleorum Jamaicae", O. Swartz s.n.

Isotype, W Rchb-Orch 16034 [W 0016981] (Fig. 28). Fertile. Mounted with 2 drawings: a) ink drawing, likely by Swartz, tracing of the specimen, with enlarged details of the



Fig. 22: *Epidendrum nutans* Sw.: Isotype [W Rchb-Orch 26518].

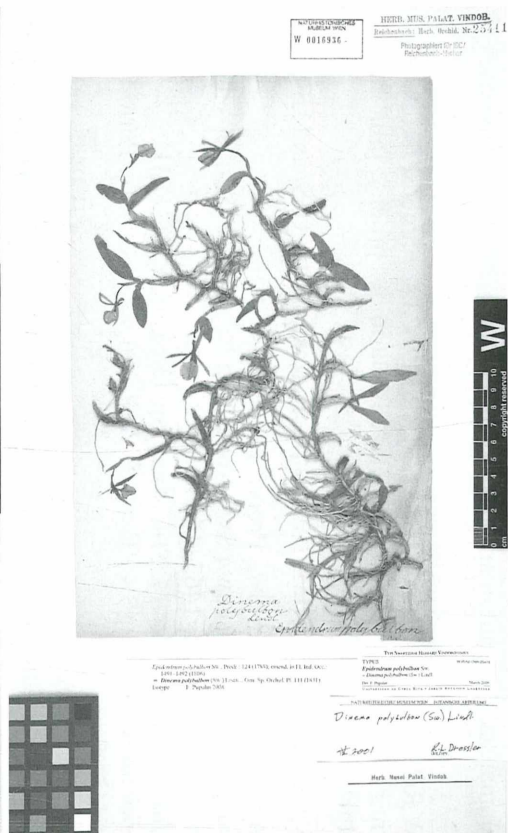


Fig. 23: *Epidendrum polybulbon* Sw.: Isotype [W Rchb-Orch 25411].



Fig. 24: *Epidendrum pulchellum* Sw.: Isotype [W Rchb-Orch 9665].

column and lip in adaxial and lateral views, and the operculum; b) ink drawing, tracing of the specimen. SWARTZ' original determination, on separate label [alia manu]: "Epidendrum serrulatum - Swartz - Dt. Swartz"; [alia manu:] "Cymbidium / serrulatum / Swartz.". Determination on the specimen sheet [alia manu]: Cymbidium / serrulatum / Swartz."

An original illustration is kept among Swartz' unpublished drawings of West Indian plants at the Royal Swedish Academy of Sciences (KIGER 1976). Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

25. *Epidendrum sertularioides* Sw., Prodr.: 122 (1788)

≡ *Dendrobium sertularioides* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83 (1799); emend. in Fl. Ind. Occ.: 1541–1542 (1806)

≡ *Pleurothallis sertularioides* (Sw.) SPRENG., Syst. Veg. 3: 731 (1826)

≡ *Anathallis sertularioides* (Sw.) PRIDGEON & M.W. CHASE, Lindleyana 16(4): 250 (2001)

≡ *Specklinia sertularioides* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 8 (1830).

Type: Jamaica. "Provenit in arboribus densis antiquis montium Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 36610 [W 0016974] (Fig. 29). 4 specimens, fertile. SWARTZ' original determination on the specimen sheet: "Sertularioides prodr."; [alia manu:] "Specklinia / sertularioides Lindl."

Four isotypes are known at BM (FAWCETT & RENDLE 1910), G, S, and UPS.

26. *Epidendrum teretifolium* Sw., Prodr.: 121 (1788)

≡ *Cymbidium teretifolium* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72 (1799); emend. in Fl. Ind. Occ.: 1463–1464 (1806)

≡ *Isochilus teretifolius* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 112 (1831)

≡ *Jacquinella teretifolia* (Sw.) BRITTON & P. WILSON, Sc. Surv. Porto Rico & Virgin islands 6(3): 340 (1926)

≡ *Briegeria teretifolia* (Sw.) SENGHAS, Die Orchideen 31: 30 (1980).

Type: Jamaica. "Parasiticum arborum in Montibus excelsis Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 25409 [W 0016979] (Fig. 30). 4 specimens, fertile. SWARTZ' original determination on the specimen sheet: "Cymbidium teretifolium / Swartz"; [alia manu:] "Isochilus / teretifolius / Lindl."

An unpublished original illustration by Swartz is kept at the Royal Swedish Academy of Sciences (KIGER 1976). Three isotypes are known at BM (FAWCETT & RENDLE 1910, GARAY & SWEET 1974, ACKERMAN 1995), S, and UPS (GARAY & SWEET 1974, ACKERMAN 1995).

27. *Epidendrum testaeifolium* Sw., Prodr.: 122 (1788)

≡ *Cymbidium testaeifolium* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71–72 (1799); emend. in Fl. Ind. Occ.: 1461–1462 (1806)

≡ *Pleurothallis testaeifolia* (Sw.) LINDL., Ann. Mag. Nat. Hist., ser. 3, 1(5): 328 (1858)

≡ *Humboltia testaeifolia* (Sw.) KUNTZE, Revis. Gen. Pl. 2: 668 (1891).

≡ *Apoda-prorepentia testaeifolia* (Sw.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 255 (2004).



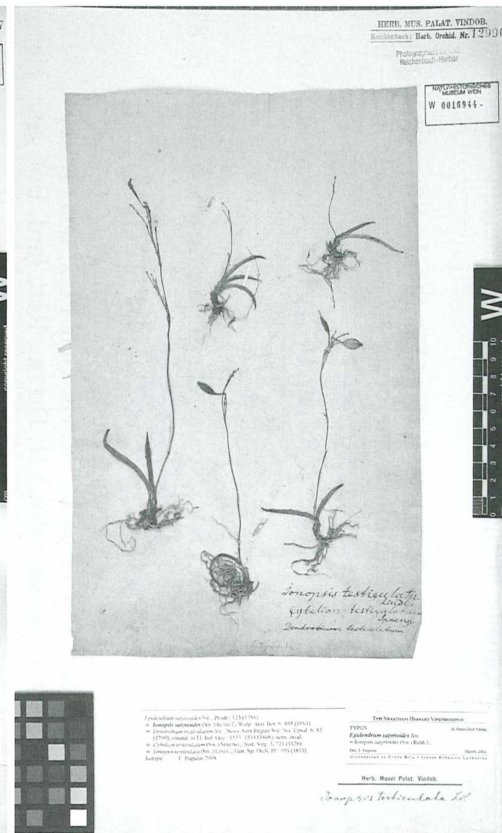
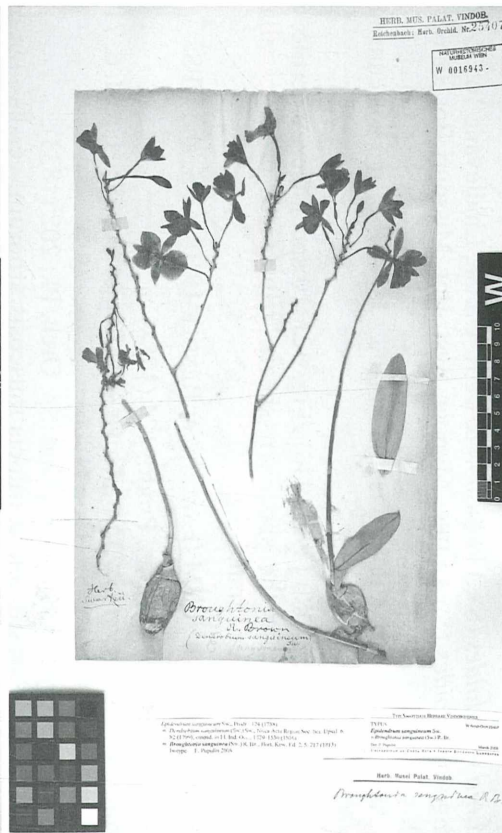
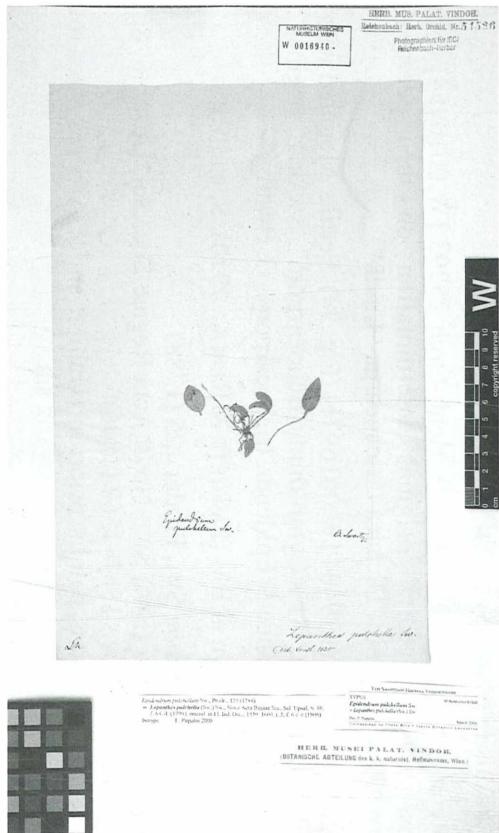


Fig. 25: *Epidendrum pulchellum* Sw.: Isotype [W Rchb-Orch 54526].

Fig. 26: *Epidendrum sanguineum* Sw.: Isotype [W Rchb-Orch 25407].

Fig. 27: *Epidendrum satyrioides* Sw.: Isotype [W Rchb-Orch 12990].

Type: Jamaica. "Rupens in rupidibus muscosis, truncisque Arborum Jamaicae montosae", O. Swartz s.n.

Isotype: W Rchb-Orch 16036 [W 0016973] (Fig. 31). Sterile. SWARTZ' original determination, on separate label: "Epidendrum testae-folium - Swartz [alia manu] – Dt. Swartz"; [alia manu:] "Cymbidium / testae-folium / Swartz."

Other isotypes are known at B (GARAY & SWEET 1974), BM (GARAY & SWEET 1974), S, and UPS.

28. *Epidendrum tribuloides* Sw., Prodr.: 122 (1788)

≡ *Dendrobium tribuloides* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83 (1799); emend. in Fl. Ind. Occ.: 1535–1536 (1806)

≡ *Cymbidium tribuloides* (Sw.) SPRENG., Syst. Veg. 3: 721 (1826)

≡ *Pleurothallis tribuloides* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 6 (1830)

≡ *Humboltia tribuloides* (Sw.) KUNTZE, Revis. Gen. Pl. 2: 668 (1891)

≡ *Cryptophoranthus tribuloides* (Sw.) H. DIETR., Rev. Jard. Bot. Nac. Habana 5: 48 (1984)

≡ *Specklinia tribuloides* (Sw.) PRIDGEON & M.W. CHASE, Lindleyana 16: 259 (2001)

≡ *Tribulago tribuloides* (Sw.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 265 (2004).

Type: Jamaica. "Habitat in sylvis interioribus Jamaicae; parasiticum arborum, Crescentiae", O. Swartz s.n.

Isotype, W Rchb-Orch 26480 [W 16946] (Fig. 32). 10 specimens, 3 fertile. SWARTZ' original determination on the specimen sheet: "tribuloides prodr."; alia manu: "Pleurothallis / tribuloides Lindl."

Other isotypes are known at BM (FAWCETT & RENDLE 1910), C, S, and UPS.

29. *Epidendrum trichocarpon* Sw., Prodr.: 124 (1788)

≡ *Cymbidium trichocarpon* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799); emend. in Fl. Ind. Occ.: 1455–1456 (1806)

≡ *Dichaea trichocarpa* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 202 (1833).

Type: Jamaica. "Parasiticum in truncis muscosis arborum, versus juga montium Jamaicae australis", O. Swartz s.n.

A) Lectotype (PUPULIN 2007: 133): W Rchb-Orch 25293 [W 0016954] (Fig. 33). 3 specimens, fertile. SWARTZ' original determination on the specimen sheet: "trichocarpon"; alia manu: "Dichaea / trichocarpa / Lindl."

B) Isotype: W Rchb-Orch 19404 [W 0016971] (Fig. 34). Fertile. Mounted with a pencil drawing, labeled "W 16981 / Cymbidium trichocarpum" SWARTZ' original determination on the specimen sheet: "Epidendr. trichocarpon – O. Swartz."

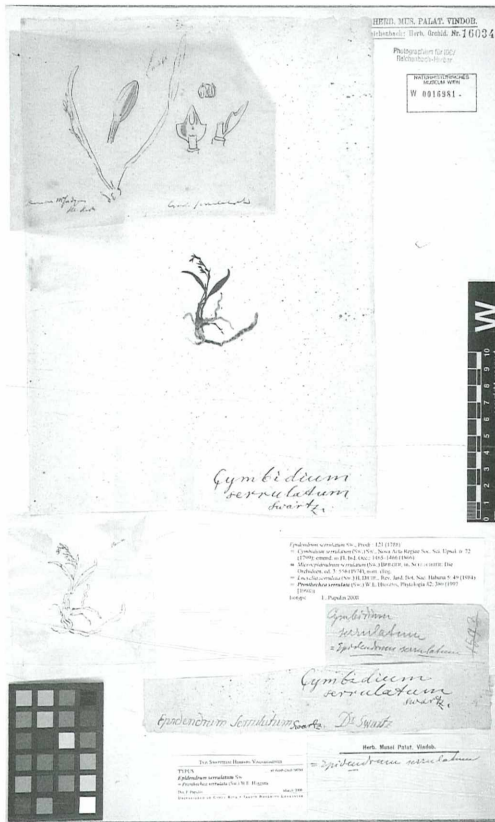
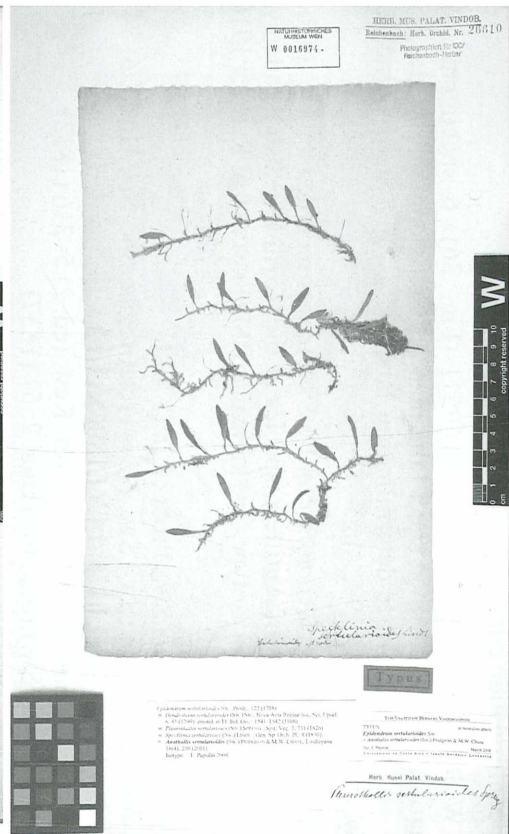
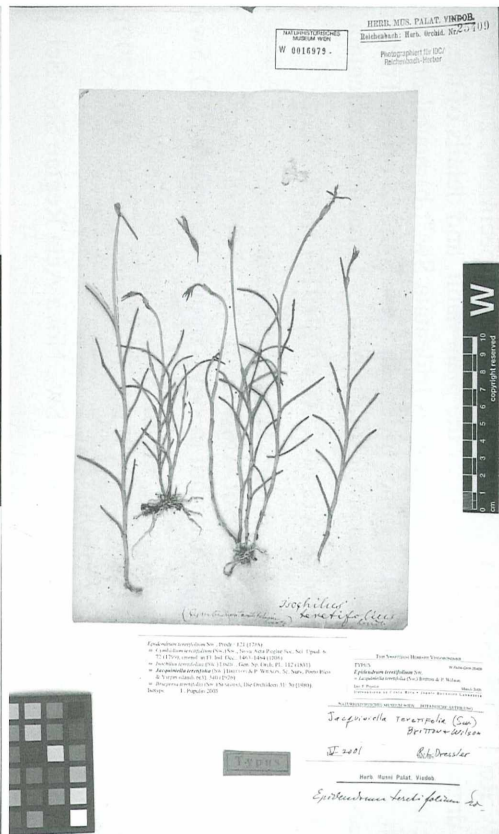
Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

30. *Epidendrum tridentatum* Sw., Prodr.: 125 (1788)

≡ *Lepanthes tridentata* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 86 (1799); emend. in Fl. Ind. Occ.: 1561–1562 (1806).

Type: Jamaica. "Locus natalis priorum [Habitat supra Arbores inter muscos in altissimis Montibus Jamaicae]", O. Swartz s.n.




 Fig. 28: *Epidendrum serrulatum* Sw.: Isotype [W Rchb-Orch 16034].

 Fig. 29: *Epidendrum sertularioides* Sw.: Isotype [W Rchb-Orch 36610].

 Fig. 30: *Epidendrum teretifolium* Sw.: Isotype [W Rchb-Orch 25409].

Isotype: W Rchb-Orch 9663 [W 0016982] (Fig. 35). 9 specimens, 2 fertile. Mounted with two drawings: a) Swartz' drawing of the plant habit, and details of the flower and fruit, labeled "Sw. Adn. / Bot. / II / *Lepanthes tridentata* Sw."; b) pencil drawing of the plant habit, labeled "W16913 / *Lepanthes tridentata* Sw." SWARTZ' original determination on the specimen sheet: "tridentatum prodr."; [alia manu: "*Lepanthes / tridentata* Swartz"

Two isotypes are known at BM (FAWCETT & RENDLE 1910) and S.

31. *Epidendrum trigoniflorum* Sw., Prodr.: 125 (1788), nom illeg.

≡ *Stelis trigoniflora* (Sw.) GARAY, Bot. Mus. Leaflet. 26: 25 (1978).

Type: Jamaica. "Parasiticum Arborum in sylvis montosis Jamaicae", O. Swartz s.n.

= *Epidendrum ophioglossoides* JACQ., Enum. Syst. Plant. 29. 1760.

≡ ***Stelis ophioglossoides*** (JACQ.) Sw., J. Bot. (Schrader) 2: 239–240 (1799); emend. in Fl. Ind. Occ.: 1551–1552 (1806)

≡ *Dendrobium ophioglossoides* (JACQ.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83–84 (1799).

No type information cited.

Isotype, W Rchb-Orch 26482 [W 0016951] (Fig. 36). 6 specimens, 4 fertile. Determination on the specimen sheet [alia manu]: "*Stelis ophioglossoides / Swartz*" Annotate as "Typus" Other determination label: "Possibly *Stelis ophioglossoides* (Jacq.) Sw. / ISOTYPUS / 199, Aug. – Det. C. Luer"

An original drawing of *E. trigoniflorum* by Swartz was recorded among the botanist's unpublished illustrations of Antillean species at the Royal Swedish Academy of Sciences (KIGER 1976). Other isotypes are known at BM (FAWCETT & RENDLE 1910), C, G, S, and UPS.

32. *Epidendrum triquetrum* Sw., Prodr.: 125 (1788)

≡ *Cymbidium triquetrum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 74 (1799); emend. in Fl. Ind. Occ.: 1475–1476 (1806)

≡ *Oncidium triquetrum* (Sw.) R. BR., Hort. Kew. (ed. 2) 5: 216 (1813)

≡ *Olgasis triquetra* (Sw.) RAF., Fl. Tellur. 2: 51 (1837)

≡ *Jamaiciella triquetra* (Sw.) BRAEM, Die Orchideen 31: 120 (1980)

≡ ***Tolumnia triquetra*** (Sw.) NIR, Lindleyana 9: 149 (1994).

Type: Jamaica. "Parasiticum arborum Jamaicae", O. Swartz s.n.

Isotype, W Rchb-Orch 26496 [W 0016934] (Fig. 37). 3 specimens, 2 fertile. SWARTZ' original determinations on the specimen sheet: "triquetrum [in pencil]"; "(*Cymbidium triquetrum*) / Swz."; [alia manu:]"*Oncidium triquetrum / Brown in / Hort. Kew.*"

Three isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS.

33. *Epidendrum umbellatum* Sw., Prodr.: 121 (1788); emend. in Fl. Ind. Occ.: 1501–1502 (1806), nom. illeg., non *Epidendrum umbellatum* G. FORST. (1786) [= *Cirrhopetalum umbellatum* (G. FORST.) HOOK. & ARN.].

Type: Jamaica. "Habitat supra truncos vetustos in Montibus Jamaicae", O. Swartz s.n.

= *Epidendrum difforme* JACQ., Enum. Syst. Pl. 29 (1760).

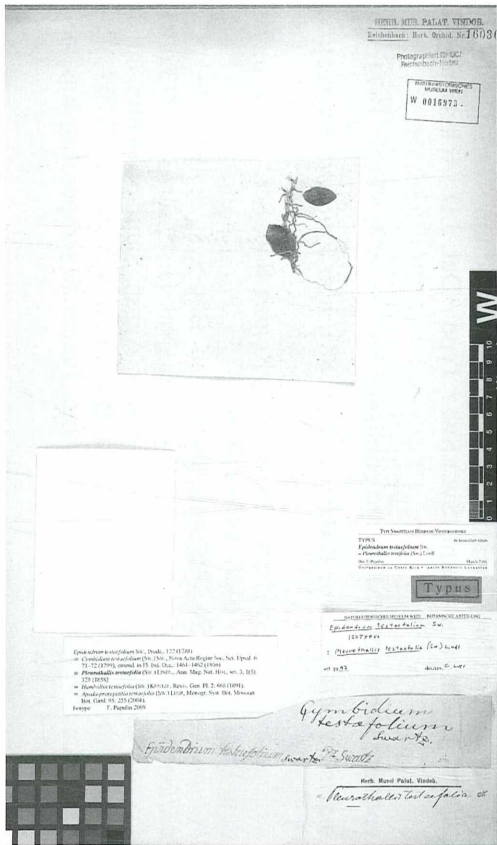


Fig. 31: *Epidendrum testaeifolium* Sw.: Iso-type [W Rchb-Orch 16036].

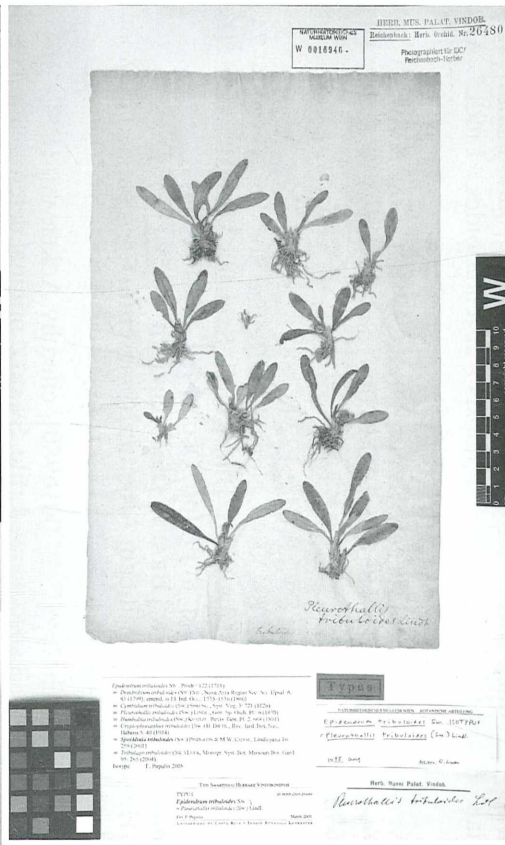


Fig. 32: *Epidendrum tribuloides* Sw.: Isotype [W Rchb-Orch 26480].

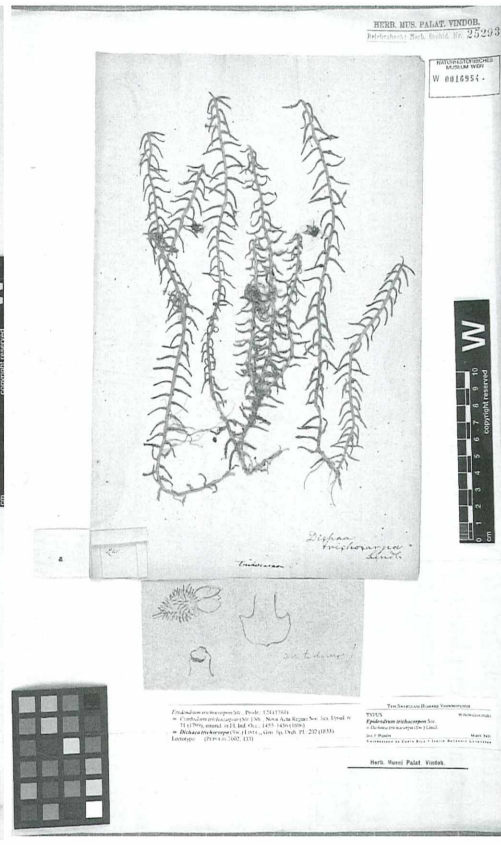


Fig. 33: *Epidendrum trichocarpon* Sw.: Lectotype [W Rchb-Orch 25293].

Isotype, W Rchb-Orch 26516 [W 0016968], cited by NIR (2000) (Fig. 38). Fertile. SWARTZ' original determinations on the specimen sheet: "E. umbellatum [in pencil]"; "difforme Jacq."; alia manu: "Epidendrum umbellatum / Sw.". Annotate as "Typus"

Two isotypes are known at BM (FAWCETT & RENDLE 1910), S, and UPS. GARAY and SWEET (1974) erroneously cited the type as: "Martinique, without proper locality, Jacquín s.n. (BM)"

34. *Epidendrum utricularioides* Sw., Prodr.: 122 (1788)

≡ *Dendrobium utricularioides* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 83 (1799); emend. in Fl. Ind. Occ.: 1531–1532 (1806)

≡ *Cybelion utriculariae* (Sw.) SPRENG., Syst. Veg. 3: 721 (1826)

≡ *Ionopsis utricularioides* (Sw.) LINDL., Coll. Bot. 8, t. 39, F. A. (1826).

Type: Jamaica. "Habitat supra arbores: Haematoxylon, Citrum, etc. in campis siccissimis Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 12989 [W 0016945] (Fig. 39). Fertile. SWARTZ' original determination on the specimen sheet: "utricularioides [in pencil]"; [alia manu:] "(Cybelion / utriculariae / Spreng."; [alia manu:] "Ionopsis / utricularioides / Lindl." Annotate as "Typus"

Two isotypes are known at BM (FAWCETT & RENDLE 1910, GARAY & SWEET 1974, ACKERMAN 1995, cited as the holotype in NHM 2008) and S (GARAY & SWEET 1974, ACKERMAN 1995).

35. *Epidendrum variegatum* Sw., Prodr.: 122 (1788)

≡ *Cymbidium variegatum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 74 (1799)

≡ *Oncidium variegatum* (Sw.) Sw., Bih. Kongl. Svenska Vetensk.-Akad. Handl. 21: 240 (1895–1896); emend. in Fl. Ind. Occ.: 1483–1484 (1806)

≡ *Tolumnia variegata* (Sw.) BRAEM, Die Orchideen 37: 59 (1986).

Type: Hispaniola. "Parasiticum Arborum, (praesertim Crescentiae,) in Montosis Hispaniolae", O. Swartz s.n.

Isotype: W Rchb-Orch 26491 [W 0016980], cited by ACKERMAN (1995: 161) and NIR (2000: 382) (Fig. 40). 3 specimens, fertile. SWARTZ' original determination on the specimen sheet: "variegatum [in pencil]"; [alia manu:] "(Oncidium / variegatum / Swartz." Annotate: "Oncidium variegatum (Sw.) Sw. / Type / Det. J.D. Ackerman – 26 April 1898"

Two isotypes are known at BM (photo published by GARAY & STACY, 1974: t. 1) and S.

36. *Epidendrum vestitum* Sw., Prodr.: 124 (1788), non *Epidendrum vestitum* AMES (1923).

≡ *Cymbidium vestitum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 70 (1799); emend. in Fl. Ind. Occ.: 1448–1449 (1806)

≡ *Ornithidium vestitum* (Sw.) RCHB.f., Walp. Ann. Bot. Syst. 6: 491 (1863)

≡ *Camaridium vestitum* (Sw.) LINDL., Ann. Mag. Nat. Hist., ser. 3, 1: 333 (1858)

≡ *Auliza vestita* (Sw.) ACUÑA, Bol. Estac. Exper. Agron. Santiago (Cuba) 60: 86 (1939)

≡ *Pseudomaxillaria vestita* (Sw.) BRIEGER, Bot. Jahrb. Syst. 97: 553 (1977).

Type: Jamaica. "Parasiticum in arboribus Jamaicae temperatoribus, nec non ad latera ripium", O. Swartz s.n.

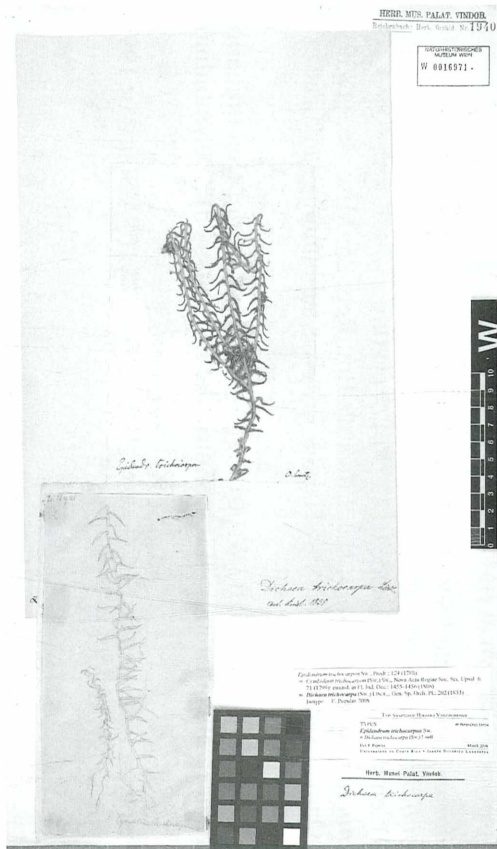


Fig. 34: *Epidendrum trichocarpum* Sw.: Iso-type [W Rchb-Orch 19404].

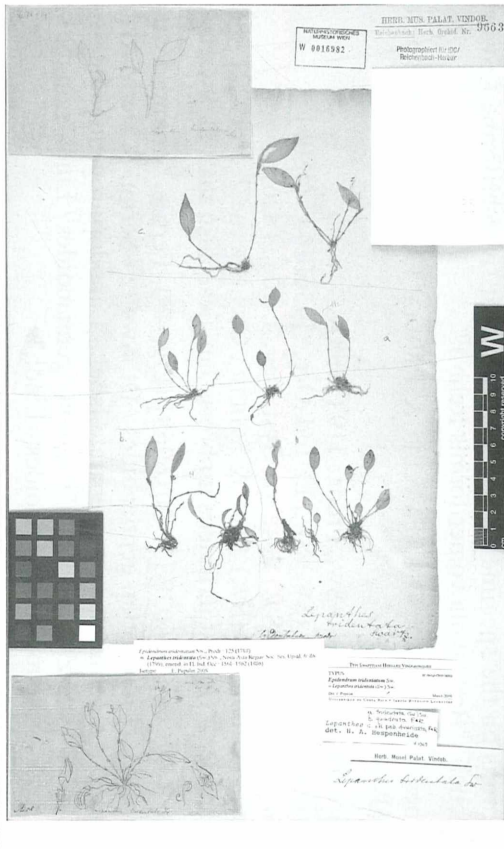


Fig. 35: *Epidendrum tridentatum* Sw.: Iso-type [W Rchb-Orch 9663].

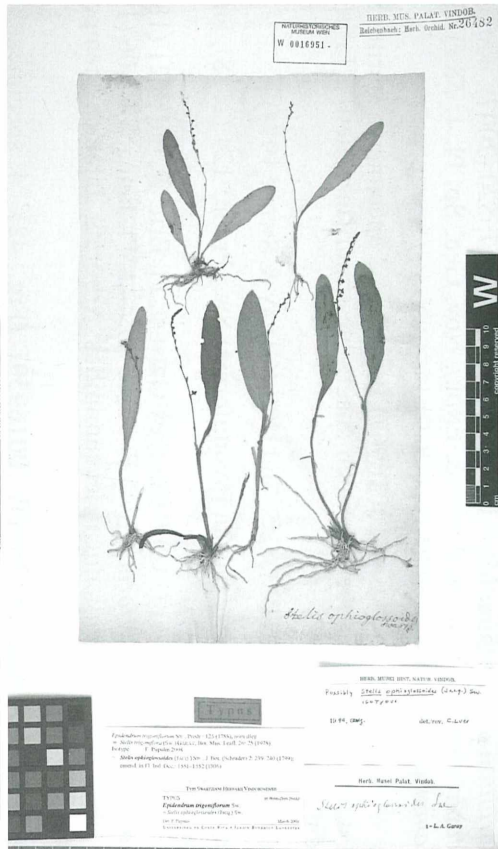


Fig. 36: *Epidendrum trigoniflorum* Sw.: Iso-type [W Rchb-Orch 26482].



- = *Camaridium micranthum* M.A. BLANCO, Lankesterina 7: 520 (2007), nom. nov.,  
 ≡ *Scaphyglottis parviflora* POEPP. & ENDL., Nov. Gen. Sp. Pl. 1: 58 (1835), non  
*Camaridium parviflorum* FAWC. (1910).

Isotype: W Rchb-Orch 26490 [W 0016967] (Fig. 41). 2 specimens, sterile. SWARTZ' original determination on the specimen sheet: "vestitum [in pencil]"; [alia manu:] "Cymbidium vestitum Sw."

Four isotypes are known at BM, G, S, and UPS (GARAY & SWEET 1974).

37. *Epidendrum vomeriforme* (sphalm. vomiforme) Sw., Prodr.: 124 (1788); emend. in Fl. Ind. Occ.: 1511 (1806)

≡ *Brassavola vomeriformis* (Sw.) RCHB.f. ex GRISEB., Fl. Brit. W. Ind.: 621 (1861)

≡ *Homalopetalum vomeriforme* (Sw.) FAWC. & RENDLE, Fl. Jamaica 1: 106 (1910).

Type: Jamaica. "Parasiticum in cacuminibus Arborum Jamaicae temperationis australis", O. Swartz s.n.

Isotype: W Rchb-Orch 26523 [W 0016959] (Fig. 42). 4 specimens, sterile. Determinations on the specimen sheet: "Epidendrum / vomeriforme / Swartz"; alia manu [in pencil] "Brassavola vomeriformis Rchb.f."

Two isotypes are known at BM (FAWCETT & RENDLE 1910, cited as the holotype in NHM 2008) and UPS.

38. *Limodorum gentianoides* Sw., Prodr.: 119 (1788)

≡ *Artethusa gentianoides* (Sw.) Sw., Fl. Ind. Occ.: 1436–1437 (1806)

≡ *Pogonia gentianoides* (Sw.) SPRENG., Syst. Veg. 3: 706 (1826)

≡ *Triphora gentianoides* (Sw.) AMES & SCHLTR., Orchidaceae 7: 5 (1922).

Type: Jamaica. "Habitat in frutetis umbrosis Jamaicae australis", O. Swartz s.n.

Isotype: W Rchb-Orch 16038 [W 0016969] (Fig. 43). Fertile. Mounted with an ink drawing labeled: "Limodorum gentianoides / Dt. Swartz / Script. & Herb. Alströmeri" SWARTZ' original determination on separate label: "Limodorum gentianoides – Swartz [alia manu] / Dt. Swartz"; alis manu: "Pogonia / gentianoides / Lindl."; on the specimen sheet [alia manu]: "Pogonia / gentianoides / Lindl."

Another isotype is known at BM (FAWCETT & RENDLE 1910).

39. *Limodorum utriculatum* Sw., Prodr.: 119 (1788)

≡ *Cymbidium utriculatum* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 75–76 (1799); emend. in Fl. Ind. Occ.: 1477–1478 (1806)

≡ *Govenia utriculata* (Sw.) LINDL., Edward's Bot. Reg. 25: Misc. 46. (1839).

Type: Jamaica and Hispaniola. "Habitat in sylvis subhumidis Jamaicae et Hispaniolae; terrestres", O. Swartz s.n.

Isotype: W Rchb-Orch 26510 [W 0016938] (Fig. 44). Fertile. Determinations on the specimen sheet, aliis manibus: "Limod. utriculatum [in pencil]"; "Cymbidium / utriculatum Sw."

Another isotype is known at BM (FAWCETT & RENDLE 1910, ACKERMAN 1995, cited as the holotype in NHM 2008).

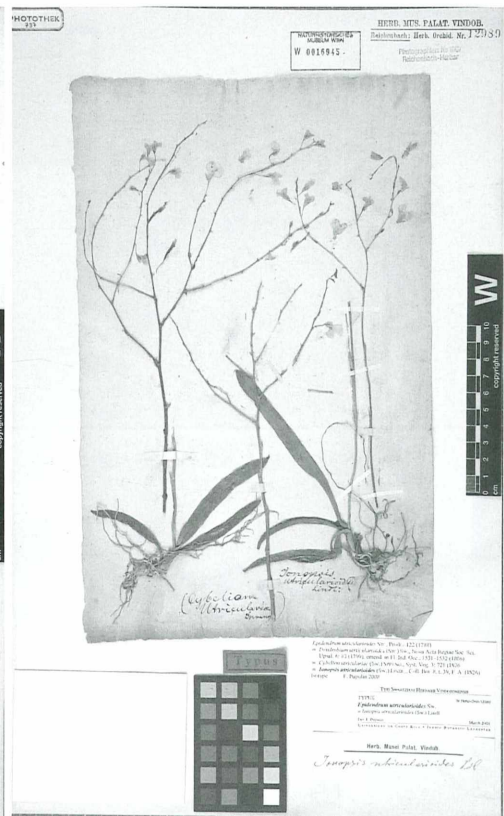
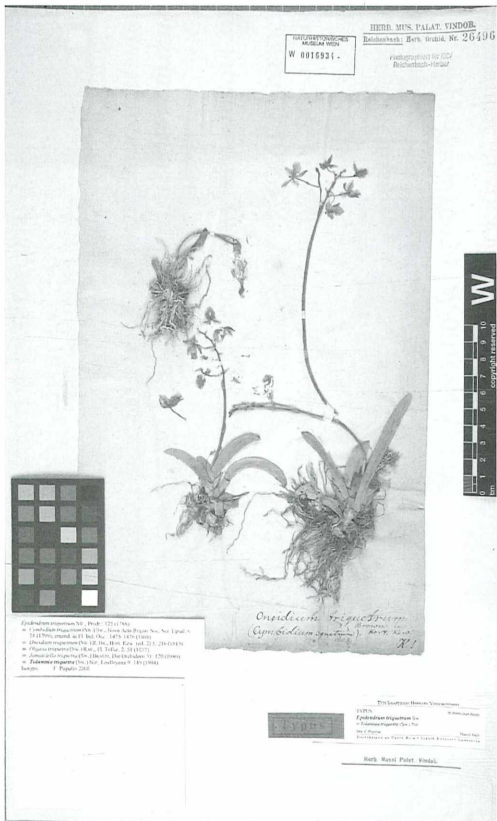


Fig. 37: *Epidendrum triquetrum* Sw.: Isotype [W Rchb-Orch 26496].

Fig. 38: *Epidendrum umbellatum* Sw.: Isotype [W Rchb-Orch 26516].

Fig. 39: *Epidendrum utricularioides* Sw.: Isotype [W Rchb-Orch 12989].



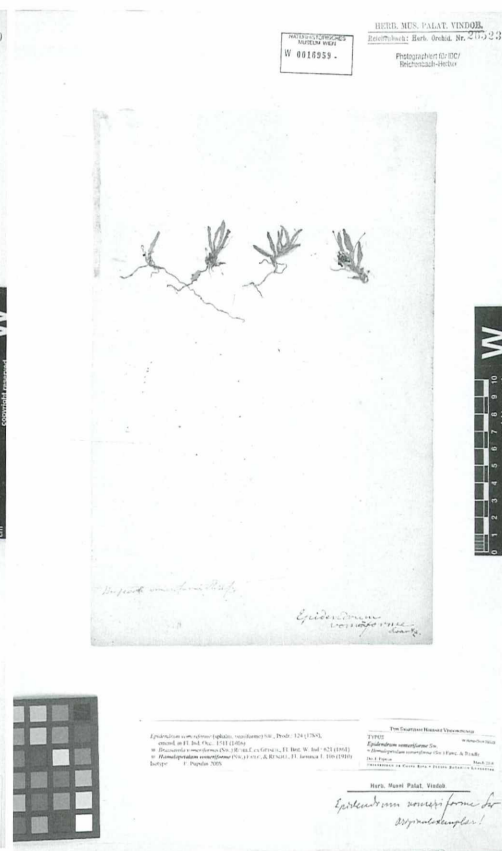
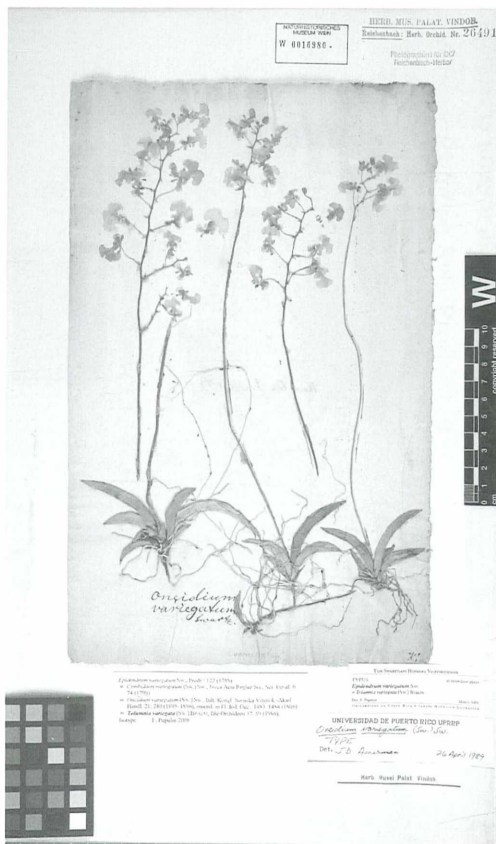


Fig. 40: *Epidendrum variegatum* Sw.: Isotype [W Rchb-Orch 26491].

Fig. 41: *Epidendrum vestitum* Sw.: Isotype [W Rchb-Orch 26490].

Fig. 42: *Epidendrum vomeriforme* Sw.: Isotype [W Rchb-Orch 26523].

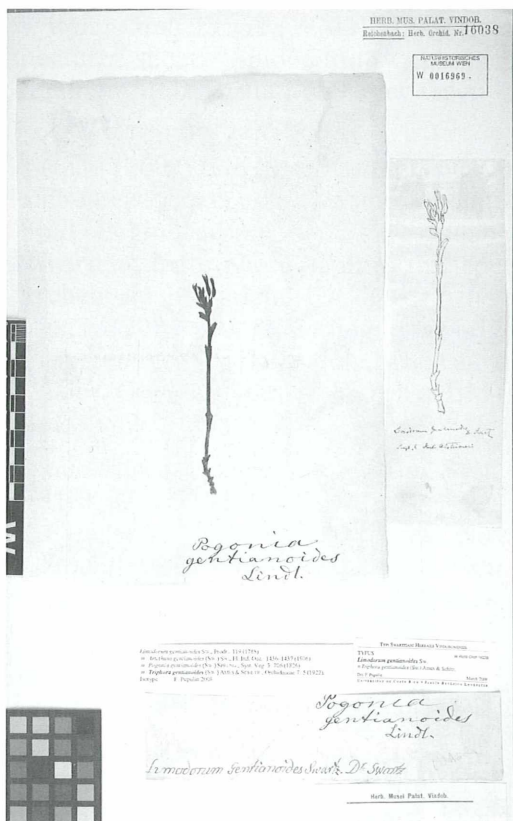


Fig. 43: *Limodorum gentianoides* Sw.: Isotype [W Rchb-Orch 16038].

Fig. 44: *Limodorum utriculatum* Sw.: Isotype [W Rchb-Orch 26510].

40. *Malaxis spicata* Sw., Prodr.: 119 (1788); emend. in Fl. Ind. Occ.: 1441–1442 (1806)  
 ≡ *Microstylis spicata* (Sw.) LINDL., Gen. Sp. Orch. Pl.: 19 (1830).

Type: Jamaica. "Incolit loca depressa montium Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 16029 [W 0016948] (Fig. 45). Fertile. SWARTZ' original determination on separate label: "Malaxis spicata – Swartz [alia manu] – Dt. Swartz." Determination on the specimen sheet [alia manu]: "Microstylis / spicata / Lindl." Annotate as "Typus"

Three isotypes are known at BM (FAWCETT & RENDLE 1910, ACKERMAN 1995), C, and UPS (ACKERMAN 1995).

41. *Orchis monorrhiza* Sw., Prodr.: 118 (1788); emend. in Fl. Ind. Occ.: 1391–1392 (1806)

≡ *Habenaria monorrhiza* (Sw.) RCHB.f., Ber. Deutsch. Bot. Ges. 3: 274 (1885)

≡ *Platanthera monorrhiza* (Sw.) SCHRENK, Die Orchidee 28: 9. (1977).

Type: Jamaica. "Habitat in depressis montium Jamaicae", O. Swartz s.n.

Isotype: W Rchb-Orch 25292 [W 0016935], cited by NIR (2000: 169) (Fig. 46). 2 specimens, fertile. SWARTZ' original determination on the specimen sheet: "Jamaica /

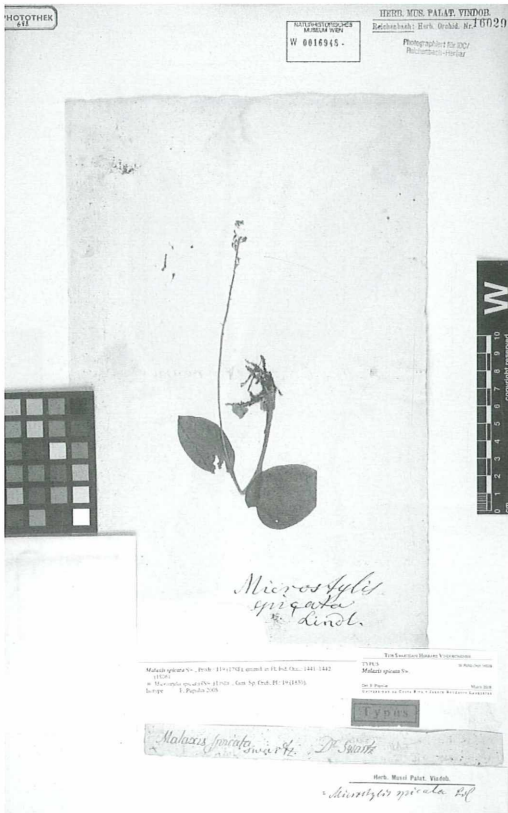


Fig. 45: *Malaxis spicata* Sw.: Isotype [W Rchb-Orch 16029].

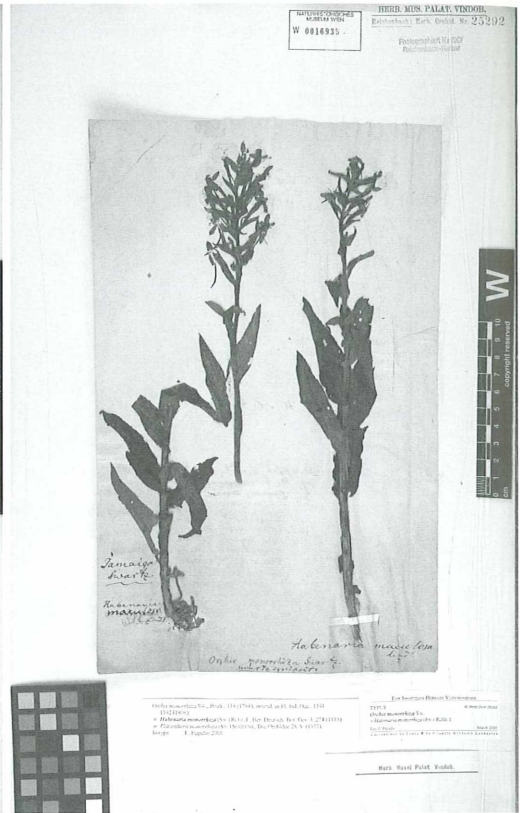


Fig. 46: *Orchis monorrhiza* Sw.: Isotype [W Rchb-Orch 25292].

Swartz / *Orchis monorrhiza* Swartz / Swartz scripsit"; [alia manu:] "*Habenaria maculosa* / Lindl."; "*Habenaria* / *maculosa* / Lindl."

Other isotypes are known at BM (cited in GARAY & SWEET 1974, but not located according to ACKERMAN 1995), SBT (ACKERMAN 1995) and UPS.

### Other not type material from Swartz' herbarium at W

*Epidendrum echinocarpon* Sw., Prodr.: 124 (1788), nom. illeg. (*Limodorum pendulum* AUBL.).

≡ *Cymbidium echinocarpon* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 71 (1799); emend. in Fl. Ind. Occ.: 1452–1453 (1806), nom. illeg.

≡ *Dichaea echinocarpa* (Sw.) LINDL., Gen. Sp. Orch. Pl. 208 (1833), nom. illeg.

≡ *Pachyphyllum echinocarpon* (Sw.) SPRENG., Syst. Veg. 3: 731 (1826), nom. illeg.

Lectotype (PUPULIN 2007): [Jamaica,] Provenit ad latera saxorum arborumque inter muscos in umbrosis montium Jamaicae australis, O. Swartz s.n. (W Rchb-Orch 25294).

= *Dichaea pendula* (AUBL.) COGN.

W Rchb-Orch 19562 [W 0016955]: Sterile. SWARTZ' original determination on the specimen sheet: "Epidendrum / echinocarpum / Conf. Aubl fig / ex Infel.[?] Sto / Domingo"; [alia manu,] on larger sheet: "Sw / Dichaea echinocarpa Lindl." Annotate as: "Typus"

PUPULIN (2007) designated as the lectotype of *E. echinocarpum* a fertile specimen (W Rchb-Orch 25291) collected and annotated by SWARTZ: "Dichaea echinocarpa / Lindl. / (Epid. Echinocarpum Sw)" I was unable to locate the corresponding sheet in the herbarium, but a photograph of this specimen was published in the microfiches of Reichenbach herbarium (IDC 8802, fiche n. 232/16, IDC 1988), and it is reproduced in PUPULIN (2007: 19). According to the original label, the specimen W Rchb-Orch 19562 is apparently from Hispaniola, whereas the type of *E. echinocarpum* is from southern Jamaica. Other isotypes are known at BM (GARAY & SWEET 1974, ACKERMAN 1995) and S (GARAY & SWEET 1974).

*Epidendrum globosum* JACQ., Enum. Syst. Pl.: 29 (1760); emend. in Select. Stirp. Amer. Hist. 222, t. 133, f. 1. (1763)

- ≡ *Cymbidium globosum* (JACQ.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72 (1799)
- ≡ *Isochilus globosus* (JACQ.) LINDL., Gen. Sp. Orchid. Pl.: 112 (1831)
- ≡ *Jacquiniella globosa* (JACQ.) SCHLTR. Repert. Sp. Nov. Regni Veg. Beih. 7: 124 (1920).

A) W Rchb-Orch 25408 [W 16949]. 3 specimens (2 fruiting). SWARTZ' original determination: "globosum prodr. Jacq"; [alia manu:] "Isochilus / globosus / Lindl."

B) W Rchb-Orch 16031 [W 21512]. Sterile, mounted with an ink tracing of the specimen. SWARTZ' original determination on separate label: "Epidendrum globosum Jacq a celeberr. D. Doct et Swartz. Jamaica / 1787[?]9"; on the specimen sheet [alia manu]: "Isochilus / ramosum / Lindl."; on separate label, [alia manu:] "Isochilus / globosus / Lindl."

In his "Dianome Epidendri Generis. Linn.", SWARTZ (1799) transferred Jacquin's *Epidendrum globosum* to *Cymbidium*, assigning it to the series "A, Parasitica", subseries "(\*) Petalis erectiusculus"

*Epidendrum lineare* JACQ., Enum. Syst. Pl. 29. 1760

- ≡ *Isochilus linearis* (JACQ.) R.BR., Hort. Kew. (ed. 2) 209 (1813).

W Rchb-Orch 36357. Fertile. SWARTZ' original determination on the specimen sheet: "Epidendr. lineare / O. Swartz"; other determination: "Isochilus linearis / Lindley det. 1835"

*Satyrium plantagineum* L., Syst. Nat. (ed. 10) 1244 (1758) (non *Spiranthes plantaginea*).

- ≡ *Orchis plantaginea* (L.) Sw., Kongl. Vetensk. Acad. Handl. 21: 207 (1800)
- ≡ *Physurus plantagineus* (L.) LINDL., Gen. Sp. Orch. Pl. 503 (1840)
- ≡ *Microchilus plantagineus* (L.) D. DIETR., Syn. Pl. 5: 166 (1852)
- ≡ *Erythrodes plantaginea* (L.) FAWC. & RENDLE, Fl. Jam. 28 (1910).

W Rchb-Orch 35055. Fertile. SWARTZ' original determination on the specimen sheet: "Satyrium plantagineum / Sw."

### Acknowledgements

I particularly thank Ernst Vitek and Bruno Wallnöfer, curators at W, for their courtesy and assistance during my visits at the herbarium of the Naturhistorisches Museum in Vienna. This paper was prepared as part of the project A7015, "Inventario y taxonomía de la flora epífita de la región Mesoamericana. 1. Orchidaceae", supported by the Vicepresidence of Research, University of Costa Rica.

### References

- ACKERMAN J. D., 1995: An orchid flora of Puerto Rico and the Virgin Islands. – Mem. New York Bot. Gard. 73: 1–203.
- ANONYMOUS, 1988: The Reichenbach Herbarium. – Leiden: Inter Documentation Company.
- BRUMMITT R.K., 2007. Report of the Committee for Vascular Plants. (1707). To reject *Cymbidium muricatum* Sw. (Orchidaceae). – Taxon 56(4): 1290.
- CHASE, M.W., CAMERON K.M., BARRETT R.L. & FREUDENSTEIN J.V., 2003. DNA data and Orchidaceae systematics: a new phylogenetic classification. – In: DIXON K.W., KELL S.P., BARRETT R.L. & CRIBB P.J. (eds.): Orchid conservation: 69–89. – Kota Kinabalu, Sabah: Natural History Publications (Borneo).
- DRESSLER R.L. & FOLSOM J.P., 2005: Proposal to reject the name *Cymbidium muricatum* (Orchidaceae). – Taxon 54(4): 1106–1107.
- FAWCETT W. & RENDLE A.B., 1910: Flora of Jamaica. Vol. 1. Orchidaceae. – London: British Museum.
- GARAY L.A. & STACY J.E., 1974: Synopsis of the genus *Oncidium*. – Bradea 1(40): 393–428.
- GARAY L.A. & SWEET H.R., 1974: Orchidaceae. – In: HOWARD R.A. (ed.): Flora of the Lesser Antilles. – Cambridge, Massachusetts: Arnold Arboretum.
- KIGER R.W., 1976: Swartz' unpublished drawings of West Indian plant species. – Bull. Torrey Bot. Club 103(2): 80–83.
- NORDENSTAM, B., ROGER L. & ZANONI T.A., 1994: Herbaria of Olof Swartz and Erik L. Ekman at Stockholm (S). – Fl. Great. Antill. Newsl. 5. – <http://www.nybg.org/bsci/fga/Newsletter/FGANno5.htm>
- NIR M.A., 2000: Orchidaceae Antillanae. – New York: DAG Media Publishing Co.
- PUPULIN F., 2007: Contributions toward a reassessment of Costa Rican Zygotepalinae (Orchidaceae). 3. A systematic revision of *Dichaea* in Costa Rica. – Harvard Pap. Bot. 12(1): 15–153.
- REICHENBACH. H.G., 1866. Beiträge zu einer Orchideenkunde Central-Amerika's. – Hamburg: Meissner.
- SWARTZ O.P., 1788: Nova genera & species plantarum; seu, Prodromus descriptionum vegetabilium, maximam partem incognitorum quæ sub itinere in Indiam Occidentalem annis 1783-87 / digessit, Olof Swartz, M. D. – Stockholm, Upsala and Aboa: Bibliopolis Acad. M. Swederi.
- SWARTZ O.P., 1791: Observationes botanicae quibus plantae Indiae Occidentalis aliaeque Systematis vegetabilium ed. XIV illustrantur earumque characteres passim emendantur, cum tabulis aeneis. – Erlangen: Palm, and, London: White & filium.
- SWARTZ O.P., 1794: Icones plantarum incognitarum quas in Indias Occidentali detexit atque delineavit O. Swartz. Fasciculus I. – Erlangen: Palm.
- SWARTZ O. P., 1797–1806: Flora Indiae Occidentalis aucta atque illustrata; sive, descriptiones plantarum in prodromo recensitarum –Erlangen: Palm, and London: White & filium.

- SWARTZ O.P., 1799: *Dianome Epidendri Generis*. Linn. – *Nova Acta Regiae Soc. Sci. Upsal.* 6: 61–88, tab.
- Conservatoire et Jardin botaniques de la Ville de Genève [Conservatory and Botanical garden of the City of Geneva], 2008: *Catalogue des Herbiers de Genève*, electronic version. – <http://www.ville-ge.ch/musinfo/bd/cjb/chg/>, consulted on May 2008.
- Natural History Museum, 2008: *The Orchid Specimen Database at the Natural History Museum*, London, electronic version. – <http://www.nhm.ac.uk/research-curation/projects/orchids/>, consulted on March 2008.
- Naturhistoriska riksmuseet [Swedish Museum of Natural History], 2008: *The Swartz herbarium Databases*, Department of Phanerogamic Botany, Swedish Museum of Natural History (S), electronic version. – <http://www2.nrm.se/fbo/data/swartz.html.en>, consulted on March, 2008.
- University of Copenhagen, 2008: *The Type database of the Botanical Garden & Museum, Natural History Museum of Denmark*, electronic version. – <http://130.225.211.158/Type-database/search.htm>, consulted on March 2008.
- Uppsala University, 2008: *The database of the Botany Section, Museum of Evolution*, electronic version. – <http://www-hotel2.uu.se:8888/cgi-bin/wwwdrive.fytotek/medium>, consulted on March 2008.