

*Species Endresianæ*¹

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The short career of Auguste R. Endrés as a botanical explorer, author and illustrator, is concentrated in just the 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 forests². The botanical results of his activity, largely neglected after his death in 1874, are extraordinary both in terms of the quantity of specimens, illustrations and plant descriptions, as well as the quality of his meticulous work.

Endrés' botanical legacy 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. Notwithstanding his immense labor, only a very small portion of the orchid plants he collected, studied and illustrated during his Costa Rican journey were published as new to the science.

He co-authored the description of 11 species with his main scientific correspondent, Heinrich Gustav Reichenbach. Another four species and one new variety, based on collections by Endrés, were described by Reichenbach while they corresponded between Costa Rica and Germany, and 20 species more after Endrés' death until 1886. After the relocation of Reichenbach's herbarium to the Hof Imperial Museum in Vienna (now the Naturhistorisches Museum), Friedrich Richard Rudolf Schlechter (1872–1925) and Friedrich (Fritz) Wilhelm Ludwig Kränzlin (1847–1934) studied the material collected by Endrés, and used it as the basis for the description of 3 and 41 new orchid species, respectively. Kränzlin, at least, removed material collected by Endrés from Reichenbach's herbarium which served as the type specimens for his new species. The largest part of this collection was lost when the Berlin/Dahlem Herbarium was bombed in 1943, but some of the specimens had been previously sold

¹ This chapter is largely based on the critical examination of the type orchid material collected by Endrés, published in the *Annalen* of the Natural History Museum of Vienna: Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. Typi Orchidacearum ab Augusto R. Endresio in Costa Rica lecti. *Ann. Naturhist. Mus. Wien*, B 112: 265-313, and Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2012. Additamenta ad typos Endresianos Orchidacearum Costaricae. *Ann. Naturhist. Mus. Wien*, B 113: 133–138.

² Ossenbach, C., F. Pupulin & R. Jenny. 2010. Orchid itineraries of Augustus R. Endrés in Central America: a biographic and geographic sketch. *Lankesteriana* 10(1): 19-47.

by Kränzlin to Oakes Ames in 1924; they are actually conserved in the Oakes Ames Orchid Herbarium, Harvard University Herbaria.

The following important contribution to Endrés' orchidology was the work of Carlyle A. Luer (1922–), who, between 1992 and 1999, published twenty species descriptions of Costa Rican Pleurothallidinae (mostly belonging to the genus *Lepanthes*) based on plants and drawings by Endrés in the Naturhistorisches Museum. If other minor contributions resulting from the study of Endrés' materials are taken in account³, the total number of orchids described as new to the science on the basis of Endrés' collections amounts to only 114 species (with two new genera) and two varieties. When compared to the substantial advances in the knowledge of Mesoamerican orchids made by Endrés, it is clear that his formal contribution to botany was much less than his commitment deserved. Endrés himself was aware of this, and a few months before his death he wrote bitterly to his friend, the Captain Dow:

“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”⁴.

The following pages include a complete catalogue of the orchid types based on collections by Endrés, associated with his illustrations and other materials from his gatherings.

³ See, for example, Nicholson, G. 1886. *The illustrated dictionary of gardening: a practical and scientific encyclopædia of horticulture for gardeners and botanists*. London, L.U. Gill; Veitch, J. 1890. *A Manual of Orchidaceous Plants Cultivated Under Glass in Great Britain, Vol. 1, part VI*. Royal Exotic Nursery, Chelsea, UK; Pupulin F. 2001. Contributions to a reassessment of Costa Rican Zygopetalinae (Orchidaceae). The genus *Kefersteinia* RCHB.f. – *Ann. Naturhist. Mus. Wien*, B, 103: 525–555; Hágsater, E. & E. Santiago. 2009. *Epidendrum pterocaulon*. Pl. 1279 in: Hágsater, E. & L. Sánchez Saldaña (eds.). *Species New and Old in Epidendrum, The Genus Epidendrum, Part 8*. Icones Orchidacearum (Mexico), Fascicle 12, plates 1201-1300; Pupulin F. & D. Bogarín. 2010. Illustration and studies in Neotropical Orchidaceae. The *Lepanthes jimenezii* group (Pleurothallidinae). *Harvard Pap. Bot.* 15 (1): 111–121.

⁴ Letter to Capt. J. M. Dow, dated 12 January 1874 Cornell University, Ithaca.

ORCHID TYPES BASED ON COLLECTIONS BY AUGUSTE R. ENDRÉS

Barkeria lindleyana* var. *centerae Rchb. f., Gard. Chron. 1873: 1597. 1873.

Syn. *Epidendrum lindleyanum* var. *centerae* H.J. Veitch, Man. Orchid. Pl. 6: 105. 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: W 0019041; isotype: W0019039.

Batemaniania burtii Endrés & Rchb.f., Gard. Chron. 1099. 1872.

Syn. *Huntleya burtii* (Endrés & Rchb.f.) Pfitzer (1889), *Zygopetalum burtii* (Endrés & Rchb.f.) Benth. & Hook.f. ex Hmesl. (1884); *Huntleya burtii* (Endrés & Rchb.f.) Rolfe (1916).

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, W 0019751 (with drawing of the flower and floral dissections), A. R. *Endrés s.n.*

Other Endrés’ material: flowers and description (W 0019752; sketch with two descriptions, A. R. *Endrés 100* (W 0019759); drawings of the flowers, dissections and descriptions, A. R. *Endrés 100* (W 0019758); drawings, A. R. *Endrés 100* (W 0019756); flowers, A. R. *Endrés s.n.* (W 0019754); drawing of a flower, A. R. *Endrés 109* (W 0019760); drawing and descriptions, A. R. *Endrés s.n.* (W 0019755); flowers, A. R. *Endrés s.n.* (W 0019753); sketch of the flower, A. R. *Endrés s.n.* (W 0019757).

Brassia chlorops Endrés & Rchb.f., Gard. Chron. 542. 1873.

Syn. *Ada chlorops* (Endrés & Rchb.f.) N.H.Williams.

Syntypes: “There are [...] five dry specimens of it in my herbarium, gathered in Costa Rica by Mr. Endres, the skilful lynx-eyed investigator and by Mr. Julian Carmiol. The fresh specimen come from Messrs. Veitch, who imported it likewise from Costa Rica”. LECTOTYPE, selected by Pupulin *et al.*⁵, «near *Mesospinidium* / Sept^t», A. R. *Endrés 243* (W 0019028). Isolectotypes: W 0019029, W 0019030, W 0019031, W 0019032, W *Rchb.Orch.* 2438.

Other Endrés’ material: Reichenbach’s manuscript description and drawing of material from Endrés (W 0018985); inflorescences with flowers, A. R. *Endrés s.n.* (W 0019035).

Chondrorhyncha endresii Schltr., Repert. Sp. Nov. Regni Veg. 17: 14. 1921.

Syn: *Chondroscaphe bicolor* (Rolfe) Dressler (the type, R. *Pfau s.n.*, K); *Chondroscaphe endresii* (Schltr.) Dressler.

TYPE: Costa Rica. “Ohne nähere Standortsangabe”, A. R. *Endrés 166*. Holotype, W0018830.

⁵ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

Other Endrés' material: drawings of the type and descriptions, *A. R. Endrés 166* (W 0018831); drawings of the flower and details, *A. R. Endrés 166* (W 0018833); description, *A. R. Endrés 166* (W 0018832).

Chondrorhyncha reichenbachiana Schltr., *Repert. Spec. Nov. Regni Veg.* 17: 15. 1921.

TYPE: Costa Rica. "Cataratas, blühend Marz-August", *A. R. Endrés 557*. Holotype, W 0018829.

Other Endrés' material: drawings of the type and descriptions, *A. R. Endrés 557* (W0018826); dissected flower, *A. R. Endrés 659* (W 0018823); flowers, *A. R. Endrés s.n.* (W-0018827).

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 (FIG. 139).

Cryptarrhena quadricornu Kraenzl., *Pflanzenr.* IV. 50(Heft 80): 314. 1922.

Syn: *Cryptarrhena guatemalensis* Schltr.

TYPE: "Costa Rica. schwule, niedrig gelegene Gegenden an der atlantischen Seite", *A. R. Endrés s.n.* [N° 658 of gen. coll. Orch.]. Holotype, W 0018849, with Endrés' description and Kränzlin's drawing of the flower.

Cryptophoranthus acaulis Kraenzl., *Repert. Spec. Nov. Regni Veg. Beih. Beih.* 34: 232. 1925.

TYPE: Costa Rica. "Mina Iglesias: Río Barranca", *A. R. Endrés 62* [Holotype, W 0021288 (1/2, with Endrés' sketch); W 0021289 (2/2, with Endrés' sketch and description)].

The name is a synonym of *Specklinia tribuloides* (Sw.) Pridgeon & M.W.Chase (bas. *Epidendrum tribuloides* Sw.; *Cryptophoranthus tribuloides* (Sw.) H. Dietr., *Cymbidium tribuloides* (Sw.) Spreng., *Dendrobium tribuloides* (Sw.) Sw., *Humboldtia tribuloides* (Sw.) Kuntze, *Tribulago tribuloides* (Sw.) Luer.

Cryptophoranthus endresianus Kraenzl., *Repert. Spec. Nov. Regni Veg.* 17: 437. 1921.

Syn: *Zootrophion endresianum* (Kraenzl.) Luer

TYPE: Costa Rica. "Ohne genaueren Standort", 1867, *A. R. Endrés s.n.* Holotype, annotated by Kränzlin, with Endrés' description and drawings and Reichenbach's sketches, W 0018865. Isotype: W 0018864.

Other Endrés' material: Costa Rica. «San Ramón, camino a San Carlos», descriptions and drawing of plant and flower, *A. R. Endrés s.n.* (W 0018863); coloured drawings of plant and flower, *A. R. Endrés s.n.* (W 0018866, W 0018867); without locality, *A. R. Endrés s.n.* (W 29950; W39082).

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.

Other Endrés' material: Costa Rica. «San Ramón», drawings of the type and descriptions, A. R. Endrés 28 (W 0019084).

Dichaea dammeriana Kraenzl, Engler Pflanzenr., IV, 50(83): 41. 1923.

Syntypes: “Subäquatoriale andine Provinz. Sierra Nevada de Sta. Marta, H. Smith 2773 (AMES, US, NY); Costa Rica. A. R. Endrés 66” (AMES, W). LECTOTYPE, designated by Pupulin⁶: AMES-26090; Isolectotypes, W 0019086 (with Endrés' and Reichenbach's drawings), W 0019087; W 0019090; W 0019089; W 0019088.

Other Endrés' material: Costa Rica. «San Ramon», drawings and descriptions of the syntype, A. R. Endrés 66 (W 0019085); drawing of the syntype (W 0019092).

Dichaea diandra Rchb.f., Bot. Zeit. 35: 41. 1877.

TYPE: “Costa Rica. Endrés”, A. R. Endrés s.n. Holotype: 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. However, while in the protologue Reichenbach first assigns the species to a group with muricate fruits, he later describes the ovary as glabrous. The column of *D. diandra*, with two lateral anthers, 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 taxa⁷.

Dichaea glabrescens Kraenzl., Pflanzenr. 4(50): 41. 1923.

Syn: *Dichaea tuerckheimii* Schltr.

TYPE: “Subäquatoriale andine Provinz. Costa Rica, [1867], A. R. Endrés 118. Holotype, W 019150. Isotype, W 019146.

Other Endrés' material: drawings of the type, A. R. Endrés 118 (W0019160); «Potrerillos», description («*Dichaea heteromorpha*»), A. R. Endrés 118 (W0019160); drawings, A. R. Endrés 12 (W 0021667); plants, A. R. Endrés s.n. (W0019145; W 0019147; W 0019148; W 0019149; W 0019151; W 0019152).

According to a manuscript annotation by Kränzlin on the type sheet, he changed the name from *glabrescens* to *selaginella*, because Schlechter had already used this name in 1920 for a species from Colombia (synonymous with *Dichaea hystricina*).

Endresiella zahlbruckneriana Schltr., Repert. Spec. Nov. Regni Veg. 17: 14. 1921.

Syn: *Trevoria zahlbruckneriana* (Schltr.) Garay.

TYPE: “Costa Rica. an der Strasse von San Ramon nach San Carlos, Legua. Blühend im September”, A. R. Endrés 512. Holotype, W 0019449.

⁶ Pupulin, F. 2007. Contributions toward a reassessment of Costa Rican Zygopetalinae (Orchidaceae). 3. A systematic revision of *Dichaea* in Costa Rica. *Harvard Papers in Botany* 12 (1): 15–153.

⁷ Pupulin, F. 2010. Flora Costaricensis. Family #39 Orchidaceae: Tribe Cymbidieae: Subtribe Zygopetalinae. *Fieldiana, Botany* n.s. 49: 1–60.

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 (FIG. 140).

Epidendrum endresii Rchb.f., Gard. Chron., n.s., 19: 432. 1883.

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. 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. Now, Mr. F. Sander sends me a fresh inflorescence and twigs. LECTOTYPE, designated by Santiago & Hágsater⁸ (Icon. Orchid. 9: t. 931. 2007): Costa Rica. *F.C. Lehmann 177, W- Rchb.Orch.* 50033 / NMW 0019967.

Other Endrés’ material: Costa Rica, «Heights S.th of Cartago / Tablazo», drawing of the flower and dissections, *A. R. Endrés 502* (W 0024422, W 0024422); plants, *A. R. Endrés 502* (W 0023883, W 0023885); plant and description, *A. R. Endrés 502* (W0019970); drawing of the flower and floral dissections, *A. R. Endrés “108”* (W0024490); «Tablazo of Cartago, Coralillo», *A. R. Endrés s.n.* (W 1889-31372); without locality, *A. R. Endrés s.n.* (W 0019971); «Tablazo / Fila de Atarrazú», *A. R. Endrés s.n.* (W 0019969).

Epidendrum ionocentrum Rchb.f., Gard. Chron., n.s., 20: 8. 1883.

Syn: *Prosthechea ionocentra* (Rchb.f.) W.E.Higgins, *Epidendrum prismatocarpum* var. *ionocentrum* (Rchb.f.) Teusch., *Hormidium ionocentrum* (Rchb.f.) Brieger, *Encyclia ionocentra* (Rchb.f.) Mora-Ret. & J.García, *Pseudencyclia ionocentra* (Rchb.f.) V.P.Castro & Chiron, *Panarica ionocentra* (Rchb.f.) Withner & P.A.Harding, *Encyclia prismatocarpa* var. *ionocentra* (Rchb.f.) M.Wolff & O.Gruss

Syntypes: Costa Rica. “This curious and rare species was found by Messrs. Endres and Pfau. LECTOTYPE, selected by Pupulin *et al.*⁹: Costa Rica. Cartago: «Sitio de don / Eusebio Ortiz / Birris», plant with flowers, *A. R. Endrés s.n.* (W 0024579); Isolectotypes: «Sitio Ortiz / Birris», inflorescence and flowers, *A. R. Endrés s.n.* (W 0024551, W 0024552, W 0024419); «Sitio Ortiz / etc.», *A. R. Endrés s.n.* (W 0024415); «Sitio de don / Eusebio Ortiz / Birris», *A. R. Endrés s.n.* (W 0024426); «Sitio Ortiz», *A. R. Endrés s.n.* (W 0024429).

Other Endrés’ material: flower and Reichenbach’s sketch of the lip and the column, *A. R. Endrés s.n.* (W 0020200); Costa Rica. San José: Dota, «around Sta. Maria [...] *Epidendrum ionocentrum* / Endr. Rchb.f.», flower and description, *A. R. Endrés s.n.* (W 0020202); Alajuela: San Ramón, «Colorado near Naranjo. id. Birris», description and sketch of the lip, *A. R. Endrés s.n.* (W 0024580). Without locality, *A. R. Endrés s.n.* (W-0020201).

The name, *Epidendrum ionocentrum*, was ostensibly suggested by Endrés (annotation on *W-Rchb.Orch.* 14530), who proposed himself as a co-author of the species. His name, however, was not included in the published description.

⁸ Hágsater, E. & E. Santiago. 2009. *Epidendrum pterocaulon*. Pl. 931 in: Hágsater, E. & L. Sánchez Saldaña (eds.). *Species New and Old in Epidendrum, The Genus Epidendrum, Part 6*. Icones Orchidacearum (Mexico), Fascicle 19, plates 901-1000.

⁹ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

Epidendrum phyllocharis Rchb. f., *Xenia Orchid.* 3: 11-12, t. 208, f. 1-5. 1900 [1878].

TYPE: Costa Rica. "Diese in ihrer Art durch die prächtigen starren tief gefärbten 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 0027533.

Epidendrum pterocaulon Hágsater & E.Santiago, *Icon. Orchid.* 12: sub pl. 1279. 2009.

TYPE: Costa Rica. "San Cristóbal, April", A.R. *Endrés s.n.* Holotype, W 0024578. FIG. 141A.

Kefersteinia endresii Pupulin, *Ann. Naturhist. Mus. Wien*, 103B: 543. 2001.

TYPE: Costa Rica. Without definite locality, A. R. *Endrés s.n.* HOLOTYPE, W 0027536. FIG. 141B.

Lepanthes atrata Endrés ex Luer, *Lindleyana* 10: 135. 1995.

TYPE: Costa Rica. Without locality, ca. 1867, A. R. *Endrés* 18. HOLOTYPE, W-Rchb.Orch 1889-0041458.

Other Endrés' material: coloured drawing of the flower, A. R. *Endrés* 18 (W 0019703); drawings of the plant and flower with description, A. R. *Endrés* 18 (W 0019704); pencil plate, A. R. *Endrés* 18 (W 0019705); 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).

Lepanthes candida Endrés ex Luer, *Lindleyana* 10: 138. 1995.

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

Endrés' material: Costa Rica. Alajuela: San Ramón, Portillo Prenzaz[?], drawings of the flower and floral details, with descriptions, A. R. *Endrés* N° 33 *Gen. coll.* (W 0019679); descriptions, drawings and floral analysis, A. R. *Endrés* 33 (W0019677, W 0019684, W 0019683, W 0019683). Without collection data, drawings of plant and flowers, A. R. *Endrés* 657 *Gen. coll. Orch.* (W 0019678); Costa Rica. Without locality, coloured drawing of the flower, A. R. *Endrés s.n.* (W 0019676); drawing of the flowered plant, A. R. *Endrés s.n.* (W 0019682); pencil plate, A. R. *Endrés s.n.* (W 0019680); pencil drawing of a flower, A. R. *Endrés s.n.* (W 0019681). Without locality, colored drawing of the flower of «*Lepanthes müllneriana*», A. R. *Endrés s.n.* (W 0019675). 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).

Lepanthes caroli-lueri Bogarín & Pupulin, *Harvard Pap. Bot.* 15(1): 116. 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: Costa Rica. Without collecting data: A. R. *Endrés s.n.* (W 1889-29901); Endrés drawings, A. R. *Endrés* 62 (W0019016); Endrés drawings and floral dissections, A.R. *Endrés* 604 (W0019017, W0019018, W0019015).

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

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

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.

Lepanthes dotae Endrés ex Luer, *Lindleyana* 10(3): 143. 1995.

TYPE: Costa Rica. San José: “Dota, rainy season, Sept.-Nov.,” A. R. *Endrés s.n.* [*Lepanthes* N° 56], sketch 253. Holotype, W 0019635.

Other Endrés’ material: drawings of the flower and floral dissections, A. R. *Endrés s.n.* (W 0019632); coloured drawing of the flower, A. R. *Endrés s.n.* (W0019633); «*Lepanthes*, see sk. 253», A. R. *Endrés s.n.* (W0019634).

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.* Holotype, W 1889-29930. Paratype: Costa Rica. A. R. *Endrés s.n.* (W 1889-142084).

Other Endrés’ material: drawings of the flower and floral dissections, A. R. *Endrés s.n.* (W 0019615); coloured drawing of the flower, A. R. *Endrés s.n.* (W 0019614).

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.

Other Endrés’ material: coloured drawing of the flower, A. R. *Endrés* 509 (W 0019608); sketches of the plant, inflorescence, the flower and flower details, A. R. *Endrés* 509 (W 0019609, W 0019610); plants, A. R. *Endrés* 509 (W 1889-29962, W 1889-29970; W 1889-29895; W 1889-142252); Costa Rica. «La Paz, etc.», A. R. *Endrés s.n.* (W 1889-30718).

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.

Other Endrés’ material: drawing of the flower, A. R. *Endrés s.n.* (W 0019394).

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.

Other *Endrés*' material: Costa Rica. “P. of Cartago”, A. R. *Endrés s.n.* (W 1889-24866, specimen on the right).

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

TYPE: Costa Rica. Without locality, ca. 1867, A. R. *Endrés s.n.* Holotype, W 0019390.

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

TYPE: Costa Rica. Without locality, ca. 1867, A. R. *Endrés s.n.* Holotype, W 0019389.

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

TYPE: Costa Rica. Puntarenas: Monteverde, epiphytic in tree in a pasture, 1500 m, 21 March 1995, C. Luer, J. Luer, J. Atwood, W. Rhodehamel, G. Campbell & G. Barbosa 17447. Holotype, MO. Paratype: Costa Rica. Cartago: “heights back of Carpintaria”, ca. 1867, A. R. *Endrés s.n.* [24, according to the protologue] (W 1889-29961). FIG. 141C.

Other *Endrés*' material: coloured drawing of the flower and floral details, «*Lepanthes gracillima*», A.R. *Endrés s.n.* (W 0019386); drawings of the plant and two flowers, A. R. *Endrés s.n.* (W 0019387); drawings of the plant, flower, and floral dissections, A. R. *Endrés s.n.* (W 0019388).

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. Paratype: Costa Rica, Without locality, ca. 1867, A. R. *Endrés s.n.*, W 0019374. FIG. 141D.

Other *Endrés*' material: coloured drawing of the flower, «*Lepanthes guardiana*», A.R. *Endrés s.n.* (W 0019376); drawings of the flower, floral dissections and description, A. R. *Endrés s.n.* (W 0019375).

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.

Lepanthes limbellata *Endrés ex Luer*, *Lindleyana* 10(3): 159. 1995.

TYPE: Costa Rica. Without locality, ca. 1867, A. R. *Endrés s.n.* Holotype, W 1889-0041431.

Other *Endrés*' material: drawings of the plant and flower, «*Lepanthes limbellata*», A. R. *Endrés s.n.* (W 0019345); drawings of the plant and flower, A. R. *Endrés s.n.* (W 0019344, W 0019346).

Lepanthes minutissima *Endrés ex Luer*, *Lindleyana* 10(3): 159. 1995.

TYPE: Costa Rica. Without locality, ca. 1867, «*Effusa*», A. R. *Endrés s.n.* Holotype, W 1889-0087090.

Other Endrés' material: drawings of the plant and flower, with descriptions, *A. R. Endrés s.n.* (W 0019339); drawings of the plant and flower, and coloured drawings of the flower, *A. R. Endrés s.n.* (W 0019338); coloured drawing of the flower, «*Lepanthes microscopica*», *A. R. Endrés s.n.* (W 0019337).

Lepanthes orbella Luer, *Lindleyana* 11: 64. 1996.

TYPE: Costa Rica. Without locality, ca. 1867, *A. R. Endrés s.n.* Holotype, Endrés drawing of the plant, flower and floral dissections, W 0019334.

Other Endrés' material: sketch of the flower, *A. R. Endrés s.n.* (W0019333); sketches of the plant, flower and floral dissections, *A. R. Endrés s.n.* (W 0019332).

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

TYPE: Costa Rica. Without locality, ca. 1867, *A. R. Endrés s.n.* Holotype, W 1889-0142082.

Other Endrés' material: Costa Rica. Without locality, *A. R. Endrés s.n.* (W 0030669).

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

TYPE: Costa Rica. Heredia: «Volcán Poás, front crest», ca. 1867, *A. R. Endrés s.n.* Holotype, Endrés' drawings of the plant and flower, with description, W 0019331.

Other Endrés' material: Costa Rica. *A. R. Endrés s.n.* (W 0019330); drawing of the plant, flower and floral dissections, *A. R. Endrés s.n.* (W 0019328); «Volc. Poás, on the crest of front ridge – June / Volc. Barba, Desengaño, Sept.», *A. R. Endrés s.n.* (W 1889-0046786); drawing of the flower, *A. R. Endrés s.n.* (W 0019328).

Lepanthes pulcherrima Endrés ex Bogarín & Pupulin, *Harvard Pap. Bot.* 15(1): 118. 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 tress along coffee plantations, *F. Pupulin* 7159, *E. Salas-Pupulin & Jesús Salas*, 14 September 2008. Holotype, JBL-spirit. Paratypes: Costa Rica. Endrés' drawings, «South West of San Ramón, rainy season, *A. R. Endrés* 273 (W 0019021, W 0019020, W 0019019); Endrés' description, *A. R. Endrés* 273 (W-Rchb-Orch 38643). Without collecting data, *A. R. Endrés s.n.* (W 1889-41417).

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

TYPE: Costa Rica. Alajuela: «La Paz San Ramón», ca. 1867, *A. R. Endrés s.n.* HOLOTYPE, Endrés' drawings of the plant and flower, with description [«see fig. p. 54»], W-Rchb.Orch. 1889-0030740. PARATYPE, Costa Rica. Without locality, *A. R. Endrés s.n.* (W-Rchb.Orch. 1889-0087076).

Other Endrés' material: Costa Rica. Without locality, *A. R. Endrés s.n.* (W0041418).

Lepanthes reflexa Luer & Hermans, *Lindleyana* 10(3): 167. 1995.

TYPE: Costa Rica. Cartago: Cerro de la Muerte, 2750 m, flowered in cultivation, 22 March 1994, *J. Hermans & C. Hermans* 2746. Holotype, MO. Isotype, K. Paratype, Costa Rica.



Chondrorhyncha lamellata Rehb. fil

Figure 139. Unpublished drawing of “*Chondrorhyncha lamellata*”, intended for Reichenbach’s *Xenia Orchidacea*, based on a drawing by Endrés. Naturhistorisches Museum, Wien.



Figure 140. Drawing of the type of *Endresiella zahlbruckneriana*, traced on the original sketch by R. Schlechter (AMES 99111).

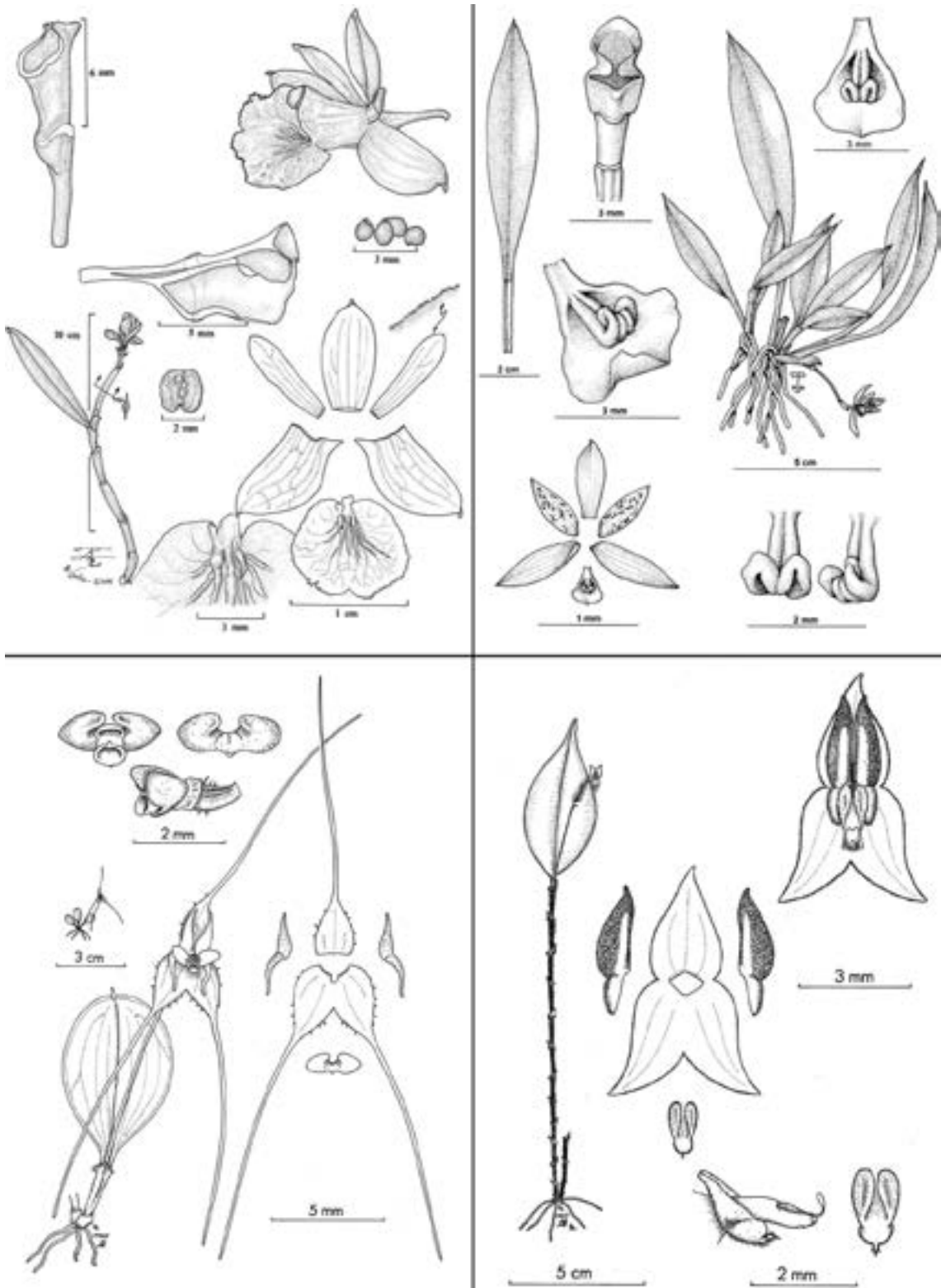


Figure 141. A — *Epidendrum pterocaulon*. Courtesy of the AMO Herbarium. B — *Kefersteinia endresii*. Courtesy of the Natural History Museum, Wien. C — *Lepanthes gracillima*. D — *Lepanthes guardiana* (C, D, Courtesy of the American Orchid Society).

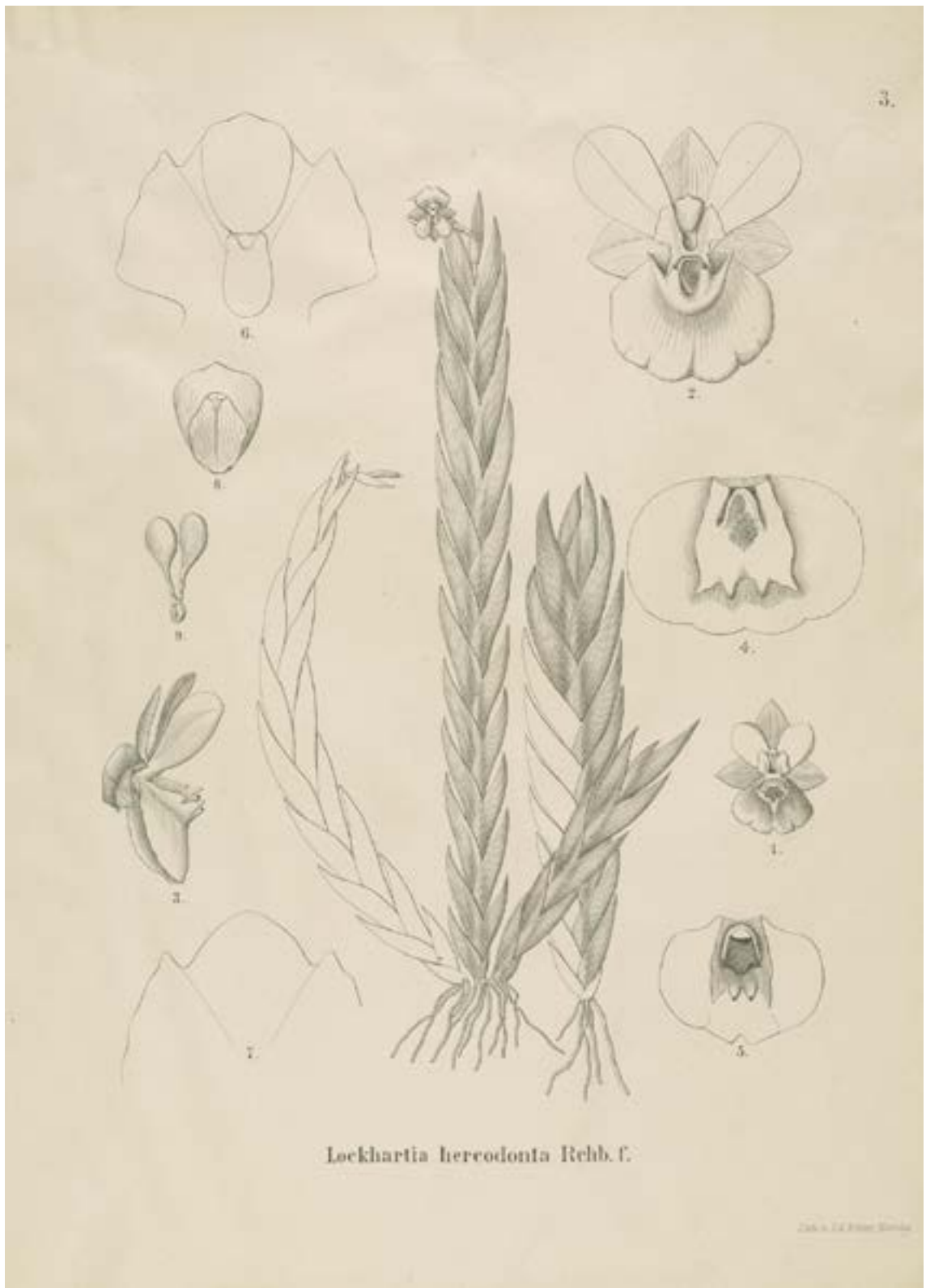


Figure 142. Unpublished drawing of *Lockhartia hercodonta*, intended for Reichenbach's *Xenia Orchidacea*, based on a drawing by Endrés. Natural History Museum, Wien.

Cartago: «South of Cartago, beyond the lime kilns of Doña Ana Clara Mayorga, rainy season», ca. 1867, *A. R. Endrés s.n.* (not located).

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, Endrés' drawings of the plant and flower, W 0019321.

Other Endrés' material: coloured drawing of the flower, «Nº. 638 gen. coll. Orch., *Lepanthes* N.º 49 / *Lepanthes Selliana* Endr.» (W 0019319); drawing of the plant and flower, «89» (W 0019320).

Lepanthes similis Luer, *Lindleyana* 11: 64. 1996.

TYPE: Costa Rica. Without locality, ca. 1867, *A. R. Endrés s.n.* Holotype, Endrés' drawing of the plant, flower and floral dissections, *W-Rchb.Orch* 1889-30678.

Other Endrés' material: Costa Rica. Without locality, *A. R. Endrés s.n.* (W 0019333); without locality, *A. R. Endrés s.n.* (W 1889-29965, W 1889-30674).

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

TYPE: Costa Rica. Without locality, *A. R. Endrés s.n.*, figure 67. Holotype, Endrés' drawings of the plant, flower and floral dissections, W 0019300.

Other Endrés' material: drawings of the plant, flower and floral dissections (W 0019417, W 0019415); drawings of the flower, «*Lepanthes* N.º. 3» (W 0019414); drawing of the flower and floral dissections, «67» (W 0019416).

Lockhartia amoena Endrés & Rchb.f., *Gard. Chron.* 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, W0010806; isotype, AMES 26060 (barcode 2554947).

Other Endrés' material: Reichenbach's drawing of the type, based on *A. R. Endrés* 2527 (W 0010807); Costa Rica. Without locality, *A. R. Endrés s.n.* (W 0019586, W 0019587, W 0019588, W 0019589), W 0019588, W 0019585, W 0019590, W 0019584).

Lockhartia grandibractea Kraenzl., *Pflanzenr.* IV. 50(Heft 83): 15. 1923.

TYPE: Costa Rica. "Subäquatoriale andine Provinz. Costa Rica", *A. R. Endrés s.n.* (the holotype, not located).

Other Endrés' material: drawings of the column, pollinarium and anther, *A. R. Endrés s.n.* (W 0019581); «Cartago», description, *A. R. Endrés s.n.* (W 0019580).

Lockhartia hercodonta Rchb.f. ex Kraenzl., *Pflanzenr.* IV. 50(Heft 83): 8, t. 2A. 1923.

TYPE: Costa Rica. "Subäquatoriale andine Provinz. Costa Rica", *A. R. Endrés s.n.* [Orch. N.º 167]. Holotype, with Reichenbach's sketch of the type and the note «n. sp.», W 0010813; Isotypes, W 0010815, W 0010816, W 0010817, W 0010814. FIG. 142.

Other Endrés' material: drawing of the rostellum and pollinarium, based on *A. R. Endrés s.n.* [(W 0019575); drawings of the flower and floral dissections, *A. R. Endrés s.n.* (W 0019576); drawings of the plant, flower and lip, *A. R. Endrés s.n.* (W 0019577); definitive drawing and engraved copy of the drawing intended for *Xenia Orchidacea*, *A. R. Endrés s.n.* (W 0019579); plate intended for *Xenia Orchidacea*, with Reichenbach's note «hercodonta», *A. R. Endrés s.n.* (W 0019578).

Lockhartia odontochila Kraenzl., Pflanzenr. IV. 50(Heft 83): 17. 1923.

TYPE: Costa Rica. "Subäquatoriale andine Provinz. Costa Rica", *A. R. Endrés s.n.* Holotype, annotated by Kränzlin, 1917, W 1889-58236.

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 Warscewicz. 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, annotated by Reichenbach, flowers with Endrés drawings of the flower and descriptions, 1868, *A. R. Endrés s.n.* (W 0019555). Isotypes: W 0019552, W 0019551). FIG. 143.

Other Endrés' material: drawings and descriptions, *A. R. Endrés s.n.* [N° 89 of gen. coll. Orch.] (W-Rchb.Orch. 35945 / NMW 0019554); preparatory drawings intended for *Xenia Orchidacea*, based on Endrés' drawings (W 0019556).

Masdevallia anaristella Kraenzl., Repert. Spec. Nov. Regni Veg. 17(19-30): 417-418. 1921.

Syn.: *Barbosella dolichorhiza* Schltr.

TYPE: "Costa Rica. Ohne genaueren Standort", 1867, *A. R. Endrés s.n.* Holotype, W 1889-37485. Isotypes, W 1889-37486, W 1889-37480, AMES 41297.

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.º 21 gen. coll. Orch. / «Masdevallia mucronata»]. Holotype, W 0019518.

Masdevallia aperta Kraenzl., Repert. Spec. Nov. Regni Veg. 17(19-30): 430-431. 1921.

TYPE: "Costa Rica. Am Río Pascita grande" [«Rio Paquita, above the S. Marcos Bridge / Nov.ber – Dec.ber»], *A. R. Endrés s.n.* Holotype, W 1889-30752. Isotypes, W 1889-87087, HBG¹⁰, AMES 41994 (with Kränzlin's drawing). FIG. 144.

Other Endrés' material: drawings of the flowered plant and floral details, *A. R. Endrés s.n.* (W 0021291); «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.* (W0021290).

¹⁰ A. C. Christenson [Significant collections of Orchidaceae conserved in Herbarium Hamburgense (HBG). *Brittonia* 46(4): 344-354. 1994] considers this specimen as the holotype.

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 Rio Parrita / Dota», A. R. *Endrés s.n.* Holotype, W 0020185.

Masdevallia funebris Endrés ex Kraenzl., Repert. Spec. Nov. Regni Veg. 17: 435. 1921.

Syn.: *Masdevallia reichenbachiana* Endrés ex Rchb.f.

TYPE: “Costa Rica. Ohne genaueren Standort” [«Tablazo. i.s. heights / S.th of Cartago»], A. R. *Endrés 501*. Holotype, W 0019495, three plants on the left. Isotype, W 1889-0142279.

Other Endrés’ material: Costa Rica. «Birrís», A. R. *Endrés 501* (W 0019494); «*Masdevallia funebris* / (probably just a variety of *M. Reichenbachiana*)», flowers, A. R. *Endrés s.n.* (W 1889-0046840; W 1889-0046843); drawing of the flower, floral dissection and description, A. R. *Endrés s.n.* (W 1889-0046840).

Masdevallia gorgo Rchb.f. ex Kraenzl., Repert. Spec. Nov. Regni Veg. Beih. 34: 136. 1925. FIG. 145.

TYPE: “Costa Rica: Cartago pr. San Ramon. Fl. Julio et Augusto”, A. R. *Endrés 134* [N.º 137 gen. coll. Orch.]. Holotype, W0019178.

Other Endrés’ material: Costa Rica. A. R. *Endrés s.n.* (W 0019424); pencil plate of the plant, flower, and floral details, A. R. *Endrés s.n.* (W 0019184); sketches of flower and floral analysis, with description, A. R. *Endrés s.n.* (W 0019183).

Masdevallia gracilenta Rchb.f., Gard. Chron., n.s., 4: 98. 1875.

Syn.: *Cryptophoranthus gracilentus* (Rchb.f.) Rolfe; *Zootrophion gracilentum* (Rchb.f.) Luer.

SYNTYPES: “Costa Rica. Flowered in the collection of Messrs. Veitch, as well as in Hamburg Botanic Garden”. LECTOTYPE, selected by Pupulin *et al.*¹¹: Costa Rica, 1867, with Endrés’ drawing of the flowered plant and Reichenbach’s analysis of the flower A. R. *Endrés 73* (W 0018863).

Other Endrés’ material: drawings of the flowered plant and floral dissections, with description, «San Ramon. Camino a S. Carlos. July», A. R. *Endrés No. 73 of Gen. Coll.* (W 021097). Description, «San R[amón]. Camino a S. Carlos. Potrero Blis & Legua. July», A. R. *Endrés No. 73 of Gen. Coll.* (W 021331). Drawing of the flower and floral dissections, A. R. *Endrés No. 73* (W 021330). Description and drawings, «San R[amón]. Camino a S. Carlos. San Francisco», A. R. *Endrés No. 563 of Gen. Coll.* (W 0021099).

Masdevallia molossoides Kraenzl., Repert. Spec. Nov. Regni Veg. 17: 416. 1921.

TYPE: “Costa Rica. Ohne genauen Standort in 1200 m ü. D. M.”, «rarissima!, 3500»», 1867, A. R. *Endrés s.n.* [Orch. N.º 21]. Holotype, with Endrés’ drawing of the flowered plant and Reichenbach’s analysis of the flower, W 0019504. Isotype, W 0019503.

Other Endrés’ material: drawings of the flower and floral dissections, A. R. *Endrés s.n.* (W 0019501; W 0019500). «Queb.da Verde / March» A. R. *Endrés s.n.* (W 1889-46750).

¹¹ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2012. *Op. cit.*

Masdevallia pygmaea Kraenzl., Repert. Spec. Nov. Regni Veg. Beih. 34: 92. 1925.

Syn: *Diodonopsis pygmaea* (Kraenzl.) Pridgeon & M.W. Chase.

TYPE: “Costa Rica”, A.R. Endrés 289 (not located). LECTOTYPE, selected by Pupulin *et al.*¹²: Costa Rica, without specific locality, Endrés’ drawings of plant, flowers and floral dissections, A.R. Endrés s.n. «N.º 289 / 64» (W 0019476).

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, W0019495, plant on the upper right.

Masdevallia superflua Kraenzl., Repert. Spec. Nov. Regni Veg. 17: 414. 1921.

Syn: *Masdevallia striatella* Rchb.f.

TYPE: “Costa Rica. Ohne genauen Standort”, A. R. Endrés s.n. Holotype, W 1889-76668. The name is a synonym of *Masdevallia striatella* Rchb.f. Luer.

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, with Endrés’ drawings of the flowered plant and floral analysis, and Reichenbach’s sketch of the flower, W 0019499.

Other Endrés’ material: drawings of plant, flowers and floral dissections, with description, A. R. Endrés s.n. (W 0019498); pencil plate of flowered plant and floral analysis, A. R. Endrés s.n. (W 0019497).

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

Syn.: *Trisetella triaristella* (Rchb.f.) Luer.

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 (plant, Endrés’ drawing of the plant and flower, description).

Other Endrés’ material: drawings of the plant, flower, and floral dissections A. R. Endrés s.n. (W 0021328, W 0021124); plant, A. R. Endrés s.n. (W 0142223); «potrero de Guayabo beyond Turrialba», flowers, A. R. Endrés s.n. (W 1889-0046717); descriptions («San Ramon, Camino de San Carlos / Cataratas / La Paz»), A. R. Endrés s.n. (W 0021329).

Maxillaria caespitifica Rchb.f., Linnaea 41: 73. 1877[1876].

Syn.: *Maxillariella caespitifica* (Rchb.f.) M.A.Blanco & Carnevali.

TYPE: “Costa Rica. Endres! (Viva in horto Hamburgensi)”, A. R. Endrés s.n. Holotype, with Reichenbach’s description and drawings, W 0018755.

¹² Pupulin, F., C. Ossensbach, R. Jenny & E. Vitek. 2011. *Op. cit.*



Figure 143. Preparatory sketch of *Lycaste dowiana*, intended for Reichenbach's *Xenia Orchidacea*, based on a drawing by Endrés. Natural History Museum, Wien.



Figure 144. Drawing of the type specimen of *Masdevallia aperta*, made by F. Kränzlin on a specimen by Endrés (AMES 41994). Courtesy of the Harvard University Herbaria.



Figure 145. Endrés' sketch of the plant selected by Kränzlin as the type of *Masdevallia gorgo*. Natural History Museum, Wien.



Figure 146. Endrés' sketch of the type plant of *Maxillaria reichenheimiana* (W 0018735). Natural History Museum, Wien.

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 W0027463.

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' material: Costa Rica. Without specific locality, *A. R. Endrés 266* (W0018742; W0018618; W0010838).

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 (specimen with Endrés' drawings of the plant, flower, and flower details), W0018736; W0018737, W 0018738, W 0018739, W 0019187. FIG. 146.

Other Endrés' material: Costa Rica. Without locality, *A. R. Endrés s.n.* (W 0018734), *A. R. Endrés s.n.* (W 1889-0142223).

Miltonia endresii G. Nicholson, Ill. Dict. Gard. 2: 368. 1886.

Syn: *Odontoglossum warszewiczii* Rchb.f. 1852; *Miltoniopsis warszewiczii* (Rchb.f.) Garay & Dunst.

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, selected by Pupulin *et al.*¹³: Costa Rica. Without specific locality, *A. R. Endrés s.n.* (W 0019871).

Other Endrés' material: Costa Rica. Without specific locality, drawings of the column and lip, and pollinarium, *A. R. Endrés s.n.* (W 0019909); *A. R. Endrés s.n.* (W 0019868; W 0019870); partially coloured drawing of the plant with flowers, «*Odontoglossum?* sp. nov.», 5000 ft., 1869, *A. R. Endrés s.n.* (W 0019869).

Oncidium angustisepalum Kraenzl., Pflanzenr. IV. 50(Heft 80): 203, f. 18D. 1922.

TYPE: "Subäquatoriale andine Provinz. Costa Rica", *A. R. Endrés s.n.* Holotype, W 0019960.

Oncidium asparagoides Kraenzl., Pflanzenr. IV. 50(Heft 80): 175. 1922.

Syn: *Oncidium bryolophotum* Rchb.f.

¹³ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

TYPE: “Subäquatoriale andine Provinz. Costa Rica: ohne genaueren Standort”, 1867, A. R. Endrés 127. Holotype, W 0019895. Isotypes, W 0019923, W 0019922, HBG¹⁴.

Oncidium calyptostalix Kraenzl., Pflanzenr. IV. 50(Heft 50): 260. 1922.

Syn: *Oncidium obryzatooides* Kraenzl.

TYPE: “Subäquatoriale andine Provinz. Costa Rica”, A. R. Endrés s.n. Holotype, W 0019940.

Oncidium castaneum Rchb.f. ex Kraenzl., Pflanzenr. IV. 50(Heft 80): 278. 1922.

Syn: *Oncidium dichromaticum* Rchb.f.

SYNTYPES: “Subäquatoriale andine Provinz. Costa Rica”, A. R. Endrés s.n.; “Subäquatoriale andine Provinz. Chiriqui”, R. Pfau s.n. LECTOTYPE, selected by Pupulin *et al.*¹⁵: Costa Rica. Without specific locality, 1867, A. R. Endrés s.n. (W 0019929).

Other Endrés' material: Costa Rica. Without specific locality, A. R. Endrés s.n. (W0019925, W-Rchb. Orch 0019926, W 0019927, W 0019928).

Oncidium cheirophoroides Kraenzl., Pflanzenr. IV. 50(Heft 80): 199, t. 1922.

Syn: *Oncidium luteum* Rolfe.

TYPE: “Subäquatoriale andine Provinz. Costa Rica”, A. R. Endrés 127. Holotype, W 0019924. Isotype, HBG¹⁶.

Oncidium chelidonizon Kraenzl., Pflanzenr. IV. 50(Heft 50): 217. 1922.

Syn: *Cyrtochiloides ochmatochila* (Rchb.f.) N.H. Williams & M.W. Chase.

TYPE: “Zentralamerikanische Provinz. Costa Rica: San Ramon längst des Rio Grande”, A. R. Endrés s.n. Holotype, W 0019933.

Other Endrés' material: drawing of the flower and floral dissections, with description, A. R. Endrés s.n. (W 0019889); drawing of flower, floral dissection, and description, «San Ramon, along Rio Grande» A. R. Endrés s.n. (W 0019934).

Oncidium dielsianum Kraenzl., Pflanzenr. IV. 50(Heft 80): 197, t. 198F. 1922.

Syn: *Oncidium cheirophorum* Rchb.f.

SYNTYPES: “Subäquatoriale andine Provinz. Costa Rica”, A. R. Endrés s.n.; “Subäquatoriale andine Provinz. Costa Rica”, J. Carmiol s.n. LECTOTYPE, selected by Pupulin *et al.*¹⁷: sheet annotated by Kränzlin as “Typus”, Costa Rica. A.R. Endrés s.n., W 0020048. Isolectotypes: W 0020049, W 0020047, HBG¹⁸.

Other Endrés' material: Costa Rica. Without locality, 1868, A. R. Endrés s.n. (W 0020046).

¹⁴ A. C. Christenson (*op. cit.*, 1994) considers this specimen as the holotype.

¹⁵ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

¹⁶ A. C. Christenson (*op. cit.*, 1994) considers this specimen as the holotype.

¹⁷ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

¹⁸ A. C. Christenson (*op. cit.*, 1994) considers this specimen as the holotype.

Oncidium globuliferum var. ***costaricense*** Rchb.f., Gard. Chron. 1871: 1678. 1871.

Syn: *Otoglossum globuliferum* (Kunth) N.H.Williams & M.W. Chase.

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, designated by Pupulin *et al.*¹⁹: Costa Rica. «All around San Ramón, January-February, *Oncidium scandens*», *A.R. Endrés s.n.* (W 20057).

Other Endrés’ material: Costa Rica. Without locality data, «*Oncidium scandens*», *A.R. Endrés s.n.* (W 20058); drawings of the flower and floral dissections, «*Oncid. scandens*», *A.R. Endrés s.n.* (W 20060); description, «*Oncidium scandens*», *A.R. Endrés s.n.* (W 20059).

Oncidium henrici-gustavi Kraenzl., Pflanzenr. IV. 50(Heft 80): 187. 1922, *non* Schltr. 1923.

Syn: *Oncidium bracteatum* Warsz. ex Rchb.f.

TYPE: “Subäquatoriale andine Provinz. Costa Rica”, *A.R. Endrés s.n.* Holotype, W 0020062.

Oncidium lintriculus Kraenzl., Pflanzenr. IV. 50(Heft 80): 282. 1922.

Syn: *Oncidium dichromaticum* Rchb.f.

TYPE: “Subäquatoriale andine Provinz. Costa Rica, *A. R. Endrés Orch. n. 168.* Holotype, W 0013234.

The illustration of the flower of *O. lintriculus* published by Kränzlin²⁰ does not match any of the *Oncidium* species known from Costa Rica, and the type consists of a single fragment of inflorescence with immature flowers. Mora de Retana²¹ suggests a similarity between Kränzlin’s drawing and an immature flower of *O. polycladium*, but the shape of the callus and the large, crenulate column wings prevent such an interpretation. Dalström (correction label, 2002) suggests that this species is the same described by Kränzlin as *Cyrtochilum scaphochilum*²², but in the protologue the author expressly indicated that the country of origin and the collector are unknown (*Heimat ind Sammler unbekannt*). Endrés number (168) is however the same affixed to the type of *O. scabripes*, which almost surely correspond to *O. dichromaticum*.

Oncidium macrorhynchum Kraenzl., Pflanzenr. IV. 50(Heft 80): 200. 1922.

Syn: *Oncidium cheiophorum* Rchb.f.

TYPE: “Subäquatoriale andine Provinz. Costa Rica. San Juan de Candelaria”, *A.R. Endrés s.n.* Holotype, W 0020086.

¹⁹ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

²⁰ Kränzlin, F. 1922. Orchidaceae-Monandrae, Tribus Oncidiinae - Odontoglosse II. *Das Pflanzenreich*, Heft 80-81: 62.

²¹ Mora de Retana, D.E. 1999. *Oncidium* Sw. Pp. 135150 in: W. Burger (ed.). *Flora Costaricensis*. Family #39 Orchidaceae: Tribe Maxillarieae: Subtribe Maxillariinae and Oncidiinae. *Fieldiana, Botany*, new series 40.

²² Kränzlin, F. 1922. *Op. cit.*, p 62.

Other Endrés' material: Costa Rica. Without specific locality, annotated by Kränzlin as "Typus", A. R. Endrés s.n. (W 0020087).

Oncidium microphyton Kraenzl., Pflanzenr. IV. 50(Heft 80): 204. 1922.

Syn: *Oncidium bryolophotum* Rchb.f.

TYPE: "Subäquatoriale andine Provinz. Costa Rica", A. R. Endrés s.n. Holotype, W 0020030.

Oncidium obryzatoides Kraenzl., Pflanzenr. IV. 50(Heft 80): 240. 1922.

TYPE: "Subäquatoriale andine Provinz. Costa Rica", A. R. Endrés s.n. Holotype, W 0019980.

Isotype: A. R. Endrés s.n. (W 0019982).

Other Endrés' material: Costa Rica. Without locality data, «325», A.R. Endrés s.n. (W 19981).

Oncidium rechingianum Kraenzl., Pflanzenr. IV. 50(Heft 80): 202. 1922.

Syn: *Oncidium dichromaticum* Rchb.f.

TYPE: "Subäquatoriale andine Provinz. Costa Rica", A.R. Endrés s.n. LECTOTYPE, selected by Pupulin *et al.*²³: 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).

Other Endrés' material: 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); A. R. Endrés s.n. (W 0020076).

Oncidium scabripes Kraenzl., Pflanzenr. IV. 50(Heft 80): 277. 1922.

Syn: *Oncidium dichromaticum* Rchb.f.

TYPE: "Subäquatoriale andine Provinz. Costa Rica", A. R. Endrés s.n. [168]. Holotype, W 0013187.

Oncidium sclerophyllum Kraenzl., Pflanzenr. IV. 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. Isotype: «see sk. p. 108 upper outer angle», W 0020074.

Oncidium stenobulbon Kraenzl., Pflanzenr. IV. 50(Heft 80): 281. 1922.

TYPE: "Costa Rica: am Río Jesus" («San Ramón towards Rio Jesus / May-June»), A. R. Endrés s.n. Holotype, W 0020073.

Other Endrés' material: description and drawing of the flower and floral dissection, A. R. Endrés s.n. (W 0020085); drawing of the flower and floral dissection, improved copy (W 0020084); without locality, plant with flowers, A. R. Endrés s.n. (W 0020083).

²³ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

Oncidium tetraskelidion Kraenzl., Pflanzenr. IV. 50(Heft 80): 259, f. 22C. 1922.

Syn: *Oncidium obryzatooides* Kraenzl.

TYPE: “Subäquatoriale andine Provinz. Costa Rica”, A. R. *Endrés s.n.* [Orch. N.º 285]
Holotype, W 0020026.

Ornithidium strumatum Endrés & Rchb.f., Gard. Chron., n.s., 2(51): 772. 1874.

Syn: *Camaridium strumatum* (Endrés & Rchb.f.) M.A. Blanco.

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 and W 0018729, with Endrés drawings; Isotype, AMES 45387 (barcode 5165995).

Other Endrés’ material: Costa Rica, Endrés’ drawing of the flower and floral dissection, A. R. *Endrés* 90 (W 0018728).

Pleurothallis endotrachys Rchb.f., Linnaea 41: 95. 1876, non F. Lehm. & Kraenzl. 1899, *nom. illeg.* (= *Pleurothallis lehmanniana* Schltr.).

TYPE: “Costa Rica. Endres”. LECTOTYPE, selected by Pupulin *et al.*²⁴: Alajuela: San Ramón, along the Barranca River, *Endrés* 92 (W 0021581); isolectotypes: W 1889-003365, W 0020331, W 020150, AMES 118500.

Other Endrés’ material: sketches of the plant and flower, A. R. *Endrés s.n.* (W 0020152, W 0020151, W 1889-33651); A. R. *Endrés s.n.* (W 1889-46833).

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, Endrés’ drawing of the plant, flower and floral dissections, W 0020145.

Other Endrés’ material: Costa Rica. Santa María, June 4, A. R. *Endrés s.n.* (W 1889-0024860).

Pleurothallis fulgens Rchb.f., Gard. Chron., n.s., 4(95): 516. 1875.

Syn: *Specklinia fulgens* (Rchb.f.) Pridgeon & M.W. Chase; *Sarcinula fulgens* (Rchb. f.) Luer.

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; Isotype, AMES 118517 (barcode 5224566).

Other Endrés’ material: Costa Rica. «Boca de Dota», A. R. *Endrés s.n.* (W 0020241); drawings of the flower, floral dissection and description, A. R. *Endrés s.n.* (W 0020240); A. R. *Endrés s.n.* (W 0020244); drawings of the plant, flower, and floral dissections, A. R. *Endrés s.n.* (W 0020242); «San Ramon», A. R. *Endrés s.n.* (W 0020243); «San Ramon», A. R. *Endrés s.n.* (W 1889-41435); A. R. *Endrés s.n.* (W 1889-33634); «Calera», A. R. *Endrés s.n.* (W 1889-41397).

²⁴ Pupulin, F., A. P. Karremans & B. Gravendeel. 2012. A reconsideration of the empusellous species of *Specklinia* (Orchidaceae: Pleurothallidinae) in Costa Rica. *Phytotaxa* 63: 1–20.

Pleurothallis lateritia Endrés ex Rchb.f., Gard. Chron. 731. 1872.

Syn: *Pleurothallis lanceola* (Sw.) Spreng.

TYPE: Costa Rica. "It was sent from Costa Rica to the Hamburg Botanic Garden by M. Endrés", A. R. Endrés 52. Holotype, W 0019852, with Reichenbach's drawings and description, and W 0019851, with Endrés' drawings; Isotype, AMES 69077 (barcode 5225584).

Other Endrés' material: Costa Rica. A. R. Endrés s.n. (W 0020313, W 0020314, W 0020316); A. R. Endrés s.n. [51] (W 1889-33628); A. R. Endrés s.n. [208] (W 1889-37461).

Pleurothallis luctuosa Rchb.f., Linnaea 41: 48. 1877, *emend.* in Xenia Orch. 3: 15–16, pl. 210. 1878. FIG. 147.

TYPE: Costa Rica. "Viv. observavi in horto Hamb.", [Alajuela, San Ramón, 3500", 1867], A. R. Endrés s.n. [N.º 2537]. Holotype, with Endrés' and Reichenbach' drawings of the plant and flower, W 0020310. Isotype, AMES118528.

Other Endrés' material: Costa Rica. San Ramón, May-June, sketches of the plant and flowers, floral dissections and description, A. R. Endrés s.n. [N.º 50 gen. coll.] (W 0020306, W 0020308, W 0020305, W 0020307); without specific locality, A. R. Endrés s.n. [218] (W 0020314); A. R. Endrés s.n. [51] (W 1889-33628); A. R. Endrés s.n. [208] (W 1889-37461); A. R. Endrés s.n. (W 0020309, W 0020316).

Pleurothallis moschata Rchb.f., Xenia Orchid. 3(2): 42-43, t. 217. 1881.

Syn: *Trichosalpinx moschata* (Rchb.f.) Luer.

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, with Reichenbach's drawings, A. R. Endrés s.n. [N.º 2653], W 0020892.

Other Endrés' material: Costa Rica. Without specific locality, «Pleurothallis / see p. 65 lower outer vol. 1867-68», A. R. Endrés s.n. (W 1889-46826); 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); pencil plates of the flowered plant, flower and floral analysis, A. R. Endrés s.n. (W 0020890, W 0020889); A. R. Endrés s.n. [Orch. N.º 239] (W 0020888).

Pleurothallis polylliria Endrés & Rchb.f., Gard. Chron. 731. 1872.

Syn: *Pleurothallis gelida* Lindl.

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. Endrés". TYPES, not found.

Polycynis 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, with Reichenbach's drawings and description, cultivated by Veitch, A. R. Endrés s.n. [136], W 0029866.



Figure 147. Illustration of *Pleurothallis luctuosa*, from Reichenbach's *Xenia Orchidacea* (1878), based on a plant by Endrés, flowered at Hamburg Botanical Garden.

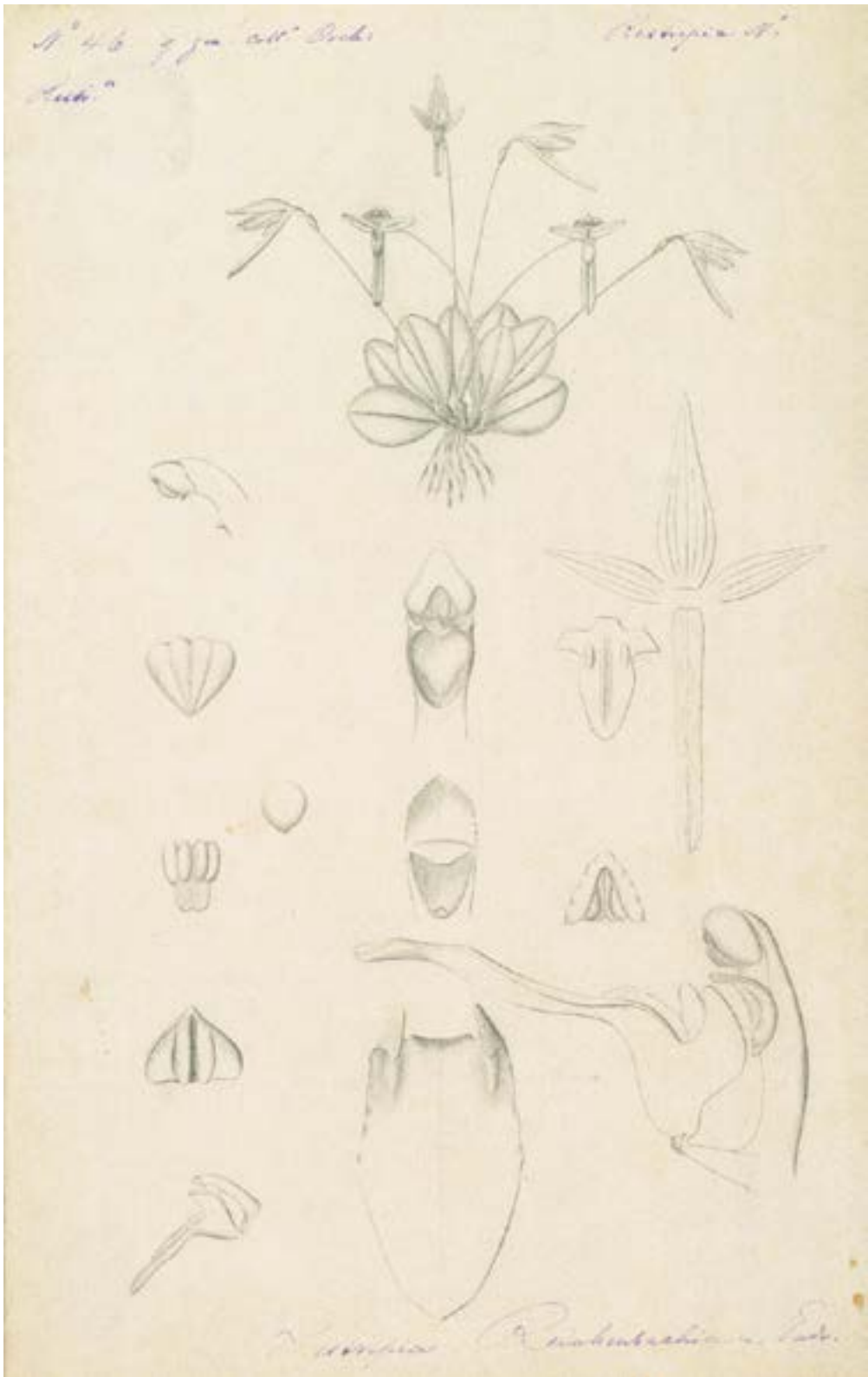


Figure 148. Endrés' sketch of the type plant of *Restrepia reichenbachiana* (W 0020802). Natural History Museum, Wien.

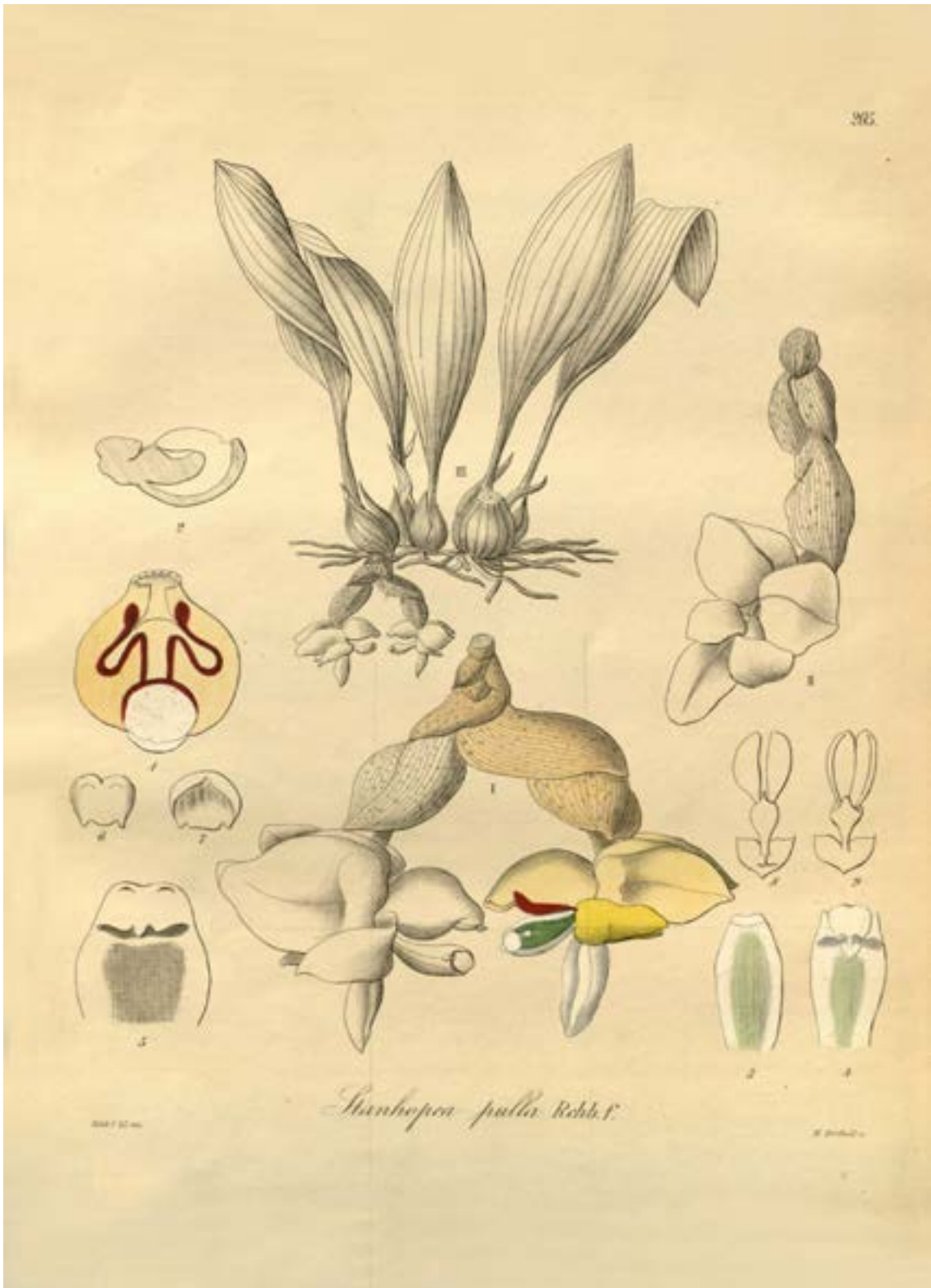


Figure 149. *Stanhopea pulla*. From H. G. Reichenbach & F. Kränzlin. *Xenia Orchidacea* 3: pl. 205. 1900.



Figure 150. Illustration of *Trichopilia dasyandra*, from Reichenbach's *Xenia Orchidacea* (1883), based on a plant collected by Endrés in Costa Rica.

Other Endrés' material: Costa Rica. Without locality, *A. R. Endrés s.n* [N 2560] (W 0020865); *A. R. Endrés s.n* [135] (W- 0020864).

Polystachya cingulata Rchb.f. ex Kraenzl., Repert. Spec. Nov. Regni Veg. Beih. 39: 81 (1926).

TYPE: Costa Rica. Lectotype, designated by Pupulin *et al.*²⁵, inflorescence: «cingulata [Rchb.f.] / Polystachya N. 2576. / Endress - [alia manu]»; «Polystachya cingulata / Cult. e Costa Rica. / Leg. Endres / Kränzlin 1923», *A. R. Endrés s.n.*, W 002860. ISOLECTOTYPES: four inflorescences: «N. / 2576 / Costa Rica [?] [Rchb.f.] / Endress [alia manu]»; «N. / 2576.»; «Polystachya luteola HK ? / Cult. e Costa Rica. / Leg. Endres», *A. R. Endrés s.n.*, W 002862; flowers, «N. / 2576»; «Cult. e Costa Rica. / Leg. Endres», *A. R. Endrés s.n.*, W 0029144; flowers, «N. / 2576»; «Cult. e Costa Rica. / Leg. Endres», *A. R. Endrés s.n.*, W 0029145.

The material upon which Kränzlin based his type of *Polystachya cingulata*, previously annotated by Reichenbach with this intended name, was received from Endrés and cultivated at the Hamburg Botanical Garden. Even though it only includes a single inflorescence, the sheet selected as the lectotype is the only one annotated with the name “*cingulata*” in Reichenbach's handwriting. No extant material at W bears the indication of “Typus” by Kränzlin. The number “2576” is not a field number by Endrés, but likely a number assigned at Hamburg to the living plant from which the exsiccata were prepared. The name is probably a synonym of *P. caracasana* Rchb. f.

Ponera mesocopis Endrés & Rchb.f., Xenia Orchid. 2: 222, t. 200. 1874.

Syn: *Scaphyglottis mesocopis* (Endrés & Rchb.f.) Benth. & Hook. f. ex Hemsl.

TYPE: Costa Rica. “Diese Art, welche stark an manche Arten der Gattung Hexadesmia erinnert empfing ich von Herrn Endres aus Costa Rica”, *A. R. Endrés s.n.* [N.º 2617]. Holotype, with Reichenbach's drawings, W 0020735.

Other Endrés' material: Costa Rica. Without locality, «*Ponera heterocopis* Endr. Rbf.», sketch of the flowered plant, *A. R. Endrés s.n* [714] (W 0020731); «*Hexadesmia heterocopis* », Reichenbach's sketch of the flower, *A. R. Endrés s.n* [N.º 714] (W 0020733); *A. R. Endrés s.n* [Orch. N.º 237] (W 0020738, W 0020739); with Reichenbach's sketch, «*Ponera cirrhata*», *A. R. Endrés s.n* [Orch. N.º 337] (W 0020737); sketch of the flower and floral dissection, with description, «*Ponera cirrhata* Endr. Rchb.f.», *A. R. Endrés s.n* [N.º 337] (W 0020736); *A. R. Endrés s.n* (W 0020734); *A. R. Endrés s.n* [N.º 2655] (W 0020732).

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

Syn: *Restrepia muscifera* (Lindl.) Rchb. f. ex Lindl.

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, with Reichenbach's description and

²⁵ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2012. *Op. cit.*

Endrés' drawings of the plant, flower, and lip, 1868, *A. R. Endrés* 39, W 0020817. Isotype, W 0020822.

Other Endrés' material: 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, W 0020819); «*Restrepia concinna*», Endrés' drawing of the petal connate with column, *A. R. Endrés s.n.* [N° 39 gen. coll. Orch.] (W 0020821, W 0020820); definitive pencil plat, *A. R. Endrés s.n.* [N° 39 gen. coll.] (W 0020814); «Angostura, May», *A. R. Endrés s.n.* (W 1889-0039086, W 1889-0039075); «San Cristobal, Sta. María, Nov. ber-Dec.ber», *A. R. Endrés s.n.* (W 1889-0030738, 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*]», drawings of the plant with flower and lip, and description, *A. R. Endrés s.n.* [Restrepia N° 1] (W 0020816); «*Restrepia xanthophthalma* var. *picta* [and] *Restrepia* N° 1 var. *obscura*», descriptions, *A. R. Endrés s.n.* [Restrepia N° 1] (W 0020815); *A. R. Endrés s.n.* (W 1889-0037467); drawing of the plant, *A. R. Endrés s.n.* (W 0020823); definitive pencil plate [104], *A. R. Endrés s.n.* [N° 263] (W 0020813); «see fig. p.104», *A. R. Endrés s.n.* [N° 263] (W 1889-0041455, W- 1889-0041456, W 1889-0041455, W 1999-0000196).

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

Syn: *Barbosella prorepens* (Rchb.f.) Schltr.

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 (correction label 1992) and designated by Pupulin *et al.*²⁶: Costa Rica. Without specific locality, with Reichenbach's manuscript descriptions and drawings, *A. R. Endrés* 2618, W 0018995.

Other Endrés' material: Costa Rica. Without locality data, 1867, with pencil plate of plant, flowers and floral dissections, «*Malaxidieae* N° 71», *A. R. Endrés s.n.* (W 0019003); pencil plate of plant, flowers and floral dissections, «52», *A. R. Endrés s.n.* «N° 71» (W 0018993); preparatory sketches of the flowered plant and floral dissections, *A. R. Endrés s.n.* [N° 71] (W 0019000); pencil plate of plant, flowers and floral dissections, «53», *A. R. Endrés s.n.* «N° 271» (W 0019002); Endrés' floral dissections, «*Restrepia teretifolia*», *A. R. Endrés s.n.* [Restrepia N° 8, N° 71 gen. coll. Orch.] (W 0018999); pencil plate of plant, flowers and floral dissections, «*Restrepia*», *A. R. Endrés s.n.* [N° 271 gen. coll. Orch.] (W 0019002); 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); preparatory sketches of plant, flowers and floral dissections, «*Restrepia violodora*», *A. R. Endrés s.n.* [Restrepia N° 9, N° 271 gen. coll. Orch.] (W 18997).

Restrepia reichenbachiana Endrés & Rchb.f., Gard. Chron., n.s., 4(90): 356. 1875.

Syn: *Restrepiopsis reichenbachiana* (Endrés & Rchb.f.) Luer; *Pleurothallopsis reichenbachiana* (Endrés & Rchb.f.) Pridgeon & M.W.Chase.

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, selected by Pupulin *et al.*²⁷: Costa Rica. Without locality, with Endrés' final pencil plate, partly coloured, of plant, flowers and floral dissections, *A. R. Endrés s.n.* [Orch. N° 46], W0020803; isolectotype, W 1889-0037462. FIG. 148.

²⁶ Pupulin, F., C. Ossensbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

²⁷ *idem.*

Other Endrés' material: Costa Rica, pencil plate of plant, flowers and floral dissections, «*Restrepia Reichenbachiana* Endr.», *A. R. Endrés s.n.* [Nº. 46 gen. coll. Orch.] (W 0020802); «*R. Reichenbachiana*», Endrés' sketches and descriptions, *A. R. Endrés s.n.* [*Restrepia* Nº. 7, Nº. 46 of gen. coll. Orch.], W 0020801; *A.R. Endrés s.n.* (W 1889-0039081); sketch of the flowered plant, *A.R. Endrés s.n.* (W 0021312).

Scaphosepalum endresianum Kraenzl., *Repert. Spec. Nov. Regni Veg.* 17(28): 435-436. 1921.

Syn: *Scaphoseplum anchoriferum* (Rchb.f.) Rolfe.

TYPE: "Costa Rica. Ohne genaueren Standort", [1868, 4500'], *A. R. Endres s.n.* [Orch. Nº 55]. Holotype, with Endrés' drawing of the plant, flower and floral dissections, and Reichenbach's analysis of the flower, W 0020770. Isotype, W 1889-30746.

Other Endrés' material: Costa Rica. «San Ramon. Camino a San Carlos, Legua. Rainy season», with Endrés' description, *A. R. Endrés s.n.* [Nº 55 gen. coll. Orch.] (W 0020776); «San Ramon. Scarce / Rainy season», Endrés' drawings of the plant, flowers and floral dissections, *A. R. Endrés s.n.* [Nº 55 gen. coll. Orch. / *Masdevallia* Nº 19] (W 0020774).

Scaphosepalum naviculare Kraenzl., *Repert. Spec. Nov. Regni Veg.* 17(28): 435-436. 1921.

Syn: *Scaphoseplum anchoriferum* (Rchb.f.) Rolfe.

TYPE: "Costa Rica. Ohne genaueren Standort", *A. R. Endres s.n.* Holotype, *W-Rchb.Orch.* 14515 / NMW 0020777. Isotype, [«Nº 506 gen. coll. Orch. / see p. 57 vol. 1869-70»], W 0020765.

Other Endrés' material: pencil plate of the plant, flowers and floral dissections, *A. R. Endrés s.n.* [«p. 57»] (W 0020772); sketches of the plant, flowers and floral dissections, *A. R. Endrés s.n.* [«Nº 506 gen. coll. Orch. / see p. 57 vol. 1869-70»] (W 0020775); Endrés' descriptions, *A. R. Endrés s.n.* [«Nº 506 gen. coll. Orch. / see fig. p. 57 vol. 1869-70»] (W 0021727).

Sievekingia fimbriata Rchb.f., *Flora* 69: 449-450. 1886.

TYPE: "Costa Rica. Endres", [San Ramon. Legua / Dec. January], *A. R. Endres s.n.* Holotype, with Reichenbach's sketches and description, W 0020709.

Other Endrés' material: sketches of the flower and floral analyses, «San Ramon. Legua / Dec. January», *A. R. Endrés s.n.* (W 0020708).

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". Holotype, W 0027462 (with Reichenbach's drawings and description)].

Sigmatostalix macrobulbon Kraenzl., Pflanzenr. IV. 50(Heft 80): 307, f. 27B. 1922.

TYPE: “Zentralamerikanische Provinz. Costa Rica”, 3-4000, 1867, A. R. Endrés s.n. [20]. Holotype, with Endrés drawings of the plant and flowers, W 0020696. Isotypes, W 0020705, W 0020704, W 0020703, W 0020697, W 0020703, W 0020699.

Other Endrés’ material: Costa Rica. Without locality, floral analyses, A. R. Endrés s.n. [N.º 20 ge, coll.] (W 0020700); sketches of the plant and flowers, A. R. Endrés s.n. [20] (W 0020702); Reichenbach’s sketches of the inflorescences, A. R. Endrés s.n. [Endr. 20] (W 0020701); without locality, A. R. Endrés s.n. (W 0020693, W 0020694, W 0020695, W 0020698); Reichenbach’s description and drawings, «*Sigmatostalix endresii*», A. R. Endrés s.n. [E 20] (W 0020706).

Sigmatostalix poikilostalix Kraenzl., Pflanzenr. IV. 50(Heft 80): 310. 1922.

SYNTYPES: Costa Rica. “Zentralamerikanische Provinz. Costa Rica”, A. R. Endrés 38 (W-Rchb-Orch 2041 / NHM 0020691 Costa Rica. “Zentralamerikanische Provinz. Costa Rica”, 1868, A. R. Endrés 97. LECTOTYPE, selected by Pupulin *et al.*²⁸, with Endrés’ drawings of the plant, flower, and floral analysis, 1868, A. R. Endrés 97 (W 0020692). Isolectotypes, W 0020689, W 0020687, W 0020686, W 0020684.

Other Endrés’ material: Costa Rica. Without locality, sketch of the flowered plant, flower, and floral details, A. R. Endrés 97 (W 0020690); sketch of the lip, A. R. Endrés 97 (W 0020685).

Solenidium endresii Kraenzl., Pflanzenr. IV. 50(Heft 80): 317. 1922.

Syn: *Mesospinidium endresii* (Kraenzl.) Garay, *Mesospinidium warscewiczii* Rchb.f.

TYPE: “Heimat nicht genau bekannt, vermutlich Costa Rica”, A. R. Endrés s.n. Holotype, W0027461.

Stanhopea pulla Rchb.f., Gard. Chron., n.s., 7: 810. 1877.

TYPE: “We obtained it from our friend, the late M. Endres, who discovered it in Costa Rica”. Holotype, with Reichenbach’s description, A. R. Endrés s.n. (W 0027462). FIG. 149.

Other Endrés’ material: Costa Rica. «Calvario / Camino a Limon, Juy August», Endrés’ drawings and description, A. R. Endrés s.n. [N.º. 612 gen. coll. Orch] (W 0020589). Without locality, A. R. Endrés s.n. (W 0021219); A. R. Endrés s.n. [277] (W 0021220); A. R. Endrés s.n. (W 1889-0041472); A. R. Endrés s.n. [see fig. p. 91] (W 1889-0046718).

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, with Reichenbach’s drawings and description. Costa Rica. Cultivated at Hamburg Botanic Garden, 1869-1870, A. R. Endrés s.n., W 0021221.

Other Endrés’ material: Costa Rica. «Sarsero [Zarcero], Sapote [Zapote], May-June» and «old road to San Carlos, on the height beyond Tapisco river, May», with drawings of the flower, floral dissections

²⁸ Pupulin, F., C. Ossensbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

and description, *A. R. Endrés s.n.* (W 1889-014213); without locality, *A. R. Endrés s.n.* [Orch. N° 277] (W 0021219); *A. R. Endrés s.n.* [277] (W 0021220); *A. R. Endrés s.n.* (W 1889-0041472); *A. R. Endrés s.n.* [see fig. p. 91] (W 1889-0046718).

Telipogon buenavistae Kraenzl., *Ann. Naturhist. Mus. Wien* 33: 33-34. 1920.

Syn: *Telipogon costaricensis* Schltr.

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.

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. Isotypes, W 0020974, W 0020976; [S. Crist. + S. Maria], W 0020977.

Telipogon endresianus Kraenzl., *Ann. Naturhist. Mus. Wien* 33: 31. 1920

Syn: *Telipogon biolleyi* Schltr.

SYNTYPES: “Costa Rica. Ohne genaueren Standort”, [Cartago: Birris, Sitio de Don Eusebio Ortiz, August], *A. R. Endrés s.n.*; “Costa Rica. Ohne genaueren Standort”, 1882, *Hübsch s.n.* (W 22702). LECTOTYPE, designated by Pupulin *et al.*²⁹: Costa Rica. [Cartago: Birris, Sitio de Don Eusebio Ortiz, August], *A. R. Endrés s.n.* (W 0020980). Isolectotype, AMES 26049.

Other Endrés’ material: pencil plate of the lectotype, including plant habit with flowers, pollinarium and anther, *A. R. Endrés s.n.* [p. 41] (W 0020979).

Telipogon minutiflorus Kraenzl., *Ann. Naturhist. Mus. Wien* 33: 14. 1920.

TYPE: “Costa Rica. Ohne genaueren Standort”, *A. R. Endrés s.n.* Holotype, W 0021327. Isotypes, W 2006 / NMW 0021326, W 0021325.

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.* Holotype, not found. LECTOTYPE, selected by Pupulin *et al.*³⁰: Costa Rica. San José: Dota, «Boca de Dota / Oct.-December”, Endrés’ drawings and description, «*Trichocentrum saundersii*», *A. R. Endrés s.n.*, W0020947.

Other Endrés’ material: Costa Rica, 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); coloured drawing of flower, *A. R. Endrés s.n.* (W 0020952); without locality, «*Trichocentrum*», *A. R. Endrés s.n.* [N° 16 gen. coll.] (W 0020948); with Endrés analysis of the flower, «*Trichocentrum saundersii*», *A. R. Endrés s.n.* (W 0020949); drawing of the

²⁹ Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

³⁰ *idem.*

plant, A. R. Endrés s.n. (W 0020945); drawing of the pollinarium, «*Trichocentrum saundersii*», A. R. Endrés s.n., W 0020951.

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, not located. NEOTYPE, designated by Pupulin³¹: Costa Rica. Puntarenas: Coto Brus, F. Pupulin & D. Castelfranco 1 (USJ).

Trichopilia dasyandra Rchb.f., Xenia Orchid. 3: 64, t. 230. 1883.

Syn: *Cischweinfia dasyandra* (Rchb.f.) Dressler & N.H. Williams.

TYPE: Costa Rica. “Endres”, 1868, «*Trichopiliastrum*», A. R. Endrés s.n. [Orch. N.º 93]. Holotype, with Endrés’ and Reichenbach’s drawings, W 0019850. Isotype, A. R. Endrés s.n. [93], W 0020939. FIG. 150.

Other Endrés’ material: Costa Rica, sketches and pencil palte of flowered plant, flower and floral analysis, with description, «*Aspasia*», A. R. Endrés s.n. [N. 93 gen. coll. Orch.] (W 0018815); sketches of floral parts, «*Trichopiliastrum*», A. R. Endrés s.n. [93] (W 0018816); engravings from Endrés’ drawings, intende for *Xenia Orchidaceae* (not published); without locality, «*Aspasia*», A. R. Endrés s.n. (W 0018814).

Warczewiczella picta Rchb.f., Gard. Chron., n.s., 20: 8. 1883.

Syn: *Stenotyla picta* (Rchb.f.) Dressler.

SYNTYPES: “This very fine plant was discovered by late Endres, and lately found again by M. Pfau”. LECTOTYPE, selected by Pupulin *et al.*³²: Costa Rica. A. R. Endrés s.n. [Nº 575 gen. coll. Orch.], W 0019049.

Other Endrés’ material: Costa Rica, drawings and descriptions, «Cerro de los Guatusos, headwater of La Paz River [...]», A. R. Endrés s.n. [Nº 575 gen. coll. Orch.], W 0019022; drawings, A. R. Endrés s.n. [Nº 575 gen. coll. Orch., *Zygopetalum* Nº 5], W 0019023.

Zygopetalum lacteum Rchb.f., Gard. Chron. 1290. 1872.

Syn: *Kefersteinia lactea* (Rchb.f.) Schltr.

SYNTYPES: “It was originally discovered by Mr. Wallis during his adventurous expedition to Chiriqui. Later, it was collected by M. Endres. It flowered some years ago with Director Linden, and is now once more in flower with Messrs. Veitch”. LECTOTYPE, designated by Pupulin, 2001³³: Panama or Costa Rica. Chiriquí: cultivated by Linden s.n., W 0019731.

Other Endrés’ material: Costa Rica, 1868, A. R. Endrés s.n. (W 0019832, W 0019831, W 0019830).

³¹ Pupulin, F. 1995. A revision of the genus *Trichocentrum* (Orchidaceae: Oncidiinae). *Lindleyana* 10 (3): 183–210.

³² Pupulin, F., C. Ossenbach, R. Jenny & E. Vitek. 2011. *Op. cit.*

³³ Pupulin, F. 2001. Contributions to a reassessment of Costa Rican *Zygopetalinae* (Orchidaceae). The genus *Kefersteinia* Rchb.f. *Annalen des Naturhistorischen Museums in Wien* B, 103: 525–555.

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.