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ORCHIDACEAE PERUVIANAE VI

BY

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THE FOLLOWING ARTICLE consists of amplifications, nomenclatorial notes and diagnoses of new species, all concerning Peruvian orchids. The novelties are in the genera *Cryptocentrum*, *Neokoehleria*, *Trichopilia* and *Notylia*.

Cyrtoglottis gracilipes *Schlechter* in Fedde Repert. Beihefte 7 (1920) 182; ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 65, nr. 250.

This Colombian orchid is now exemplified by three Peruvian collections, in which there appear to be certain discrepancies from the type. One plant bears an oblong-ovoid, rather than "narrowly oblong," pseudobulb, and another has a larger pseudobulb about 3 cm. long. The leaves are elliptic-oblong, rather than "ligulate," commonly longer than specified (up to 10.2 cm. long) and always wider (up to 2.8 cm. broad). The dorsal sepal is 2.6–3 cm. (not 2.3 cm.) long, and the lateral sepals are up to 3.5 cm. long. The lip, which has a more or less distinct lateral lobule above the middle on each side, is often somewhat wider than specified and the column is sometimes over 8 mm. (not 7 mm.) long.

JUNIN: Chanchamayo Valley, at 1500 meters altitude, September 1930, *Carlos Schunke 1119*; same locality, at 1600 meters altitude, June 1930, *Carlos Schunke 1734*; Schunke Hacienda, above San Ramón,

at 1400–1700 meters altitude, epiphyte in dense forest, “three perianth segments and column salmon-pink; lip purple-dotted,” *E. P. Killip & A. C. Smith 24883*.

Trigonidium tenue *Loddiges ex Lindley* in Bot. Reg. 25 (1839) Misc. p. 44, no. 59—Cogniaux in Martius Fl. Bras. 3, pt. 6 (1904) 102.

Trigonidium peruvianum Schlechter in Fedde Repert. Beihefte 9 (1921) 107; ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 127, nr. 497.

The concept, *Trigonidium peruvianum*, is represented as having subobtuse petals, whereas those of *T. tenue* are sharply acute. Aside from slight variations in floral measurements, there are no other significant differences between these species. The tricarinate callus on the lip, which is attributed to *T. peruvianum*, is doubtless represented by three central approximate more or less callose-thickened lines shown on the lower portion of the lip of *T. tenue*.

It appears entirely reasonable, therefore, to reduce *T. peruvianum* to the earlier *T. tenue*.

Cryptocentrum inaequisepalum *C. Schweinfurth* *sp. nov.*

Herba gracilis, pro genere altior, epiphytica. Caulis brevis, foliorum vaginis numerosis, distichis, imbricatis obtectus. Folia anguste linearia, in sicco arcuata, abrupte obtusa, inferne conduplicata. Inflorescentiae laterales, basales, numerosae, uniflorae, filiformes, vaginis anguste tubulatis ornatae. Sepalum dorsale lineari-lanceolatum, acutum. Sepala lateralibus longiora, oblique lanceolato-linearibus, acuta. Petala multo breviora, oblique lineari-lanceolata, longe acuminata. Labellum in calcar elongatum extensum; pars libera lanceolata, longe acuminata, infra dilatata et concava; calcar filiformi-cylindraceum. Columna perbrevis, more generis.

Plant slender, epiphytic, rather tall for the genus, about 20 cm. high. Roots fibrous, filiform, numerous, glabrous. Stem short, entirely invested by numerous distichous imbricating leaf-sheaths of which only the upper ones bear approximate blades, about 3.3 cm long. Leaves narrowly linear, arcuate in the dried specimen, abruptly obtuse, about 20 cm. or less long, 3.2 mm. or less wide, conduplicate below in the dried plant. Inflorescences lateral, basal, numerous, spreading, 1-flowered; peduncle filiform, up to 8.3 cm. long, adorned with several close tubular sheaths which are short and imbricating near the base and elongate and separated above. Ovary entirely concealed and surpassed by an elongate tubular bract. Flower rather large, yellow-green, translucent. Segments spreading. Sepals connate into a tube at base, as in the genus. Dorsal sepal linear-lanceolate, complicate-acute or subacuminate, 5-nerved, free part about 15.5 mm. long and 3.7 mm. wide below. Lateral sepals obliquely lanceolate-linear, complicate-acute, 5-nerved, free part about 19 mm. long and 3 mm. wide, produced below into an elongate spur. Petals much shorter than the sepals in natural position, obliquely linear-lanceolate, long-acuminate, 3-nerved, about 13.5 mm. long and 3 mm. wide near the base, with the margins of the basal part more or less irregular. Lip produced into an elongate spur; free portion lanceolate, long-acuminate to an acute tip, cuneate near the base, 3-nerved, about 9.8 mm. long and 4.2 mm. wide across the dilated and concave lower portion when expanded; spur filiform-cylindric, about 16 mm. long, subobtuse. Column very short and stout, straight, wing-dilated with a concave upper portion, about 2.2 mm. high at the back.

Cryptocentrum inaequisepalum has two apparent allies. The Colombian *C. pergracile* Schltr. is a smaller plant, with shorter leaves, much shorter sepals and a 7- (not 3-)

nerved lip. The Costa Rican *C. gracilipes* Schltr. has broader leaves, similarly smaller sepals and differently shaped, 5-nerved petals.

AYACUCHO: Aina, between Huanta and Río Apurímac, at 750–1000 meters altitude, epiphyte in open woods, May 7, 17, 1929, E. P. Killip & A. C. Smith 23154 (TYPE in Herb. Ames No. 61960).

Cryptocentrum peruvianum (Cogn.) *C. Schweinfurth* comb. nov.

Centroglossa ? *peruviana* Cogniaux in Bull. Soc. Roy. Bot. Belg. 43 (1906) 331.

An examination of the type material of Cogniaux' concept, borrowed from the Herbar du Jardin Botanique de l'État at Brussels, shows conclusively that it is very dissimilar to the genus *Centroglossa* as illustrated by Cogniaux (in Martius Fl. Bras. 3, pt. 6 (1904) t. 46, figs. 1 and 2). It should be referred to the genus *Cryptocentrum*, bearing the combination above.

The combination *Cryptocentrum peruvianum* was used by Schlechter (in Fedde Repert. Beihefte 27 (1924) 103) in the discussion of *C. Hoppii*. No description was given and no other occurrence of the combination has been found in literature. Consequently the Schlechter usage is a nomen and cannot affect the combination here made.

Contrary to the description, the sepals and petals are acute or acuminate, and neither obtuse nor truncate—a characterization doubtless due to the fact that in the type specimen these organs usually appear to be broken off at the tip. In addition, the lip, like the entire perianth, is fleshy and not membranaceous as described, and it is lanceolate in outline, rather than ovate-rhomboid.

Cryptocentrum peruvianum has two rather close allies. It appears to differ from the Colombian *Cryptocentrum Hoppii* Schltr. (which I have not seen) in having broader leaves, purple (not greenish yellow) flowers and a longer

spur. It is separable from the Costa Rican *C. Standleyi* Ames in having broader leaves, relatively shorter scapes and much smaller flowers, especially the spur.

***Cryptocentrum pseudobulbosum* C. Schweinfurth sp. nov.**

Herba pusilla, caespitosa, pseudobulbifera. Pseudobulbi perparvi, in sicco cylindranei, apice bifoliati, vaginis foliiferis juventute circumdati. Folia anguste linearia, abrupte acuta. Inflorescentiae laterales, basales, filiformes, patentes, uniflorae. Flos parvus. Sepala more generis basi connata. Sepala lineari-lanceolata, acuta. Petala anguste lanceolata, acuminata. Labellum in calcar productum; pars libera lanceolata, acuminata, inferne concava leviter trilobata; calcar pertenu, cylindraceum, obtusum. Columna perbrevis, apice concavo dilatata.

Plant small, caespitose, 4–5 cm. tall. Roots numerous, fibrous, filiform, flexuous. Pseudobulbs very small, cylindric, complanate and closely striate-rugose in the dried specimen, bifoliate at the apex, about 7.5 mm. long, surrounded in youth by one or more pairs of leaf-bearing sheaths. Leaves narrowly linear, abruptly acute, up to 4 cm. long and 2 mm. wide, conduplicate below. Inflorescences lateral, basal, filiform, spreading, with several close tubular sheaths, 1-flowered, the peduncle about 4 cm. long. Flower small, nervose. Sepals connate below as in the genus, 5-nerved. Dorsal sepal (free portion) linear-lanceolate, abruptly acute and apiculate, about 7.2 mm. long and 2 mm. wide below. Lateral sepals (free portion) very similar to the dorsal sepal but slightly larger and suboblique. Petals narrowly lanceolate, acuminate, slightly shorter than the sepals in natural position, with minutely irregular margins, 2 mm. wide, 3-nerved. Lip produced into a long spur; free portion lanceolate in outline, long-acuminate, cuneate toward the narrow base,

more or less lightly 3-lobed below the middle, concave below, about 9 mm. long and 3.8 mm. wide across the lateral lobes when expanded, 3-nerved; lateral lobes erect, very broadly rounded; mid-lobe much larger, linear-triangular; spur very slender, cylindric, obtuse, about 9.5 mm. long. Column short, straight, about 2.2 mm. long at the back, with a pair of porrect semiorbicular auricles above.

This species is at present unique in the genus in having pseudobulbs. It differs from *Cryptocentrum minus* Schltr. also in having longer, narrower acute sepals and narrower petals.

JUNIN: Chanchamayo Valley, at 1800 meters altitude, October, "1924-1927," *Carlos Schunke s.n.* (TYPE in Herb. Field Mus. No. 571630).

Neokoehleria equitans *Schlechter* in Fedde Repert. 10 (1912) 390; ex Mansfeld in Fedde Repert. Beihefte 58 (1930) t. 53, nr. 211.

A recently identified plant from the same region as the type appears to be referable to this concept. It shows, however, certain discrepancies. The plant is vegetatively larger than specified. The pseudobulb is about 15 mm. long, rather than 5-8 mm. long. The leaf is not equitant (as is shown by a photograph of the type), but is linear and 11.6 cm. long, instead of 4.5-8.5 cm. long. The inflorescence is also longer, being about 14.7 cm. long. The flowers are slightly smaller, but in general they are of nearly the same form. The sepals are about 5 mm. (instead of 6.5 mm.) long. The petals are broadly rounded above, rather than obtuse, and the slightly shorter lip is more or less retuse, instead of rounded at the apex.

JUNIN: Chanchamayo Valley, at 1500 meters altitude, December 1923, *Carlos Schunke 550*.

Neokoehleria paniculata *C. Schweinfurth sp. nov.*
Herba pusilla, inconspicua. Rhizoma abbreviatum.

Pseudobulbi perparvi, oblongo-cylindranei ut videtur, monophylli. Folium anguste lineare, in sicco valde carnosum et cylindraneum ut videtur. Inflorescentiae laterales, basales, vulgo laxae ramosae. Flores minuti, membranacei. Sepalum dorsale elliptico-oblongum. Sepala lateralibus in laminam rotundato-ovatum connata, infra in calcar crassum apice truncatum producta. Petala oblique cuneato-obovata, apice late rotundata. Labellum oblongo-obovatum, apice rotundatum, postice in calcaria duo tenuia productum; discus lamellis duabus planis dimidio inferiore ornatus. Columna crassa, clavata.

Plant very small, inconspicuous. Roots fibrous, flexuous, glabrous, numerous. Pseudobulbs small, caespitose, oblong-cylindric and deeply striate-rugose in the dried specimen, unifoliate at the apex, about 11 mm. or less long, concealed in youth by several distichous imbricating evanescent sheaths. Leaf narrowly linear, acute, apparently fleshy-thickened and semicylindric in section, slightly cuneate-narrowed to a sessile conduplicate base, about 8.9 cm. long and 3–5 mm. wide (only one complete blade present). Inflorescences lateral, basal, numerous, commonly loosely branched or paniculate with short more or less recurved several-flowered branches, enveloped at base by several distichous imbricating scarious sheaths. Floral bracts widely spreading, lanceolate, concave. Flowers very small, membranaceous. Dorsal sepal elliptic-oblong, subacute, concave, 4.7–5 mm. long and 2 mm. wide. Lateral sepals connate into a suborbicular-ovate concave retuse lamina which is bicarinate without and about 2.5 mm. long, produced below into a stout spur which is subquadrate-cylindric, abruptly truncate and about 2.3 mm. long. Petals obliquely cuneate-obovate, very broadly rounded or subtruncate and concave above, 4.5–5 mm. long and 3 mm. wide near the apex. Lip oblong-obovate, broadly rounded at the (imperfect)

apex, very obscurely trilobed above the middle, about 3.8 mm. long and 2 mm. across the widest part, produced at base into a pair of narrow lightly sigmoid spurs which are connate below, terminate in a more or less dilated obtuse apex and are about 2.5 mm. long; disc adorned through the lower half with a pair of semiobovate flat lamellae. Column stout, clavate, about 3.7 mm. long, terminating in a prominent ovate concave clinandrium. Anther semiovoid, 1-celled. Pollinia two, pyriform. Stipe elongate, cuneate-spatulate.

This species appears to be unique in the genus in having paniculate inflorescences. It is further distinguished from *N. peruviana* Schltr. by the stout truncate spur.

JUNIN: Chanchamayo Valley, at 1800 meters altitude, November "1924-1927," *Carlos Schunke 545* (TYPE in Herb. Field Mus. No. 571603).

***Neokoehleria peruviana* Schlechter** in Fedde Repert. 10 (1912) 391; ex Mansfeld in Fedde Repert. Beihefte 58 (1930) t. 54, nr. 213.

On the basis of a photograph of the type collection and a recently examined plant which is surely referable to this concept, several amplifications and corrections are necessary.

The leaves are not equitant as described, and they vary from linear to oblong-lanceolate with a width sometimes reaching 8 mm., instead of 4 mm. as described. The lamina formed by the lateral sepals is minutely bidentate, rather than subacute. The sac formed by the basal prolongation of the lateral sepals is only about 2.8 mm. (instead of 4 mm.) long, and it is abruptly truncate and scarcely retuse, rather than bifid as described. The appendages extending from the base of the lip are about 2 mm. (instead of 1.5 mm.) long, and the column is 3-3.3 mm. (rather than 4 mm.) long.

Trizeuxis falcata *Lindley* Collect. Bot. (1823) t. 2
—Hooker Exot. Fl. 2 (1824) t. 126—Cogniaux in Urban Symb. Antill. 6 (1910) 627.

Trizeuxis andina Schlechter in Fedde Repert. Beihefte 10 (1922) 52; ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 141, nr. 552.

A comparison of authentic material of *Trizeuxis falcata* from the type locality of Trinidad, supplemented by the plates above cited, with the description and analysis of the Bolivian *T. andina* Schltr., shows that these concepts should be regarded as conspecific.

The flowers of the Trinidad material examined seem to be exactly the same size as those of *T. andina* (not somewhat larger, as indicated), and the lip of the West Indian plant is, like *T. andina*, slightly broader at the base than above when expanded. At any rate, this character appears to be variable and at most inconspicuous.

This dainty little species extends from Costa Rica and Panama southward to Brazil, Bolivia and Peru, and also occurs on the island of Trinidad in the West Indies.

Trichopilia fragrans (*Lindl.*) *Reichenbach filius* var. **grata** (*Reichb.f.*) *C. Schweinfurth* comb. nov.

Trichopilia grata Reichenbach filius in Gard. Chron. (1868) 1338.

As shown by the type description of *Trichopilia grata*, supplemented by a drawing of the inflorescence and an analysis of the flower from the Reichenbach Herbarium at Vienna, this concept is very similar to the widespread and variable *T. fragrans*. Indeed, the single noteworthy difference between these species appears to rest on the central keel of the lip, which is rather low and uniform in *T. fragrans*, but is rather conspicuous, dilated and abruptly cut off in front in *T. grata*.

The vegetative parts of *T. grata*, although they are

not illustrated, the color of the flowers and the general form of the floral segments of the two concepts, seem to be nearly identical.

In the description of *T. grata*, the pseudobulbs are said to be diphyllous, but it would seem that this characterization must be based either upon an error or upon an abnormality, because every example of *Trichopilia* noted has a 1-leaved pseudobulb.

The two Peruvian collections cited below have unifoliate pseudobulbs, and, except for the keel character above noted, have the same characters and measurements as *T. fragrans*.

Cuzco: Prov. Quispicanchi, Marcapata Valley, evergreen hard-leaved bushwood consisting of shrubs and trees, at 1800 meters altitude, February 20, 1929, "Labellum white with central yellow spot, the other tepals greenish," *A. Weberbauer* 7840.

JUNIN: Río Mantaro, "1909-1914," *A. Weberbauer* 6582.

Neodryas rhodoneura *Reichenbach filius* in Bot. Zeit. 10 (1852) 835; Xen. Orch. 1 (1854) 38, t. 16, figs. II 12-25.

Neodryas Mandonii *Reichenbach filius* Xen. Orch. 3 (1878) 21.

Neodryas latilabia Smith & Harris in Contrib. Gray Herb. Harvard Univ. 117 (1937) 39, figs. a-c.

Neodryas reniformis Smith & Harris in Contrib. Gray Herb. Harvard Univ. 117 (1937) 39, figs. d-g.

An isotype of *Neodryas Mandonii* (*G. Mandon* 1146) in the Gray Herbarium seems to be inseparable from *N. rhodoneura* as represented by the detailed description and illustrations in Xen. Orch. 1, p. 38, t. 16, figs. The specimens of *N. Mandonii* do not have a depressed-pyriform pseudobulb as described, but an oblong or pyriform-cylindric pseudobulb as illustrated for *N. rhodoneura*. The only significant difference between these concepts is that *N. Mandonii* is described as having a

5-lamellate callus, whereas *N. rhodoneura* is noted as having a 6-lamellate callus—i.e., four central lobes with a pair of outer calli. The actual truth of the matter, as shown by a critical examination of the type of *N. Mandonii*, is that the callus at the base of the flaring anterior portion of the lip has four distinct lobes with a more or less developed shorter median portion connecting the two pairs of side lobes—a feature which is obscure or absent in the freshly boiled flowers but which becomes more distinct as the flower dries out. The two series of central lobes described and illustrated for *N. rhodoneura* are explained by the fact that these median callus-lobes are sometimes lightly indented in the middle.

The type of *N. latilabia* differs from the other forms of this variable species only in having somewhat broader and more ovoid pseudobulbs. Its flower, and especially the lip, corresponds well with the type of *N. Mandonii*, but the color is noted as red or red-orange rather than purple.

Neodryas reniformis does not appear to differ in any noticeable degree from *N. rhodoneura*.

***Brassia caudata* (L.) Lindley** in Bot. Reg. 10 (1824) t. 832—Hooker in Bot. Mag. 62 (1835) t. 3451—Fawcett & Rendle Fl. Jam. 1 (1910) 129, t. 28, figs. 7-9.

Epidendrum caudatum Linnaeus Sp. Pl., ed. 2 (1763) 1349.

Malaxis caudata Willdenow Sp. Pl. 4 (1805) 93.

Oncidium caudatum Reichenbach filius in Walpers Ann. 6 (1863) 766.

Brassia Lewisii Rolfe in Orch. Rev. 1 (1893) 199.

Judging from the description, supplemented by a photograph of the type at Kew and by several specimens in

the Ames Herbarium referred to that species, *Brassia Lewisii* cannot be separated from the widespread and variable *B. caudata*. The former concept, the habitat of which was unknown, does not show a single appreciable difference. The relative length of the petals and lip, sometimes relied upon for the separation of *B. caudata* from *B. Lewisii*, is a very variable character even in a single collection and, therefore, appears to be of no specific weight.

Brassia caudata extends from southern Florida, the West Indies and Mexico through Central America and most of the countries of northern South America as far south as Peru (Dept. of Loreto) and Bolivia.

***Brassia Forgetiana* Hort. ex Gard. Chron. ser. 3, 48 (1910) 434, 463, 471, fig. 209, nomen tantum.**

This concept, which is one of the Peruvian discoveries of the late collector M. Louis Forget, made its first appearance in 'The Gardeners' Chronicle (l.c.) where the brief diagnosis is chiefly confined to remarks on the color of the flowers. The excellent figure which appears on p. 471 of that volume has a revealing floral analysis which would have been regarded as evidence of satisfactory publication if it had appeared two years earlier (according to the International Rules of Botanical Nomenclature). Since there is apparently no subsequent diagnosis to validate this concept, I now propose to furnish both a Latin diagnosis and a detailed description (so that the concept can take its place among validly described and understood species).

Herba magna ut videtur. Folium magnum, oblongum vel elliptico-oblongum, apice abrupte subacutum vel rotundatum, parte inferiore conduplicata. Racemus arcuatus, dense multiflorus. Florum bracteae parvae, ovatae vel ovato-lanceolatae, valde concavae, quam ovarium

pedicellatum multo breviores. Flores pro genere mediocres, segmentis late patentibus. Sepalum dorsale anguste lanceolatum, perlonge acuminatum. Sepala lateralia oblique lineari-lanceolata, perlonge acuminata, paulo longiora. Petala oblique lineari-lanceolata, longe acuminata, falcato-incurva, sepalo dorsali multo breviora. Labellum pandurato-oblongum, apice rotundatum et longe cuspidatum, basi sessili rotundatum, quam sepala multo brevius; discus basi cum callis duobus carnosus approximatis parte apicali conjunctis. Columna perparva, generis typica.

Plant large, said to be allied to *B. maculata* R. Br. Leaf (but one incomplete blade illustrated) large, oblong or elliptic-oblong, abruptly subacute or rounded at the apex, over 30 cm. long, 6-7 cm. wide. Raceme arcuate, densely many-flowered, the rachis being nearly 20 cm. long. Floral bracts small, ovate or ovate-lanceolate, acuminate, clasping, about one third as long as the pedicellate ovary. Flowers medium-sized for the genus, with horizontally spreading segments, greenish white with transverse chocolate or chocolate-purple bars near the base of the sepals and petals. Dorsal sepal narrowly lanceolate, long-acuminate, concave, about 6 cm. long and 6-6.5 mm. wide below the middle. Lateral sepals linear-lanceolate, long-acuminate, oblique, slightly falcate-incurved, about 6.5 cm. long and 6 mm. wide near the base. Petals linear-lanceolate, oblique, long-acuminate, falcate-incurved, nearly 4 cm. long when expanded, about 5 mm. wide near the base. Lip pandurate-oblong, rounded and very abruptly long-cuspidate at the apex, sessile at the rounded base, nearly 4.5 cm. long, about 1 cm. wide near the base and 0.9 cm. wide near the apex; disc at the base with a pair of approximate longitudinal fleshy calli which are fused above into a slightly dilated abruptly truncate and trilobulate apex. Column very

short and stout, about 6 mm. high, with a large stigmatic cavity.

PERU: Habitat not recorded, *L. Forget s.n.*; introduced by Messrs. Sander.

Notylia Buchtienii *Schlechter* in Fedde Repert. 10 (1912) 458; ex Mansfeld in Fedde Repert. Beihefte 58 (1930) t. 55, nr. 217.

Notylia moyobambae *Schlechter* in Fedde Repert. Beihefte 9 (1921) 108; ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 127, nr. 498.

The Peruvian *Notylia moyobambae*, which was described from the inflorescences only, appears to differ from the Bolivian *N. Buchtienii* only in the following particulars. It has decurved (not strict) inflorescences with much shorter peduncles and racemes, slightly larger flowers (sepals 7 mm. long as contrasted with 5.5 mm. long), sharper apices to the sepals and petals, and a rounded instead of cordate-auriculate base to the lamina of the lip.

Several Peruvian specimens from the general region where *N. moyobambae* was collected, however, are surely referable to *N. Buchtienii*. Two of these collections have suberect inflorescences approaching those of *N. moyobambae*; the racemes of one collection vary from 6.4 cm. long (shorter than the maximum of 10 cm. cited for *N. moyobambae*) to about 19 cm. long (nearly equaling the minimum of 22 cm. of *N. Buchtienii*). In general, the size of the flowers coincides well with that of *N. Buchtienii*, but one collection shows flowers almost as large as those of *N. moyobambae*. All of these Peruvian specimens have the base of the lip more or less cordate-auriculate as in *N. Buchtienii*. This character is variable in the different collections and appears to vary even in flowers of the same number from being cordate to being cuneate-rounded.

It does not seem wise, therefore, to recognize *N. moyobambae* as separable from *N. Buchtienii*.

***Notylia carnosiflora* C. Schweinfurth sp. nov.**

Herba parva. Pseudobulbi breves, complanato-cylindracei, unifoliati, vaginis pluribus distichis valde imbricatis vestiti. Folia elliptico-oblonga, apice rotundata, basi leviter cuneata, valde coriacea. Inflorescentia lateralis, basalis, arcuato-recurva, brevis; racemus subdense pluriflorus. Flores reflexi, cum segmentis carnosis patentibus. Sepalum dorsale valde fornicatum et concavum, oblongum, acutum. Sepala lateralina in laminam elliptico-oblongam tubulari-concavam apice minutissime bidentatam connata. Petala oblique elliptico-lanceolata vel oblongo-oblancheolata, falcato-incurva. Labellum breviter unguiculatum, quam petala multo brevius; lamina triangulari-ovata, acuta vel acuminata, basi callosa. Columna brevis, crassa.

Plant small. Roots fibrous, glabrous. Rhizome apparently abbreviated. Pseudobulb short, complanate-cylindric, unifoliate, rugose-striate in the dried specimen, about 1 cm. long, invested and concealed by several distichous closely imbricating sheaths of which the upper pair is leaf-bearing. Leaves elliptic-oblong, rounded at the apex, shortly cuneate-narrowed below with a complicate base, 4.6–6.2 cm. long, 1.3–1.9 cm. wide, thickly coriaceous. Inflorescence lateral, basal, arcuate-recurved; peduncle about 3.5 cm. long, with few sheaths which are remote above; raceme about 3 cm. long (apparently abnormally shortened in our specimen), subdensely several-flowered, with small reflexed bracts. Flowers small, reflexed, with spreading fleshy segments. Dorsal sepal strongly fornicate and concave, oblong, acute, about 7.5 mm. or less long in natural position, about 2.6 mm. wide when expanded. Lateral sepals connate into an elliptic-

oblong tubular-concave lamina which is minutely bidentate at the apex, about 7.5 mm. long and 3 mm. wide when expanded. Petals obliquely elliptic-lanceolate or oblong-ob lanceolate, falcate-incurved, acute, about 5.9 mm. long and 1.2 mm. wide. Lip spreading from the column at a right angle, very shortly clawed, about 3.5 mm. long; claw abbreviated, very fleshy, about 0.75 mm. long; lamina triangular-ovate, acute or short-acuminate, subcordate at base, about 2.9 mm. long, up to 2 mm. wide at the base; disc with a fleshy minutely pubescent callus (continued from the claw) through the lower portion. Column short, stout, commonly dilated at base, about 2.9 mm. long, minutely pubescent.

This species differs from the Brazilian *Notylia pubescens* Lindl. in its much smaller leaves, fleshy (not membranaceous) flowers and shorter less attenuate lip.

JUNIN: Chanchamayo Valley, at 1800 meters altitude, September "1924-1927," *Carlos Schunke s.n.* (TYPE in Herb. Field Mus. No. 571652).

***Notylia conduplicans* C. Schweinfurth sp. nov.**

Herba mediocris. Pseudobulbi parvi, complanato-cylindranei, unifoliati, vaginis pluribus distichis imbricatis vestiti. Folia oblonga vel elliptico-oblonga, apice late rotundata, basi plusminusve cuneata. Inflorescentia foliis distincte longior, parte superiore dense multiflora. Flores parvi, reflexi, omnino glabri, cum segmentis membranaceis late patentibus. Sepalum dorsale valde fornicatum, profunde concavum, lanceolato- vel elliptico-oblongum. Sepala lateralia in laminam subaequalem profunde tubulari-concavam, apice breviter bidentatam connata. Petala oblonga, obliqua, sepalis paulo breviora. Labellum distincte unguiculatum; lamina conduplicata, lateraliter visa recurvo-sigmoidea, acuta vel breviter acuminata, expansa ovato-cordata. Columna cylindranea, more generis.

Plant medium-sized, 28–33 cm. high, epiphytic. Rhizome abbreviated. Roots fibrous, glabrous, elongate. Pseudobulbs (only one present in each plant) small, complanate-cylindric, unifoliate, rugose-striate in the dried specimen, about 1.5 cm. long, surrounded and mostly concealed by several pairs of distichous closely imbricating sheaths of which the upper one or two sheaths are leaf-bearing. Leaves oblong or elliptic-oblong, broadly rounded and often apiculate (sometimes with slightly unequal lobes) above, more or less narrowed to a cuneate conduplicate base, coriaceous, 8.2–18.2 cm. long, 2.7–3.1 cm. wide. Inflorescence lateral, basal, gently arcuate-spreading or deflexed; peduncle about 9.5 cm. or less long, bearing several remote short tubular sheaths; raceme 21–22 cm. long, densely many-flowered. Floral bracts small, linear-triangular, spreading or reflexed, much shorter than the pedicellate ovary. Flowers reflexed, small, bright green and white, glabrous throughout, with widely spreading membranaceous segments. Dorsal sepal strongly fornicate and concave, lanceolate-oblong or elliptic-oblong, about 5.6 mm. or less long in natural position and 2.2 mm. wide when expanded, obtuse, carinate above. Lateral sepals connate into a lanceolate-oblong tubular-concave lamina which is very shortly bilobed at the apex with a dorsal subapical mucro, about 5.5 mm. or less long and 1.8 mm. or less wide when expanded. Petals obliquely oblong, acute, about 5 mm. long and 1.1 mm. wide. Lip adnate to the base of the column, about 3 mm. or less long, prominently clawed; claw narrow, about 1 mm. long, with a high central keel extending onto the middle of the lamina; lamina with conduplicate sides, recurved and sigmoid when viewed from the side, when expanded ovate-cordate, acute or shortly acuminate, up to 2 mm. in greatest length, about 1.6 mm. wide. Column cylindric, abruptly

reflexed near the apex, 3.1–3.9 mm. long at the back. Anther dorsal, pyriform-concave. Pollinia two, complanate-obovoid with a linear-cuneate stipe.

This species is closely allied to *Notylia Amesii* Smith & Harris from British Guiana, with which it was formerly confused, but is distinct in having differently colored more membranaceous flowers, a larger lip and a slightly longer column.

LORETO: Mishuyacu, near Iquitos, at 100 meters altitude, in forest, February to March, 1939, *G. Klug 999*; vicinity of Iquitos, at 100 meters altitude, epiphyte in dense forest, November to December 1936, *Klug 10031* (TYPE in Herb. Ames No. 62135).

***Notylia mirabilis* C. Schweinfurth sp. nov.**

Herba pro genere minima, epiphytica. Caules abbreviati, foliorum circulo omnino celati. Folia equitantia, parva, profunde imbricantia, pauca, lineari-oblonga vel elliptico-linearia, plusminusve falcato-recurva, exarticulata. Scapus filiformis, supra cum ramulis strictis uni-vel paucifloris. Flores parvi, membranacei. Sepalum dorsale ovato-oblongum, acutum, valde concavum. Sepala lateralalia fere omnino libera, oblique elliptico-lanceolata, acuminata. Petala lanceolata, supra angustata. Labellum unguiculatum; unguis perangustus, carnosus; lamina concava, obovata, antice late rotundata et apiculata, postice auriculata. Columna tenuis, apice abrupte dilatata.

Plant very small, caespitose, epiphytic, 2.5–4.5 cm. high. Roots numerous, fibrous, glabrous, flexuous. Rhizome abbreviated. Stems abbreviated, entirely concealed by the flabelliform clusters of leaves. Leaves equitant, closely imbricated, four to six (two or three on each side), obliquely linear-oblong, linear-lanceolate or elliptic-linear, commonly strongly falcate-recurved, acute to subobtuse, unjointed to sheaths at base, about 1.4 cm. or less long from the apex to the base on the lower side, 1.5–3.5 mm. wide. Inflorescence filiform, erect to slight-

ly arcuate, much exceeding the clusters of leaves, apparently 2.5–3.5 cm. long, near the apex with several ascending to strict 1- to few-flowered branches (and thus paniculate). Floral bracts minute, ovate, concave. Flowers small, thinly membranaceous, light lilac and dark violet, with widely spreading segments. Sepals and petals 1-nerved. Dorsal sepal ovate-oblong, acute, deeply concave, dorsally carinate except at the apex, about 3.6 mm. or less long, about 2 mm. or less wide. Lateral sepals connate at the very base, obliquely elliptic-lanceolate, acuminate, carinate near the base, about 4 mm. or less long and 1.1 mm. wide. Petals lanceolate, lightly oblique, narrowed to an acute apex, about 4 mm. or less long and 1.3 mm. or less wide. Lip about equaling the lateral sepals, unguiculate; claw relatively long and slender, fleshy, subterete, somewhat dilated above, about 1.3 mm. or less long; lamina concave, simple, obovate when expanded, broadly rounded in front with a prominent apicule, auriculate at the base, about 2.8 mm. long and 2 mm. wide, with slightly irregular margins. Column slender below, very abruptly dilated at the apex (especially at the back), about 2 mm. long. Anther dorsal; pollinia two.

This little species is apparently allied to the Brazilian *Notylia rosea* (Rodr.) Cogn., but differs in having much smaller leaves and flowers, broader sepals, and a dissimilar lip and column.

LORETO: vicinity of Iquitos, at 100 meters altitude, on dead tree, July 1937, G. Klug 10112 (TYPE in Herb. Ames No. 62158).

***Notylia parvilabia* C. Schweinfurth sp. nov.**

Herba parvula, caespitosa. Pseudobulbi parvi, aggregati, complanato-cylindranei, unifoliati, vaginis pluribus distichis valde imbricatis vestiti. Folia oblonga vel oblanceolato-oblonga, apice rotundata, infra plusminusve

angustata. Inflorescentia lateralis, basalis, arcuato-recurva, foliis longior. Racemus dense multiflorus. Bractee floresque reflexi. Flores parvi, omnino glabri, segmentis patentibus. Sepalum dorsale valde fornicatum et concavum, expansum lanceolato-oblongum, acutum. Sepala lateralialia in laminam oblongo-lanceolatam vel lanceolato-ellipticam minute bidentatam connata. Petala lanceolato-oblonga vel oblanceolato-oblonga, subacuta. Labellum parvum, unguiculatum; lamina rhombico-ovata, parte inferiore carinata. Columna satis longa, cylindracea.

Plant small, caespitose. Roots fibrous, glabrous. Rhizome abbreviated. Pseudobulbs small, aggregated, complanate-cylindric, unifoliate, rugose-striate in the dried specimen, about 1.3 cm. or less long, invested and more or less concealed by several distichous closely imbricating sheaths of which the upper one or two on each side are leaf-bearing. Leaves oblong or oblanceolate-oblong, rounded at the apex with slightly unequal lobes and a caducous apicule, more or less narrowed below with a conduplicate base, 4.8–11.3 cm. long, about 1.4 cm. or less wide, thickly coriaceous, with the mid-nerve rather prominently exerted beneath. Inflorescences lateral, basal, solitary, arcuate-recurved, more or less surpassing the leaves; peduncle about 7.5 cm. or less long, provided with a few short, erect-spreading sheaths which are remote above and imbricating at the base; raceme densely many-flowered (incomplete in our specimens). Floral bracts short, linear-lanceolate, reflexed. Flowers small, reflexed, entirely glabrous, with widely spreading subfleshy segments. Dorsal sepal strongly fornicate and concave, when expanded lanceolate-oblong, acute, about 5 mm. or less long and 2 mm. wide. Lateral sepals connate into an oblong-lanceolate or lanceolate-elliptic deeply concave lamina which is minutely bidentate at the apex and is about as long and broad as the dorsal

sepal. Petals lanceolate-oblong or oblanceolate-oblong, subacute, more or less oblique, about 4 mm. long, 1–1.2 mm. wide. Lip small, adnate to the base of the column, distinctly shorter than the column, conspicuously clawed, up to 2.2 mm. long; claw about 1 mm. or less long, gradually merging with the lamina, with a high central keel that extends to about the middle of the lamina; lamina rhombic-ovate with incurved sides, narrowed to a subacute apex, about 1.6 mm. wide when expanded. Column long, cylindric, abruptly recurved at the apex, about 3.5 mm. or less long at the back, more or less clavate.

This species is allied to *Notylia Koehleri* Schltr., which has a lip about equaling the petals and much exceeding the column.

JUNIN: Chanchamayo Valley, at 1200 meters altitude, September 1930, *Carlos Schunke 2054* (TYPE in Herb. Field Mus. No. 622365); same locality and date, at 1500 meters altitude, *Carlos Schunke 1106*.

Notylia peruviana (Schltr.) C. Schweinfurth comb. nov.

Dipteranthus peruvianus Schlechter in *Orchis* 10 (1916) 187, t. 44, figs. 8–16.

As noted by my colleague, Dr. L. O. Williams, this concept does not represent a member of the genus *Dipteranthus* Rodr., but is a true *Notylia*. Therefore, the above combination is proposed.

This species appears to be very closely allied to *Notylia boliviensis* Schltr., which has also been collected in Peru, and is vegetatively nearly inseparable. It differs from the latter species, however, in having a lax (not dense) raceme with somewhat smaller flowers, in having obtuse (not acute nor acuminate) petals, and in having a lip which is ovate-suborbicular rather than subquadrate-ovate.

Notylia rhombilabia C. Schweinfurth sp. nov.

Herba mediocris, gracilis. Pseudobulbi anguste complanato-cylindranei, unifoliati, vaginis subtribus distichis valde imbricantibus superne foliiferis obtecti. Folia linearia vel lineari-elliptica, subacuta et valde mucronata, basi angustata et conduplicata, coriacea. Inflorescentia lateralis, basalis, basi abrupte deflexa, supra subdense multiflora. Flores reflexi, cum segmentis late patentibus. Sepalum dorsale valde fornicatum et concavum, expansum oblongo-lanceolatum, acutum. Sepala lateralia in laminam oblongo-ellipticam profunde concavam longe bidentatam connata, apicibus recurvis. Petala linearia, falcato-incurva, acuta. Labellum rhombicum vel ovato-rhombicum, longe acuminatum, basi cuneatum. Columna cylindranea, supra leviter contracta.

Plant medium-sized, slender. Rhizome apparently abbreviated. Roots fibrous, glabrous, elongate, somewhat branched. Pseudobulbs narrowly complanate-cylindric, unifoliate, rugose-striate when dry, up to 1.8 cm. long, invested and partly concealed by two or three pairs of distichous deeply imbricating sheaths of which the upper one or two on each side are leaf-bearing. Leaves linear or elliptic-linear, subacute with a conspicuous caducous mucro, slightly cuneate-narrowed below to a conduplicate base, coriaceous, with the mid-nerve carinate beneath, up to 13.2 cm. long and 1.2 cm. wide (sometimes very small). Inflorescence lateral, basal, sharply deflexed near the base, commonly much surpassing the leaves, subdensely many-flowered above, rarely one-branched below; peduncle about 11.9 cm. or less long, provided with several small erect-spreading sheaths which are remote above and imbricating at the base; raceme 10–13.6 cm. long, straight or flexuous. Floral bracts linear-lanceolate, the longest ones (at the base of the raceme) a little shorter than the pedicellate ovary. Flowers re-

flexed, light green and white, entirely glabrous, with widely spreading segments. Sepals subfleshy, lip fleshy. Dorsal sepal strongly fornicate and concave, when expanded lanceolate-oblong, acute, about 8 mm. long, up to 3 mm. wide. Lateral sepals connate into an oblong-elliptic deeply concave lamina which is sharply bidentate to above the middle with lobules recurved at the apex, about 7.5 mm. long and 4 mm. wide when expanded. Petals linear, falcate-incurved, acute, up to 7.5 mm. long and 1.1 mm. wide. Lip adnate to the column at the base, rhombic or ovate-rhombic with rounded spreading sides, more or less abruptly long-acuminate, cuneate below (often slightly incurved on each side) to a sessile base, about 6 mm. long, up to 4.1 mm. wide; disc with a low callose keel extending from the base to about the middle. Column cylindric, slightly tapering above, about 4.8 mm. long at the back, somewhat sigmoid-recurved near the apex.

The allied *Notylia Lehmanniana* Kränzl. from Colombia differs from this species in having racemes floriferous to the base and flowers less than half as large.

Florally *N. rhombilabia* is very similar to the Panamanian *N. latilabia* A. & S., but it is very dissimilar in vegetative parts.

LORETO: vicinity of Iquitos, at 100 meters altitude, epiphyte in dense forest, November to December 1936, G. Klug 10028 (TYPE in Herb. Ames No. 62159).

EXPLANATION OF THE ILLUSTRATIONS

PLATE XXV. NOTYLIA CONDUPLICANS *C. Schweinf.*

1, habit, four fifths natural size. 2, flower, from side, four times natural size. 3, dorsal sepal, eight times natural size. 4, petal, eight times natural size. 5, lateral sepals, eight times natural size. 6, column and lip, from side, eight times natural size.

PLATE XXVI. NOTYLIA PARVILABIA *C. Schweinf.*

1, habit, natural size. 2, flower, from side, five times natural size. 3, dorsal sepal, eight times natural size. 4, petal, eight times natural size. 5, lateral sepals, eight times natural size. 6, lip and column, from side, eight times natural size. 7, lip, expanded, from above, sixteen times natural size.

PLATE XXVII. NOTYLIA RHOMBILABIA *C. Schweinf.*

1, habit, four fifths natural size. 2, flower, oblique view, four times natural size. 3, dorsal sepal, four times natural size. 4, petal, four times natural size. 5, lateral sepals, four times natural size. 6, lip, expanded, from above, four times natural size. 7, lip and column from side, four times natural size. 8, anther, four times natural size.

PLATE XXVIII. NOTYLIA CARNOsIFLORA *C. Schweinf.*

1, habit, natural size. 2, flower, twice natural size. 3, dorsal sepal, four times natural size. 4, petal, four times natural size. 5, lateral sepals, four times natural size. 6, lip and column, from side, four times natural size. 7, lip, expanded, from above, six times natural size.

NOTYLIA MIRABILIS *C. Schweinf.* 8, habit, natural size. 9, flower, five times natural size. 10, dorsal sepal, six times natural size. 11, petal, six times natural size. 12, lateral sepal, six times natural size. 13, lip, from above, six times natural size. 14, lip, from the side, six times natural size.

PLATE XXIX. *NEOKOEHLERIA PANICULATA* C.
Schweinf. 1, habit, natural size. 2, flower, eight times natural size. 3, dorsal sepal, four times natural size. 4, petal, four times natural size. 5, lateral sepals, four times natural size. 6, lip and column, from side, eight times natural size. 7, lip, from above, eight times natural size.

PLATE XXX. *CRYPTOCENTRUM INAEQUISEPALUM* C.
Schweinf. 1, habit, four fifths natural size. 2, flower, twice natural size. 3, dorsal sepal, twice natural size. 4, petal, twice natural size. 5, lateral sepal, twice natural size. 6, lip, from side, twice natural size. 7, lip, from above, four times natural size. 8, column, six times natural size.

PLATE XXXI. *CRYPTOCENTRUM PSEUDOBULBOSUM* C.
Schweinf. 1, habit, twice natural size. 2, flower, three times natural size. 3, dorsal sepal, three times natural size. 4, petal, three times natural size. 5, lateral sepal, three times natural size. 6, lip, from side, three times natural size. 7, lip, from above, three times natural size. 8, column, six times natural size.



NOTYLIA

conduplicans C. Schweinf.

NOTYLIA

parvilabia C. Schweinf.

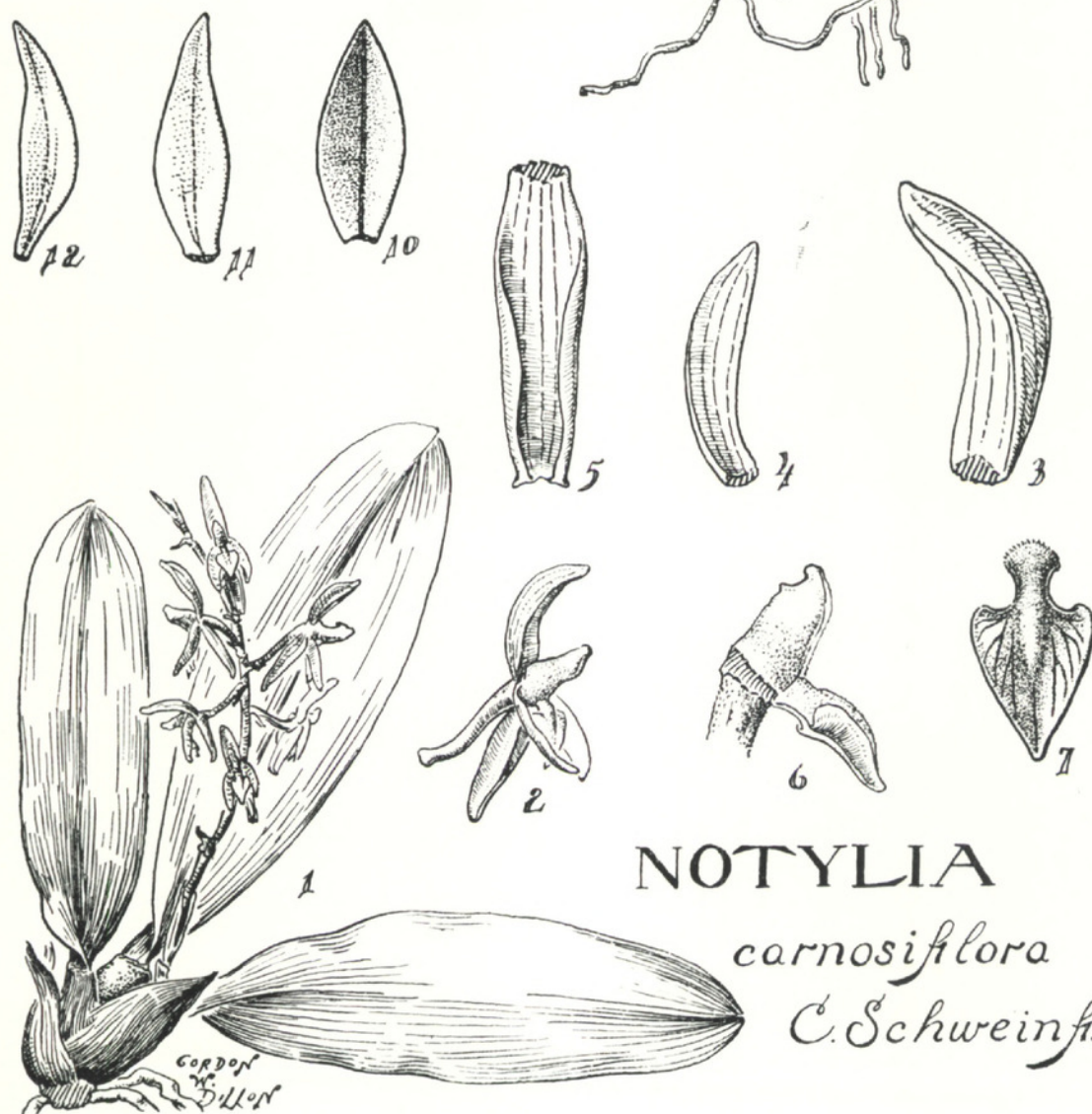
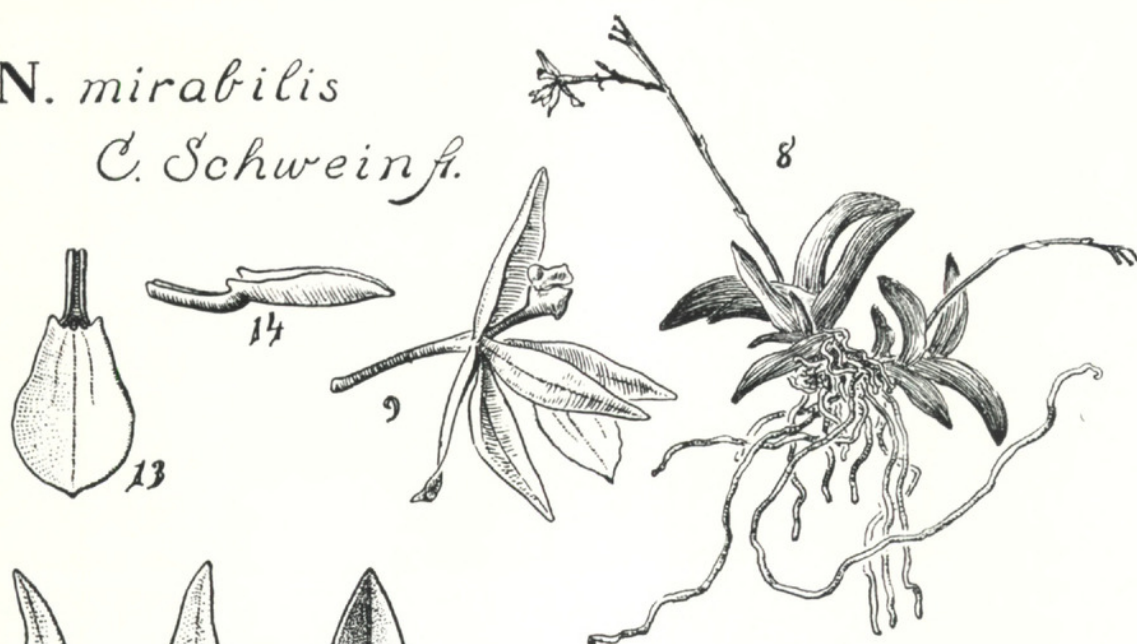


NOTYLIA

rhombilabia C. Schweinf.



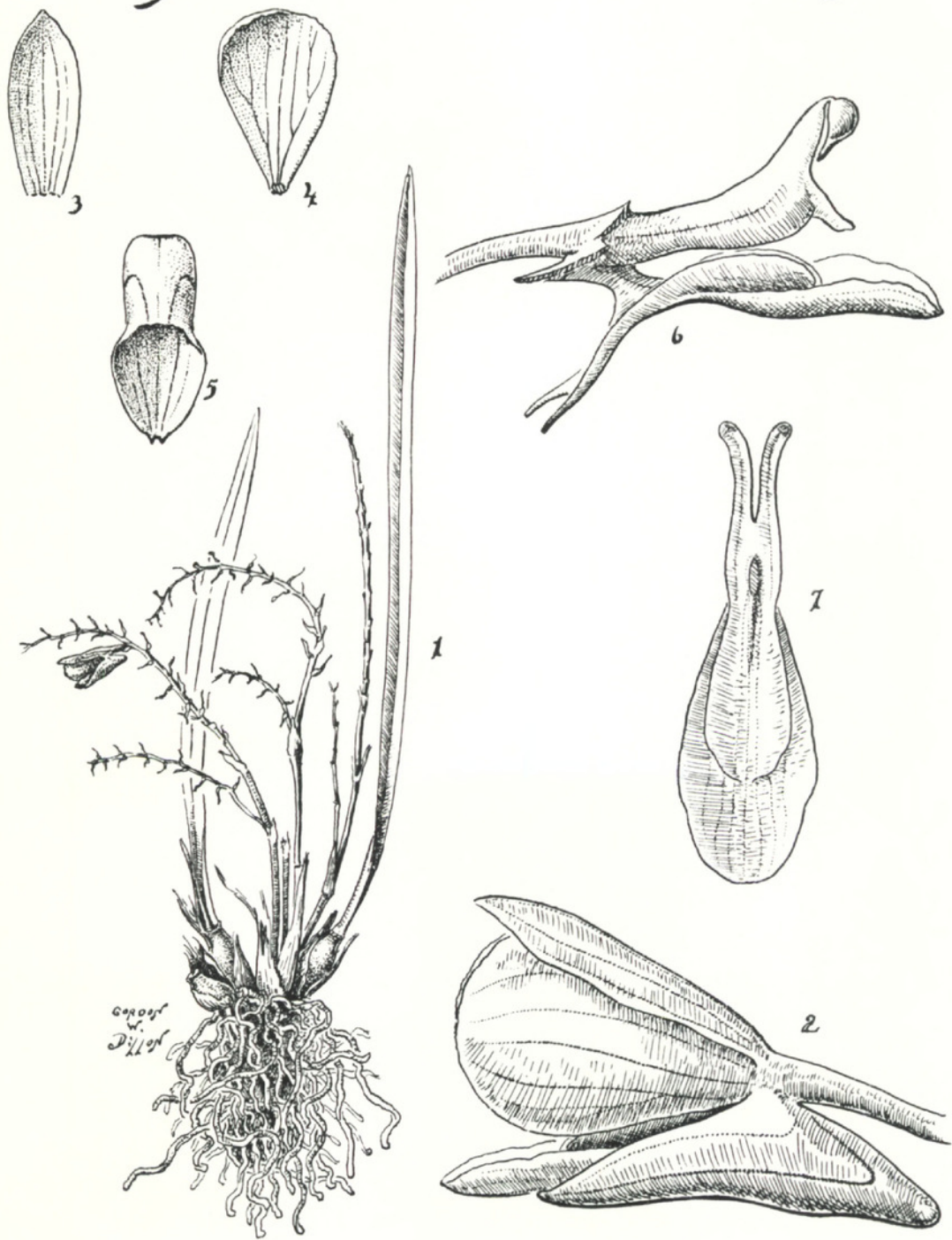
N. mirabilis
C. Schweinf.



NOTYLIA
carnosiflora
C. Schweinf.

NEOKOEHLERIA

paniculata C. Schweinf.



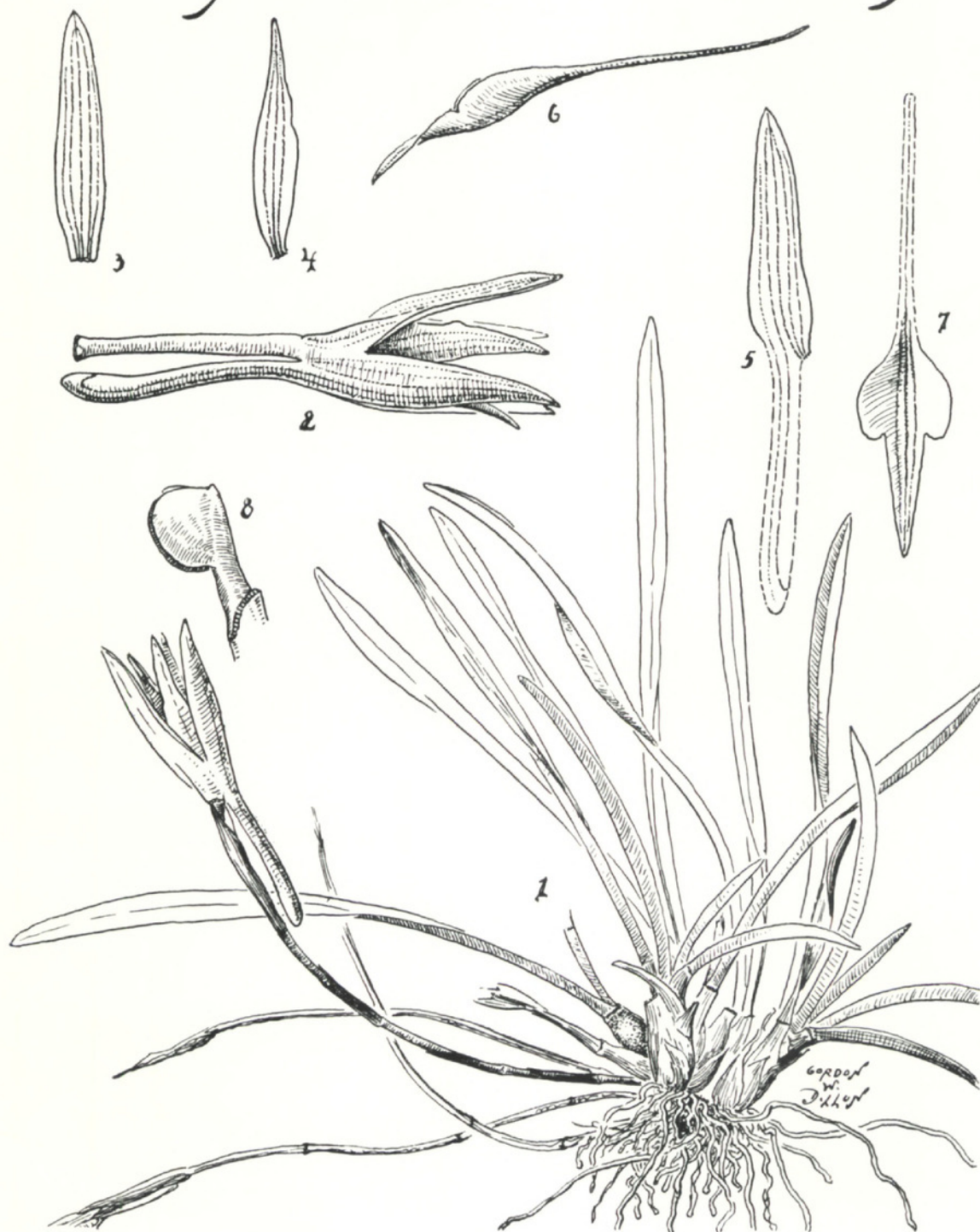
CRYPTOCENTRUM

inaequisepalum C. Schweinf.



CRYPTOCENTRUM

pseudobulbosum C. Schweinf.





Schweinfurth, Charles. 1946. "Orchidaceae peruviana VI." *Botanical Museum leaflets, Harvard University* 12(6), 185–223. <https://doi.org/10.5962/p.295168>.

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