

Typi Orchidacearum ab Augusto R. Endresio in Costa Rica lecti

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Kurzfassung

Auguste R. Endrés sammelte von Ende 1866 bis 1874 in Costa Rica, für eine kurze Zeit war er auch in Panama. In diesen sieben Jahren widmete er sich insbesondere der Aufsammlung von Orchideen. Nur eine geringe Zahl seiner neuen Funde wurden von ihm selbst publiziert. Elf Arten beschrieb er gemeinsam mit Heinrich Gustav Reichenbach, der weitere 22 Arten aufgrund von Endrés' Material beschrieb. Andere Autoren, die mit diesem Material neue Taxa beschrieben, sind Rudolf Schlechter, Fritz Kränzlin und Carlyle A. Luer. Insgesamt wurden 109 Arten und 2 Varietäten auf der Basis von Endrés' Sammlungen beschrieben. Hier wird eine kritische Evaluation seiner Orchideentypen in Reichenbach's Sammlungen, die heute im Naturhistorischen Museum Wien deponiert sind, vorgelegt.

Abstract

Auguste R. Endrés botanized in Costa Rica between the end of 1866 and the first months of 1874, spending a short time in Panama. In these seven years he devoted his main attention to the still unrevealed richness of Costa Rican Orchidaceae. The results of his activity have still to be properly evaluated, but his contributions to the botany of Costa Rica are extraordinary in quantity and quality. Notwithstanding his immense labor, only a very small portion of the orchid plants he collected, studied and illustrated were published as new to the science. He co-authored eleven species with Heinrich Gustav Reichenbach, who himself described another 22 species based on his collections. Other authors who described new taxa through the study of Endrés' plants were Rudolf Schlechter, Fritz Kränzlin and, more recently, Carlyle A. Luer. Including a few other minor contributions, the total number of orchids described as new to science on the basis of Endrés' collections amounts to 109 species and two varieties. In order to begin a complete evaluation of Endrés' botanical legacy, a critical revision of the information on the orchid types collected by him, and conserved in the Reichenbach Herbarium at the Naturhistorisches Museum of Vienna, is presented. Types are associated with Endrés' illustrations and other materials from his gatherings. Lectotypes are selected for *Brassia chlorops*, *Epidendrum ionocentrum*, *Masdevallia pygmaea*, *Oncidium castaneum*, *O. dielsianum*, *O. globuliferum* var. *costaricense*, *O. rechingieranum*, *Restrepia prorepens*, *R. reichenbachiana*, *Sigmatostalix poikilostalix*, *Telipogon endresianus*, *Trichocentrum pfavii* var. *zonale*, *Warczewiczella picta*. *Miltonia endresii* is neotypified. Photographs of the lectotypes and the neotype are presented.

Key words: Orchidaceae, typification, Auguste R. Endrés, Costa Rica, Reichenbach Herbarium, Naturhistorisches Museum Wien

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Introduction

As new information on Auguste R. Endrés (1838–1874), his life and botanical activity has become available based on reliable sources (OSSENBACH et al. 2010, MANNING 2010), the time is ripe for a general review of Endrés' biography and the significance of his work for the history of Central American botany (OSSENBACH et al., in preparation).

Results

The short career of A.R. Endrés as a botanical explorer, author and illustrator, is concentrated in just a few years that he spent in Costa Rica between the end of 1866 and the first months of 1874, with a brief parenthesis in Panama. In these seven years Endrés botanized throughout the country, devoting his main attention to the still unrevealed richness of small orchid plants that are common in the canopies of Costa Rican forests (for a review of the main botanical itineraries of Endrés, and the identification of his collecting localities, see OSSENBACH et al. 2010). The botanical results of his activity, largely neglected after his death in 1874, have still to be properly evaluated. However, from a preliminary assessment of the materials he prepared in Costa Rica, they must be considered extraordinary both in terms of quantity of vouchers, illustrations and plant descriptions, as well as in the quality of his meticulous work.

Endrés' botanical legacy, almost exclusively preserved in the Herbarium and the Archives of the Natural History Museum of Vienna (Naturhistorisches Museum Wien), with a few duplicates kept at the Oakes Ames Orchid Herbarium, Harvard University, amounts to the astonishing figure of 3518 sheets, 1127 of which contain one or more drawings, plus a number of loose documents, scraps and notebooks that include other species descriptions. Of the genus *Lepanthes* alone, his preferred group among the orchids, Endrés collected more than 250 specimens, corresponding to 63 species (or more than two thirds of all the taxa known from Costa Rica, according to LUER 2003), and prepared 201 illustrations. The Herbarium of the Natural History Museum conserves Endrés' drawings, descriptions and exsiccata of more than half of the Costa Rican species of *Masdevallia* and *Trichosalpinx*, two thirds of the *Oncidium* species, three quarters of the known taxa of *Platystele*, almost half of the species of *Pleurothallis* s.l., and so on.

Notwithstanding his immense labor, only a very small portion of the orchid plants he collected, studied and illustrated during his Costa Rican travels (most of which still undescribed at this time) were published as new to science. He co-authored 11 species with his main scientific correspondent, Heinrich Gustav Reichenbach (1823–1889), then professor of botany and director of the Botanic Garden of the Hamburg University and undisputed authority on orchid taxonomy. During the time of their correspondence between Costa Rica and Germany, Reichenbach described another four species and one new variety based on collections by Endrés, and another 18 new taxa after Endrés' death until 1886.

After the death of Prof. Reichenbach and the relocation of his herbarium to the Court Imperial Museum in Vienna (now Naturhistorisches Museum Wien, herbarium W), Friedrich Richard Rudolf Schlechter (1872–1925) and Friedrich (Fritz) Wilhelm Ludwig Kränzlin (1847–1934) studied the material collected by Endrés and described on

that basis 3 and 39 new orchid species respectively. Kränzlin, at least, removed from the herbarium of Reichenbach parts of those materials collected by Endrés that served as the types for his new species. The largest part of this collection was probably lost during the bombing of the Berlin/Dahlem Herbarium in 1943, but Kränzlin had previously sold some of the specimens to Oakes Ames in 1924 to make the publication of his monograph on *Masdevallia* (KRÄNZLIN 1925) possible. They are currently conserved at the Oakes Ames Orchid Herbarium, Harvard University Herbaria (AMES).

The following important contribution to Endrés' orchidology was the work by Carlyle A. Luer (1922–), who between 1992 and 1999 published twenty species of Costa Rican Pleurothallidinae (mostly belonging to the genus *Lepanthes*) based on plants and drawings of Endrés kept at the herbarium in Vienna. If other, minor contributions resulting from the study of Endrés' materials are taken into account (i.e., NICHOLSON 1886, VEITCH 1890, PUPULIN 2001, PUPULIN & BOGARIN 2010), the total number of orchids described as new to science on the basis of Endrés' collections barely amounts to 109 species (with two new genera) and two varieties. When compared with the substantial advances in the knowledge of Mesoamerican orchids produced by the exploratory work and the fine botanical activity of Endrés, it is clear that his formal contributions to botany were much less than his commitment deserved. Endrés himself was aware of this, and a few months before his death he bitterly wrote to his friend, the Captain John Melmoth Dow (1827–1892): “*Reichenbach has lately repeated his proposal of buying my dried orch. collections and I fear our first interview will be a stormy one. I begin to consider these cabinet-celebrities as vampires nourishing their inflated fame at the cost of the lifeblood of those poor fools they condescendingly call “collectors”, and I am thoroughly disgusted, at moments, with the pursuits I have so passionately followed for seven years. / Rchb. lately proposed retarding the publication of my plants to 1875, in order to adorn, as he says, the catalogue which will be published on occasion of the — eth. anniversary of the Hamburg Botanical Gardens, of which he is the Director. / My own opinion is that, if any further retardation takes place it will emanate from a resolution of relinquishing his invaluable cooperation, and of working up the material myself and by myself / Would that I had done this long ago I should then at least have enjoyed the public credit which is my just due in reward for the sacrifices I have made. If, by sheer luck, not worn out bodily, my patience at least is exhausted*” (ENDRÉS 1874).

The present paper is the first contribution to a complete evaluation of Endrés' botanical legacy, and it is aimed to critically revise the information on the orchid types that were collected by Endrés, associating them with Endrés' illustrations and other materials from his gatherings, and lectotypifying his species when needed.

Endrés only rarely used collection numbers in the strict sense, but used numbers and annotations to correlate plants with figures and descriptions - these original notes are given in « ». Homotypic synonyms are given with ≡, all mentioned synonyms with the year of publication. Herbaria are given in [] with their acronyms according to Index Herbariorum: <http://sweetgum.nybg.org/ih/>.

For databasing, the specimens in W have got a unique number (,W “). The Orchid collection of Reichenbach has an independent numbering system cited as „Rchb. Orch. “ Both numbers are cited to allow correlation with earlier publications. Collections with numbers „W 1889-...“ have been in the general collections of Reichenbach. All specimens can be found in Virtual Herbaria: <http://herbarium.univie.ac.at/database/search.php>.

Orchid types based on collections by Auguste R. Endrés

1. ***Barkeria lindleyana* var. *centerae*** ENDRÉS & RCHB.f., Gard. Chron. 1873: 1597 (1873).
 ≡ *Epidendrum lindleyanum* var. *centerae* H.J. VEITCH (1890: “Introduced by us from Costa Rica, in 1873, through M. Endres”).
 Type: Costa Rica. “The original *Barkeria Lindleyana* was found in Costa Rica Now the lynx-eyed, indefatigable, and really scientific traveller, Mr. Endres, has discovered a very beautiful, prettier-coloured variety of it in Costa Rica I was most agreeably surprised to obtain fresh flowers of this remarkable plant quite recently (beginning of November) from the Royal Exotic Nursery of Messrs. Veitch & Sons”, A.R. Endrés s.n.
 Holotype: Costa Rica, without locality, «*Barkeria centeraeana* / *lindleyana*? / 2500’», A.R. Endrés s.n. «Gen. Coll. Orch. N. 532» [W 0019041 / Rchb. Orch. 5540, isotype W 0019039 / Rchb. Orch. 13634].
 Additional material associated with the type: Costa Rica, without locality, Endrés’ coloured drawings of the flower and floral dissections, «*Barkeria centerana*», A.R. Endrés s.n. «Gen. Coll. Orch. N. 532, *Barkeria* N° 1, Sk. 169.a» [W 0018992 / Rchb. Orch. 36564].
- In the original protologue of *B. lindleyana* var. *centerae*, Reichenbach expressly acknowledged that his description was “likewise the specimens and very complete and excellent descriptions by the friend Endrés” (*Juxta specimina et descript. locupletissimam, optimam amici Endres*) (REICHENBACH 1873).
2. ***Batemanianthus burtii*** ENDRÉS & RCHB.f., Gard. Chron. 1872: 1099 (1872).
 ≡ *Huntleya burtii* (ENDRÉS & RCHB.f.) PFITZER (1889).
 ≡ *Zygopetalum burtii* (ENDRÉS & RCHB.f.) BENTH. & HOOK. f. ex HEMSL. (1884).
 ≡ *Huntleya burtii* (ENDRÉS & RCHB.f.) ROLFE (1916), nom illeg. superfl.
 Type: Costa Rica. “It was discovered so early as June, 1867, in Costa Rica, by M. Endres, who proposed to name it in honor of one of his acquaintances”
 Holotype: Costa Rica, 1867, A.R. Endrés s.n. [W 0019751 / Rchb. Orch. 37976 (plant, Endrés’ description «... Costa Rica / 1867 / *Batemanianthus Burtii*», drawing of the flower and floral dissections)].
 Additional Endrés’ material: flowers and Endrés’ description, «*Batemanianthus Burtii* / ...», A.R. Endrés 100 [W 0019752 / Rchb. Orch. 13599]; – Endrés’ sketch of the plant and flower, with two descriptions, A.R. Endrés 100 [W 0019759 / Rchb. Orch. 36019]; – Endrés’ drawings of the flowers, floral dissections and descriptions, A.R. Endrés 100 [W 0019758 / Rchb. Orch. 31952]; – Endrés’ drawing of the plant, flower and floral dissections, A.R. Endrés 100 [W 0019756 / Rchb. Orch. 36590]; – flowers, A.R. Endrés s.n. [W 0019754 / Rchb. Orch. 37982]; – Endrés’ drawing of a flower, A.R. Endrés 109 [W 0019760 / Rchb. Orch. 34712]; – Endrés’ drawing of the flower and descriptions, A.R. Endrés s.n. [W 0019755 / Rchb. Orch. 18002]; – flowers, A.R. Endrés s.n. [W 0019753 / Rchb. Orch. 13598]; – Endrés’ sketch of the flower, A.R. Endrés s.n. [W 0019757 / Rchb. Orch. 33319].
 3. ***Brassia chlorops*** ENDRÉS & RCHB.f., Gard. Chron. 542. 1873.
 ≡ *Ada chlorops* (ENDRÉS & RCHB.f.) N.H. WILLIAMS (1972)

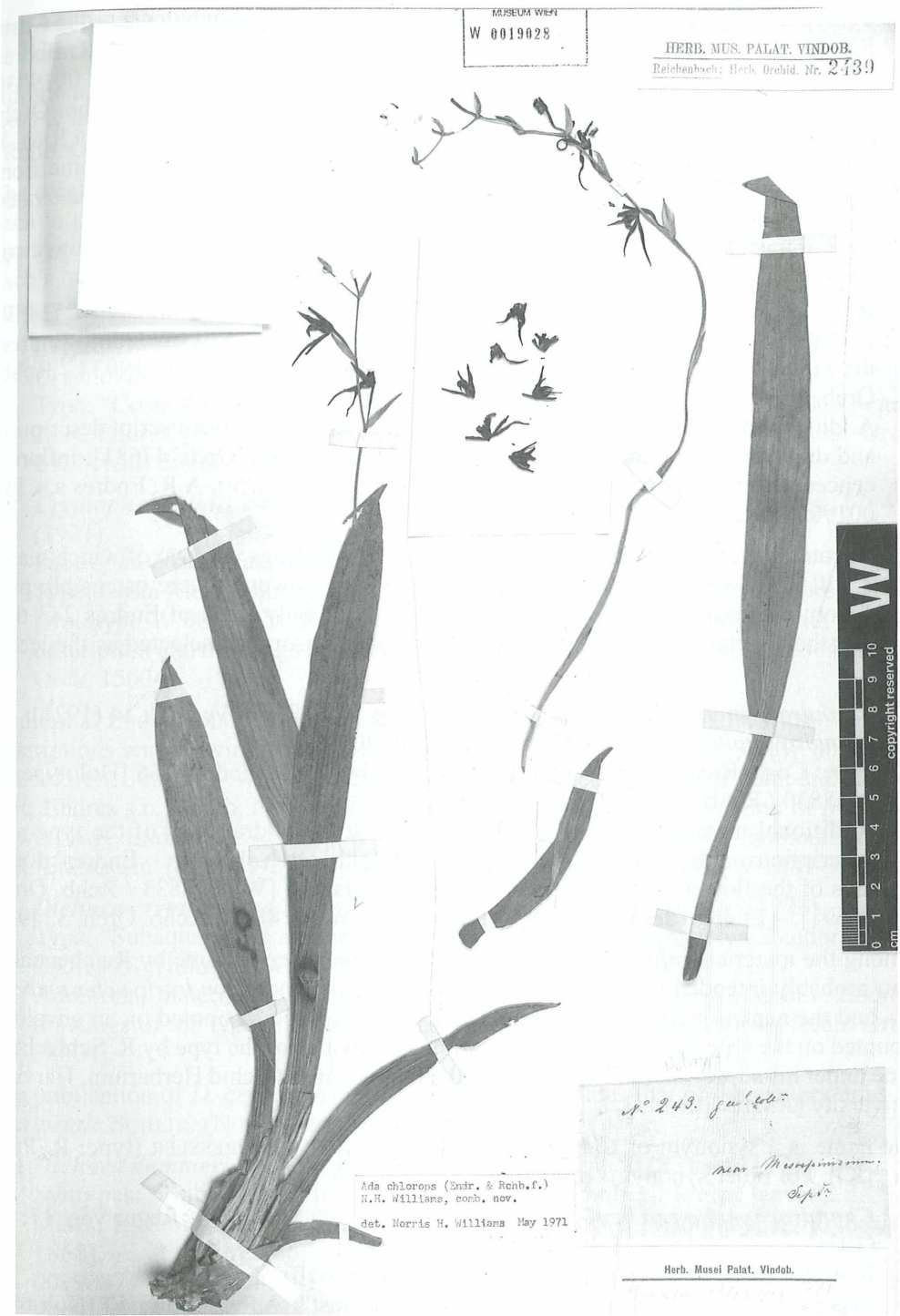


Fig. 1: Lectotype of *Brassia chlorops* ENDRÉS & RCHB.f. [W 0019028 / Rchb. Orch. 2439].

Syntypes: “There are ... five dry specimens of it in my herbarium, gathered in Costa Rica by Mr. Endres, the skilful lynx-eyed investigator {Costa Rica, A.R. Endrés 243, [W 0019028 / Rchb. Orch. 2439, W 0019029 / Rchb. Orch. 2435, W 0019030 / Rchb. Orch. 2434, W 0019031 / Rchb. Orch. 2437, W 0019032 / Rchb. Orch. 47630, W 0019034 / Rchb. Orch. 2438} and by Mr. Julian Carmiol {Costa Rica, J. Carmiol s.n. [W 0019033 / Rchb. Orch. 18243]}. The fresh specimen come from Messrs. Veitch, who imported it likewise from Costa Rica {Costa Rica, cultivated by Veitch s.n., not located}”

Lectotype (hic designatus): «near *Mesospinidium* / *Sept^f*», A.R. Endrés 243 [W 0019028 / Rchb. Orch. 2439] (Fig. 1).

Isolectotypes: [W 0019029 / Rchb. Orch. 2435, W 0019030 / Rchb. Orch. 2434, W 0019031 / Rchb. Orch. 2437, W 0019032 / Rchb. Orch. 47630 (including Endrés' drawing of the flower, floral dissections, and description), W 0019034 / Rchb. Orch. 2438].

Additional material associated with the type: Reichenbach's manuscript description and drawing of material from Endrés [W 0018985 / Rchb. Orch. 47631]; inflorescences with flowers («*Brassia* (*Mesospinidium*) / *Brachtia?*»), A.R. Endrés s.n. [W 0019035 / Rchb. Orch. 2436].

In the protologue, Reichenbach cited three different gatherings, for two of which material is still in existence at W. His diagnostic drawings, however, were ostensibly prepared from material sent by Endrés. W 0019028 is the only sheet of Endrés 243 that includes the vegetative parts of the plant, and for this reason it is selected as the lectotype.

4. *Chondrorhyncha endresii* SCHLTR., Repert. Sp. Nov. Regni Veg. 17: 14 (1921).

≡ *Chondroscaphe endresii* (SCHLTR.) DRESSLER (2002).

Type: Costa Rica. “Ohne nähere Standortsangabe”, A.R. Endrés 166 [Holotype W 0018830 / Rchb. Orch. 49751].

Additional material associated with the type: Endrés' drawings of the type and descriptions, A.R. Endrés 166 [W 0018831 / Rchb. Orch. 10664]; – Endrés' drawings of the flower and flower details, A.R. Endrés 166 [W 0018833 / Rchb. Orch. 36691]; – Endrés' description, A.R. Endrés 166 [W 0018832 / Rchb. Orch. 33497].

Among the materials referable to the type at W is a manuscript name by Reichenbach, who probably intended to publish the species with the name *Chondrorhyncha umbonata*, and the name «umbonata», in Reichenbach's handwriting, is noted on an envelope mounted on the type sheet. A copy of the original drawings of the type by R. Schlechter, done under his supervision, is conserved at the Oakes Ames Orchid Herbarium, Harvard University [AMES 106743].

The name is a synonym of *Chondroscaphe bicolor* (ROLFE) DRESSLER (type: R. Pfau s.n., [K]). For other synonyms of the species, see PUPULIN (2010).

5. *Chondrorhyncha reichenbachiana* SCHLTR., Repert. Spec. Nov. Regni Veg. 17: 15 (1921).

≡ *Benzingia reichenbachiana* (SCHLTR.) DRESSLER (2010).

Type: Costa Rica. “Cataratas, blühend Marz-August”, A.R. Endrés 557 [Holotype W 0018829 / Rchb. Orch. 49753].

Additional material associated with the type: Endrés' drawings of the type and descriptions, A.R. Endrés 557 [W 0018826 / Rchb. Orch. 28550].

Additional Endrés' material: Costa Rica, without locality, dissected flower, A.R. Endrés 659 [W 0018823 / Rchb. Orch. 13614]; – without locality, A.R. Endrés s.n. [W 0018827 / Rchb. Orch. 13583].

The original drawings by Endrés of his «*Zygopetalum* N° 10» were used by Reichenbach to prepare a plate for his *Xenia* Orchidacea, under the intended name of «*Chondrorhyncha lamellata*», finally never published. The same name is annotated in Reichenbach's handwriting on the sheet W 0018827 / Rchb. Orch. 13583. The drawings of the type, originally prepared by Schlechter, were published in 1931 by R. MANSFELD (1931).

6. *Cryptarrhena quadricornu* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 314 (1922).
 ≡ *Cryptarrhena guatemalensis* SCHLTR. (1911).
 Type: "Costa Rica. schwule, niedrig gelegene Gegenden an der atlantischen Seite", A. R. Endres s.n. «N° 658 of gen. coll. Orch.» [Holotype W 0018849 / Rchb. Orch. 2427 (with Endrés' description and Kränzlin's drawing of the flower)].
7. *Cryptophoranthus endresianus* KRAENZL., Repert. Spec. Nov. Regni Veg. 17: 437 (1921).
 ≡ *Zootrophion endresianum* (KRAENZL.) LUER (1982).
 Type: Costa Rica. "Ohne genaueren Standort", 1867, A.R. Endrés s.n. «Orch. N° 7» [Holotype W 0018865 / Rchb. Orch. 15003 (annotated by Kränzlin, with Endrés' description and drawings and Reichenbach's sketches), isotype: W 0018864 / Rchb. Orch. 15004].

Additional Endrés' material: Costa Rica. «San Ramón, camino a San Carlos», Endrés' descriptions and drawing of plant and flower, A.R. Endrés s.n. «N° 3» [W 0018863 / Rchb. Orch. 36510]; – without locality, Endrés' coloured drawing of plant and flower, A.R. Endrés s.n. «Orch. N° 3» [W 0018866]; – Endrés' coloured drawing of plant and flower, A.R. Endrés s.n. «N° 3» [W 0018867 / Rchb. Orch. 36228]; – without locality, A.R. Endrés s.n. [W 1889-29950]; without locality, A.R. Endrés s.n. [W 1889-39082].

8. *Dichaea cryptarrhena* RCHB.f. ex KRAENZL., Pflanzenr. 4 (50): 36 (1923).
 Type: "Subäquatoriale andine Provinz. Costa Rica, ohne genaueren Standort", A.R. Endrés 28 [Holotype W 0019083 / Rchb. Orch. 44067].
 Additional material associated with the type: Costa Rica. «San Ramón», Endrés' drawings of the type and descriptions, A.R. Endrés 28 [W 0019084 / Rchb. Orch. 38604].

The publication of *D. cryptarrhena* (March 1923) antedates that of the synonymous *D. ovatipetala* SCHLTR. (November 1923) by eight months.

9. *Dichaea dammeriana* KRAENZL., Engler Pflanzenr. 4, 50 (83): 41 (1923).
 Syntypes: "Subäquatoriale andine Provinz. [Colombia]. Sierra Nevada de S.ta Marta, H. Smith 2773 [AMES, US, NY]; – Costa Rica [Without specific locality, 1868], A. R. Endres 66" [AMES-26090, W 0019086 / Rchb. Orch. 18036, W 0019087 / Rchb. Orch. 14751, W 0019090 / Rchb. Orch. 14747, W 0019089 / Rchb. Orch. 10517, W 0019088 / Rchb. Orch. 14778].
 Lectotype (PUPULIN 2007: 68): [AMES-26090, isolectotypes W 0019086 / Rchb.

Orch. 18036 (with Endrés' and Reichenbach's drawings), W 0019087 / Rchb. Orch. 14751, W 0019090 / Rchb. Orch. 14747, W 0019089 / Rchb. Orch. 10517; W 0019088 / Rchb. Orch. 14778].

Additional material associated with the type: Costa Rica, «San Ramon», Endrés' drawings and descriptions of the syntype, A.R. Endrés 66 [W 0019085 / Rchb. Orch. 38600], Endrés' drawing of the syntype [W 0019092 / Rchb. Orch. 36738].

The isolectotypes at W are sterile, while the specimen at AMES is fertile, and for this reason it was selected as the lectotype.

10. *Dichaea diandra* RCHB.f., Bot. Zeit. 35: 41 (1877).

Type: "Costa Rica. Endrés", A.R. Endrés s.n. [Holotype to be found in the Reichenbach Herbarium, W, not located; no isotypes known to exist].

Endrés' type collection is likely referable to a species of sect. *Dichaea*, the only group that, according to the diagnosis, has abaxially verrucose sepals ("sepals extus minute verrucosis"). However, while in the protologue Reichenbach first assigns the species to a group with muricate fruits ("*Echinocarpae*"), he later describes the ovary as glabrous ("*ovario laeve*"). Naked pollinia, without any stipe or viscidium ("*caudicula glandulalaeque destitutis*"), are otherwise known in *D. trichocarpa*, but the lip of this species with its characteristic discoid hypochile is hard to define as "*humeratus*". The column of *D. diandra*, with two lateral anthers ("*in mediana oppositis*") was likely a monster, and in the absence of a type specimen or any other material associated with the original protologue, Reichenbach's diandrous *Dichaea* cannot be assigned with certainty to any of the known taxa (PUPULIN 2010).

11. *Dichaea glabrescens* KRAENZL., Pflanzenr. 4, 50: 41 (1923).

Type: "Subäquatoriale andine Provinz, Costa Rica, [1867], A.R. Endrés 118. [Holotype W 019150 / Rchb. Orch. 14776 (but without Endrés number), isotype W 019146 / Rchb. Orch. 14776].

Additional material associated with the type: Costa Rica. Endrés' drawings of the type, A.R. Endrés 118 [W 0019160 / Rchb. Orch. 38597]; – «Potrerillos», Endrés' description «*Dichaea heteromorpha*», A.R. Endrés 118 [W 0019160 / Rchb. Orch. 36720].

Additional Endrés' material: Costa Rica. Endrés' drawings, A.R. Endrés 12 [W 0021667 / Rchb. Orch. 38596]; – Costa Rica, A.R. Endrés s.n. [W 0019145 / Rchb. Orch. 3628, W 0019147 / Rchb. Orch. 3634, W 0019148 / Rchb. Orch. 3636, W 0019149 / Rchb. Orch. 3630, W 0019151 / Rchb. Orch. 3629, W 0019152 / Rchb. Orch. 3635].

According to a manuscript annotation by Kränzlin on the type sheet, he changed the name from *glabrescens* to *selaginella*, but „it is the same species“. The name *Dichaea selaginella* was eventually not published by Kränzlin, because Schlechter had already used this name in 1920 for a species from Colombia (type: M. Madero s.n., B, destroyed), synonymous with *Dichaea hystricina* RCHB.f. (1865).

The name, *D. glabrescens*, is a synonym of *Dichaea tuerckheimii* SCHLTR. (Orchis 10: 188. 1916), non KRAENZL. 1923 = *Dichaea muricatoides* HAMER & GARAY.

12. *Endresiella zahlbruckneriana* SCHLTR., Repert. Spec. Nov. Regni Veg. 17: 14 (1921).

Trevoria zahlbruckneriana (SCHLTR.) GARAY (1970).

Type: "Costa Rica. an der Strasse von San Ramon nach San Carlos, Legua. Blühend im September", A.R. Endrés 512 [Holotype W 0019449 / Rchb. Orch. 43634].

The Oakes Ames Orchid Herbarium at the Harvard University hosts the copy of the illustration of the type, originally prepared by Schlechter and traced under his supervision [AMES 99111].

13. *Epidendrum endresii* RCHB.f., Gard. Chron., n.s., 19: 432 (1883).

≡ *Oerstedella endresii* (RCHB.f.) HÁGSATER (1981).

Syntypes: Costa Rica. "First of all I had some branches from my poor friend Endres, who found it flowering in December at Costa Rica. The flowers were simply described as white - labellum lilac {Costa Rica, A.R. Endres 502 [W 0024422 / Rchb. Orch. 38657, W 0023883 / Rchb. Orch. 13657, W 0019970 / Rchb. Orch. 14548]}. Then my friend Mr. F.C. Lehmann sent me a glorious plant and some branches in spirit, which now lie before me, I had at the same time a very carefully prepared picture, which appears to have been taken from the very same individual I had in spirits. Mr Lehmann found it flowering in March, 1878, in Costa Rica {Costa Rica, F.C. Lehmann 177 [W 0019968 / Rchb. Orch. 50032]}, - drawing by F.C. Lehmann [W 0027548 / Rchb. Orch. 19679]}. Now, Mr. F. Sander sends me a fresh inflorescence and twigs {Without locality, cultivate by F. Sander s.n. [W 0027532 / Rchb. Orch. 50032]}.

Lectotype (SANTIAGO & HÁGSATER 2007: 931): Costa Rica, F.C. Lehmann 177 [W 0019967 / Rchb. Orch. 50033].

Additional material associated with the type: drawings of Reichenbach «241» [W 0027549 / Rchb. Orch. 8657] - s.coll. (cf. Lehmann) 177 [W 0027545 / Rchb. Orch. 4485].

Additional Endrés' material: Costa Rica, «Heights S.th of Cartago / Tablazo», Endrés' drawing of the flower and floral dissections, A.R. Endrés 502 [W 0024422 / Rchb. Orch. 38657]; - plant, fertile, A.R. Endrés 502 [W 0023883 / Rchb. Orch. 13657, W 0023885 / Rchb. Orch. 14727]; - plant and Endrés' description, A.R. Endrés 502 [W 0019970 / Rchb. Orch. 14548]; - Endrés' drawing of the flower and floral dissections, A.R. Endrés 502 [W 0024422 / Rchb. Orch. 38657]; - Endrés' drawing of the flower and floral dissections, A.R. Endrés «108» [W 0024490 / Rchb. Orch. 36565]; - «Tablazo of Cartago, Coralillo», A.R. Endrés s.n. [W 1889-0031372]; - without locality, A.R. Endrés s.n. [W 0019971 / Rchb. Orch. 13621]; - «Tablazo / Fila de Atarrazú», A.R. Endrés s.n. [W 0019969 / Rchb. Orch. 13617]; - «Tablazo, Coralillos», A.R. Endrés s.n. «sp. aff 83» [W 0019967 / Rchb. Orch. 50033].

14. *Epidendrum ionocentrum* RCHB.f., Gard. Chron., n.s., 20: 8 (1883).

≡ *Epidendrum prismatocarpum* var. *ionocentrum* (RCHB.f.) TEUSCH. (1969).

≡ *Prosthechea ionocentra* (RCHB.f.) W.E.HIGGINS (1998).

≡ *Hormidium ionocentrum* (RCHB.f.) BRIEGER (1977).

≡ *Encyclia ionocentra* (RCHB.f.) MORA-RET. & J.GARCÍA (1991).

≡ *Pseudencyclia ionocentra* (RCHB.f.) V.P.CASTRO & CHIRON (2003).

≡ *Panarica ionocentra* (RCHB.f.) WITHNER & P.A.HARDING (2004).

≡ *Encyclia prismatocarpa* var. *ionocentra* (RCHB.f.) M.WOLFF & O.GRUSS (2007).

Syntypes: Costa Rica. "This curious and rare species was found by Messrs. Endres

(R.A. Endrés, various collections at W-Rchb. Orch. from Birris, Santa María de Dota, and Naranjo) and Pfau (R. Pfau s.n., not located).

Lectotype (hic designatus): Costa Rica, Cartago, «Sitio de don / Eusebio Ortiz / Birris», plant with flowers, A.R. Endrés s.n. (habit sp. N° 522) [W 0024579 / Rchb. Orch. 5554] (Fig. 2).

Isolectotypes: «Sitio Ortiz / Birris», inflorescence and flowers, A.R. Endrés s.n. [W 0024551 / Rchb. Orch. 6499]; – «Sitio Ortiz / Birris», inflorescence and flower, A.R. Endrés s.n. [W 0024552 / Rchb. Orch. 5501]; «Sitio Ortiz / etc.», inflorescence and flowers, A.R. Endrés s.n. [W 0024415 / Rchb. Orch. 5508]; «Sitio Ortiz / Birris», inflorescence and flowers, A.R. Endrés s.n. [W 0024419 / Rchb. Orch. 6500]; – «Sitio de don / Eusebio Ortiz / Birris», inflorescence and flowers, A.R. Endrés s.n. [W 0024426 / Rchb. Orch. 5502]; – «Sitio Ortiz», inflorescence and flowers, A.R. Endrés s.n. [W 0024429 / Rchb. Orch. 5510].

Additional material associated with the type: flower and Reichenbach's sketch of the lip and the column, A.R. Endrés s.n. (N° 522 of gen. coll.) [W 0020200 / Rchb. Orch. 43669].

Additional Endrés' material: Costa Rica. San José: Dota, «around Sta. Maria ... Epidendrum ionocentrum / Endr. Rchb.f.», flower and Endrés' description, A.R. Endrés s.n. «N° 522, Epidendr. N° 55» [W 0020202 / Rchb. Orch. 14530]; – Alajuela: San Ramón, «Colorado near Naranjo. id. Birris», Endrés' description and sketch of the lip, A.R. Endrés s.n. «N° 522 of gen. coll.» [W 0024580 / Rchb. Orch. 38661]; – Without locality, flowered inflorescence, A.R. Endrés s.n. «N° 70 and 522» [W 0020201 / Rchb. Orch. 5543].

Hágsater (correction label, 2009) annotated Rchb. Orch. 5554 [W 0024579] and Rchb. Orch. 38661 [W 0024580] as isotypes, probably because Dressler (correction label, 2001) had previously annotated Rchb. Orch. 5543 [W 0020201] as the holotype. However, the specimen selected by Dressler has no indication of locality, and bears Endrés reference to two different collections (numbers 70 and 522), while the assumed isotypes have indications of locality which only partially coincide.

Neither the protologue nor any of the specimens annotated by Reichenbach have an indication of locality, but Endrés' collections of *Epidendrum ionocentrum* came at least from three different localities, i.e. Santa María de Dota (prov. San José), Naranjo [de Juan Viñas] (prov. Cartago), and Birris (prov. Cartago). Specimens from the last locality are more abundant, and include the only complete specimen (W 0024579), with the terminal portion of the pseudobulb, leaves, and flowered inflorescence). For this reason we propose to select this specimen as the species lectotype, regarding all the other collections from the same locality as isolectotypes, with the exception of W 0024580, which includes references to two different localities.

The name, *Epidendrum ionocentrum*, was ostensibly suggested by Endrés (annotation on W 0020202), who proposed himself as a co-author of the species. His name, however, was not included in the published description.

15. *Epidendrum phyllocharis* RCHB.f., Xenia Orchid. 3: 11–12, tab. 208, fig. 1–5 (1900) [“1878”].

Type: Costa Rica. “Diese in ihrer Art durch die prächtigen starren tief gefärbten

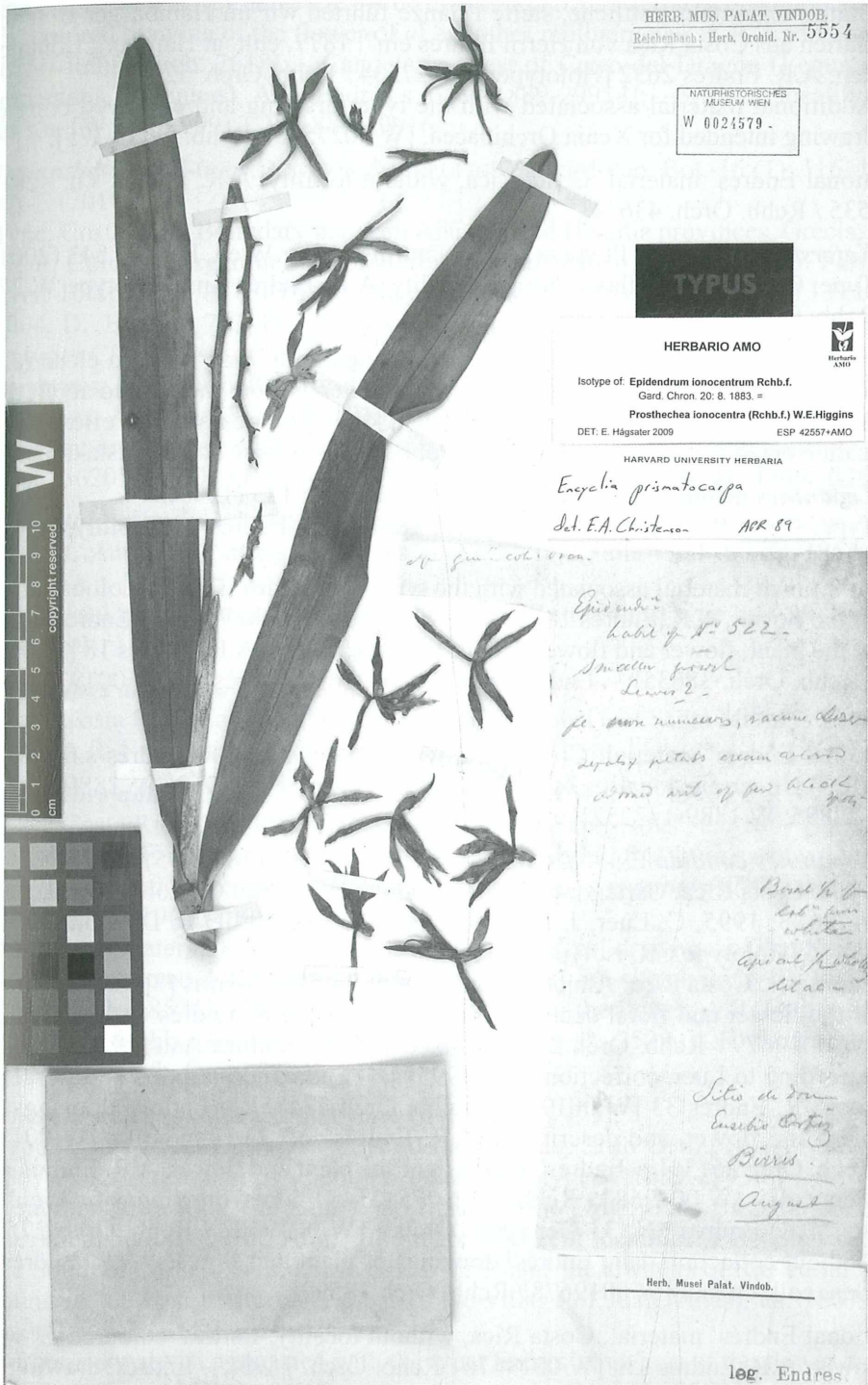


Fig. 2: Lectotype of *Epidendrum ionocentrum* RCHB.f. [W 0024579 / Rchb. Orch. 5554]

Blätter ungemein stattliche, steife Pflanze führten wir im Hamburger Botanischen Garten aus Costa Rica von Herrn Endres ein", 1877, cult. at Hamburg Botanic Garden, A.R. Endrés 2632 [Holotype W 0027534 / Rchb. Orch. 52931].

Additional material associated with the type: drawing and engraved copy of the drawing intended for *Xenia* Orchidaceae, [W 0027533 / Rchb. Orch. 375].

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n., «281» [W 0027535 / Rchb. Orch. 43674].

16. *Kefersteinia endresii* PUPULIN, Ann. Naturhist. Mus. Wien, B, 103: 543 (2001).

Type: Costa Rica, without definite locality, A.R. Endrés s.n. [Holotype W 27536 / Rchb. Orch. 18048].

This is the only known collection of a species apparently rare, with no close relatives within *Kefersteinia*. The callus of the lip, which extends from the base to about the half of the blade, formed by two inflat, pulvulent keels that are abruptly reflexed at apex, where they become concave and form a 4-lobed tip, is unique and unmistakable.

17. *Lepanthes atrata* ENDRÉS ex LUER, Lindleyana 10: 135 (1995).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés 18 [Holotype W 1889-0041458].

Additional material associated with the type: Costa Rica. Endrés' coloured drawing of the flower, A.R. Endrés 18 [W 0019703 / Rchb. Orch. 7592]; – Endrés' drawings of the plant, flower and flower details, and description, A.R. Endrés 18 [W 0019704 / Rchb. Orch. 38635]; – Endrés' pencil plate, A.R. Endrés 18 [W 0019705 / Rchb. Orch. 36246].

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n. [W 1889-40330]; – Uncertain locality, A.R. Endrés 509 [W 1889-29962, W 1889-29970, W 1889-29895; W 1889-142252].

18. *Lepanthes candida* ENDRÉS ex LUER, Lindleyana 10: 138 (1995).

Type: Costa Rica. Cartago: epiphytic in forest above San Cristóbal Norte, alt. 1680 m, 26. 3. 1995, C. Luer, J. Luer, R. Dressler, K. Dressler & D. Mora de Retana 17476 [Holotype CR, isotype MO]

Paratypes: Costa Rica. Alajuela: San Ramón, Portillo Prenzaz [?], Endrés' drawings of the flower and floral details, with descriptions, A.R. Endrés «N° 33 Gen. coll.» [W 0019679 / Rchb. Orch 27518 (mixed with *L. confusa* AMES & C. SCHWEINF., according to Luer, correction label 1995)]; – Endrés' description and floral analysis, A.R. Endrés 33 [W 0019677 / Rchb. Orch 27485]; – Endrés' drawings of the plant and flower, and description, A.R. Endrés «N° 33 Gen. coll.» [W 0019684 / Rchb. Orch 36134]; – Endrés' drawings of the plant and flower, A.R. Endrés «N° 33 Gen. coll.» [W 0019683 / Rchb. Orch 27542]; – Endrés' drawings of various flowers, A.R. Endrés «N° 33 Gen. coll. Orch.» [W 0019683 / Rchb. Orch 27542]. – Without collection data, Endrés' drawings of plant and flowers, A.R. Endrés «657 Gen. coll. Orch.» [W 0019678 / Rchb. Orch 38590].

Additional Endrés' material: Costa Rica, without locality, Endrés' coloured drawing of the flower, A.R. Endrés s.n. [W 0019676 / Rchb. Orch. 7593]; – Endrés' drawing of the flowered plant, A.R. Endrés s.n. «sketch 228» [W 0019682 / Rchb. Orch. 38692]; – Endrés' pencil plate, A.R. Endrés s.n. [W 0019680 / Rchb. Orch. 36152]; – Endrés' pencil

drawing of a flower, A.R. Endrés s.n. [W 0019681 / Rchb. Orch. 7631]; – Without locality, Endrés' colored drawing of the flower of «*Lepanthes müllneriana*», A.R. Endrés s.n. [W 0019675 / Rchb. Orch. 7618]; – Candelaria, crest of Cerro del Dragon (Legua de los Desamparados, Savannas), A.R. Endrés s.n. [W 1889-29954]; – Without locality, A.R. Endrés s.n. [W 1889-29912, W 1889-29916].

19. *Lepanthes caroli-lueri* BOGARÍN & PUPULIN, Harvard Pap. Bot. 15 (1): 116–118, f. 4A-E (2010).

Type: Costa Rica, Boundary between Alajuela and Heredia provinces, Grecia, Sarapiquí, Colonia Virgen del Socorro, road to Cariblanco, bridge on San Fernando river, 10°16'32"N 84°10'16"W, 750 m, shores of San Fernando river, 13 February 2004, D. Bogarín 741, H. León-Páez, F. Pupulin & E. Salas [Holotype JBL-spirit, isotypes CR, JBL-spirit].

Paratypes: Without collecting data, A.R. Endrés s.n. [W 1889-29901]; – Endrés' drawings, A.R. Endrés 62 [W 0019016 / Rchb-Orch 36220]; – Endrés' drawings of the plant and flower, with floral dissections, A.R. Endrés 604 [W 0019017 / Rchb. Orch. 36205, W 0019018 / Rchb. Orch. 38503, W 0019015 / Rchb. Orch. 07635].

20. *Lepanthes circularis* LUER, Lindleyana 10(3): 140 (1995).

Type: Costa Rica, Cartago, “heights above El Tejar, alt. 4500 ft,” ca. 1867, A.R. Endrés s.n. [Holotype W 1889-41448].

Additional material associated with the type: Illustration of type by C.A. Luer [W 0021489].

21. *Lepanthes dichroma* LUER, Lindleyana 11: 59 (1996).

Type: Costa Rica, Cartago, “this side of San Cristobal and Santa Maria, 5 June”, ca. 1867, A.R. Endrés s.n. [Holotype W 1889-142238].

22. *Lepanthes dotae* ENDRÉS ex LUER, Lindleyana 10 (3): 143 (1995).

Type: Costa Rica, San José, “Dota, rainy season, Sept.-Nov.,” ca. 1867 [the date is not stated by Endrés on the type material; it is probable that Luer assumed the year 1867 as a standardized reference], A.R. Endrés s.n. «*Lepanthes* N° 56, sketch 253» [Holotype 0019635 / Rchb. Orch 38523].

Additional material associated with the type: Endrés' drawings of the flower and floral dissections, A.R. Endrés s.n. «*Lepanthes* N° 56, sketch 253» [W 0019632 / Rchb. Orch. 38524]; – Endrés' coloured drawing of the flower, A.R. Endrés s.n. [W 0019633 / Rchb. Orch. 7596]; – «*Lepanthes*, see sk. 253», A.R. Endrés s.n. [W 0019634 / Rchb. Orch. 7873].

23. *Lepanthes elegans* Luer, Lindleyana 10 (3): 146 (1995).

Type: Costa Rica. Cartago: “beyond the Laguna, Sitio Ortiz, Birris, Aug.,” ca. 1867, A.R. Endrés s.n. (N° 586 gen. coll.) [Holotype W 1889-29930].

Paratype: Costa Rica, Cartago, “Palo Blanco, Sitio Ortiz, Birris, headwaters of Río Turrialba, 5000-6000 ft., Aug.” [these are different localities: Palo Blanco lies to the South of Cartago, while Sitio Ortiz, Birris and “headwaters of Río Turrialba” are found to the East of Cartago, close to the village of Juan Viñas], ca. 1867, A.R. Endrés s.n. [W 1889-142084].

Additional material associated with the type: Endrés' drawings of the flower and floral dissections, A.R. Endrés s.n. «N° 586 gen. coll.» [W 0019615 / Rchb. Orch.

38672]; – Endrés' coloured drawing of the flower, A.R. Endrés s.n. «N° 586 gen. coll. Orch., *Lepanthes* N° 42» [W 0019614 / Rchb. Orch. 7615].

24. *Lepanthes endresii* LUER, Lindleyana 7 (2): 106 (1992).

Type: Costa Rica. Cartago: “heights above El Tejar south of Cartago, June”, ca. 1867, A.R. Endrés 509 [Holotype W 1889-24850].

Additional material associated with the type: Costa Rica. Endrés' coloured drawing of the flower, A.R. Endrés 509 [W 0019608 / Rchb. Orch. 7612]; – Endrés' sketch of the inflorescence, the flower and flower details, A.R. Endrés 509 [W 0019609 / Rchb. Orch. 38537]; – Endrés' sketch of the plant, the flower and flower details, A.R. Endrés 509 [W 0019610 / Rchb. Orch. 38529].

Additional Endrés' material: Costa Rica. «La Paz, etc.», A.R. Endrés s.n. [W 1889-30718]. – Uncertain locality, A.R. Endrés 509 [W 1889-29962, W 1889-29970, W 1889-29895, W 1889-142252].

The name is probably a synonym of *Lepanthes erinacea* Rchb.f.

25. *Lepanthes falcifera* LUER, Lindleyana 10 (3): 148 (1995).

Type: Costa Rica, Cartago, “beyond the Laguna, Sitio Ortiz, Birris”, ca. 1867, A.R. Endrés s.n. «N° 663 Gen. coll. Orch.» [Holotype W 1889-46789, isotypes W 1889-142079, W 1889-142080, W 1997-8536].

Additional material associated with the type: Endrés' drawing of the flower, A.R. Endrés s.n. «N° 663 Gen. coll. Orch., sketch 53» [W 0019394 / Rchb. Orch. 38685]; – Luer's drawing of the plant and flower, based on A.R. Endrés s.n. «N° 663 Gen. coll. Orch.» [W 0019408].

26. *Lepanthes fascinata* LUER, Lindleyana 10 (3): 148 (1995).

Type: Costa Rica, Cartago, “San Cristóbal, June 5”, ca. 1867, A.R. Endrés s.n. [Holotype W 1889-24844].

Additional material associated with the type: Costa Rica. “P. of Cartago”, A.R. Endrés s.n. [W 1889-24866, specimen on the right]; Luer's drawing of the plant and flower, based on A.R. Endrés s.n. (P. of Cartago) [W 0019473].

27. *Lepanthes forcipifera* LUER, Lindleyana 10 (3): 151 (1995).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. [Holotype W 0019390 / Rchb. Orch. 4317].

Additional material associated with the type: Luer's drawing of the plant and flower from the type [NMW 0020585].

28. *Lepanthes fugiens* LUER, Lindleyana 10 (3): 151 (1995).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. [Holotype W 0019389 / Rchb. Orch. 4372].

Additional material associated with the type: Luer's drawing of the plant and flower from the type [0020586].

29. *Lepanthes gracillima* LUER, Lindleyana 10 (3): 154 (1995).

Type: Costa Rica. Puntarenas: Monteverde, epiphytic in tree in a pasture, 1500 m, 21. 3. 1995, C. Luer, J. Luer, J. Atwood, W. Rhodehamel, G. Campbell & G. Barbosa 17447 [Holotype MO].

Paratype: Costa Rica. Cartago: “heighs back of Carpintaria”, ca. 1867, A.R. Endrés s.n. (24, according to the protologue) [W 1889-29961].

Additional Endrés’ material: Endrés’ coloured drawing of the flower and floral details, «*Lepanthes gracillima*», A.R. Endrés s.n. «*Lepanthes* N° 24» [W 0019386 / Rchb. Orch. 7600]; – Endrés’ drawings of the plant and two flowers, A.R. Endrés s.n. «59» [W 0019387 / Rchb. Orch. 36208]; – Endrés’ drawings of the plant, flower, and floral dissections, A.R. Endrés s.n. «see fig. p. 59» [W 0019388 / Rchb. Orch. 38534].

30. *Lepanthes guardiana* ENDRÉS ex LUER, Lindleyana 10 (3): 156 (1995).

Type: Costa Rica without locality, ca. 1867, A.R. Endrés 670 «sketch 299» [Holotype W 0019373 / Rchb. Orch. 4319].

Paratype: Costa Rica, Without locality, ca. 1867, A.R. Endrés s.n. [W 0019374 / Rchb. Orch. 4374].

Additional Endrés’ material: Endrés’ coloured drawing of the flower, «*Lepanthes guardiana*», A.R. Endrés s.n. [W 0019376 / Rchb. Orch. 7619]; – Endrés’ drawings of the flower, floral dissections and description, A.R. Endrés s.n. «N° 670 gen. coll. Orch., sk. N° 299» [W 0019375 / Rchb. Orch. 36217].

LUER (1995) considered the etymology of *L. guardiana* of unknown derivation, but the name honours General Tomás Miguel Guardia Gutiérrez (1831–1882), who was President of Costa Rica from 1870 to 1876, during Endrés’ journey in the country, and again from 1877 to 1881.

31. *Lepanthes hamulifera* LUER, Lindleyana 10 (3): 156 (1995).

Type: Costa Rica, San José, “Taburcia, Candelaria”, ca. 1867, A.R. Endrés s.n. [Holotype W 0019369 / Rchb. Orch. 4396].

Additional material associated with the type: Luer’s drawing of the plant and flower from the type [W 0020587].

32. *Lepanthes limbellata* ENDRÉS ex LUER, Lindleyana 10 (3): 159 (1995).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. (12, according to Luer’s annotation) [Holotype W 1889-0041431].

Additional Endrés’ material: Endrés’ drawings of the plant and flower, «*Lepanthes limbata*», A.R. Endrés s.n. [W-0019345 / Rchb. Orch. 38640]; – Endrés’ drawings of the plant and flower, A.R. Endrés s.n. «64» [W 0019344 / Rchb. Orch. 36300]; – Endrés’ drawing of the flower, A.R. Endrés s.n. «*Lepanthes* N° 12» [W 0019346 / Rchb. Orch. 7628].

33. *Lepanthes minutissima* ENDRÉS ex LUER, Lindleyana 10 (3): 159 (1995).

Type: Costa Rica, without locality, ca. 1867, «*Effusa*», A.R. Endrés s.n. (10, according to the protologue) [Holotype W 1889-0087090].

Additional Endrés’ material: Endrés’ drawings of the plant and flower, with descriptions, «p. 10», A.R. Endrés s.n. [W 0019339 / Rchb. Orch. 38642]; – Endrés’ drawings of the plant and flower, and coloured drawing of the flower A.R. Endrés s.n. «59» [W 0019338 / Rchb. Orch. 36193]; – Endrés’ coloured drawing of the flower, «*Lepanthes microscopica*», A.R. Endrés s.n. «*Lepanthes* N° 10» [W 0019337 / Rchb. Orch. 7609].

In the type drawing of *L. minutissima* by LUER (1995), the shape of the petals is inverted

longitudinally. Based on living specimens, they are not obtriangular-flabellate, but triangular in outline.

34. *Lepanthes orbella* LUER, Lindleyana 11: 64 (1996).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. «75» [Holotype W 0019334 / Rchb. Orch. 36259 (Endrés' drawing of the plant, flower and floral dissections)].

Additional material associated with the type: Costa Rica. Endrés' sketch of the flower, A.R. Endrés s.n. «*Lepanthes* N° 46» [W-0019333 / Rchb. Orch. 7636]; Endrés' sketches of the plant, flower and floral dissections, A.R. Endrés s.n. (46) [W 0019332 / Rchb. Orch. 38496].

35. *Lepanthes parvilabia* Luer, Lindleyana 10 (3): 162 (1995).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. [Holotype W 1889-0142082].

Additional material associated with the type: Luer's drawing of the plant and flower from the type [W 0019418].

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n. [W 1889-0030669].

36. *Lepanthes poasensis* LUER, Lindleyana 10 (3): 164 (1995).

Type: Costa Rica, Heredia, «Volcán Poás, front crest», ca. 1867, A.R. Endrés s.n. (11, according to the protologue) [Holotype W 0019331 / Rchb. Orch. 38641 – Endrés' drawings of the plant and flower, with description «see fig. p. 54»].

Additional material associated with the type: Costa Rica. A.R. Endrés s.n. (see fig. p. 54) [W 0019330 / Rchb. Orch. 4318]; – Endrés' drawing of the plant, flower and floral dissections, A.R. Endrés s.n. «p. 54» [W 0019328 / Rchb. Orch. 38206].

Additional Endrés' material: Costa Rica. «Volc. Poás, on the crest of front ridge – June / Volc. Barba, Desengaño, Sept.», A.R. Endrés s.n. [W 1889-0046786]; – Endrés' drawing of the flower, A.R. Endrés s.n. «*Lepanthes* N° 11» [W 0019328 / Rchb. Orch. 7629].

37. *Lepanthes pulcherrima* ENDRÉS ex BOGARÍN & PUPULIN, Harvard Pap. Bot. 15 (1): 118–121, f. 5A–E, 6, 7 (2010).

Type: Costa Rica, Alajuela, San Ramón, Santiago, finca of Jesús Salas Jiménez, mountains toward the towers of Berlín, 10°02'21"N 84°12'02"W, 1300 m, epiphytic in old trees along coffee plantations, F. Pupulin 7159, E. Salas-Pupulin & Jesús Salas, 14. 9. 2008 [Holotype JBL-spirit].

Paratypes: Costa Rica, «South West of San Ramón, rainy season», A.R. Endrés s.n. «see fig. p. 66 centre / vol. 1869–70» [W 1889-41417]; – Endrés' drawing of the plant and colored drawing of the flower, A.R. Endrés s.n. «66 / N.° 273» [W 0019020 / Rchb. Orch. 36239]; – Endrés' drawings of the plant, flower and floral analysis, with description, A.R. Endrés s.n. «N.° 273 gen. coll. Orch. / see fig. p. 66 centre / vol. 69–70 / descr. p. 9 *Lepanthes*» [W 0019019 / Rchb. Orch. 38644]; – Endrés' drawings of the plant and flower, 1869, A.R. Endrés s.n. «N.° 273» [W 0020098 / Rchb. Orch. 44244]; – Endrés' colored drawing of the flower, A.R. Endrés s.n. «N.° 273 gen. coll. Orch., / *Lepanthes* N.° 9» [W 0019021 / Rchb. Orch. 7589]; – Endrés' descriptions, A. R. Endrés s.n. «9 / *Lepanthes pulcherrima* / see fig. p. 66 centre vol. 69–70» [W 0019348 / Rchb. Orch. 38643]; – Without collect-

ing data, a plant confiscated by MINAE, flowered in cultivation at Lankester Botanical Garden, Accession No. JBL-01304, 14. 7. 2006, D. Bogarín 2942 [JBL-spirit]. – Panama. Bocas del Toro: Culebra, collected by Beni and cultivated by Steve & Marjorie Sarner, N. 862, Boquete, Panamá, flowered in cultivation 19. 12. 2008, D. Bogarín 5992 [JBL-spirit].

38. *Lepanthes purpurea* LUER, Lindleyana 10 (3): 164 (1995).

Type: Costa Rica, Alajuela, «La Paz San Ramón», ca. 1867, A.R. Endrés s.n. [Holotype W 1889-0030740 (Endrés' drawings of the plant and flower, with description «see fig. p. 54»)].

Paratype: Costa Rica, without locality, A.R. Endrés s.n. [W 1889-0087076].

Additional material associated with the type: Luer's drawing of the plant and flower from the type [W 0021491].

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n. [W 1889-0041418].

39. *Lepanthes reflexa* LUER & HERMANS, Lindleyana 10 (3): 167 (1995).

Type: Costa Rica, Cartago, Cerro de la Muerte, 2750 m, flowered in cultivation, 22. 3. 1994, J. Hermans & C. Hermans 2746 [Holotype MO, isotype K].

Paratype: Costa Rica, Cartago, «South of Cartago, beyond the lime kilns of Doña Ana Clara Mayorga, rainy season», ca. 1867, A.R. Endrés s.n. [not located].

40. *Lepanthes selliana* ENDRÉS ex LUER, Lindleyana 10 (3): 167 (1995).

Type: Costa Rica, without locality, A.R. Endrés s.n. (638, sketch 279, according to the protologue) [Holotype W 0019321 / Rchb. Orch. 38499 – (Endrés' drawings of the plant and flower, «N° 638 gen. coll. Orch., *Lepanthes* N.° 49, sk. 279»)].

Additional material associated with the type: Endrés' coloured drawing of the flower, «N° 638 gen. coll. Orch., *Lepanthes* N.° 49 / *Lepanthes Selliana* Endr.» [W 0019319 / Rchb. Orch. 75965].

Additional Endrés' material: Endrés' drawing of the plant and flower flower, «89» (W 0019320 / Rchb. Orch. 36257).

41. *Lepanthes similis* LUER, Lindleyana 11: 64 (1996).

Type: Costa Rica, without locality, ca. 1867, A.R. Endrés s.n. [Holotype W 1889-30678 (Endrés' drawing of the plant, flower and floral dissections)].

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n. (Orch. N° 140) [W 0019333 / Rchb. Orch. 7636]; – without locality, A.R. Endrés s.n. [W 1889-0029965]; – without locality, A.R. Endrés s.n. [W 1889-0030674].

42. *Lepanthes umbonifera* Endrés ex Luer, Lindleyana 10 (3): 167 (1995).

Type: Costa Rica, without locality, A.R. Endrés s.n. «figure 67» [Holotype W 0019300 / Rchb. Orch. 36215 (Endrés' drawings of the plant, flower and floral dissections)].

Additional Endrés' material: Endrés' drawings of the plant, flower and floral dissections, «see fig. p. 66» [W 0019417 / Rchb. Orch. 38652]; – Endrés' drawing of the plant, flower and floral dissections, «66» [W 0019415 / Rchb. Orch. 36238]; – Endrés' drawings of the flower, «*Lepanthes* N° 3» [W 0019414 / Rchb. Orch. 7639]; – Endrés' drawing of the flower and floral dissections, «67» [W0019416 / Rchb. Orch. 36250].

43. *Lockhartia amoena* ENDRÉS & RCHB.f., Gard. Chron. 1872: 666 (1872).

Type: Costa Rica, “Discovered by Mr. Endres in Costa Rica. Now flowering (March 16) in the Hamburg Botanic Garden”, A.R. Endrés 2527 [Holotype W 0010806 / Rchb.Orch 44339, isotype AMES 26060 (barcode 2554947)].

Additional material associated with the type: Reichenbach’s drawing of the type, based on A.R. Endrés 2527 [W 0010807 / Rchb. Orch. 44351].

Additional Endrés’ material: Costa Rica, without locality, A.R. Endrés s.n. [W 0019586 / Rchb. Orch. 3000]; – A.R. Endrés s.n. [W 0019587 / Rchb. Orch. 2996]; – A.R. Endrés s.n. [W 0019588 / Rchb. Orch. 45080]; – A.R. Endrés s.n. [W 0019589 / Rchb. Orch. 2991]; – A.R. Endrés s.n. [W 0019588 / Rchb. Orch. 45080]; – A.R. Endrés s.n. [W 0019585 / Rchb. Orch. 2997]; – A.R. Endrés s.n. [W 0019590 / Rchb. Orch. 2998]; – A.R. Endrés s.n. [W 0019584 / Rchb. Orch. 45052].

44. *Lockhartia grandibractea* KRAENZL., Pflanzenr. 4, 50 (Heft 83): 15 (1923).

Type: Costa Rica, “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. [holotype supposedly at W, not located].

Additional Endrés’ material: Costa Rica. Endrés’ drawings of the column, pollinarium and anther, A.R. Endrés s.n. [W 0019581 / Rchb. Orch. 33709]; «Cartago», Endrés’ description, A.R. Endrés s.n. «N° 629 of gen. coll.» [W 0019580 / Rchb. Orch. 33713].

Mario A. Blanco (correction label, 2006) noted that, notwithstanding the indication of Endrés as the collector, as stated by Kränzlin in the protologue, no specimens of such collection have been found at W. However, among the specimens annotated by Kränzlin as type material, there are two Costa Rican collections made by Hübsch in 1882–1885 [W 0021971 / Rchb. Orch. 6159, W 0021972 / Rchb. Orch. 6139], which Blanco proposed for lectotypification purposes, waiting for formal designation.

A close relative of *Lockhartia amoena*, and frequently considered synonymous with it (i.e., ATWOOD & MORA DE RETANA 1999, HELLER 2001), *L. grandibractea* can be distinguished by the very reduced, almost rudimentary column wings, compared with the broadly dolabriform wings of *L. amoena*.

45. *Lockhartia hercodonta* RCHB.f. ex KRAENZL., Pflanzenr. 4, 50 (Heft 83): 8, t. 2A (1923).

Type: Costa Rica, “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. «Orch. N° 167» [Holotype W 0010813 / Rchb. Orch. 18012 (with Reichenbach’s sketch of the type and the note «n. sp.»), isotypes W 0010815 / Rchb. Orch. 2993, W 0010816 / Rchb. Orch. 2994, W 0010817 / Rchb. Orch. 2985, W 0010814 / Rchb. Orch. 2999].

Additional material associated with the type: Costa Rica. Endrés’ drawing of the rostellum and pollinarium, based on A.R. Endrés s.n. «N° 167» [W 0019575 / Rchb. Orch. 33683].

Additional Endrés’ material: Costa Rica. Endrés’ drawings of the flower and floral dissections, A.R. Endrés s.n. [W 0019576 / Rchb. Orch. 33704]; – Endrés’ drawings of the plant, flower and lip, A.R. Endrés s.n. [W 0019577 / Rchb. Orch. 33708]; – Endrés’ definitive drawing and engraved copy of the drawing intended for *Xenia* Orchidacea, A.R. Endrés s.n. [W 0019579 / Rchb. Orch. 338]; – flowers; plate intended for *Xenia*

Orchidacea, with Reichenbach's note «hercodonta», A.R. Endrés s.n. [W 0019578 / Rchb. Orch. 44372].

46. *Lockhartia odontochila* KRAENZL., Pflanzenr. 4, 50 (Heft 83): 17 (1923).
Type: Costa Rica, "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés s.n. [Holotype W 1889-58236 (annotated by Kränzlin, 1917)].

47. *Lycaste dowiana* ENDRÉS ex RCHB.f., Gard. Chron., n.s., 2: 194 (1874).
Type: Costa Rica. "Lycaste dowiana was discovered in Costa Rica by the late lamented Warszewicz. The flowers, however, were not well preserved The plant was also found by the late collector Zahn. It is but now, however, that I am able to describe it with full satisfaction, from two good living plants, obtained from Mr. Endres, and beginning to flower in the Hamburg Botanic Garden"
Holotype: 1868, A.R. Endrés s.n. «N° 89» [W 0019555 / Rchb. Orch. 44616 (annotated by Reichenbach, flowers with Endrés drawings of the flower and descriptions)].
Isotypes: Flowers, A.R. Endrés s.n. «N° 89 of gen. coll. Orch.» [W 0019552 / Rchb. Orch. 13596]; – Flowers, A.R. Endrés s.n. «N° 89 of gen. coll. Orch.» [W 0019551 / Rchb. Orch. 13611].

Additional material associated with the type: Endrés' drawings and descriptions, A.R. Endrés s.n. «N° 89 of gen. coll. Orch.» [W 0019554 / Rchb. Orch. 35945].

Other material: preparatory drawings intended for *Xenia* Orchidacea, based on Endrés' drawings [W 0019556 / Rchb. Orch. 23354].

48. *Masdevallia anaristella* KRAENZL., Repert. Spec. Nov. Regni Veg. 17 (19–30): 417–418 (1921).
Type: "Costa Rica. Ohne genaueren Standort", 1867, A. R. Endres s.n. [Holotype W 1889-0037485, isotypes W 1889-0037486, W 1889-0037480, AMES 41297].

The name is a synonym of *Barbosella dolichorhiza* SCHLTR.

49. *Masdevallia anura* KRAENZL., Repert. Spec. Nov. Regni Veg. 17 (19–30): 433–434 (1921).
Type: "Costa Rica. Ohne genaueren Standort", A.R. Endrés s.n. «N.° 21 gen. coll. Orch. / Masdevallia mucronata» [Holotype 0019518 / Rchb. Orch. 14510 (sterile)].

The name is probably a synonym of *Masdevallia molossoides* KRAENZL.

50. *Masdevallia aperta* KRAENZL., Repert. Spec. Nov. Regni Veg. 17 (19–30): 430–431 (1921).
Type: "Costa Rica. Am Río Pascita grande" («Río Paquita, above the S. Marcos Bridge / Nov.ber – Dec.ber»), A.R. Endrés s.n. (652 in the protologue) [Holotype W 1889-0030752, isotypes W 1889-0087087, AMES 41994 (with Kränzlin's drawing)].

Additional Endrés' material: Costa Rica, without locality. Endrés' drawings of the flowered plant and floral details, A.R. Endrés s.n. [W 0021291 / Rchb. Orch. 38513]; – «Cuesta from the saw mill of Birris up to the Sitio Ortiz / Aug.t-Dec.ber», «Birris, cuesta leading up to Sitio Ortiz / also near Pejivalle River», A.R. Endrés s.n. «N.° 653 gen. coll. Orch. / Masdevallia N.° 22» [W 0021290 / Rchb. Orch. 38547].

The name is a synonym of *Pleurothallis tripterantha* RCHB.f. \equiv *Humboltia tripterantha* (RCHB.f.) KUNTZE (1891) \equiv *Anthereon tripteranthus* RCHB.f.) PRIDGEON & M.W.CHASE (2001) \equiv *Pabstiella tripterantha* RCHB.f.) F.BARROS (2002) \equiv *Specklinia tripterantha* (RCHB.f.) LUER (2004).

51. *Masdevallia carpophora* Kraenzl., Repert. Spec. Nov. Regni Veg. 17 (19–30): 427 (1921).

Type: “Costa Rica, Candelaria, el Río Parrita”, «Taburcia, Candelaria, Dec.r / also along Río Parrita / Dota», A.R. Endrés s.n. [Holotype W 0020185 / Rchb. Orch. 14507].

The name is a synonym of *Pleurothallis tripterantha* RCHB.f. (1854) \equiv see above.

52. *Masdevallia funebris* ENDRÉS ex KRAENZL., Repert. Spec. Nov. Regni Veg. 17: 435 (1921).

Type: “Costa Rica, ohne genaueren Standort” «Tablazo. i.s. heights / S.th of Cartago», A.R. Endrés 501 [Holotype W 0019495 / Rchb. Orch. 39108 (three plants on the left), isotype W 1889-0142279 (sterile)].

Additional material associated with the type: Costa Rica. «Birrís», A.R. Endrés 501 [W 0019494 / Rchb. Orch. 14533]; – «*Masdevallia funebris* / (probably just a variety of *M. Reichenbachiana*)», flowers, A.R. Endrés s.n. «N° 645 of gen. coll. Orch.» [W 1889-0046840, W 1889-0046843]; – Endrés’ drawing of the flower, floral dissection and description, A.R. Endrés s.n. «N° 645 of gen. coll. Orch., *Masdevallia* N° 14, sk. 196» [W 1889-0046840].

The name is a synonym of *Masdevallia reichenbachiana* ENDRÉS ex RCHB.f. (1875)

53. *Masdevallia gorgo* RCHB.f. ex KRAENZL., Repert. Spec. Nov. Regni Veg. Beih. 34: 136–137 (1925).

Type: “Costa Rica: Cartago pr. San Ramon. Fl. Julio et Augusto”, A.R. Endrés 134 «N.° 137 gen. coll. Orch» [Holotype W 0019178 / Rchb. Orch. 14523].

Additional material associated with the type: Costa Rica. A.R. Endrés s.n. «N.° 137 gen. coll. Orch.» [W 0019424 / Rchb. Orch. 14520]; – Endrés’ pencil plate of the plant, flower, and floral details, A.R. Endrés s.n. «N.° 137 / 51» [W 0019184 / Rchb. Orch. 36046]; – Endrés’ sketches of flower and floral analysis, with description, A.R. Endrés s.n. «N.° 137 gen. coll. Orch. / see p. 51 vol. 1867–68» [W 0019183 / Rchb. Orch. 36175].

The name is likely a synonym of *Dracula astuta* (RCHB.f.) LUER \equiv *Masdevallia astuta* RCHB.f. (1886).

54. *Masdevallia molossoides* Kraenzl., Repert. Spec. Nov. Regni Veg. 17: 416–417 (1921).

Type: “Costa Rica, ohne genaueren Standort in 1200 m ü. D. M.”, «rarissima!, 3500”», 1867, A.R. Endrés s.n. «Orch. N.° 21» [Holotype W 0019504 / Rchb. Orch. 15008 (with Endrés’ drawing of the flowered plant and Reichenbach’s analysis of the flower), isotype W 0019503 / Rchb. Orch. 14539].

Additional material associated with the type: Endrés’ drawings of the flower and floral dissections, A.R. Endrés s.n. «N.° 21 gen. coll. Orch / *Masdev.* N.° 7» [W 0019501 / Rchb. Orch. 38512, W 0019500 / Rchb. Orch. 38511]. – Costa Rica.

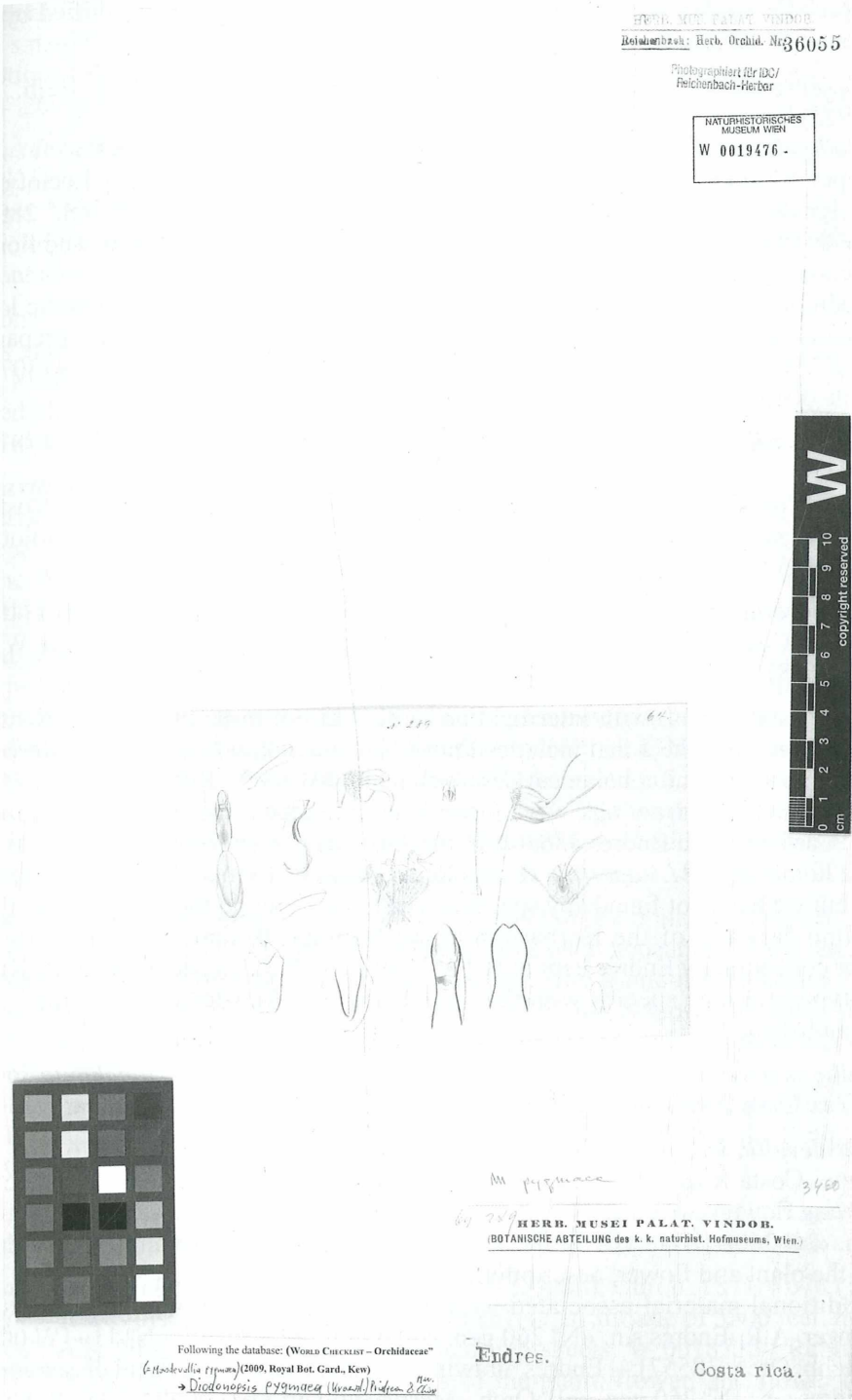


Fig. 3: Lectotype of *Masdevallia pygmaea* KRAENZL. [W 0019476 / Rchb. Orch. 36055].

«Queb.da Verde / March» A.R. Endrés s.n. [W 1889-467500], identified by Kränzlin as *M. molossooides*.

55. *Masdevallia pygmaea* KRAENZL., Repert. Spec. Nov. Regni Veg. Beih. 34: 92 (1925).

≡ *Diodonopsis pygmaea* (KRAENZL.) PRIDGEON & M.W. CHASE (2001).

Type: “Costa Rica”, A.R. Endrés 289 [to be found at W, not located]. Lectotype (hic designatus): Costa Rica, without specific locality, A.R. Endrés s.n. «N.º 289 / 64» [W 0019476 / Rchb. Orch. 36055 (Endrés’ drawings of plant, flowers and floral dissections)]. – Fig. 3.

Additional material associated with the type: Costa Rica, without specific locality, tracings at actual size of the original flowered plants sent by Endrés, prepared for Prof. Ames from Reichenbach’s herbarium, A.R. Endrés s.n. [AMES 41307 / barcode 00101298].

56. *Masdevallia reichenbachiana* ENDRÉS ex RCHB.f., Gard. Chron., n.s., 4 (87): 257 (1875).

Type: Costa Rica. “The beautiful plant now before me was discovered in Costa Rica by my late friend Endres, and was named by him”, A.R. Endrés II 257 [Holotype W 0019495 / Rchb. Orch. 39108, plant on the upper right].

57. *Masdevallia superflua* KRAENZL., Repert. Spec. Nov. Regni Veg. 17: 414 (1921).

Type: “Costa Rica, ohne genauen Standort”, A.R. Endrés s.n. [Holotype W 1889-0076668].

The name «superflua», with interrogation mark, but not in Kränzlin’s handwriting, is also annotated on a sheet that includes Endrés’ accurate drawings of the flowered plant and floral analysis, and a botanical description [W 0019496 / Rchb. Orch. 38546]. The plant on which the drawings were made was collected «above the lime kilns near Tobosi, Cartago», and Endrés annotated it as his sketch «N.º 256». According to Tropicos, the holotype of *M. superflua* (Costa Rica: Cartago: Tobosi, A. Endres 256) is kept at BR, but we have not found any specimens of Endrés among those searchable through the online database of the Herbarium at the National Botanic Garden of Belgium. Another collection by Endrés kept at W [W 1889-0046765] was determined by Kränzlin as the type of a new species with the intended name “*Masdevallia otochila*”, finally never published.

The name is a synonym of *Masdevallia striatella* RCHB.f. (1886) (≡ *Reichanta striatella* RCHB.f. ex LUER 2006).

58. *Masdevallia triaristella* Rchb.f., Gard. Chron., n.s., 6 (138): 226 (1876).

Type: Costa Rica. “The discovery is due to the late M. Endres; the satisfaction of having flowered it for the first time in Europe is with Messrs. Veitch”, A.R. Endrés s.n. «Nº 260» [Holotype W 0021123 / Rchb. Orch. 44435 (plant, Endrés’ drawing of the plant and flower, description)].

Additional material associated with the type: Endrés’ drawing of the dissected flower, A.R. Endrés s.n. «Nº 260 gen. coll. Orch., *Masdevallia* Nº 11» [W 0021328 / Rchb. Orch. 38557]; – Endrés’ drawing of plant, flower, and floral dissection, A.R. Endrés s.n. «Nº 260 gen. coll. Orch., *Masdevallia* Nº 11» [W 0021124 / Rchb. Orch. 38558]; – A.R. Endrés s.n. «Nº 260» [W 1889-0142223].

Additional Endrés' material: «potrero de Guayabo beyond Turrialba», flowers, A.R. Endrés s.n. «N° 260 gen. coll. Orch., *Masdevallia* N° 11» [W 1889-0046717]; – Endrés' descriptions («San Ramon, Camino de San Carlos / Cataratas / La Paz»), A.R. Endrés s.n. «N° 260 gen. coll. Orch., *Masdevallia* N° 11» [W 0021329 / Rchb. Orch. 38557].

59. *Masdevallia zahlbruckneri* KRAENZL., Repert. Spec. Nov. Regni Veg. 17: 413 (1921).

Type: “Costa Rica, ohne genauen Standort”, 1870, A.R. Endrés s.n. «N.º 463» [Holotype W 0019499 / Rchb. Orch. 15007 (with Endrés' drawings of the flowered plant and floral analysis, and Reichenbach's sketch of the flower)].

Additional material associated with the type: Costa Rica. Endrés' drawings of plant, flowers and floral dissections, with description, A.R. Endrés s.n. «N.º 463 gen. coll. Orch. / *Masdevallia* N.º 4» [W 0019498 / Rchb. Orch. 38508]; – Endrés' pencil plate of flowered plant and floral analysis, A.R. Endrés s.n. «N.º 463 / 56» [W 0019497 / Rchb. Orch. 36060].

60. *Maxillaria caespitifica* RCHB.f., Linnaea 41 (“1876”): 73 (1877).

≡ *Maxillariella caespitifica* (RCHB.f.) M.A.BLANCO & CARNEVALI (2007).

Type: “Costa Rica. Endres! (Viva in horto Hamburgensi)”, A.R. Endrés s.n. [Holotype W 0018755 / Rchb. Orch. 44573 (with Reichenbach's description and drawings)].

61. *Maxillaria endresii* RCHB.f., Gard. Chron., n.s., 25 (648): 680 (1886).

Type: Costa Rica. “This flowered in 1870 in the Hamburg Botanic Garden, having been sent alive with Sievekingia by the late Mr. Endres, to whose memory it is now dedicated. I made a sketch in colours, but never published it. Now it has reappeared, also from Costa Rica, in the establishment of Messrs. Hugh Low & Son, whence it has been kindly sent me by Mr. Edward Low” [Holotype W 0027464 (with Reichenbach's drawings and description, May 1886, and additional flowers from plant cultivated at Hamburg Botanical Garden, E. Low s.n.), isotype W 0027463].

62. *Maxillaria nasalis* RCHB.f., Refug. Bot. 2: t. 103 (1872), nom. illeg. superfl.

Type: Costa Rica. “The original discoverer of this plant appears to be the late unfortunate L. Schlim, Director Linden's half-brother, who found it near Lasita, in New Grenada; it is his 1752! Some time ago, Mr. Tucker, Mr. S. Low's traveller, found it in Costa Rica, as did also Mr. Endres; finally it appeared in the Saundersian collection”

Endrés' materials associated with the type: Costa Rica, without specific locality, A.R. Endrés 266 [W 0018742 / Rchb. Orch. 44584, W 0018618 / Rchb. Orch. 44048, W 0010838 / Rchb. Orch. 45047].

The name is a sphalma for *Maxillaria nasuta* RCHB.f. [type: Colombia, Lajitas, L.J. Schlim 1752 [W, K] ≡ *Nitidobulbon nasutum* (RCHB.f.) I. OJEDA & CARNEVALI.

63. *Maxillaria reichenheimiana* ENDRÉS & RCHB.f., Gard. Chron. 1871: 1678 (1871).

Type: “It was discovered by M. Endres, in 1867, at an altitude of 5500 feet, in Costa Rica”, A.R. Endrés s.n. [Holotype mounted in 6 sheets: W 0018735 / Rchb. Orch. 44577 (specimen with Endrés' drawings of the plant, flower, and flower details, «N° 8»); – W 001873 / Rchb. Orch. 18355 («N° 8»); – W 0018737 / Rchb. Orch. 18361 («N° 8 gen. coll. Orch.»); – W 0018738 / Rchb. Orch. 18350 («8»); – W

0018739 / Rchb. Orch. 33316 (Endrés' drawings of the plant, flower, and flower details, «Maxillaria Reichenheimiana»); – W 0019187 (Endrés' descriptions, «N.º 8 gen. coll. Orch.»).

Additional Endrés' material: Costa Rica, without locality, A.R. Endrés s.n. «210» [W 0018734 / Rchb. Orch. 44626]; – A.R. Endrés s.n. «N.º 260» [W 1889-0142223].

64. *Miltonia endresii* G. NICHOLSON, III. Dict. Gard. 2: 368 (1886).

Type: “Señor Endres was the first to introduce the species in a living state to this country”, A.R. Endrés s.n. [Holotype probably not preserved]

Neotype (hic designatus): Costa Rica, without specific locality, A.R. Endrés s.n. «Orch. N.º 200» [W 0019871 / Rchb. Orch. 18016]. – Fig. 4.

Additional material associated with the type: Costa Rica, without specific locality, Endrés' drawings of the column and lip, and pollinarium, A.R. Endrés s.n. «N.º 200» [W 0019909 / Rchb. Orch. 36907].

Additional Endrés' materials: Costa Rica, without specific locality, A.R. Endrés s.n. [[W 0019868 / Rchb. Orch. 13792, W 0019870 / Rchb. Orch. 18015]; – Endrés' partially coloured drawing of the plant with flowers, «*Odontoglossum?* sp. nov.», 5000 ft., 1869, A.R. Endrés s.n. [W 0019869 / Rchb. Orch. 18].

The name is a synonym of *Miltoniopsis warszewiczii* (RCHB.f.) GARAY & DUNST. (1976) ≡ *Odontoglossum warszewiczii* RCHB.f. (1852).

65. *Oncidium angustisepalum* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 203, f. 18D (1922).

Type: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. [Holotype W 0019960 / Rchb. Orch. 13181].

ATWOOD & MORA DE RETANA (1999) treated this taxon as a synonym of *Oncidium klotzschianum* RCHB.f. It may well be that *O. angustisepalum* just represents an extreme form of that reputedly variable species.

66. *Oncidium asparagoides* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 175 (1922).

Type: “Subäquatoriale andine Provinz. Costa Rica, ohne genaueren Standort”, 1867, A.R. Endrés 127 [Holotype W 0019895 / Rchb. Orch. 18386, isotypes W 0019923 / Rchb. Orch. 13204, W 0019922 / Rchb. Orch. 13225].

The name is a synonym of *Oncidium bryolophotum* RCHB.f. (1871).

67. *Oncidium calyptostalix* KRAENZL., Pflanzenr. 4, 50 (Heft 50): 260 (1922).

Type: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. [Holotype W 0019940 / Rchb. Orch. 13201].

The name is a synonym of *Oncidium obryzatooides* KRAENZL. (1922).

68. *Oncidium castaneum* RCHB.f. ex KRAENZL., Pflanzenr. 4, 50 (Heft 80): 278 (1922).

Syntypes: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n.; “Subäquatoriale andine Provinz. Chiriqui”, R. Pfau s.n.

Lectotype (hic designatus): Costa Rica, without specific locality, 1867, A.R. Endrés s.n. «N.º 108 Oncd.m» [W 0019929 / Rchb. Orch. 18381]. – Fig. 5.

Additional Endrés' materials: Costa Rica, without specific locality, A.R. Endrés s.n. [W

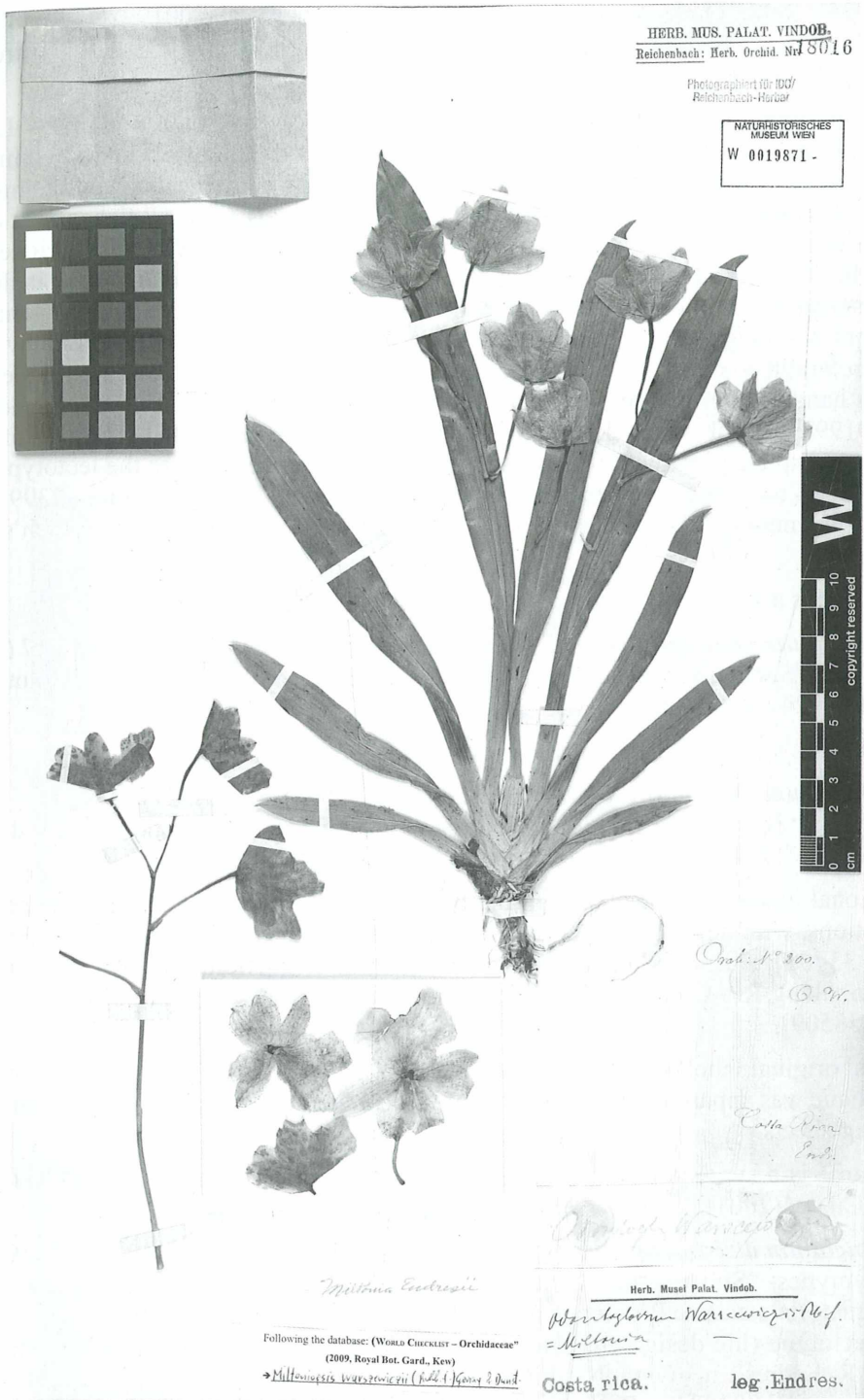


Fig. 4: Neotype of *Miltonia endresii* G. NICHOLSON [W 0019871 / Rchb. Orch. 18016].

0019925 / Rchb. Orch. 45515]; – A.R. Endrés s.n. «2399» [W 0019926 / Rchb. Orch. 45513]; – A.R. Endrés s.n. [W 0019927 / Rchb. Orch. 45514]; – A.R. Endrés s.n. «2597» [W 0019928 / Rchb. Orch. 45512].

The name *Oncidium castaneum* was first published as a nomen nudum by LINDEN (1882) in his account on orchid plants newly introduced or first offered in commerce, where under number 651 he makes reference to a letter by Reichenbach and to his catalogue of Colombian plants for 1869. Among the materials of the Reichenbach orchid herbarium at W is kept a manuscript description with two drawings by Reichenbach himself. The upper one, coloured, has no provenance data. The other, which includes a manuscript description by Reichenbach, was prepared on the basis of a plant from Chiriquí, seemingly obtained through Linden. We have not found, however, any specimens referable to these drawings. The name of the species is also annotated in Reichenbach's handwriting on two specimens collected in Costa Rica by Endrés around 1867 [W 0019929 / Rchb. Orch. 18381, W 0019925 / Rchb. Orch. 45515]. The first of them, being a complete plant with inflorescence and flowers, is selected as the lectotype. Two other sheets include Endrés' material, one numbered «2597» and the other «2399»; they were both annotated as "Typus" by Kränzlin, but they do not have Reichenbach's annotations.

The name is a synonym of *Oncidium dichromaticum* RCHB.f. (1855).

69. *Oncidium cheiroporoides* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 199, f. 17 (1922).
Type: "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés 127 [Holotype W 0019924 / Rchb. Orch. 45055].

The name is a synonym of *Oncidium luteum* ROLFE (1893).

70. *Oncidium chelidionizon* Kraenzl., Pflanzenr. 4, 50 (Heft 50): 217 (1922).
Type: "Zentralamerikanische Provinz. Costa Rica, San Ramon längst des Rio Grande", A.R. Endrés s.n. [Holotype W 0019933 / Rchb. Orch. 13189].

Additional material associated with the type: Endrés' drawing of the flower and floral dissections, with description, A.R. Endrés s.n. «N° 608 gen. coll.» [W 0019889 / Rchb. Orch. 33702]; – Endrés' drawing of flower, floral dissection, and description, «San Ramon, along Rio Grande» A.R. Endrés s.n. «N° 608 gen. coll.» [W 0019934 / Rchb. Orch. 38509].

Endrés' original label on the type sheet bears no locality data. The locality given in the protologue was apparently presumed from Endrés' sketches and descriptions, mentioned on other sheets.

The name is a synonym of *Cyrtochiloides ochmatochila* (RCHB.f.) N.H. WILLIAMS & M.W. CHASE (2001).

71. *Oncidium dielsianum* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 197, t. 198F (1922).
Syntypes: "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés s.n.; "Subäquatoriale andine Provinz. Costa Rica", J. Carmiol s.n.
Lectotype (hic designatus): sheet annotated by Kränzlin as "Typus", Costa Rica, A.R. Endrés s.n. «Orch. N° 306» [W 0020048 / Rchb. Orch. 18389 (Fig. 6)]; isolecotypes W 0020049 / Rchb. Orch. 13211, W 0020047 / Rchb. Orch. 13226].

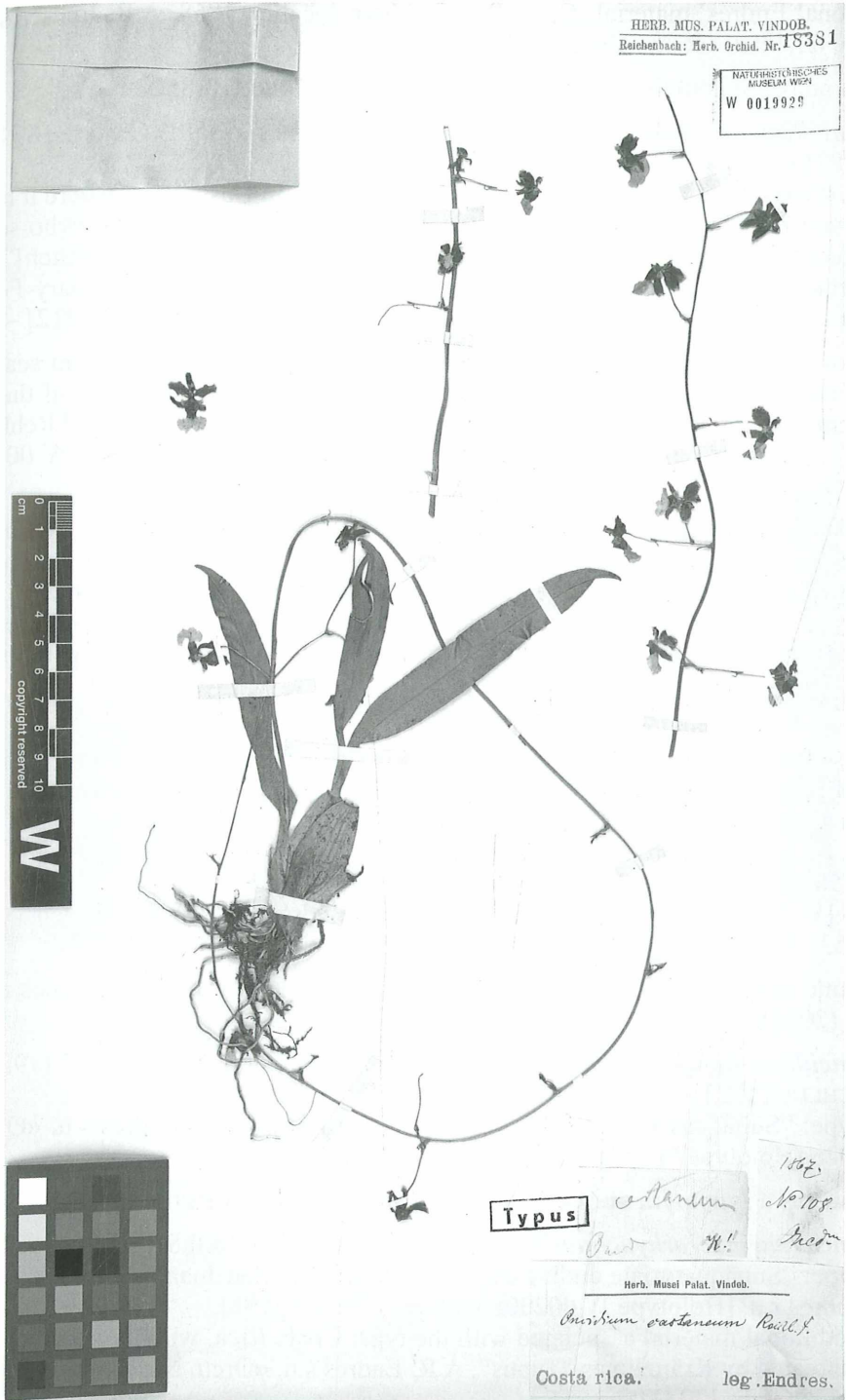


Fig. 5: Lectotype of *Oncidium castaneum* RCHB.f. ex KRAENZL. [W 0019929 / Rchb. Orch. 18381].

Additional Endrés' material: Costa Rica, without locality, 1868, A.R. Endrés s.n. «N° 75» [W 0020046 / Rchb. Orch. 13202].

The name is a synonym of *Oncidium cheiroporum* RCHB.f. (1852).

72. *Oncidium globuliferum* var. *costaricense* RCHB.f., Gard. Chron. 1871: 1678 (1871).

Syntypes: "It is a new discovery that it occurs also in Costa Rica, where it has been found both by Endres [A.R. Endrés s.n.] and by the late M. Zahn, who sent it to Messrs. Veitch, with whom it has just flowered [Zahn s.n., ex hort. Veitch]"

Lectotype (hic designatus): Costa Rica. «All around San Ramón, January-February, *Oncidium scandens*», A.R. Endrés s.n. [W 0020057 / Rchb. Orch. 13212] – Fig. 7.

Additional Endrés' material: Costa Rica, without locality data, «*Oncidium scandens*», A.R. Endrés s.n. [W 0020058 / Rchb. Orch. 13213]; – Endrés' drawings of the flower and floral dissections, «*Oncid. scandens*», A.R. Endrés s.n. [W 0020060 / Rchb. Orch. 32393]; – Endrés' description, «*Oncidium scandens*», A.R. Endrés s.n. [W 0020059 / Rchb. Orch. 33529].

Even though the drawings of the flower and the floral dissections made by Endrés, as well as the detailed description he prepared, have no labels indicating the collecting locality, they were ostensibly prepared from the same collection sine numero from the vicinity of San Ramón de Alajuela. The only sheet with locality data is selected as the lectotype, but the description and illustrations probably refer to the same gathering.

Among the sheets of Reichenbach's herbarium, there is a series of other specimens collected by Endrés, under the number 256 of his general collection of orchids. One of these is annotated in Reichenbach's handwriting as «*globuliferum*», and it is likely he did not refer them to his new variety: Costa Rica, without known provenience, A.R. Endrés s.n. «256» [W 0020056 / Rchb. Orch. 18387, W 0020052 / Rchb. Orch. 44070]; – A.R. Endrés s.n. «Orch. N° 256» [W 0020055 / Rchb. Orch. 13218]; – A.R. Endrés s.n. «256» [W 0020056 / Rchb. Orch. 18387]; – A.R. Endrés s.n. «N° 256 of gen. coll. Orch.» [W 0020054 / Rchb. Orch. 13168]; – A.R. Endrés s.n. «N°. 256 of gen. coll.» [W 0020053 / Rchb. Orch. 13190].

The name is a synonym of *Otoglossum globuliferum* (KUNTH) N.H.WILLIAMS & M.W. CHASE (2001).

73. *Oncidium henrici-gustavi* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 187 (1922), non SCHLTR. (1923).

Type: "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés s.n. «Orch. N° 292» [Holotype W 0020062 / Rchb. Orch. 18391].

The name is a synonym of *Oncidium bracteatum* WARSZ. ex RCHB.f. (1852).

74. *Oncidium macrorhynchum* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 200, t. 198J (1922).

Type: "Subäquatoriale andine Provinz. Costa Rica, San Juan de Candelaria", A.R. Endrés s.n. [Holotype W 0020086 7 Rchb. Orch. 13191].

Additional material associated with the type: Costa Rica, without specific locality, annotated by Kränzlin as "Typus", A.R. Endrés s.n. «Orch. N° 176» [W 0020087 / Rchb. Orch. 13233].

The name is a synonym of *Oncidium cheiroporum* RCHB.f. (1852).

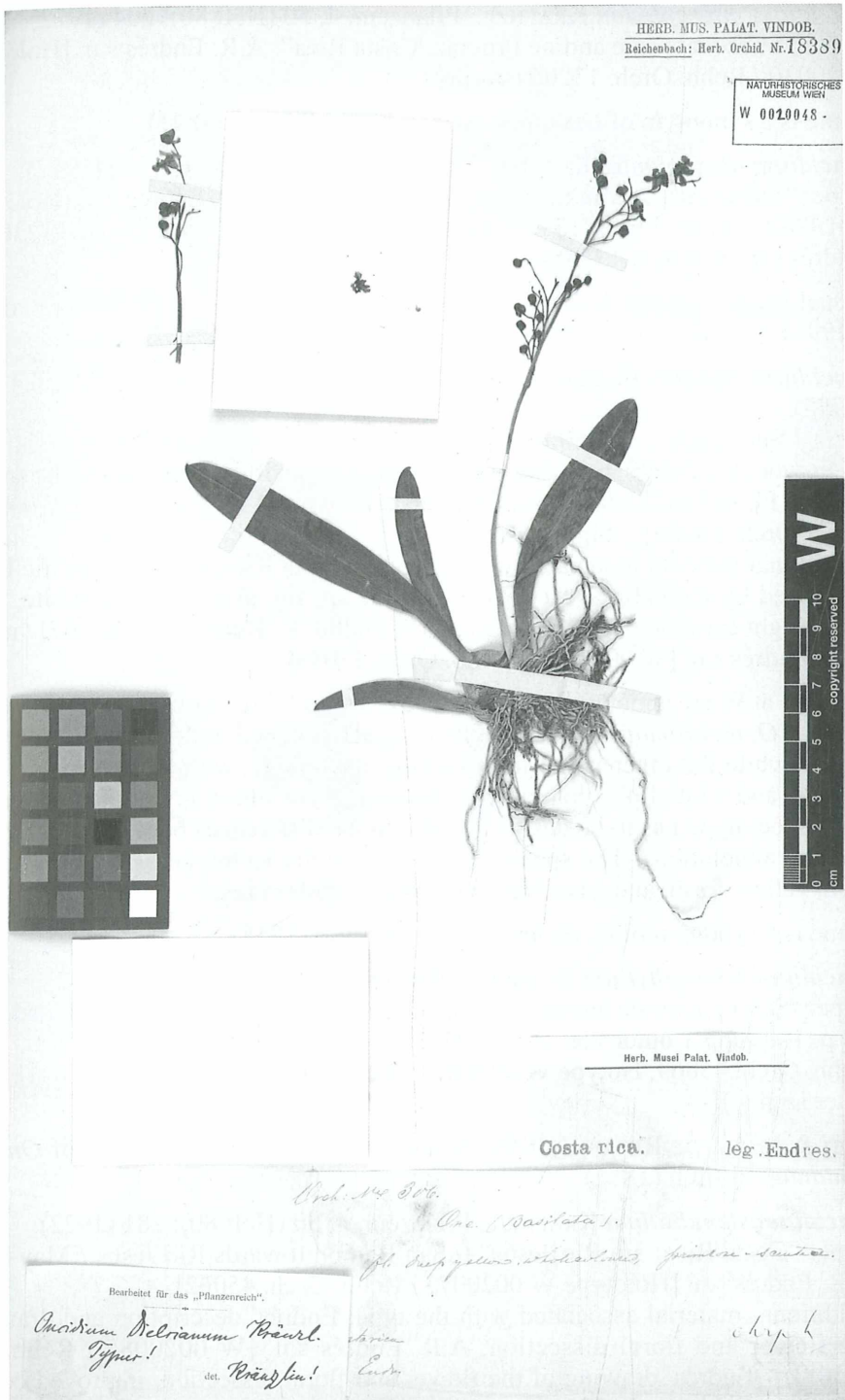


Fig. 6: Lectotype of *Oncidium dielsianum* KRAENZL. [W 0020048 / Rchb. Orch. 18389].

75. *Oncidium microphyton* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 204 (1922).
Type: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. [Holotype W 0020030 / Rchb. Orch. 13206 (sterile)].

The name is a synonym of *Oncidium bryolophotum* RCHB.f. (1871).

76. *Oncidium obryzatooides* KRAENZL., Pflanzenr. 4., 50 (Heft 80): 240 (1922).
Type: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n. [Holotype W 0019980 / Rchb. Orch. 13182, isotype W 0019982 / Rchb. Orch. 13230 (A.R. Endrés s.n. «Orch. N.º 285»)].

Additional Endrés’ material: Costa Rica, without locality data, «325», A.R. Endrés s.n. [W 0019981 / Rchb. Orch. 13227].

77. *Oncidium rechingerianum* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 202, f. 18C, a-c (1922).

Type: “Subäquatoriale andine Provinz. Costa Rica”, A.R. Endrés s.n.

Lectotype (hic designatus): Costa Rica, without specific locality, «See the sp. fig. at p. 108 / Fl. yellow, blotched with chocolate brown», A.R. Endrés s.n. [W 0020077 / Rchb. Orch. 45066] – Fig. 8.

Additional material associated with the type: Costa Rica, without specific locality, annotated by Kränzlin as “Typus”, «See the sp. fig. at p. 108 / Fl. white, spotted with bright carmine», A.R. Endrés s.n. [W 0020078 / Rchb. Orch. 45067] / nmw); – A.R. Endrés s.n. [W 0020076 / Rchb. Orch. 45084].

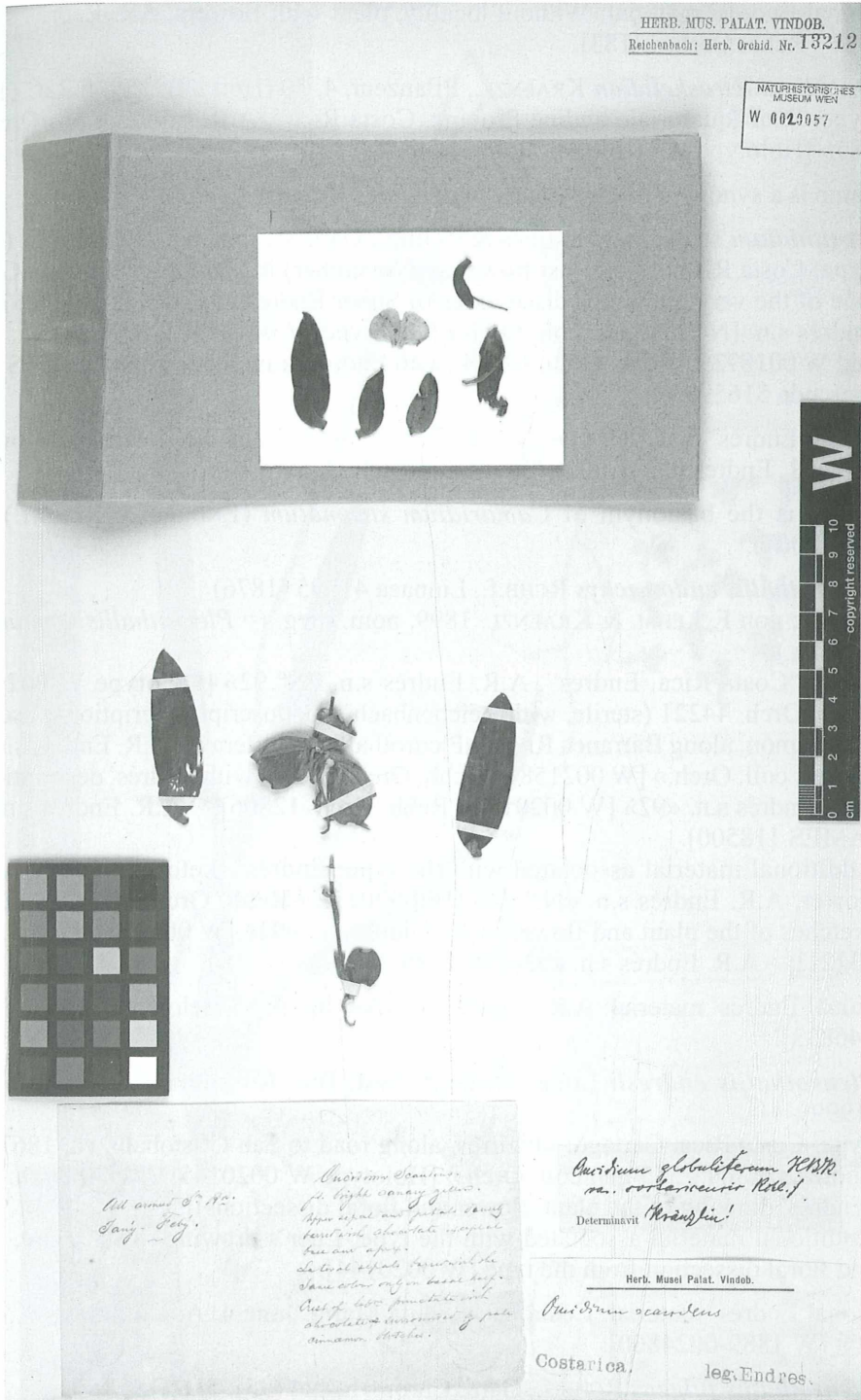
Three sheets at W are annotated by Kränzlin as “Typus” Two of them belong to the typical form of *O. dichromaticum*, with yellow sepals blotched with chestnut brown and a yellow lip, while the other is the form lacking flavonoids, with white sepals blotched with purple, and white lip. Apparently, Kränzlin did not select any of them as the holotype, and a lectotype has to be designated due to the differences between the specimens and Endrés’ annotations. The specimen selected as the lectotype belongs to the more common, yellow form, and has a label in Endrés’ handwriting.

The name is a synonym of *O. dichromaticum* RCHB.f. (1855).

78. *Oncidium sclerophyllum* Kraenzl., Pflanzenr. 4, 50 (Heft 80): 204 (1922).
Type: “Subäquatoriale andine Provinz. Costa Rica: San Ramon”, April, «see analysis p. 108. upper outer vol. 1869–1870», A.R. Endrés s.n. [Holotype W 0020074 / Rchb. Orch. 45069, Isotype W 0020074 / Rchb. Orch. 45069 («see sk. p. 108 upper outer angle»)].

ATWOOD & MORA DE RETANA (1999) treated this taxon as a synonym of *Oncidium klotzschianum* RCHB.f. (1852).

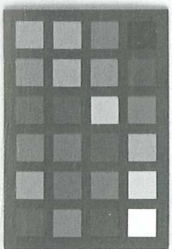
79. *Oncidium stenobulbon* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 281 (1922).
Type: “Costa Rica: am Rio Jesus” («San Ramón towards Rio Jesus / May-June»), A.R. Endrés s.n. [Holotype W 0020073 / Rchb. Orch. 45062].
Additional material associated with the type: Endrés’ description and drawing of the flower and floral dissection, A.R. Endrés s.n. [W 0020085 / Rchb. Orch. 33508]; – Endrés’ drawing of the flower and floral dissection, improved copy [W 0020084 / Rchb. Orch. 33729].



HERB. MUS. PALAT. VINDOB.
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Additional Endrés' material: Without locality, plant with flowers, AR. Endrés s.n. [W 0020083 / Rchb. Orch. 13183].

80. *Oncidium tetraskelidion* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 259, f. 22C (1922).
Type: "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés s.n. «Orch. N.º 285» [Holotype W 0020026 / Rchb. Orch. 18383].

The name is a synonym of *Oncidium obryzatooides* Kraenzl. (1922).

81. *Ornithidium strumatum* ENDRÉS & RCHB.f., Gard. Chron., n.s., 2 (51): 772 (1874).
Type: Costa Rica. "It has just flowered (November) in Hamburg Botanic Garden. One of the very numerous discoveries of Señor Endres in Costa Rica", 1867, A.R. Endrés s.n. (Nº 281 gen. coll. Orch.) [Holotype W 0018730 / Rchb. Orch. 14353 and W 0018729 / Rchb. Orch. 18044 (with Endrés drawings), isotype AMES 45387 (barcode 5165995)].

Additional Endrés' material: Costa Rica, Endrés' drawing of the flower and floral dissection, A.R. Endrés 90 [W 0018728 / Rchb. Orch. 36586].

The name is the basionym of *Camaridium strumatum* (ENDRÉS & RCHB.f.) M.A. BLANCO (2007).

82. *Pleurothallis endotrachys* RCHB.f., Linnaea 41: 95 (1876)
Annot.: non F. LEHM. & KRAENZL. 1899, nom. illeg. (= *Pleurothallis lehmanniana* SCHLTR.).
Type: "Costa Rica. Endres", A.R. Endrés s.n. «Nº 92» [Holotype W 0020331 / Rchb. Orch. 44221 (sterile, with Reichenbach's manuscript description)], Isotypes: San Ramón, along Barranca River, «*Pleurothallis mellifera*», , A.R. Endrés s.n. «N.º 92 gen. coll. Orch.» [W 0021581 / Rchb. Orch. 12806 (with Endrés' description)]; – A.R. Endrés s.n. «92» [W 0020150 / Rchb. Orch. 12806]; – A.R. Endrés s.n. «92» [AMES 118500].

Additional material associated with the type: Endrés' sketches of the plant and flower, A.R. Endrés s.n. «N.º 92» [W 0020152 / Rchb. Orch. 44198]; – Endrés' sketches of the plant and flower, A.R. Endrés s.n. «92» [W 0020151 / Rchb. Orch. 33221]; – A.R. Endrés s.n. «92» [W 1889-33651].

Additional Endrés' material: A.R. Endrés s.n. «See fig. p. 81 Below vol. 1869–70» [W 1889-46833].

83. *Pleurothallis endresii* LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 76: 172 (1999).
Type: Costa Rica. Cartago: «Pizirres, along road to San Cristobal», ca. 1867, A.R. Endrés s.n. «Nº 555 gen. coll. Orch.» [Holotype W 0020145 7 Rchb. Orch. 12798 (Endrés' drawing of the plant, flower and floral dissections)].
Additional material associated with the type: Luer's drawing of the plant, flower and floral dissection from the type [W 0020144].

Additional Endrés' material: Costa Rica. Santa Maria, June 4, A.R. Endrés s.n. «Orch. Nº 140» [W 1889-0024860].

84. *Pleurothallis fulgens* RCHB.f., Gard. Chron., n.s., 4 (95): 516 (1875).
≡ *Specklinia fulgens* (RCHB.f.) PRIDGEON & M.W. CHASE, Lindleyana 16: 257 (2001).

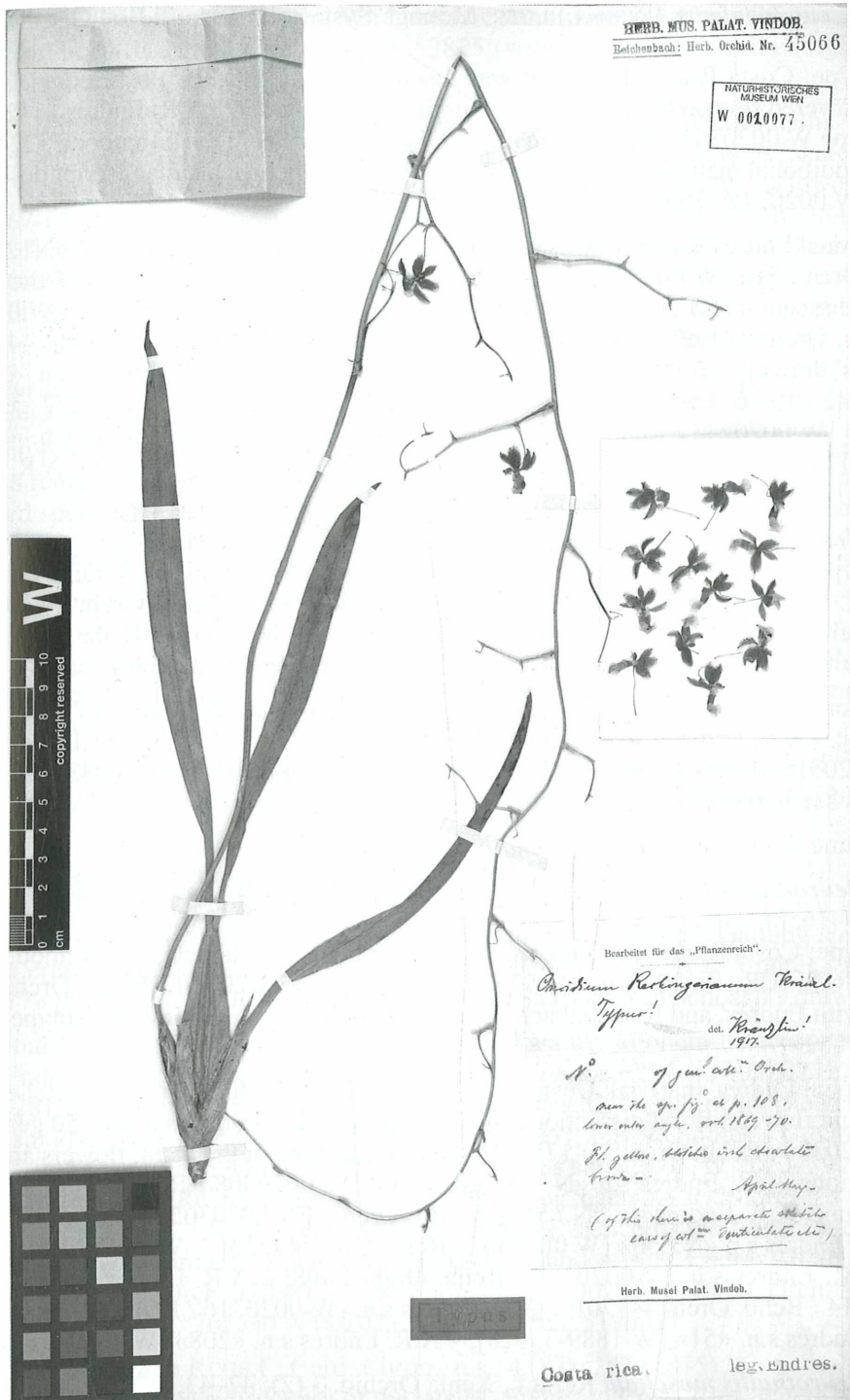


Fig. 8: Lectotype of *Oncidium rechingerianum* KRAENZL. [W 0020077 / Rchb. Orch. 45066].

≡ *Sarcinula fulgens* (RCHB.f.) LUER, Monogr. Syst. Bot. Missouri Bot. Gard. 105: 213 (2006).

Type: Costa Rica. “The plant was discovered in Costa Rica by Endres, and had flowered several times at the Hamburg Botanic Garden”, A.R. Endrés 2512 [Holotype W 0020353 / Rchb. Orch. 25509, isotype AMES 118517 (barcode 5224566)]. Additional material associated with the type: Reichenbach’s manuscript description [W 0020245 / Rchb. Orch. 25510].

Additional Endrés’ material: Costa Rica. «Boca de Dota», A.R. Endrés s.n. «N° 246 gen. coll. Orch.; 51» [W 0020241 / Rchb. Orch. 38482]; – Endrés’ drawings of the flower, floral dissection and description, A.R. Endrés s.n. «N° 51 gen. coll. Orch.» [W 0020240 / Rchb. Orch. 38492]; – A.R. Endrés s.n. «51» [W 0020244 / Rchb. Orch. 44226]; – Endrés’ drawings of the plant, flower, and floral dissections, A.R. Endrés s.n. «51» [W 0020242 / Rchb. Orch. 33418]; – «San Ramon», A.R. Endrés s.n. «N° 252 gen. coll. Orch.» [W 0020243 / Rchb. Orch. 12839]; – «San Ramon», A.R. Endrés s.n. «51» [W 1889-0041435]; – A.R. Endrés s.n. «52» [W 1889-0033634]; – «Calera», A.R. Endrés s.n. «51» [W 1889-0041397].

85. *Pleurothallis lateritia* ENDRÉS ex RCHB.f., Gard. Chron. 731 (1872).

Type: Costa Rica. “It was sent from Costa Rica to the Hamburg Botanic Garden by M. Endres”, A.R. Endrés 52 [Holotype W 0019852 / Rchb. Orch. 24750 (with Reichenbach’s drawings and description) and W 0019851 / Rchb. Orch. 44241 (with Endrés’ drawings), isotype AMES 69077 (barcode 5225584)].

Additional Endrés’ material: Costa Rica. A.R. Endrés s.n. [W 0020313 / Rchb. Orch. 13154]; – A.R. Endrés s.n. «218» [W 0020314 / Rchb. Orch. 44170]; – A.R. Endrés s.n. [W 0020316 / Rchb. Orch. 13156]; – A.R. Endrés s.n. «51» [W 1889-0033628]; – A.R. Endrés s.n. «208» [W 1889-0037461].

The name is a synonym of *Pleurothallis lanceola* (Sw.) SPRENG. (1826).

86. *Pleurothallis luctuosa* RCHB.f., Linnaea 41: 48 (1877), emend. in Xenia Orch. 3: 15–16, pl. 210 (1878).

Type: Costa Rica. “Viv. observavi in horto Hamb.”, (Alajuuela, San Ramón, 3500“, 1867), A.R. Endrés s.n. «N.° 2537» [Holotype W 0020310 / Rchb. Orch. 53791 (with Endrés’ and Reichenbach’s drawings of the plant and flower), isotype AMES 118528].

Additional Endrés’ material: Costa Rica. San Ramón, May–June, Endrés’ sketches of the plant and flowers, floral dissections and description, A.R. Endrés s.n. «N.° 50 gen. coll.» [W 0020306 / Rchb. Orch. 33417]; – Endrés’ pencil plate of the plant, flowers and floral dissections, A.R. Endrés s.n. «N.° 50 gen. coll.» [W 0020308 / Rchb. Orch. 36294]; May–June, A.R. Endrés s.n. «N.° 50 gen. coll. Orch.» [W 0020305 / Rchb. Orch. 2805]; – A.R. Endrés s.n. «N.° 50» [W 0020307 / Rchb. Orch. 44222]; – Without specific locality, A.R. Endrés s.n. [W 0020309 / Rchb. Orch. 2808]; – A.R. Endrés s.n. «218» [W 0020314 / Rchb. Orch. 44170]; – A.R. Endrés s.n. (W-0020316 / Rchb. Orch. 13156); – A.R. Endrés s.n. «51» [W 1889-33628]; – A.R. Endrés s.n. «208» [W 1889-37461].

87. *Pleurothallis moschata* RCHB.f., Xenia Orchid. 3 (2): 42–43, t. 217 (1881).

≡ *Trichosalpinx moschata* (RCHB.f.) LUER (1983).

Type: Costa Rica. “Diese recht zierliche Pleurothallis blüht seit einigen Jahren im

hamburger Botanischen Garten, Wir haben sie von Endres aus Costa Rica erhalten” [Holotype W 0020892 / Rchb. Orch. 53825 (with Reichenbach’s drawings, A.R. Endrés s.n. «N.º 2653»)].

Additional Endrés’ material: Costa Rica, without specific locality, «Pleurothallis / see p. 65 lower outer vol. 1867–68», A.R. Endrés s.n. [W 1889-46826]; Endrés’ sketches of the flowered plant, flower and floral analysis, with description, «See p. 65 lower outer vol. 1867-68, descr. p. 62», A.R. Endrés s.n. [W 0020891 / Rchb. Orch. 38471]; – Endrés’ pencil plate of the flowered plant, flower and floral analysis, A.R. Endrés s.n. [W 0020890 / Rchb. Orch. 36255]; – Endrés’ pencil plate of the flowered plant, flower and floral analysis, A.R. Endrés s.n. «N.º 65 gen. coll.» [W 0020889 / Rchb. Orch. 36269]; – A.R. Endrés s.n. «Orch. N.º 239» [W 0020888 / Rchb. Orch. 12786].

88. *Pleurothallis polylyria* ENDRÉS & RCHB.f., Gard. Chron. 731 (1872).

Humboldtia polylyria (ENDRÉS & RCHB.f.) KUNTZE, Revis. Gen. Pl. 2: 668 (1891).
Syntypes: “A beautiful specimen at hand is kindly sent by M. Wilson Saunder, Esq., who remarks that the plant is totally cespitose. Quite the same plant ... is at hand in dried specimens, gathered at Costa Rica by Mr. Endres” [Holotype not found].

The name is a synonym of *Pleurothallis gelida* LINDL. (1841).

89. *Polycycnis gratiosa* ENDRÉS & RCHB.f., Gard. Chron. 1451 (1871).

Type: Costa Rica. “It is a very elegant thing, discovered by Mr. Endres in Costa Rica. Last autumn, it flowered in the celebrated collection of Messrs. Veitch” [Holotype W 0029866 / Rchb. Orch. 19116 (with Reichenbach’s drawings and description, cultivated by Veitch, A.R. Endrés s.n. «136»)].

Additional Endrés’ material: Costa Rica, without locality, A.R. Endrés s.n. «N.º 2560» [W 0020865 / Rchb. Orch. 33819]; – A.R. Endrés s.n. «135» [W 0020864 / Rchb. Orch. 19117].

90. *Ponera mesocopis* ENDRÉS & RCHB.f., Xenia Orchid. 2: 222, t. 200 (1874).

≡ *Scaphyglottis mesocopis* (ENDRÉS & RCHB.f.) BENTH. & HOOK. f. ex HEMSL. (1884).
Type: Costa Rica. “Diese Art, welche stark an manche Arten der Gattung *Hexadesmia* erinnert empfang ich von Herrn Endres aus Costa Rica”, A.R. Endrés s.n. «N.º 2617» [Holotype W 0020735 / Rchb. Orch. 52835 (with Reichenbach’s drawings)].

Additional Endrés’ material: Costa Rica, without locality, «*Ponera heterocopis* Endr. Rbf.», Endrés’s sketch of the flowered plant, A.R. Endrés s.n. «714» [W 0020731 / Rchb. Orch. 52815]; – «*Hexadesmia heterocopis*», Reichenbach’s sketch of the flower, A.R. Endrés s.n. «N.º 714» [W 0020733 / Rchb. Orch. 51951]; – A.R. Endrés s.n. «Orch. N.º 237» [W 0020738 / Rchb. Orch. 13798]; – A.R. Endrés s.n. «237» [W 0020739 / Rchb. Orch. 13842]; – with Reichenbach’s sketch, «*Ponera cirrhata*», A.R. Endrés s.n. «Orch. N.º 337» [W 0020737 / Rchb. Orch. 43741]; – Endrés’ sketch of the flower and floral dissection, with description, «*Ponera cirrhata* Endr. Rchb.f.», A.R. Endrés s.n. «N.º 337» [W 0020736 / Rchb. Orch. 37039]; – A.R. Endrés s.n. [W 0020734 / Rchb. Orch. 51952]; – A.R. Endrés s.n. «N.º 2655» [W 0020732 / Rchb. Orch. 51950].

91. *Restrepia dayana* RCHB.f., Gard. Chron., n.s., 4 (87): 257 (1875).

Type: “The plant is a discovery of the late M. Endres in Costa Rica, where it grows at an altitude of 3000 feet, but is very scarce” [Holotype W 0020817 / Rchb. Orch.

44199 (sterile, with Reichenbach's description and Endrés' drawings of the plant, flower, and lip, 1868, A.R. Endrés «39», isotype W 0020822 / Rchb. Orch. 13150]. Additional material associated with the type: Costa Rica. «San Carlos Valley, Peje, var. *picta*, a pretty var.? of 263», Endrés' drawings and descriptions, A.R. Endrés s.n. «*Restrepia* N° 3, N° 39 gen. coll. Orch.» [W 0020818 / Rchb. Orch. 38581 and W 0020819 / Rchb. Orch. 38580]; – «*Restrepia concinna*», Endrés' drawing of the petal connate with column, A.R. Endrés s.n. «N° 39 gen. coll. Orch.» [W 0020821 / Rchb. Orch. 36076]; – «*Restrepia concinna*», Endrés' descriptions, A.R. Endrés s.n. «N° 39» [W 0020820 / Rchb. Orch. 33424]; – Endrés' definitive pencil plate «62» A.R. Endrés s.n. «N° 39 gen. coll.» [W 0020814 / Rchb. Orch. 36063].

Additional Endrés' material: Costa Rica. «Angostura, May», A.R. Endrés s.n. [W 1889-0039086, W 1889-0039075]; – «San Cristobal, Sta. Maria, Nov.ber-Dec.ber», A.R. Endrés s.n., W-Rchb. Orch. 1889-0030738; – «Sta. María, San Cristobal, December», A.R. Endrés s.n., W-Rchb. Orch. 1889-0030744. – «Pr. of Cartago», A.R. Endrés s.n. [W 1889-0024852]; – Without locality, «*Restrepia xanthophthalma* var. *picta*, N° 39 gen. coll. Id. var. *concinna*», Endrés' drawings of the plant with flower and lip, and description, A.R. Endrés s.n. «*Restrepia* N° 1» [W 0020816 / Rchb. Orch. 36074]; – «*Restrepia xanthophthalma* var. *picta* [and] *Restrepia* N° 1 var. *obscura*», Endrés' descriptions, A.R. Endrés s.n. «*Restrepia* N° 1» [W 0020815 / Rchb. Orch. 32237]; – A.R. Endrés s.n. [W 1889-0037467]; – Endrés' drawing of the plant, A.R. Endrés s.n. [W 0020823 / Rchb. Orch. 36560]; – Endrés' definitive pencil plate «104» A.R. Endrés s.n. «N° 263» [W 0020813 / Rchb. Orch. 36064]; – «see fig. p.104», A.R. Endrés s.n. «N° 263» [W 1889-0041455, W 1889-0041456]; – «see fig. p.104», A.R. Endrés s.n. «N° 263 of gen. coll.» [W 1889-0041455, W 1999-0000196].

The name is a synonym of *Restrepia muscifera* (LINDL.) RCHB. f. ex LINDL. (1859)

92. ***Restrepia prorepens*** RCHB.f., Gard. Chron., n.s., 7 (183): 810 (1877).

≡ *Barbosella prorepens* (RCHB.f.) SCHLTR. (1918)

Type: "It is one of the Costa Rican discoveries of the late M. Endres. It has flowered several times in the Hamburg Botanic Garden", A.R. Endrés 2618.

Lectotype (annotated by Luer on correction label 1992, hic designatus): Costa Rica, without specific locality, A.R. Endrés 2618 [W 0018995 / Rchb. Orch. 29375 (with Reichenbach's manuscript descriptions and drawings)] – Fig. 9.

Additional Endrés' material: Costa Rica, without locality data, 1867, with Endrés' pencil plate of plant, flowers and floral dissections, «*Malaxidieae* N° 71», A.R. Endrés s.n. [W 0019003 / Rchb. Orch. 44201]; – Endrés' pencil plate of plant, flowers and floral dissections, «52», A.R. Endrés s.n. «N° 71» [W 0018993 / Rchb. Orch. 36078]; – Endrés' preparatory sketches of the flowered plant and floral dissections, A.R. Endrés s.n. «N° 71» [W 0019000 / Rchb. Orch. 33217]; – Endrés' pencil plate of plant, flowers and floral dissections, «53», A.R. Endrés s.n. «N° 271» [W 0018993 / Rchb. Orch. 36078]; – Endrés' floral dissections, «*Restrepia teretifolia*», A.R. Endrés s.n. «*Restrepia* N° 8, N° 71 gen. coll. Orch.» [W 0018999 / Rchb. Orch. 38575]; – Endrés' pencil plate of plant, flowers and floral dissections, «*Restrepia*», A.R. Endrés s.n. «N° 271 gen. coll. Orch.» [W 0019002 / Rchb. Orch. 36077]; – Endrés' preparatory sketches of plant, flowers and floral dissections, «*Restrepia violodora*», A.R. Endrés s.n. «*Restrepia* N° 9, N° 271 gen. coll. Orch.» [W 0019003 / Rchb. Orch. 44201]; – Endrés' preparatory

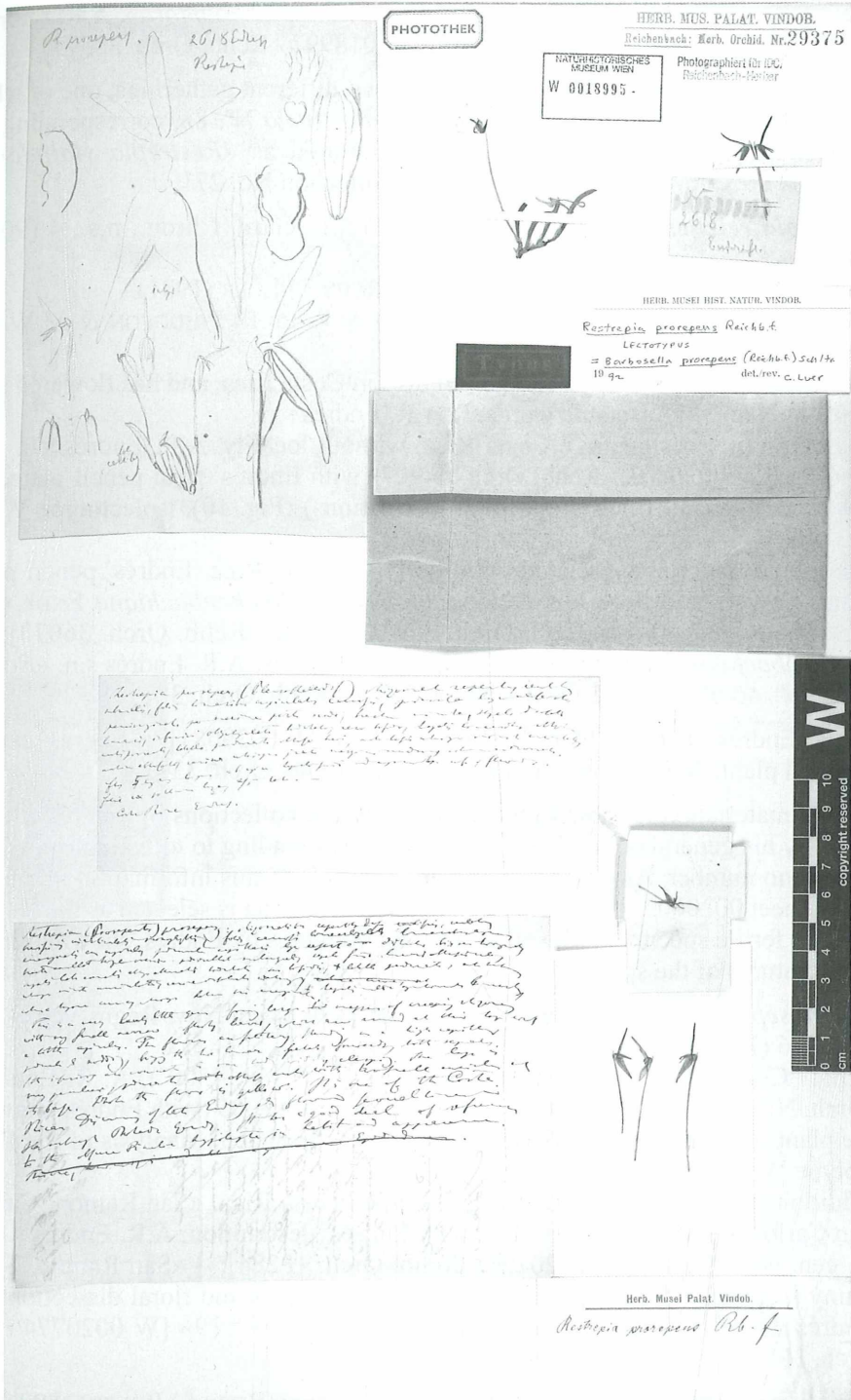


Fig. 9: Lectotype of *Restrepia prorepens* RCHB.f. [W 0018995 / Rchb. Orch. 29375].

sketches of plant, flowers and floral dissections, «*Restrepia violodora*», A.R. Endrés s.n. «*Restrepia* N° 9, N° 271 gen. coll. Orch.» [W 0018997 / Rchb. Orch. 38573].

The material from Endrés at W include at least two different gatherings, one of which is identified by him as «*Restrepia teretifolia*» or «*Restrepia* N° 8», corresponding to his general collection No. 71, and the other annotated as «*Restrepia violodora*» or «*Restrepia* N° 9», corresponding to his general collection No. 271.

93. *Restrepia reichenbachiana* ENDRÉS & RCHB.f., Gard. Chron., n.s., 4 (90): 356 (1875).

≡ *Restrepiopsis reichenbachiana* (ENDRÉS & RCHB.f.) LUER (1981).

≡ *Pleurothallopsis reichenbachiana* (ENDRÉS & RCHB.f.) PRIDGEON & M.W.CHASE (2001).

Type: "It was discovered in 1868 by Endres in Costa Rica, and has flowered several times in Hamburg Botanic Garden", A.R. Endrés s.n.

Lectotype (hic designatus): Costa Rica, without locality, A.R. Endrés s.n. «Orch. N° 46», [W 0020803 / Rchb. Orch. 44207 (with Endrés' final pencil plate, partly coloured, of plant, flowers and floral dissections) (Fig. 10), isolectotype W 1889-0037462].

Additional material associated with the type: Costa Rica. Endrés' pencil plate of plant, flowers and floral dissections, «*Restrepia Reichenbachiana* ENDR.», A.R. Endrés s.n. «N° 46 gen. coll. Orch.» [W 0020802 / Rchb. Orch. 36073]; – «*R. Reichenbachiana*», Endrés' sketches and descriptions, A.R. Endrés s.n. «*Restrepia* N° 7, N° 46 of gen. coll. Orch.» [W 0020801 / Rchb. Orch. 38576].

Additional Endrés' material: A.R. Endrés s.n. [W 1889-0039081]; – Endrés' sketch of the flowered plant, A.R. Endrés s.n. [W 0021312 / Rchb. Orch. 33415].

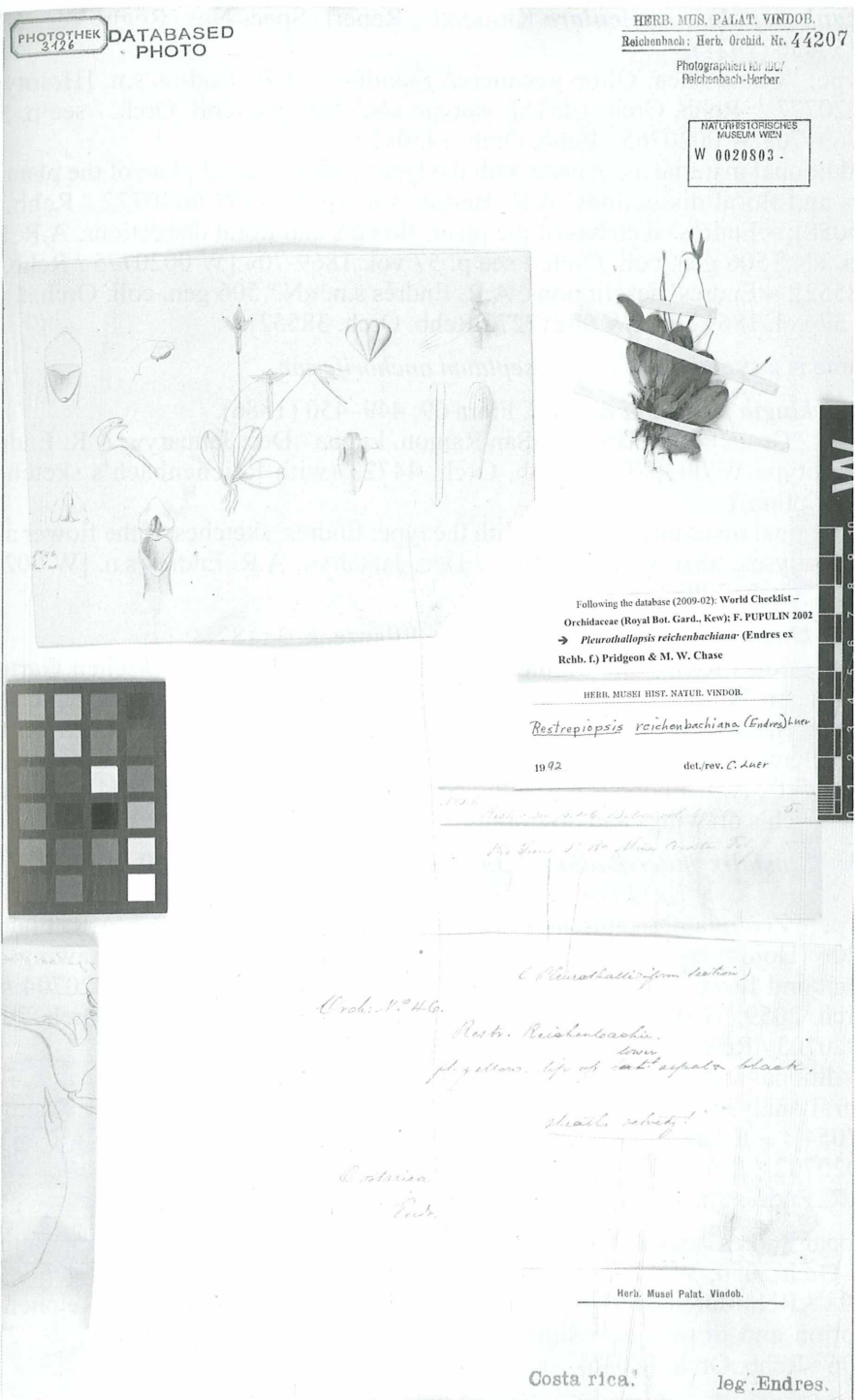
Among the materials referable to this taxon at W are collections by Endrés which are identified by his general collection number 46, corresponding to «*Restrepia* N° 7», and others with no number. As Reichenbach does not include this information in the protologue, the sheet 0020803 of the general collection at Vienna is selected as the lectotype: it includes a fertile specimen, as well as detailed drawings by Endrés, showing the characteristic features of the species.

94. *Scaphosepalum endresianum* KRAENZL., Repert. Spec. Nov. Regni Veg. 17 (28): 435–436 (1921).

Type: "Costa Rica. Ohne genaueren Standort", (1868, 4500'), A. R. Endres s.n. (Orch. N.° 55) [Holotype W 0020770 / Rchb. Orch. 15005 (with Endrés' drawing of the plant, flower and floral dissections, and Reichenbach's analysis of the flower), isotype W 1889-30746].

Additional material associated with the type: Costa Rica. «San Ramon. Camino a San Carlos, Legua. Rainy season», with Endrés' description, A.R. Endrés s.n. «N.° 55 gen. coll. Orch.» [W 0020776 / Rchb. Orch. 18284]; – «San Ramon. Scarce / Rainy season», Endrés' drawings of the plant, flowers and floral dissections, A.R. Endrés s.n. «N.° 55 gen. coll. Orch. / *Masdevallia* N.° 19» [W 0020774 / Rchb. Orch. 38549].

The name is a synonym of *Scaphosepalum anchoriferum* (RCHB.f.) ROLFE (1890) ≡ *Masdevallia anchorifera* RCHB.f. (1884).



Following the database (2009-02): World Checklist -
 Orchidaceae (Royal Bot. Gard., Kew): F. PUPULIN 2002
 → *Pleurothallis reichenbachiana* (Endres ex
 Rehb. f.) Pridgeon & M. W. Chase

HERB. MUSEI HIST. NATUR. VINDOB.
Restrepia reichenbachiana (Endres) Luer
 1992 det./rev. C. Luer

Restrepia sp. n. det. ...
 ...

(*Pleurothallis*-form *restrepia*)
 Orch. V. 46.
Restr. Reichenbachii
 fl. yellow. lip of ^{lower} *restrepia* black.
 shell white?
 Costa Rica
 Endres

Herb. Mus. Palat. Vindob.
 Costa Rica. leg. Endres.

Fig. 10: Lectotype of *Restrepia reichenbachiana* ENDRES & RCHB.f. [W 0020803 / Rchb. Orch. 44207].

95. *Scaphosepalum naviculare* KRAENZL., Repert. Spec. Nov. Regni Veg. 17 (28): 435–436 (1921).
 Type: “Costa Rica. Ohne genaueren Standort”, A.R. Endrés s.n. [Holotype, W 0020777 / Rchb. Orch. 14515], isotype «N.º 506 gen. coll. Orch. / see p. 57 vol. 1869–70» W 0020765 / Rchb. Orch. 14508].
 Additional material associated with the type: Endrés’ pencil plate of the plant, flowers and floral dissections, A.R. Endrés s.n. «p. 57» [W 0020772 / Rchb. Orch. 36058]; – Endrés’ sketches of the plant, flowers and floral dissections, A.R. Endrés s.n. «N.º 506 gen. coll. Orch. / see p. 57 vol. 1869–70» [W 0020775 / Rchb. Orch. 38552]; – Endrés’ descriptions, A.R. Endrés s.n. «N.º 506 gen. coll. Orch. / see fig. p. 57 vol. 1869–70» [W 0021727 / Rchb. Orch. 38552].
- The name is a synonym of *Scaphoseplaum anchoriferum*.
96. *Sievekingia fimbriata* RCHB.f., Flora 69: 449–450 (1886).
 Type: “Costa Rica. Endres”, «San Ramon. Legua / Dec. January», A.R. Endrés s.n. [Holotype W 0020709 / Rchb. Orch. 44723 (with Reichenbach’s sketches and description)].
 Additional material associated with the type: Endrés’ sketches of the flower and floral analyses, «San Ramon. Legua / Dec. January», A.R. Endrés s.n. [W 0020708 / Rchb. Orch. 37032].
97. *Sievekingia suavis* RCHB.f., Beitr. Syst. Pflanzenk. 3 (1871).
 Type: Costa Rica. “Sie blühte zuerst 1868 im hiesigen botanischen Garten und wurde am 29. Juni 1869 bei einer unserer Ausstellungen angemeldet, hatte aber leider bereits dem Verblühungsprocesse ihren Tribut gezollt. Sie wurde aus Costa Rica von Herrn Endres eingesendet, der dieser Tage berichtete, er habe eine zweite Art entdeckt”, A.R. Endrés s.n. [Holotype W 0027462 / Rchb. Orch. 44725 (with Reichenbach’s drawings and description)].
98. *Sigmatostalix macrobulbon* Kraenzl., Pflanzenr. 4, 50 (Heft 80): 307, f. 27B (1922).
 Type: “Zentralamerikanische Provinz. Costarica”, 3–4000”, 1867, A.R. Endrés s.n. «20» [Holotype W 0020696 / Rchb. Orch. 18047 (with Endrés’ drawings of the plant and flowers), isotypes W 0020705 / Rchb. Orch. 2057; W 0020704 / Rchb. Orch. 2059; W 0020703 / Rchb. Orch. 2045; W 0020697 / Rchb. Orch. 2052; W 0020703 / Rchb. Orch. 2045; W 0020699 / Rchb. Orch. 2043].
 Additional material associated with the type: Costa Rica, without locality, Endrés’ floral analyses, A.R. Endrés s.n. «N.º 20 ge, coll. » [W 0020700 / Rchb. Orch. 37054]; – Endrés’ sketches of the plant and flowers, A.R. Endrés s.n. «20» [W 0020702 / Rchb. Orch. 37057]; – Reichenbach’s sketches of the inflorescences, A.R. Endrés s.n. «Endr. 20» [W 0020701 / Rchb. Orch. 39351].

Additional Endrés’ material: Costa Rica, without locality, A.R. Endrés s.n. [W 0020693 / Rchb-Orch 2050; W 0020694 / Rchb-Orch 2051; W 0020695 / Rchb-Orch 2055; W 0020698 / Rchb-Orch 2061]; – Costa Rica, without specific locality, Reichenbach’s description and drawings, «*Sigmatostalix endresii*», A.R. Endrés s.n. «E 20» [W 0020706 / Rchb. Orch. 18046].

The sheet selected as the lectotype has a fertile specimen and a detailed illustration by Endrés.

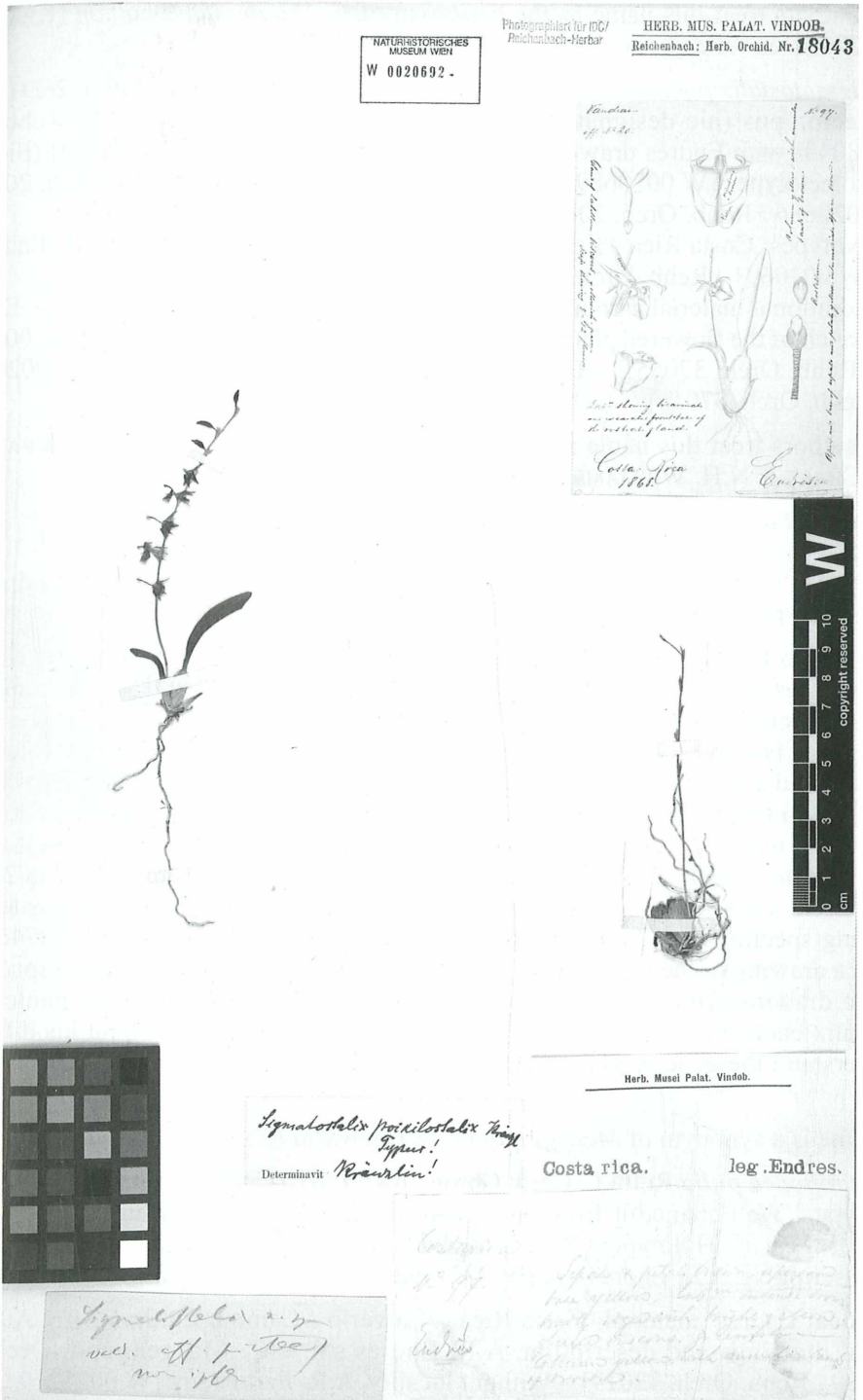


Fig. 11: Lectotype of *Sigmatostalix poikilostalix* KRAENZL. [W 0020692 / Rchb. Orch. 18043].

Some authors treat this name as the basionym of *Oncidium macrobulbon* (KRAENZL.) M.W. CHASE & WILLIAMS (2008).

99. *Sigmatostalix poikilostalix* KRAENZL., Pflanzenr. 4, 50 (Heft 80): 310, f. 26D (1922). Lectotypus (hic designatus): 1868, A.R. Endrés 97 [W 0020692 / Rchb-Orch 18043 (with Endrés drawings of the plant, flower, and floral analysis)] (Fig. 11), isolectotypes [W 0020689 / Rchb. Orch. 2097, W 0020687 / Rchb. Orch. 2044, W 0020686 / Rchb. Orch. 2040, W 0020684 / Rchb. Orch. 2048].

Syntypes: Costa Rica. "Zentralamerikanische Provinz. Costarica", A.R. Endrés 38 [W 0020691 / Rchb. Orch. 2041].

Additional material associated with the type: Costa Rica, without locality, Endrés' sketch of the flowered plant, flower, and floral details, A.R. Endrés 97 [W 0020690 / Rchb. Orch. 37055]; – Endrés' sketch of the lip, A.R. Endrés 97 [W 0020685 / Rchb. Orch. 37056].

Some authors treat this name as the basionym of *Oncidium poikilostalix* (KRAENZL.) M.W. CHASE & N.H. WILLIAMS (2008).

100. *Solenidium endresii* Kraenzl., Pflanzenr. 4, 50 (Heft 80): 317 (1922).

≡ *Mesospinidium endresii* (KRAENZL.) GARAY (1973).

Type: "Heimat nicht genau bekannt, vermutlich Costa Rica", A.R. Endrés s.n. [Holotype W 0027461 / Rchb. Orch. 32817].

According to KRÄNZLIN (1922), in the Reichenbach herbarium there were seven dried inflorescences with the label "Sigmatostalix endresii", without author. Kränzlin considered that the species was not related to *Sigmatostalix*, and described it under the genus *Solenidium*. The name «Sigmatostalix endresii» was in fact suggested by Reichenbach, who prepared a manuscript description and illustrated a flower, ostensibly from Endrés s.n. «20» (on the upper right side of the leaflet, Reichenbach annotated «E 20»), which corresponds to the type of the species eventually described by Kränzlin himself as *Sigmatostalix macrobulbon*. This drawing is actually mounted alone on sheet W 0020706 / Rchb. Orch. 18046, but until at least late 2000 it was mounted on a composite sheet including specimens of *Mesospinidium* collected by Endrés (now on W 0027461), as well as a drawing of the flower by Reichenbach. It is probably studying these specimens and the drawing from a flower, which are completely unrelated to the name «Sigmatostalix endresii» sensu Reichenbach, that Kränzlin commented about his difficulty to understand the generic placement suggested by the Hamburg professor (KRÄNZLIN 1922).

The name is a synonym of *Mesospinidium warszewiczii* RCHB.f.

101. *Stanhopea pulla* RCHB.f., Gard. Chron., n.s., 7: 810 (1877).

Type: "We obtained it from our friend, the late M. Endrés, who discovered it in Costa Rica" Holotype: Costa Rica, without specific locality, with Reichenbach's description, A.R. Endrés s.n. [W 0027462].

Additional Endrés' material: Costa Rica. «Calvario / Camino a Limon, July August», Endrés' drawings and description, A.R. Endrés s.n. «N° 612 gen. coll. Orch» [W 0020589 / Rchb. Orch. 32019] – Without locality, A.R. Endrés s.n. [W 0021219 / Rchb. Orch. 8883]; – A.R. Endrés s.n. «277» [W 0021220 / Rchb. Orch. 44262]; – A.R. Endrés s.n. [W 1889-0041472]; – A.R. Endrés s.n. «see fig. p. 91» [W 1889-0046718].

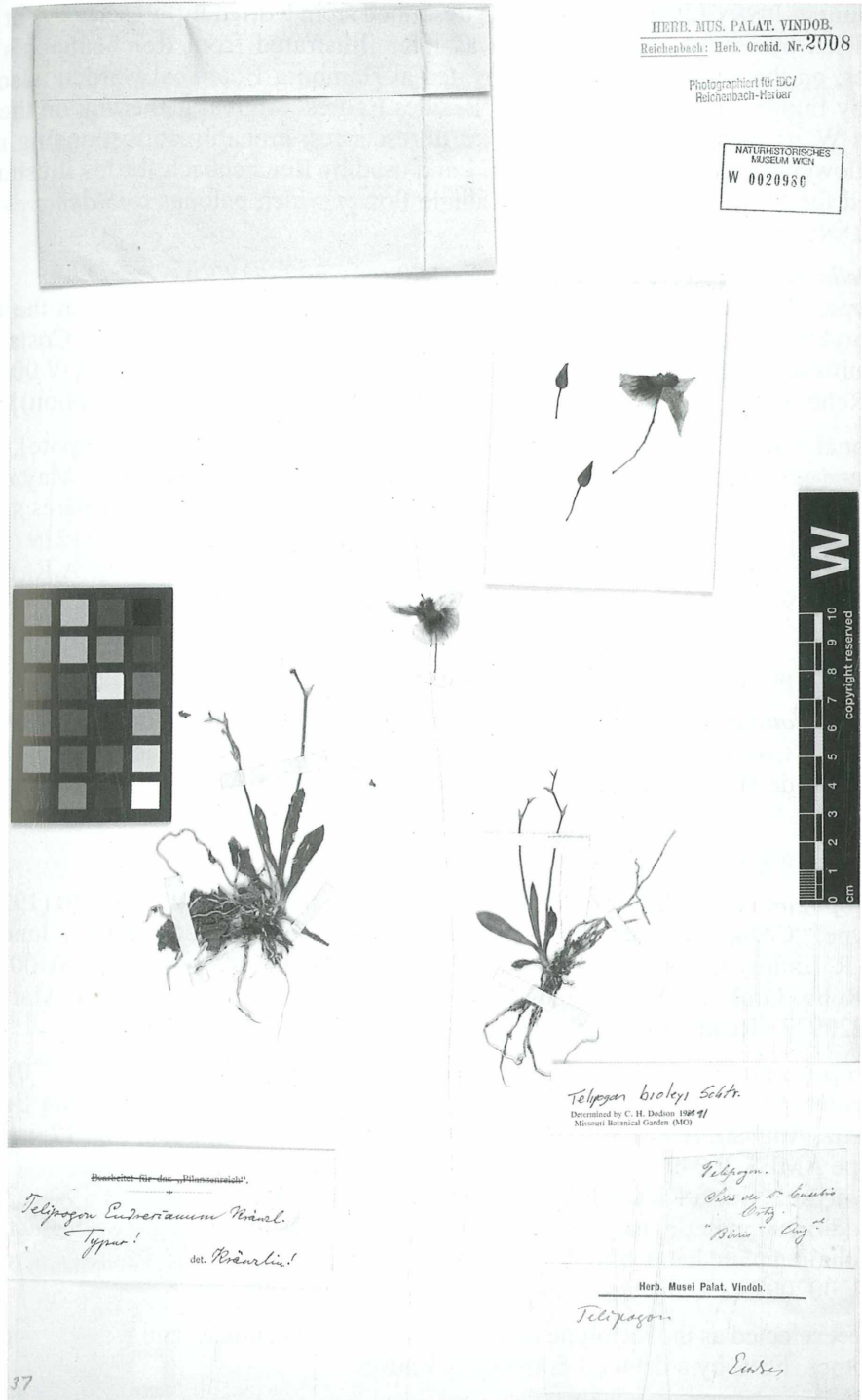


Fig. 12: Lectotype of *Telipogon endresianus* KRAENZL. [W 0020980 / Rchb. Orch. 2008].

According to JENNY (2010), *S. pulla* was described from a dried inflorescence sent from Costa Rica by Endrés. The species was later illustrated from Reichenbach's own sketches, on the basis of material cultivated at Hamburg Botanical Garden, also collected by Endrés (REICHENBACH 1878). Besides Endrés' original gathering, on the type sheet at W are also mounted five other inflorescences, probably corresponding to the plants flowered at Hamburg in June 1877 and used by Reichenbach for his illustrations intended for *Xenia Orchidacea*, plus a single flower which belongs to *Stanhopea conata* (JENNY 2010).

102. *Stelis endresii* RCHB.f., Gard. Chron. 1870 (42): 1373 (1870).

Type: "It was discovered in Costa Rica by M. Endres, and flowered in the Hamburg Botanic Garden in December, 1869, and July, 1870" Holotype: Costa Rica. Cultivated at Hamburg Botanic Garden, 1869–1870, A.R. Endrés s.n. [W 0021221 / Rchb. Orch. 18468 (sterile, with Reichenbach's drawings and description)].

Additional Endrés' material: Costa Rica. «Sarsero [Zarcero], Sapote [Zapote], May-June» and «old road to San Carlos, on the height beyond Tapisco river, May», with Endrés' drawings of the flower, floral dissections and description, A.R. Endrés s.n. [W 1889-014213]; – Without locality, A.R. Endrés s.n. «Orch. N° 277» [W 0021219 / Rchb. Orch. 8883]; A.R. Endrés s.n. «277» [W 0021220 / Rchb. Orch. 44262]; A.R. Endrés s.n. [W 1889-0041472]; – A.R. Endrés s.n. «see fig. p. 91» W-Rchb. Orch. 1889-0046718;

The name is probably a synonym of *Stelis argentata* LINDL. (1842).

103. *Telipogon buenavistae* KRAENZL., Ann. Naturhist. Mus. Wien 33: 33–34 (1920).

Type: "Costa Rica. Buenavista, near the spot called „ojo de agua“ in 3000 m", [Cerro de Buena Vista], A.R. Endrés s.n. [Holotype W 0020978 / Rchb. Orch. 45087].

The name is a synonym of *Telipogon costaricensis* SCHLTR. (1911).

104. *Telipogon christobalensis* KRAENZL., Ann. Naturhist. Mus. Wien 33: 30 (1920).

Type: "Costa Rica. Bei San Cristobal", Tablazo, road to S. Cristobal / June-July, A.R. Endrés 512 [Holotype W 0020975 / Rchb. Orch. 2003], isotypes [W 0020974 / Rchb. Orch. 2009, W 0020976 / Rchb. Orch. 2010, «S. Crist. + S. Maria» W 0020977 / Rchb. Orch. 2005].

105. *Telipogon endresianus* KRAENZL., Ann. Naturhist. Mus. Wien 33: 31 (1920)

Lectotype (hic designatus): Costa Rica. [Cartago: Birris, Sitio de Don Eusebio Ortiz, August], A.R. Endrés s.n. [W 0020980 / Rchb. Orch. 2008, Fig. 12, isolectotype AMES 26049].

Syntype: "Costa Rica. Ohne genaueren Standort", 1882, Hübsch s.n. [W 22702]. Additional material associated with the type: Endrés' pencil plate of the lectotype, including plant habit with flowers, pollinarium and anther, A.R. Endrés s.n. «p. 41» [W 0020979 / Rchb. Orch. 9960].

The sheet selected as the lectotype includes two fertile specimens, and it is accompanied (on another sheet) by a detailed drawing by Endrés.

The name is a synonym of *Telipogon biolleyi* SCHLTR. (1911).

106. *Telipogon minutiflorus* KRAENZL., Ann. Naturhist. Mus. Wien 33: 14 (1920).
Type: “Costa Rica. Ohne genaueren Standort”, A.R. Endrés s.n. [Holotype W 0021327 / Rchb. Orch. 2011, isotypes W 0021326 / Rchb. Orch. 2006, W 0021325 / Rchb. Orch. 2007].
107. *Trichocentrum pfavii* var. *zonale* Rchb.f., Gard. Chron., n.s., 19: 44 (1883).
Type: Costa Rica. “A fresh inflorescence just sent by Mr. Harry Veitch”, A.R. Endrés s.n.
Lectotype (hic designatus): Costa Rica. San José: Dota, «Boca de Dota / Oct.-December», «*Trichocentrum saundersii*», A.R. Endrés s.n. [W 0020947 / Rchb. Orch. 37150 (Endrés’ drawings and description)], Fig. 13.
Additional material associated with the type: Costa Rica. Endrés’ drawings of the ovary, with sections, and descriptions, «Boca de Dota, along the creeks / on the trunks of young trees / 1–2000”, beyond Ramon Zuniga house», «*Trichocentrum saundersianum*», A.R. Endrés s.n., [W 0020946 / Rchb. Orch. 37148]; – Endrés’ coloured drawing of flower, A.R. Endrés s.n. [W 0020952 / Rchb. Orch. 37153]; – Without locality, «*Trichocentrum*», A.R. Endrés s.n. «N^o 16 gen. coll. » [W 0020948 / Rchb. Orch. 14171]; – with Endrés’ analysis of the flower, «*Trichocentrum saundersii*», A.R. Endrés s.n. [W 0020949 / Rchb. Orch. 18376]; – Endrés’-drawing of the plant, A.R. Endrés s.n. [W 0020945 / Rchb. Orch. 37152]; – Endrés’ drawing of the pollinarium, «*Trichocentrum saundersii*», A.R. Endrés s.n. [W 0020951 / Rchb. Orch. 37151].

In the protologue, Reichenbach refers to an “unpublished lithographic plate belonging to one of my unpublished pamphlets”, which corresponds to an engraving intended for his series of *Xenia* Orchidacea, still conserved in his herbarium with the title “*Trichocentrum zonale*” This lithograph was ostensibly prepared from the drawings sent by Endrés under the intended name of “*Trichocentrum saundersii*” and “*Trichocentrum saundersianum*”, from material originally collected at «Boca de Dota, along the creeks / on the trunks of young trees / 1-2000”, beyond Ramon Zuniga house», which have to be considered part of the type material studied by Reichenbach. In absence of any actual specimens, the illustrations sent by Endrés and used by Reichenbach to prepare the lithograph for his *T. zonale* are selected as the lectotype.

The name is a synonym of *Trichocentrum pfavii* RCHB.f. (1881).

108. *Trichocentrum caloceras* ENDRÉS & RCHB.f., Gard. Chron. 1257 (1871).
Type: “Mr. Endres, the excellent Costa Rica traveller, has found since 1867, in Costa Rica, another *Trichocentrum*” Holotype, to be found at W, not located. Neotype, designated by PUPULIN (1995): Costa Rica. Puntarenas: Coto Brus, F. Pupulin & D. Castelfranco 1 [USJ].
109. *Trichopilia dasyandra* Rchb.f., *Xenia* Orchid. 3: 64, t. 230 (1883).
≡ *Cischweinfia dasyandra* (RCHB.f.) DRESSLER & N.H. WILLIAMS (1970).
Type: Costa Rica. “Endrés”, 1868, «*Trichopiliastrum*», A.R. Endrés s.n. «Orch. N.^o 93». [Holotype W 0019850 / Rchb. Orch. 18032 (with Endrés’ and Reichenbach’s drawings), isotype: A.R. Endrés s.n. «93» W 0020939 / Rchb. Orch. 2982].
Additional material associated with the type: Costa Rica. Endrés’ sketches and pencil plate of flowered plant, flower and floral analysis, with description, «Aspa-

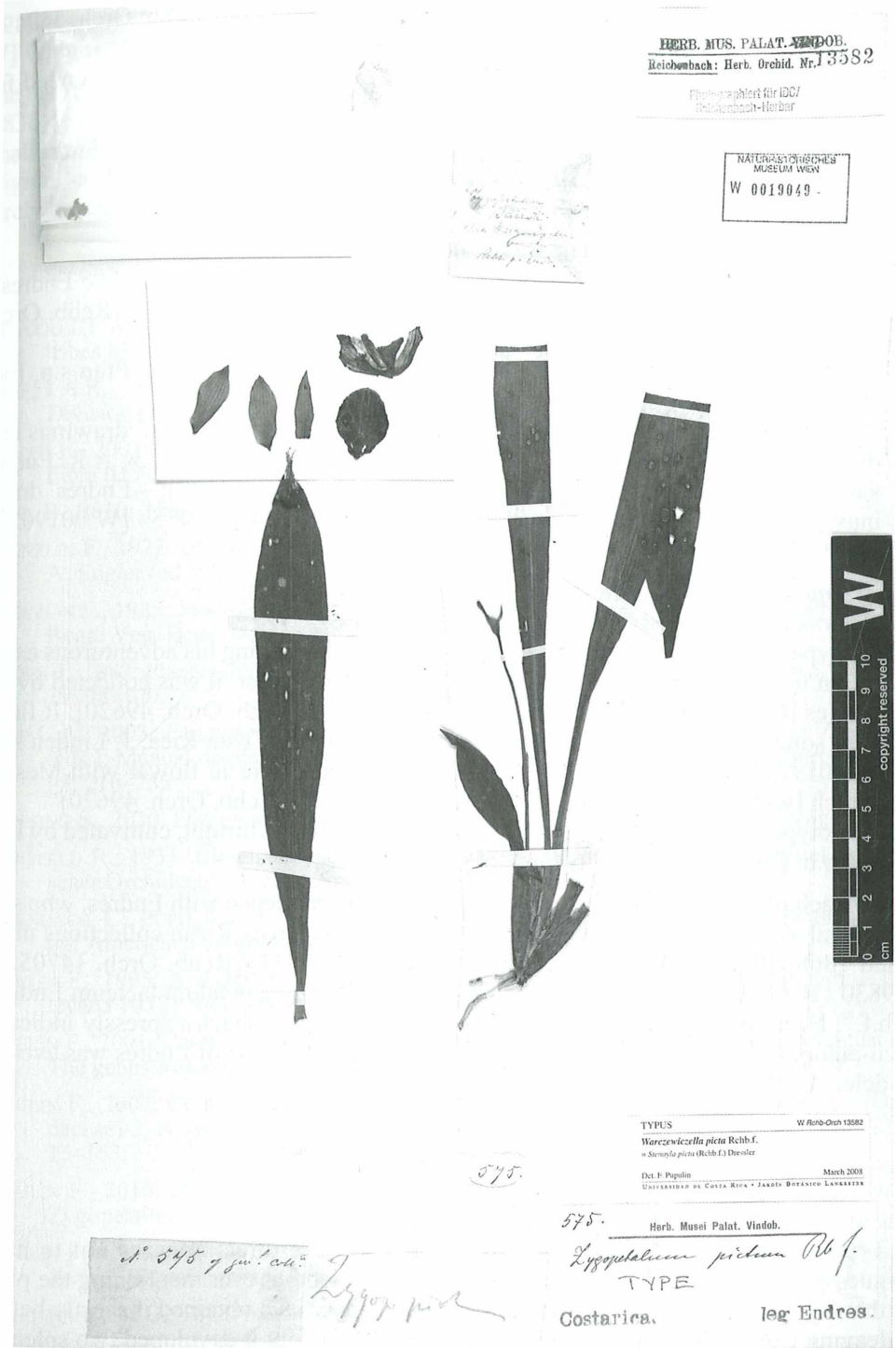


Fig. 14: Lectotype of *Warczewiczella picta* RCHB.f. [W 0019049 / Rchb. Orch. 13582].

sia», A.R. Endrés s.n. «N. 93 gen. coll. Orch.» [W 0018815 / Rchb. Orch. 35949]; – Endrés' sketches of floral parts, «*Trichopiliastrum*», A.R. Endrés s.n. «93» [W 0018816 / Rchb. Orch. 35950 (engravings from Endrés' drawings, intended for *Xenia Orchidaceae*, not published)].

Additional Endrés' material: Costa Rica, without locality, «*Aspasia*», A.R. Endrés s.n. [W 0018814 / Rchb. Orch. 38570].

110. *Warczewiczella picta* RCHB.f., Gard. Chron., n.s., 20: 8 (1883).

≡ *Stenotyta picta* (RCHB.f.) DRESSLER (2005).

Lectotype (hic designatus): “This very fine plant was discovered by late Endrés“ Costa Rica. A.R. Endrés s.n. «Nº 575 gen. coll. Orch.» [W 0019049 / Rchb. Orch. 13582], Fig. 14.

Syntype: „..., and lately found again by M. Pfau“ Costa Rica, R. Pfau s.n. [not located]”

Additional material associated with the type: Costa Rica. Endrés' drawings and descriptions, «Cerro de los Guatusos, headwater of La Paz River ...», A.R. Endrés s.n. «Nº 575 gen. coll. Orch.» [W 0019022 / Rchb. Orch. 14629]; – Endrés' drawings, A.R. Endrés s.n. «Nº 575 gen. coll. Orch., *Zygopetalum* Nº 5» [W 0019023 / Rchb. Orch. 10623].

111. *Zygopetalum lacteum* RCHB.f., Gard. Chron. 1290 (1872).

≡ *Kefersteinia lactea* (RCHB.f.) SCHLTR. (1923).

Syntypes: “It was originally discovered by Mr. Wallis during his adventurous expedition to Chiriqui [Panama, Wallis s.n., not located]. Later, it was collected by M. Endres [Costa Rica, A. R. Endres 334, W 0019731 / Rchb. Orch. 49620]. It flowered some years ago with Director Linden [Panama or Costa Rica, J. Linden s.n., W 0019731 / Rchb. Orch. 49620], and is now once more in flower with Messrs. Veitch [without locality, cult. Veitch s.n., W 0019731 / Rchb. Orch. 49620]”

Lectotype (PUPULIN 2001: 548): Panama or Costa Rica. Chiriquí, cultivated by Linden s.n. [W 0019731 / Rchb. Orch. 49620].

Reichenbach planned to publish the species after correspondence with Endrés, who sent him several sketches and tentative descriptions based on Costa Rican collections made around 1868 [W 0019832 / Rchb. Orch. 44590, W 0019831 / Rchb. Orch. 14705, W 0019830 / Rchb. Orch. 33240] with the proposed name „*Zygopetalum lacteum* Endr. & Rchb.f.“ Even though the manuscript protologue by Reichenbach expressly indicates the co-autorship of the new species with its discoverer, the name of Endrés was eventually deleted before publication.

Excluded species

Aspasia papilionacea RCHB.f., Gard. Chron., n.s., 6: 100 (1876).

Type: Costa Rica. “Its discoverer, the late Señor Endres, appears not to have guessed what it was. He sent it with other things without ever mentioning the plant that beats all his Orchidaceous discoveries. He may have obtained it shortly before leaving Costa Rica, and the plant took a long rest before it developed two splendid flowers at once. It may be found with Messrs. Veitch, who got a lot of unnamed

things from Señor Endres”, cult Veitch s.n. [Holotype not located; drawing of the type, copy of Reichenbach’s sketches, AMES 24849 – barcode 4747525].

The name is a later synonym of *Aspasia lunata* LINDL. {Edwards’s Bot. Reg. 22: t. 1907 (1836)}, described on the basis of a plant collected in Brazil by M. Descourtilz. This small sized, unmistakable epiphyte is only known from Brazil, and the data about the original collection of *A. papilionacea* given by Reichenbach in the protologue were surely based on a mislabeled plant obtained through the nurseries of Veitch.

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