

# BOTANICAL MUSEUM LEAFLETS

## HARVARD UNIVERSITY

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CAMBRIDGE, MASSACHUSETTS, JULY 8, 1955

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VOL. 17, No. 2

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### FURTHER NOTES ON AMERICAN ORCHIDS

BY  
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THE following notes were assembled during the work of identifying various tropical American collections and particularly in the course of preparing an intensive orchid flora of Peru.

The sequence of genera follows the System of Classification proposed by Dr. Schlechter in *Notizblatt des Botanischen Gartens und Museums Berlin-Dahlem*, Band 9, Nr. 88 (1926) 567–591.

***Habenaria repens* Nuttall** Gen. N. Am. Pl. 2 (1818) 190.—Kränzlin Orch. Gen. et Sp. 1 (?1901) 315.—Cogniaux in Martius Fl. Bras. 3, pt. 4 (1893) 91.

*Platanthera foliosa* Brongniart in Duperr. Bot. Voy. Coquille, Phan. 195 (1829) t. 38B.

***Habenaria maxillaris* Lindley** in Hook. Journ. Bot. 1 (1834) 5; Gen. & Sp. Orch. (1835) 310.

Careful study of the descriptions of *Habenaria maxillaris* Lindl. (and of the plate of *Platanthera foliosa* Brongn. which is considered to be synonymous) has convinced me that this concept is inseparable from *Habenaria repens* Nutt., a species of very wide distribution and a plant of considerable variability. In fact the only significant difference between the two species appears to lie

in the lateral lobes of the lip which in *H. maxillaris* are described as a little shorter than the mid-lobe, whereas in *H. repens* they are more or less longer than the mid-lobe. In such a variable group as *Habenaria*, however, the relative length of the lobes of the lip has been found to be inconstant.

This species extends from North Carolina (U.S.A.) through the West Indies, Central America and South America to Paraguay and Argentina.

**Stelis gracilifolia** C. Schweinfurth sp. nov.

Herba pro genere mediocris, caespitosa, epiphytica. Caules abbreviati, vaginis arcte tubulatis evanidis omnino velati. Folium adscendens, lineare vel oblanceolato-lineare, infra in petiolum plusminusve distinctum sensim angustatum, in siccitate valde coriaceum. Inflorescentia unica, quam folium conspicue brevior, erecta, supra dense multiflora. Flores perparvi, carnosii, brunneo-purpurei. Sepala rotundato-ovata, simillima, late obtusa, inferne connata, trinervia, intus minute papillosa. Petala multo minora, cuneato-flabellata, apice lato incrassata. Label-lum ovatum vel oblongo-ovatum, late obtusum, multo incrassatum. Columna abbreviata.

Plant medium-sized for the genus, caespitose. Roots numerous, fibrous, glabrous, slender. Stems abbreviated, up to 3 cm. long, entirely concealed by two or three close tubular evanescent sheaths. Leaf ascending, linear or (inclusive of the petiole) oblanceolate-linear, obtuse and minutely apiculate at the apex, gradually narrowed to a more or less distinct channelled petiole, very thick and fleshy when fresh (or when boiled), 8–17.2 cm. long, 5–6 mm. wide in the dried plant. Inflorescence solitary, erect, up to 12.7 cm. long; raceme densely many-flowered, up to 8.3 cm. long. Floral bracts abbreviated, broadly infundibuliform, shorter than the pedicellate ovary. Flow-



ers very small, fleshy, distichous, maroon. Sepals very similar, round-ovate, broadly obtuse, connate below the middle, 3-nerved, glabrous without, densely minute-papillose within, up to about 3 mm. long (including the basal connate portion) and 2.8 mm. wide. Petals transverse, cuneate-flabellate, fleshy-thickened above with a subtruncate or broadly rounded apex, 1-nerved, about 0.75 mm. long and 1.2 mm. wide. Lip ovate or oblong-ovate, broadly obtuse, fleshy-thickened with erect sides, semirhombic when viewed from the side, about 0.9 mm. long and somewhat narrower. Column abbreviated.

This species is allied to *Stelis latipetala* Ames, but differs in having shorter and more slender stems and leaves, and about twice larger flowers.

COSTA RICA: Prov. of Puntarenas, between Golfo Dulce and Río Térraba, at 30 meters altitude, "in tree top," flowers maroon, December 1947, *Alexander F. Skutch 5336* (TYPE in U.S. Nat. Herb. 1945424).

**Pleurothallis aurea** *Lindley* in *Ann. & Mag. Nat. Hist.* 12 (1843) 397; *Fol. Orch. Pleurothallis*, p. 33, no. 201 (1859).

*Pleurothallis asperilinguis* *Reichenbach filius & Warscewicz* in *Bonpl.* 2 (1854) 114.—*Lindley Fol. Orch. Pleurothallis*, p. 34, no. 202 (1859).

*Humboldtia asperilinguis* *O. Kuntze* *Rev. Gen. Pl.* 2 (1891) 667.

*Humboldtia aurea* *O. Kuntze* *Rev. Gen. Pl.* 2 (1891) 667.

In the original description of *Pleurothallis asperilinguis*, this concept was differentiated from *P. aurea* by having 3-nerved, instead of 1-nerved, petals and by having its flowers half as large as those of the latter species.

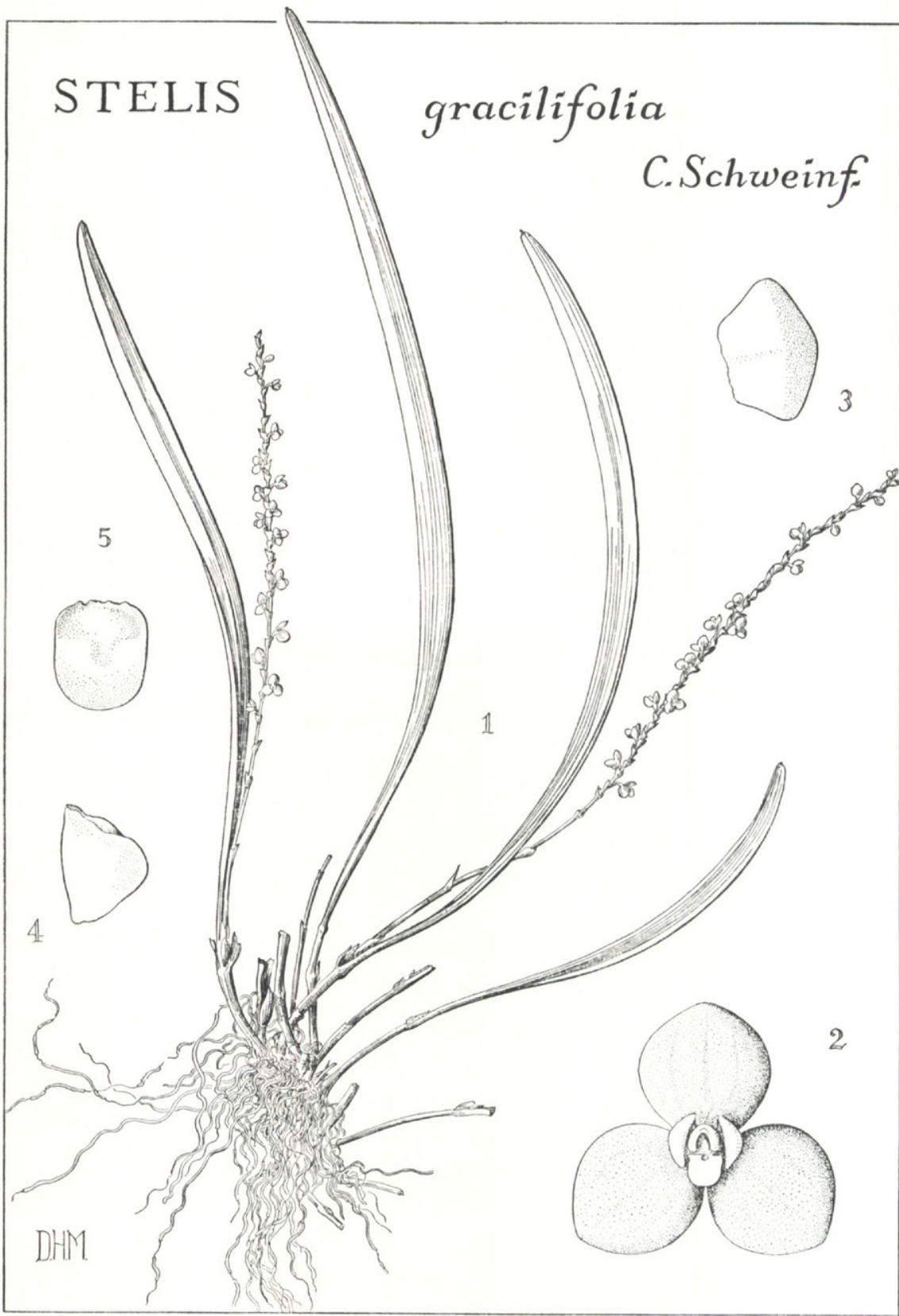
However, an excellent photograph of the type of *P. aurea* from the Delessert Herbarium shows some petals which appear to be more or less distinctly 3-nerved, as

#### EXPLANATION OF THE ILLUSTRATION

PLATE XV. *STELIS GRACILIFOLIA* C. Schweinf. 1, plant, three fourths natural size. 2, flower from front, expanded, six times natural size. 3, petal, fifteen times natural size. 4, lip from side, fifteen times natural size. 5, lip from above, fifteen times natural size.

*Drawn by* DOROTHY H. MARSH





in *P. asperilinguis*. Although the drawing of *P. asperilinguis* from the Reichenbach Herbarium (in the Ames Herbarium) does not show clearly the dimensions of the flowers, they appear to be but little smaller than those of *P. aurea*. The description of *P. aurea* mentions the glandular-scabrous or pubescent inner surface of the sepals, a character which appears in all of the collections that have the 3-nerved petals and the smaller flowers.

Another character cited in the description of *P. asperilinguis* (and the one that undoubtedly furnished the specific name) is the roughness caused by the acute papillae near the apex of the lip. This character is to be observed to a more or less degree in all of these collections having 3-nerved petals.

The type description of *P. asperilinguis* mentions that the lip is 5-nerved, a characterization which seems highly dubious.

*Pleurothallis aurea* occurs in Venezuela (where the type was collected), Ecuador and Peru (type of *P. asperilinguis*).

***Pleurothallis secunda* Poepp. & Endl. var. *longiracema* (C. Schweinf.) C. Schweinfurth comb. nov.**

*Pleurothallis Lindenii* Lindl. var. *longiracema* C. Schweinfurth in Bot. Mus. Leaflet. Harvard Univ. 16 (1953) 53.

It has recently been called to my attention by Mr. Leslie A. Garay of Toronto, Canada, that the concept *Pleurothallis Lindenii* Lindl., which was described in Ann. & Mag. Nat. Hist. 12 (1843) 397, was considered by Reichenbach f. (in Bonpl. 3 (1855) 72) to be referable to the earlier *P. secunda* Poepp. & Endl., which appeared in Nov. Gen. ac Sp. 1 (1836) 49, t. 85.

Accordingly, it becomes necessary to make the new combination cited above which was originally attributed to *Pleurothallis Lindenii*.



**Amblostoma gracile** *Garay* var. **robustum** *C. Schweinfurth* var. *nov.*

Herba caulibus crassioribus et foliis latioribus et florum colore diversa et labelli lobis subaequalibus a specie differt.

Plant relatively robust, with a stout creeping rhizome, about 33 cm. high. Stems approximate, spreading-ascending, fusiform, several-jointed, entirely concealed nearly to the apex by several close, scarious, evanescent, tubular sheaths, 15–17.5 cm. long. Leaves four, variable in shape and size, clustered near the apex of the stem, oblong-lanceolate to linear, narrowed above to an abrupt, subacute and apiculate or obtuse apex, slightly narrowed below to a sessile clasping base, up to 12 cm. long and 1.5 cm. wide. Inflorescence solitary, strict, racemose, up to about 16 cm. long (incomplete in our specimen), subdensely many-flowered nearly to the base, slightly pubescent. Floral bracts spreading, triangular-lanceolate, acuminate. Pedicellate ovaries about twice as long as the bracts, densely pubescent. Flowers very small, whitish green with pale brown sepals and incurved segments. Sepals very fleshy. Dorsal sepal oblong-elliptic, obtuse and apiculate, strongly concave, about 4.2 mm. long and 2.1 mm. wide. Lateral sepals similar, obliquely elliptic-oblong and slightly broader above the middle, acute, deeply concave, about 4.6 mm. long and 2.4 mm. wide. Petals oblanceolate-linear, obtuse, about 4 mm. long and 0.9 mm. wide, slightly oblique. Lip entirely adnate to the column, small, tripartite, about 1.3 mm. long; lateral lobes obliquely obovate-subquadrate, partially concealed by an ovate-oblong, incurved lamina which is free along the anterior margin; mid-lobe slightly longer and narrower, ovate-oblong, subacute, with three narrow fleshy calli of which the central one is much the longest. Column relatively large, obliquely obovoid-infundibuli-

form when viewed from the side, with lacerate apical margins.

PERU: JUNÍN; Prov. of Tarma, Agua Dulce, at 1900 meters altitude, in large clumps on tree in low highland forest, March 16, 1948, F. Woytkowski 35476 (TYPE in Herb. Univ. Calif.).

**Epidendrum eximium** L. O. Wms. var. **Amesianum** (Correll) C. Schweinfurth comb. nov.

*Epidendrum Amesianum* Correll in Amer. Orch. Soc. Bull. 16 (1947) 106, t. (p. 107).

The characters which distinguish *Epidendrum eximium* from the outwardly similar *E. Amesianum* are enumerated in the following tabular comparison.

<i>E. eximium</i>	<i>E. Amesianum</i>
Flowers whitish yellow with purple on the lip	Flowers greenish
Petals 7–8 mm. wide	Petals 12–14 mm. wide
Lip without prominent keels, broadly rounded at the apex	Lip with a prominent median keel, retuse at the apex
Column prominently lobulate on the summit	Column merely crenulate on the summit

Because these discrepancies seem to be of minor importance, I feel justified in regarding *E. Amesianum* merely as a variety of *E. eximium*.

**Scaphyglottis decipiens** C. Schweinfurth sp. nov.

Herba gracilis, caespitosa, epiphytica. Caules tenues, maxima pro parte superpositi, in nodis saepe furcati et radiciferi, vaginis imbricatis foliiferis inferne celati, vestustiores nudi. Folia in nodis geminata, anguste linearia, sessilia, apice minutissime bilobato et apiculato, nervosa, graminea. Inflorescentiae axillares, perbreves, saepissime biflorae. Sepalum dorsale oblongum, longitudinaliter concavum, apice acuto cucullatum. Sepala lateralibus oblonga, valde obliqua, acuta, cum columnae pede mentum saccatum formantia. Petala falcato-linearibus. Labellum in



## EXPLANATION OF THE ILLUSTRATION

PLATE XVI. *AMBLOSTOMA GRACILE* *Garay* var. *ROBUSTUM* *C. Schweinf.* 1, plant, one half natural size. 2, flower expanded, five times natural size. 3, column and lip from side, six times natural size.

*Drawn by* ELMER W. SMITH

AMBLOSTOMA  
*gracile* Garay  
*var. robustum*  
C. Schweinf.





## EXPLANATION OF THE ILLUSTRATION

PLATE XVII. SCAPHYGLOTTIS DECIPIENS *C. Schweinf.*  
1, plant, one half natural size. 2, flower from side,  
natural position, three times natural size. 3, dor-  
sal sepal, four times natural size. 4, lip expanded,  
four times natural size. 5, column, three quarters  
view, petal and lateral sepal expanded, four times  
natural size.

*Drawn by* DOROTHY H. MARSH

SCAPHYGLOTTIS *decipiens*  
*C. Schweinf.*





positu naturali erectum, columnae parallelum, tubulari-concavum et apice recurvum, trilobatum; lobi laterales truncato-rotundati, erecto-incurvi; lobus medius ovatus. Columna prope apicem utrinque dentata.

Plant slender, caespitose, epiphytic, up to 29.5 cm. high. Roots fibrous, numerous, glabrous, slender. Stems slender, often superposed, sometimes forking and producing roots at the nodes, up to 10 cm. long (the upper members much shorter), when young concealed below by several close distichous sheaths bearing leaf-blades which increase in size upward, becoming naked in age. Leaves mostly in pairs, subopposite at the nodes, narrowly linear, sessile, up to 19.5 cm. long and 4 mm. wide, minutely bilobed and apiculate at the apex, slightly narrowed and more or less conduplicate above in the dried specimen, nervose with five nerves more prominent, gramineous. Inflorescences one or two in the axils of the upper leaves, abbreviated, about 2-flowered. Flowers whitish. Dorsal sepal oblong, acute, longitudinally concave, cucullate at the apex, distinctly 3-nerved, about 6 mm. long and 2 mm. wide. Lateral sepals oblong, very oblique, acute, longitudinally concave, dorsally keeled at the apex, concave-saccate at the base and forming a short spur-like mentum with the short column-foot, about 5.5 mm. long and 2 mm. wide. Petals obliquely falcate-linear, abruptly acute, 3-nerved, about 6 mm. long and 1.2 mm. wide slightly above the middle. Lip erect and parallel to the column in natural position, longitudinally concave, recurved and sharply 3-lobed near the apex, about 6.2 mm. long when expanded; lateral lobes erect in natural position, dilated from a gradually cuneate base, obliquely rounded-subtruncate at the free apex; mid-lobe triangular-ovate, subacute, about 1.3 mm. long; disc 5-nerved, with a pair of obscure fleshy calli between the lateral lobes. Column straight, deeply longitudinally concave in

front, with a short falcate-triangular tooth on either side of the rostellum, about 5 mm. long at the back, extended into a short excavated foot. Anther semiglobose, with a bidentate membranaceous tip. Pollinia four, strongly complanate, obliquely semiovate.

This species is very similar to *Scaphyglottis longicaulis* S. Wats. (*S. unguiculata* Schltr.), but has a dissimilar lip. It also appears to be closely allied to two South American species. It differs from the Colombian *S. stricta* Schltr. in having shorter stems, narrower leaves and a prominently armed column. It varies from the Peruvian *S. Huebneri* Schltr. in having consistently larger flowers with narrower segments and a differently proportioned lip.

COSTA RICA: Prov. of Puntarenas, between Golfo Dulce and Río Térraba, at 30 meters altitude, on tree trunk, December 1947, *A.F. Skutch 5314* (TYPE in U.S. Nat. Herb. 1945422; ISOTYPE in Herb. Ames No. 65461).

***Scaphyglottis propinqua* C. Schweinfurth sp. nov.**

Herba magna, vagans. Caules fasciculati, superpositi, cylindricei, graciles, saepissime laxè ramosi. Folia in caulium apice duo subopposita, lineari-oblonga vel lineari-lanceolata, apice oblique bilobulata, sessilia. Inflorescentiae abbreviatae, dense fasciculatae, uniflorae. Flores perparvi, membranacei. Sepalum dorsale oblongum, valde concavum, subacutum. Sepala lateralìa similia, paulo majora. Petala lineari-oblancheolata, apice rotundato minute apiculata, sepalum dorsale vix aequantia. Labellum in positu naturali tubulari-concavum, expansum rhombico-obovatum, medio lobulato-dilatatum, apice rotundato minute apiculato. Columna recta, exalata.

Plant large, straggling, epiphytic. Rhizome abbreviated. Roots fibrous, glabrous, long, slender, situated at base of plant and also at base of stem-members. Stems fascicled, superposed, slenderly cylindric, usually loosely



branching above, with the stem-members concealed below by several close, imbricating, scarious sheaths, the lowest stem-member up to 18 cm. long. Leaves in subopposite pairs at the apex of the stem-members, linear-oblong or linear-lanceolate, rather gradually narrowed to an obliquely bilobulate apex, slightly narrowed to a sessile base, spreading, up to 10 cm. long and 1 cm. wide. Inflorescences abbreviated, densely clustered in the axils of the leaves at the summit of the stem-members, 1-flowered, numerous. Flowers very small, pinkish white to white, membranaceous. Dorsal sepal oblong, subacute, deeply concave, about 3.7 mm. long and 1.2 mm. wide. Lateral sepals similar, forming an indistinct mentum with the column-foot, about 3.9 mm. long and 1.3 mm. wide. Petals linear-oblong, minutely apiculate at the rounded apex, slightly oblique, nearly as long as the dorsal sepal. Lip erect and subparallel to the column, with incurved sides in natural position, about 3.8 mm. long, rhombic-obovate in outline when expanded, lobulate-dilated in the middle with indistinct rounded lateral lobules, broadly rounded and minutely apiculate in front, about 2 mm. wide across the middle when expanded. Column stout, straight, wingless, about 2.9 mm. long, extended into a very short foot.

This species is very similar to *Scaphyglottis leucantha* Reichb.f. vegetatively, but has a very different lip. Among the South American members of the genus, this plant has relatively short, broad leaves.

PERU: JUNÍN; Pichis Trail, San Nicholas, at about 1100 meters altitude, epiphyte in dense forest, July 4-5, 1929, *E. P. Killip & A. C. Smith 26061* (TYPE in Herb. Ames No. 61413; ISOTYPE in Herb. Field Mus. No. 622159).

***Scaphyglottis punctulata* (Reichb.f.) C. Schweinfurth comb. nov.**

*Ponera punctulata* Reichenbach filius in Bonpl. 3 (1855) 220.



### EXPLANATION OF THE ILLUSTRATION

PLATE XVIII. SCAPHYGLOTTIS PROPINQUA *C. Schweinf.*  
1, plant, one half natural size. 2, flower from side,  
natural position, six times natural size. 3, column  
and lip from side, natural position, about nine times  
natural size. 4, petal, about nine times natural size.  
5, dorsal sepal, about nine times natural size. 6, 7,  
lips expanded, about nine times natural size.

*Drawn by* ELMER W. SMITH

*SCAPHYGLOTTIS*  
*propinqua*  
C. Schweinf.





Records of *Ponera punctulata* from the Reichenbach Herbarium in Vienna show that this concept is clearly referable to the genus *Scaphyglottis* Poepp. & Endl. It has the relatively elongate, apically biauriculate column that is characteristic of the genus, rather than the abbreviated exauriculate column of *Ponera*. Moreover, it shows that the two apical leaves are subopposite as in *Scaphyglottis*, and they are borne at some distance from the lower distichous leaves, although not so far remote as is common in the latter genus.

Three collections from Peru and one from Puerto Rico are referred to this concept. All of these collections, as well as the typical *Ponera punctulata* from Venezuela, have distichously leafy stems, although the lower portions bear only imbricating, leaf-bearing sheaths.

In order to clarify this little known species, the following diagnosis is given, based chiefly on the Peruvian and Puerto Rican collections.

Plant terrestrial in moss or epiphytic, caespitose, up to 52 cm. high to the tip of the uppermost leaf. Stems distichously leafy, for the most part entirely concealed by imbricating leaf-sheaths, either simple or with one to three short branches (when with only a single branch, appearing to have one continuous axis), the uppermost portion naked, short and terminated by a pair of subopposite leaves, up to about 43 cm. high. Leaves erect-spreading, linear to linear-lanceolate, up to 12.9 cm. long and 9 mm. wide (often much smaller, especially below), gradually narrowed to an obtuse or bilobulate apex, clasping at base. Inflorescence terminal on the stem or branches, abbreviated, racemose, 1- or more commonly 2-flowered, issuing from a pair of erect, imbricating, evanescent spathes. Pedicellate ovary long and slender, 1.6 cm. or more in length (up to 3.5 cm. long including the ripened ovary). Flowers rather small, campanulate,



lavender tinged with green, or green dotted with pink or dark violet and a greenish white lip. Dorsal sepal ovate-oblong, concave, acute or short-acuminate, about 7–9 mm. long and 3–4 mm. wide. Lateral sepals obliquely lanceolate-ovate, acute or short-acuminate, about 7–8.7 mm. long and 2.8–4 mm. wide near the base which is decurrent on the column-foot. Petals lanceolate-oblong or elliptic-oblong, more or less oblique, abruptly subacute to acute or apiculate, 6.1–8.9 mm. long, 2–3 mm. wide. Lip slightly exceeding the sepals, articulated to the column-foot without a claw, obovate-pandurate in outline with a cuneate base, either truncate or very broadly rounded and apiculate or lightly retuse and apiculate in front, arcuate-recurved below, with more or less incurved sides, about 7–8.5 mm. long when expanded and 3.4–6.3 mm. wide across the apical portion; disc below with a more or less prominent, large, fleshy, concave or sulcate callus which is extended into verruculose lines above. Column conspicuous, arcuate, prominently auriculate-dilated at the apex, about 5–6.6 mm. long, produced into a short foot.

PUERTO RICO: El Yungue, on trees near summit of Mt. Britton, in fruit, June 22, 1952 (flowered in greenhouse March 30, 1953), *D.S. Correll & H. F. Winters s.n.*

VENEZUELA: *Geitner s.n.* (type of *Ponera punctulata*).

PERU: Huánuco, Cierra Azul, on Pucallpa Road, at 3500 feet altitude, in road cut, terrestrial in moss, December 1, 1945, flower "lavender tinged green," *R.J. Seibert 2252*.—Junín: Pichis Trail, Eneñas, at 1700 meters altitude, epiphyte in open sphagnum swamp, July 1, 1929, *E. P. Killip & A. C. Smith 25675, 25690*.

***Scaphyglottis punctulata* (Reichb.f.) C. Schweinf.**  
var. ***Summersii* (L. O. Wms.) C. Schweinfurth comb. nov.**

*Scaphyglottis Summersii* L. O. Williams in Bot. Mus. Leaflet. Harvard Univ. 9 (1940) 14, t. 3, figs. 4–7.

After careful study, I have concluded that the plant

described as *Scaphyglottis Summersii* cannot be considered as specifically distinct from the species that was first published as *Ponera punctulata*. There are, however, several discrepancies between the two concepts which make a varietal separation seem advisable.

In the first place, *Scaphyglottis Summersii* commonly presents a very different vegetative appearance from *S. punctulata*. It usually has much branched stems, with the upper portion of the stem-members commonly conspicuously surpassing the uppermost leaf-sheath, whereas *S. punctulata* has simple or few-branched stems which are distichously leafy with only the uppermost part emerging as a short, naked portion above the upper leaf-sheath.

There are also marked differences in the flowers. The lip of *S. Summersii* always seems to have a short but distinct claw, and the base of the lamina is more or less rounded to subcordate, whereas the lip of the species has a sessile cuneate base. Finally, the column of *S. Summersii* is always shorter than that of *S. punctulata*.

This concept, as *Scaphyglottis Summersii*, was first described from Ecuador, but it has been subsequently detected from Colombia, Peru and Bolivia.

**Polystachya nana** (Poepp. & Endl.) Reichenbach *filius* in Walp. Ann. 6 (1863) 638.—Cogniaux in Martius Fl. Bras. 3, pt. 4 (1896) 319.

*Encyclia nana* Poeppig & Endlicher Nov. Gen. ac Sp. 2 (1837) 10, t. 113A.

*Encyclia polystachya* Poeppig & Endlicher Nov. Gen. ac Sp. 2 (1837) 10, t. 113B.

*Stelis foliosa* Lindley in Ann. & Mag. Nat. Hist. 2 (1839) 330, t. 17.

*Polystachya cerea* Lindley in Bot. Reg. 26 (1840) Misc. p. 86, no. 208.



*Polystachya clavata* Lindley in Bot. Reg. 28 (1842) Misc. p. 61., no. 71.

*Polystachya Weigeltii* Reichenbach filius in Linnaea 25 (1852) 230.

*Polystachya nana* Klotzsch in Ind. Sem. Hort. Berol. (1853) N. 5, *nomen*.

*Polystachya caracasana* Reichenbach filius in Bonpl. 2 (1854) 15.

*Polystachya foliosa* Reichenbach filius in Walp. Ann. 6 (1863) 640.—Cogniaux in Martius Fl. Bras. 3, pt. 4 (1895) 316.

*Polystachya minor* Fawcett & Rendle in Journ. Bot. 48 (1910) 106; Fl. Jam. 1 (1910) 49, t. 7, figs. 6–7.

*Polystachya altilamellata* Schlechter in Fedde Repert. 10 (1912) 385.

*Polystachya ecuadorensis* Schlechter in Fedde Repert. Beih. 8 (May 1921) 90; in Fedde Repert. Beih. 57 (1929) t. 95, nr. 370.

*Polystachya Poeppigii* Schlechter in Fedde Repert. Beih. 9 (Sept. 1921) 155.

*Polystachya cubensis* Schlechter in Urban Symb. Antill. 9 (1923) 59.

*Polystachya amazonica* Schlechter in Beih. Bot. Centralbl. 42, Abt. 2 (1925) 77; in Fedde Repert. Beih. 58 (1930) t. 47, nr. 186.

*Polystachya Huebneri* Schlechter l.c., 112.

*Polystachya stenophylla* Schlechter l.c. 113.

Prolonged study of collections of *Polystachya* from the American tropics, following years of varied and changing determinations, has convinced me that the characters heretofore used for specific separation are highly variable and indecisive and that such classic treatments as that of Cogniaux in Martius, *Flora Brasiliensis* are untenable. Strange as it may seem, it was the vegetative features (that are known to be extremely incon-



stant) which usually formed the major key to separation, and investigation shows these characters to be wholly unreliable. For instance, the size of the plant, the width of the leaves, the relation of the height of the inflorescence to that of the leaves, and the racemose or paniculate form of the inflorescence were erroneously considered to be of great weight. Contributory marks of distinction were taken in the size and termination of the floral segments and in the exact form of the petals and lip.

I have come to the conclusion, concurred in by that astute student of orchidology, Mr. Leslie Garay of Toronto, Canada, that *Polystachya* takes its place among such strikingly polymorphic groups as *Epidendrum*, *Spiranthes* and *Habenaria*. As a consequence, it has seemed advisable in the interests of truth and simplicity, to make the above reductions, now that an abundance of material is available.

Mr. Garay points out that his "microfilm copy of Poeppig's Nova Genera bears a pencil mark of unknown origin which indicates that on plate 113 the habit sketch B (*Encyclia polystachya*) and the details A belong together [contrary to the citation], also the habit sketch A and the details B." Indeed this interpretation proves to be true, judging from Cogniaux' description of *Polystachya nana* in Martius Flora Brasiliensis, Vol. 3, pt. 4 (1896) 319, after his having seen the Poeppig type of *Encyclia nana*. However, his description of the lip of *Encyclia nana* agrees well with the drawing of the lip of *Encyclia polystachya*.

After making allowance for the well-authenticated fact that the mid-lobe of the lip of this group of *Polystachya* is often slightly retuse at the broadly rounded apex, it appears certain that the concepts *Stelis foliosa* Lindl., *Polystachya cerea* Lindl., *Polystachya clavata* Lindl., and *Polystachya caracasana* Reichb.f. (all represented in the

Ames Herbarium and accompanying library by drawings of the type) are inseparable from our basic concept.

*Polystachya Weigeltii* Reichb.f., described with a retuse mid-lobe of the lip, was reduced to *P. foliosa* by Reichenbach filius in his type diagnosis of the latter species, while that great orchidologist considered *P. nana* Kl. referable to *P. caracasana* Reichb.f.

*Polystachya minor* Fawc. & Rendle has already been shown to represent *P. cerea* Lindl.

It is evident both from an excellent photograph of the type and from the diagnosis that *Polystachya altilamelata* Schltr. is only a narrow-leaved form of this variable species. In this form, the mid-lobe of the lip is described as suborbicular, as seen in the type drawing of that organ in *P. caracasana* Reichb.f.

*Polystachya ecuadorensis* Schltr. seems, judging from the description and from the floral analysis, to represent a concept closely similar to the usually broad-leaved species with the quadrate mid-lobe of the lip shown by *Polystachya minor* Fawc. & Rendle.

Judging from a photograph of the type and the original description, *Polystachya cubensis* Schltr., represents a plant inseparable from *P. minor* Fawc. & Rendle, with somewhat longer and narrower leaves.

It appears that *Polystachya amazonica* Schltr. represents the small form exemplified by *Stelis foliosa* Lindl., but it seems to have the ovate-oblong dorsal sepal and the subquadrate mid-lobe of the lip seen in *Polystachya minor* Fawc. & Rendle.

*Polystachya Huebneri* Schltr. and *P. stenophylla* Schltr., both narrow-leaved species, are in other characters very similar to *P. minor* Fawc. & Rendle. In *P. Huebneri*, the inflorescence is described as commonly little surpassing the leaves, and the flowers appear to be very close to those shown in the type of *Stelis foliosa*



Lindl., but with the subquadrate mid-lobe of the lip seen in *P. minor*. *P. stenophylla* has even narrower leaves than *P. Huebneri*, but the panicle is described as always shorter than the leaves and the larger flowers appear to be similar to those of *P. minor*.

This extremely polymorphic species extends from Mexico (*P. cerea*), through Central America (*P. clavata*, *P. guatemalensis*, *P. panamensis*), through the West Indies (*P. minor*, *P. cubensis*) to South America (*Stelis foliosa*, *Encyclia nana*, *Encyclia polystachya*, *P. Weigeltii*, *P. altilamellata*, *P. ecuadorensis*, *P. amazonica*, *P. Huebneri* and *P. stenophylla*).

**Warrea Warreana** (Lodd. ex Lindl.) C. Schweinfurth comb. nov.

*Maxillaria Warreana* Loddiges ex Lindley Gen. & Sp. Orch. (1832) 148.—Loddiges Bot. Cab. (1833) t. 1884.—Hooker in Bot. Mag. 72 (1846) t. 4235.

*Warrea tricolor* Lindley in Bot. Reg. 29 (1843) Misc. p. 14.—Cogniaux in Martius Fl. Bras. 3, pt. 5 (1901) 376, t. 81.

*Warrea speciosa* Schlechter in Fedde Repert. Beih. 9 (1921) 98; in Fedde Repert. Beih. 57 (1929) t. 123, nr. 483.

It has been pointed out by Cogniaux (l.c.) that *Warrea tricolor* represents the plant depicted as *Maxillaria Warreana*.

The concept described and figured as *Warrea speciosa* seems to be surely referable to the same species.

According to strict adherence to the rule of priority, it becomes necessary to make the above combination.

**Maxillaria attenuata** Ames & Schweinfurth in Sched. Orch. 10 (1930) 89.

The occurrence in South America of this Costa Rican species with markedly longer leaves and flowers than



formerly attributed to this concept makes advisable the following redescription:

Plant small, caespitose, up to 10 cm. high. Pseudobulbs complanate, ovoid to ellipsoid, about 1 cm. high, unifoliate, finely rugose in the dried specimen, clothed at the base with two pairs of sheaths, the upper being larger and leaf-bearing. Leaves with more or less conspicuous petioles, up to 9.4 cm. long; lamina elliptic to oblong, acute, cuneate below, up to 8 cm. long and 1.4 cm. wide. Inflorescence subequaling or surpassing the leaves, spreading, 1-flowered; peduncle mostly concealed by several loose, tubular sheaths of which the lower are successively smaller and imbricated. Flower large for the plant, membranaceous and nervose. Dorsal sepal linear-lanceolate or linear-triangular, long-acuminate, 1.8–2.6 cm. long, 4–4.6 mm. wide across the concave base. Lateral sepals linear-triangular to narrowly triangular-lanceolate, oblique, slightly longer and noticeably broader than the dorsal sepal, forming a conspicuous mentum at the base. Petals similar to the lateral sepals, but markedly smaller. Lip erect, parallel to the column and lightly recurved in natural position, more or less sharply 3-lobed in the middle, elliptic-lanceolate to ovate-lanceolate in outline when expanded, about 1.5–1.8 cm. long, 5–9 mm. wide; mid-lobe triangular-lanceolate to ovate-lanceolate, dorsally keeled and mucronate at the apex; disc with a more or less pronounced median, longitudinal callus. Column short and stout, 4–5 mm. high at the back, extended into a slightly longer foot.

VENEZUELA: State of Bolívar, Ptari-tepuí, on densely forested, steep, south-facing slopes overlying sandstone, between "Cave Rock" and the base of high sandstone bluffs, 2100–2285 meters altitude, flower brown and yellow, October 30, 1944, *Julian A. Steyermark* 59359.

PERU: Cuzco; Province of Paucartambo, Santa Isabel to Asunción, epiphyte at 1800 meters altitude, flower wine-red, January 4, 1946, *C. Vargas* 5536.

**Lockhartia hologlossa** *Schlechter* in Fedde Repert. Beih. 7 (1920) 199; in Fedde Repert. Beih. 57 (1929) t. 71, nr. 274.

*Lockhartia unicornis* *Schlechter* in Fedde Repert. Beih. 7 (1920) 200; in Fedde Repert. Beih. 57 (1929) t. 71, nr. 275.

A critical examination of the descriptions of these Colombian concepts, amplified by the floral analyses cited above, indicate that they should be considered conspecific.

According to the descriptions, there is a considerable discrepancy between the small flowers of *Lockhartia hologlossa* and the relatively large flowers of *L. unicornis*. However, as often noted in the case of many tropical orchids, there is a wide range in the size of the flowers of one species during the course of development. Accordingly, a separation which depends chiefly on size is apt to be unwarranted. Furthermore, the morphological characters of the floral parts of the two species are closely similar and surely not worthy of specific separation.

Two recently studied collections from the Department of Cuzco, Peru, appear to be referable to this variable species. While they show wide variation in vegetative size, the sepals and petals of both collections are intermediate in size between those of *L. hologlossa* and *L. unicornis*.

PERU: Cuzco; Prov. of Quispicanchis, Ttio to Murayaca, Marcapata, at 1960 meters altitude, on rocks, perianth yellow, January 28, 1943, *C. Vargas* 3138.—Prov. of Urubamba, Machu-Picchu, at 2020 meters altitude, on rock, flower yellow, January 4-5, 1946, *Vargas* 5546.

**Telipogon Hercules** *Reichenbach filius ex Kränzlin* in Ann. Naturh. Hofmus. Wien 33 (1919) 27.

In the Ames Herbarium there is a specimen bearing the label "Telipogon Hercules Rb. f. Pueblo-Laguna Columbia: Bei Pasto. 1500' lg. Lehmann Typus!" This collection, which has the same general facies and floral



measurements of the description and is cited after the description in the position of a cotype, must be considered as truly representing this concept. It shows, however, certain marked discrepancies from the description, and it appears that these characters should be noted.

The longest leaf measures 9 cm. in length, whereas the description gives the maximum length as 10 cm. The peduncle with the rachis of the raceme is about 16 cm. high, whereas the diagnosis gives a height of 25–33 cm. and it appears more or less angulate rather than terete. The most important discrepancy seems to exist in the veining of the petals and lip—a character which is very generally considered of major importance in separating the species of the genus *Telipogon*. The petals of this collection are 13-nerved (not 19-nerved), and the lip is only 17-nerved (not 29-nerved). Moreover, both the petals and lip bear numerous, though indistinct, oblique cross-reticulations which are not described.

***Trichoceros muralis* Lindl. var. *platyceros* (Reichb.f.) C. Schweinfurth comb. nov.**

*Trichoceros platyceros* Reichenbach filius in *Xen. Orch.* 1 (1854) 22, t. 9, fig. III.

This concept, which was described from a single flower, was said to differ from *T. muralis* by having the dorsal sepal shorter than the lateral sepals, by having the base of the lip ecallose and by having the lateral lobes of the lip semiovate from a clawed base, rather than linear or oblong.

Actually the shorter appearance of the dorsal sepal was in part caused, as Reichenbach says (l.c.), by its cucullate character, so that there seems to be little difference in length when this organ is expanded.

In the Ames Herbarium there are two collections, one from Ecuador and one from Peru, which have the short

semiovate or oblong-obovate lateral lobes of the lip like *T. platyceros*, but the center of the disc at the base is marked by a distinct fleshy, pilose callus as in *T. muralis*.

It appears to me the wiser course, as was indicated by Lindley on the sheet bearing the type collection of *T. muralis*, to consider *T. platyceros* as a variant of *T. muralis*.

Since this concept lacks any vegetative description, it seems desirable to give a rather complete diagnosis as follows:

Plant small to medium-sized, epiphytic. Roots fibrous, stout, glabrous. Rhizome creeping, more or less concealed by close, tubular sheaths. Pseudobulbs small, broadly ovoid, mostly concealed by sheaths or the bases of the imbricating leaves. Leaves two or three, clustered at the base of the stems, suborbicular to elliptic-oblong, sessile at the clasping base, prominently apiculate, up to about 4 cm. long and 1.4 cm. wide, coriaceous. Stems up to 15.5 cm. high with a slender, filiform peduncle provided by several (two or three) short, infundibuliform sheaths. Raceme short, loosely up to 7-flowered. Flowers rather small, with spreading segments. Dorsal sepal cucullate, ovate-elliptic, acute, apiculate, 8–16 mm. long, up to 9 mm. wide. Lateral sepals similar, sometimes slightly longer. Petals similar to the sepals, but sometimes slightly broader, ciliolate throughout. Lip about equaling the other segments, 3-lobed at the base, up to 15 mm. long; lateral lobes relatively small, obliquely semiovate to oblong-obovate, rounded-obtuse; mid-lobe relatively large, obovate or oblong-obovate, rounded at the apex with sometimes a minute apicule; disc more or less pilose throughout. Column minute, densely setose.

ECUADOR: near Loja, *Warscewicz s.n.* (type).—Province of Azuay, Cuenca, 2600 meters altitude, July 16, 1939, *C. William Penland & Robert H. Summers 1054*.



PERU: Department of Ancash, Province of Bolognesi, Chupa, mountain near Aquia, 3200–3250 meters altitude, on stony soil, “rojo oscuras,” called “michimichi,” May 18, 1950, *Ramon Ferreyra* 7546.

***Trichoceros parviflorus*** *Humboldt, Bonpland & Kunth* Nov. Gen. & Sp. 1 (1816) 337, t. 76.—*Lindley* Gen. & Sp. Orch. (1833) 174.—*Reichenbach filius* in *Xen. Orch.* 1 (1854) 21, t. 9, figs. I; II, 1–6.

*Trichoceros armillatus* *Reichenbach filius* in *Bonpl.* 4 (1856) 212; in *Xen. Orch.* 1 (1858) 231, t. 97, fig. V.

*Trichoceros muscifer* (as *muscifera*) *Kränzlin* in *Engler Bot. Jahrb.* 37 (1906) 387.

As was pointed out by *Reichenbach filius* (in *Walp. Ann.* 3 (1852) 563, sub *Hofmeisterella*) the organs which were described and illustrated as antenna-like processes of the column in *Trichoceros parviflorus*, the type of its genus, do not belong to the column, but are in reality lateral lobes of the lip.

The concept *Trichoceros armillatus* is said to vary from the allied *T. parviflorus* by having the mid-lobe of the lip somewhat calceolate or lightly concave, a character which is indicated in the illustration. Furthermore, the sepals are described as carinate without; the species is relatively small and bears only three flowers.

Whereas the lip of *T. parviflorus*, in the numerous collections of that widespread species, is generally flat or even convex, in occasional specimens the lip has the lateral margins more or less involute, particularly in the freshly opened flowers, and thus a lightly concave condition prevails. Also, the lateral sepals of *T. parviflorus* seem to be sometimes more or less carinate.

It appears reasonable, therefore, to regard *T. armillatus* as referable to the variable *T. parviflorus*, of which small, few-flowered forms are seen intermixed with the larger plants.

The plant described as *Trichoceros muscifer* was al-

leged to be distinct from the related *T. parviflorus* by reason of the bristle-like setae on the column and at the base of the lip. However, a similar area of bristle-like hairs appears on the column and on the lip of specimens referable to *T. parviflorus*, and a wide range of variability in degree and prominence of the hairs is evident on the lip of various collections referable to that species. Moreover, an excellent photograph of *T. muscifer* bearing a floral analysis does not show any appreciable disparity from a Bolivian collection (*Mandon 1149*) determined by Reichenbach filius as exemplifying *T. parviflorus* and from several Peruvian collections lately determined as representing the latter species. It is noteworthy that the sepals and petals of *T. muscifer* are described as obtuse, whereas the analysis shows them to be acute or acuminate.

A peculiarity of this species is that the basal part of the lip occasionally bears a more or less marked, central, longitudinal fleshy ridge or thickening, sometimes resembling a keel. In one flower of *T. parviflorus* from Bolivia (*Mandon 1149*) such a keel is evident on the basal portion of the lip of one flower, while a bud from that same collection shows a lip that is quite ecarinate or ecallose, thus indicating a variable condition.

As now understood, *Trichoceros parviflorus* extends from Colombia (type), Ecuador and Peru to Bolivia.

**Dichaea pendula** (*Aubl.*) *Cogniaux* in *Urban Symb. Antill.* 4 (1903) 182, 6 (1910) 670; in *Martius Fl. Bras.* 3, pt. 6 (1906) 486, t. 102, fig. 1, *excl. synonym. in part.*

*Limodorum pendulum* Aublet *Pl. Guian.* 2 (1775) 819, t. 322.

*Dichaea echinocarpa* Lindley *Gen. & Sp. Orch.* (1833) 208, non *Epidendrum echinocarpon* Swartz nec *Cymbidium echinocarpon* Swartz.

*Dichaea echinocarpa* (Sw.) Lindley var. *lobata* Ames



& Correll in Bot. Mus. Leaflet. Harvard Univ. 11 (1943) 71, t. 4, fig. 2 (p. 70).

This concept, according to Aublet's description and to the interpretation of Cogniaux, is characterized by a definitely 3-lobed or sagittate lip. It is chiefly limited to the West Indies and to South America (Venezuela, Guiana and Brazil), but, as *D. echinocarpa* var. *lobata* is recorded from Costa Rica.

***Dichaea pendula* (Aubl.) Cogn. var. *Swartzii* C. Schweinfurth var. nov.**

*Epidendrum echinocarpon* Swartz Prodr. Veg. Ind. Occ. (1788) 124.

*Cymbidium echinocarpon* Swartz in Nov. Act. Upsal. 6 (1799) 71; Fl. Ind. Occ. 3 (? 1806) 1452, *excl. synonym. in part.*

*Dichaea echinocarpa* Lindley, sensu Fawcett & Rendle in Fl. Jam. 1 (1910) 136, t. 30, figs. 26–30.

Fawcett and Rendle point out that the Jamaican specimens of *Dichaea echinocarpa* have an entire lip which is merely angulate above, and this concept was first described as *Epidendrum echinocarpon* and *Cymbidium echinocarpon* by Swartz.

The plant characterized by the simple, merely angulate lip without any definite lateral lobes appears to be confined to the West Indies and to Costa Rica and to constitute a distinct variety.

*Epidendrum echinocarpon*, however, which was published by Swartz without any floral characterization, is an illegitimate name, for it should have borne the epithet *pendulum* following the citation in synonymy of *Limodorum pendulum*. Therefore, the name must be eliminated from consideration, even in a varietal category.

***Centropetalum distichum* Lindley Sert. Orch. (1838) sub t. 21; in Benth. Pl. Hartweg. (1844) 150.—**

Reichenbach filius in *Xen. Orch.* 1 (1855) 96.—Kränzlin in *Engler Pflanzenr.* IV. 50 (Heft 83) (1923) 30.

*Centropetalum Warscewiczii* Reichenbach filius in *Bot. Zeit.* 10 (1852) 706; in *Xen. Orch.* 1 (1855) 96, t. 38, fig. I, 1–5.

*Fernandezia disticha* (Lindl.) Schlechter in *Fedde Repert.* 16 (1920) 349.

*Fernandezia Warscewiczii* Schlechter l.c.

*Fernandezia pulchra* Schlechter in *Fedde Repert. Beih.* 9 (1921) 117; in *Beih.* 57 (1929) t. 131, nr. 513.

On the evidence of the descriptions of *Centropetalum Warscewiczii* combined with the analytical drawing cited, it appears that this concept cannot reasonably be separated from the earlier *C. distichum* which is represented in the Gray Herbarium by authentic material and in the Ames Herbarium by a photograph of the type with floral analyses. Indeed, the only discrepancies to be found are that the lip of *C. Warscewiczii* is lightly retuse in contrast to the entire (or denticulate) apex of this organ in *C. distichum*, and the color of the flowers which is designated as purple or blood-red in *C. Warscewiczii*, as contrasted with yellow or orange-yellow in *C. distichum*. On the sheet bearing the photograph of typical *C. distichum*, however, there is one lip (of an Ecuadorian plant) showing a similarly retuse lip. Thus the slight discrepancy in color appears to be the only remaining difference.

The name *Fernandezia* must be considered to be invalid, because this genus (as illustrated in Ruiz & Pavon *Fl. Peruv. et Chil. Prodrum* (1797) t. 27, *Fernandezia*) comprises at least two different genera.

In describing the concept *Fernandezia pulchra* (l.c.) Schlechter says that it differs from *Centropetalum distichum* in having larger flowers of different color, in the form of the lip and its callus and in the toothed and 3-lobed clinandrium. However, the photograph of typi-



cal *C. distichum* previously mentioned shows one flower quite as large as that of *Fernandezia pulchra*, and the form of the lip appears to be substantially similar in the two concepts. Moreover, the 3-lobed and toothed clinandrium in *Fernandezia pulchra* is shown also in the analysis of *Centropetalum distichum* as drawn on the sheet bearing the type specimens. Accordingly, the only discrepancies between these two concepts consist in minor differences in the color of the flowers and in slight discrepancies in the callus on the lip.

It seems to me, therefore, that all of these concepts should be treated as representing a single variable species.



Schweinfurth, Charles. 1955. "Further Notes on American Orchids." *Botanical Museum leaflets, Harvard University* 17(2), 37-64.

<https://doi.org/10.5962/p.168497>.

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