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ORCHIDACEAE PERUVIANAE IV

BY

CHARLES SCHWEINFURTH

THE PRESENT ARTICLE is the fourth of the series describing novelties in the orchid flora of Peru. It contains twelve species and three varieties which seem to be new.

Pleurothallis brevispicata *C. Schweinfurth sp. nov.*

Herba parva, epiphytica, caespitosa. Caules graciles, vaginis tubularibus arctis lepanthiformibus omnino tecti. Folia elliptica vel oblongo-elliptica, acuta, infra sensim angustata. Racemi unici vel quinque, folio subaequales, pauciflori, demum arcuati. Flores parvi, membranacei. Sepalum dorsale ovatum vel ovato-lanceolatum, acutum vel breviter acuminatum, concavum, trinervium. Sepala lateralalia lanceolata vel anguste lanceolata, obliqua, acuminata, uninervia, carinata, apice recurva. Petala multo breviora, oblongo-obovata, apice late rotundata, uninervia. Labellum recurvum, expansum ovato-oblongum, apice rotundatum, parte basali bicarinatum. Columna perbrevis, pedata.

Plant small, epiphytic, caespitose, up to 12 cm. high. Roots fibrous, glabrous. Stems slender, rarely superposed, entirely concealed by close tubular sheaths, up to 10 cm. long, erect or spreading. Cauline sheaths lepanthiform, commonly five to seven, longitudinally nerved, terminating in spreading ovate marginate hispid mouths. Leaf small, gradually narrowed into a more or less dis-

tinct channelled petiole, elliptic to oblong-elliptic, up to 4.6 cm. long and 7 mm. wide, acute with a minutely tridenticulate apex, marginate, coriaceous. Inflorescences one to five, arising from just below the leaf-joint, shorter than to slightly exceeding the leaf, loosely few- (up to 9-) flowered, generally arcuate in anthesis. Floral bracts short, infundibuliform, acute. Flowers small, membranaceous. Dorsal sepal ovate-lanceolate or ovate, acute or short-acuminate, concave, 5.8–7.9 mm. long, 4 mm. wide, 3-nerved, dorsally carinate (especially below). Lateral sepals connate near the base, lanceolate or narrowly lanceolate, oblique, 4.8–7.1 mm. long and about 2 mm. wide at base of the free portion, long-acuminate, conspicuously 1-nerved, commonly with a short lateral supplementary nerve, carinate without, recurved at the apex. Petals much shorter than the sepals, oblong-obovate, 2.9–4 mm. long and about 2.1 mm. wide, broadly rounded above with more or less irregular margins, 1-nerved, slightly oblique. Lip small, recurved in natural position, when expanded ovate-oblong with the basal third slightly dilated, sessile at the rounded base, broadly rounded in front, 3–3.6 mm. long and about 2 mm. wide near the base, 1-nerved nearly to the apex and 3-nerved near the base; disc through the basal third with a pair of prominent fleshy keels which often have a tooth near the base and diminish toward the front. Column very short and stout with a conspicuous (more or less upcurved) subquadrate foot.

Pleurothallis brevispicata appears to be allied to the Colombian *P. lepanthoides* Schltr., but differs in having longer narrower leaves, fewer-flowered racemes and larger flowers. It differs from the Guatemalan *P. crucilabia* Ames & Correll in having dissimilar petals and lip.

HUANUCO: Yanano, at about 1800 meters altitude, "densely covering small branches," May 13–16, 1923, *J. Francis Macbride* 3838,

(TYPE in Herb. Field Mus. No. 534901; DUPLICATE TYPE in Herb. Ames No. 60980); Tambo de Vaca, at about 3900 meters altitude, on trees, flowers greenish white, June 10-24, 1923, *Macbride 4344, 4461a*. (No. 4344 is a somewhat smaller plant vegetatively than the type and has shorter perianth segments); Alturas del Chaco, Santa Ana Valley, September 1928, *Herrera 2124a* (C. Bues coll.).

***Pleurothallis caudatipetala* C. Schweinfurth sp. nov.**

Herba minuta, caespitosa, epiphytica. Radices crassae. Caules abbreviati, vaginis duabus celati. Folia obovata vel cuneato-spathulata, apice rotundata, marginata. Inflorescentiae unicae, saepe foliis breviores, uniflorae vel pauciflorae, floribus subumbellatis. Flores membranacei. Sepalum dorsale oblongo-lanceolatum, acutum, sparse longe ciliatum. Sepala lateralina in laminam elliptico-ovatam bidentatam connata, sparse longe ciliata. Petala a parte basali obovato-oblonga abrupte longe caudata. Labellum pandurato-oblongum, apice leviter retuso, marginibus maxima pro parte longe fimbriatis. Columna late alata.

Plant minute, epiphytic, caespitose, up to 1.5 cm. high. Roots fibrous, relatively stout, glabrous. Stems abbreviated, congested, monophyllous, invested by two tubular evanescent sheaths, up to 4 mm. long. Leaf obovate to cuneate-spatulate, up to 11 mm. long and 4 mm. wide, rounded or obtuse above with a median apicule, cuneate below, marginate, coriaceous. Inflorescences solitary, shorter than or subequalling the leaf, 1-flowered or fasciculately several-flowered. Flower small but large for the plant, membranaceous. Dorsal sepal oblong-lanceolate, acute, concave near the base, about 3.6 mm. long and 1.6 mm. wide, 3-nerved, sparingly long-ciliate. Lateral sepals connate into an elliptic-ovate lamina which is about 3.8 mm. long, sharply bidentate, obscurely 4-nerved, hirsute within and sparingly long-ciliate. Petals

about 3 mm. long and 1.1 mm. wide near the apex of the obovate-oblong basal portion, abruptly caudate above with the upper portion about 1.5 mm. long, 1-nerved. Lip pandurate-oblong, about 2 mm. long in the middle (including the short claw) and 1 mm. wide above and below the constriction, lightly retuse, provided at base with a pair of minute retrorse auricles, with the margins (except near the base and middle) long-fimbriate, with a pair of incurved fleshy thickenings at the center of the base. Column about 1.8 mm. long, broadly winged throughout, the wing being dilated toward the denticulate apex which is retuse with irregularly cellular-ciliolate margins.

Pleurothallis caudatipetala is similar to *P. barbulata* Lindl., but has very different petals.

JUNIN: Chanchamayo Valley, at 1500 meters altitude, March 1930, *Carlos Schunke 1307*. (TYPE in Herb. Field Mus. No. 622342).

Pleurothallis chamensis* Lindley var. *tenuis* C. Schweinfurth var. *nov.

Planta et habitu graciliore et folio ad apicem angustato et flore tenuiore a specie differt.

Plant epiphytic, slender, up to 10.5 cm. tall (base of longest stem incomplete). Rhizome abbreviated, plant caespitose. Stem slender, angulate. Leaf ovate to elliptic, distinctly narrowed above to an obtuse minutely tridentate apex, broadly cuneate or rounded at the base, 2.9–4.5 cm. long, 1.4–2.4 cm. wide. Inflorescences abbreviated, arising from the base of the leaf. Flowers very similar to those of the species but of thinner texture, “dark maroon with yellow-tipped petal.”

Considering the great variability of *Pleurothallis chamensis* both vegetatively and florally, it seems advisable to recognize this collection, which appears outwardly so dissimilar, merely as a variety of that species.

HUANUCO: Churubamba District, Hacienda Mercedes, Cotirarda, epiphytic on tree trunks, at 1560 meters altitude, September 21, 1936, *Ynes Mexia 8215a*. (TYPE in Herb. Ames No. 46837).

***Pleurothallis dilatata* C. Schweinfurth sp. nov.**

Herba mediocris, rhizomate adscendente. Caules approximati, trivaginati, vaginis tubulatis evanidis obtecti. Folium unicum, elliptico-oblongum, apice rotundatum, ad basim angustatum, in sicco valde coriaceum. Inflorescentiae unicae vel duae, folium conspicue superantes, usque paene ad basim racemosae. Flores majores. Sepalum dorsale oblongo-oblancheolatum, obtusum, trinervium, intus supra pubescens. Sepala lateralalia falcato-decurva, in laminam elliptico-ovatam bilobatam connata, intus supra pubescentia. Petala sepalis breviora, falcato-spathulata, apice rotundata, trinervia. Labellum valde arcuatum, expansum basi apiceque anguste oblongum et medio ovato-dilatatum, apice rotundatum. Columna gracilis, arcuata, in pedem conspicuum producta.

Plant medium-sized, with an ascending rhizome, up to 18.5 cm. tall. Roots numerous, fibrous, glabrous. Stems approximate, up to 6.5 cm. tall, concealed by three tubular evanescent sheaths, plurisulcate in the dried specimen. Leaf solitary, elliptic-oblong, rounded at the apex with a minutely tridenticulate tip, cuneate-narrowed to a sessile base, up to 7.5 cm. long and about 1.5 cm. wide, thickly coriaceous, finely punctate beneath in the dried specimen. Inflorescences one or two, axillary, suberect to flexuous, much exceeding the leaf, up to 13.5 cm. long, loosely racemose nearly to the base. Floral bracts infundibuliform, scarious, acute, glabrous, much shorter than the pedicellate ovary. Flowers rather large for the plant, with sepals spreading. Dorsal sepal oblong-oblancheolate, 10–10.5 mm. long, 3.1–3.2 mm. wide, obtuse, 3-nerved, finely short-pubescent within (except near the concave base) and on the margins, carinate

without through the lower half. Lateral sepals falcate-decurved, 8.5–9 mm. long, connate into an elliptic-ovate bilobed lamina about 5 mm. wide which is 6-nerved, bicarinate without below the middle and finely pubescent within and on the margins (except near the base), forming a prominent mentum with the column-foot, the apex of the sepals is subacute. Petals smaller than the sepals, falcate-spatulate, about 6.3 mm. long, 2.8–3 mm. wide, broadly rounded above, 3-nerved in the middle with the center thickened above the nerves. Lip strongly arcuate in natural position with the sides of the dilated median portion incurved; when expanded about 6.5 mm. long, 3-nerved, from a narrow elongate claw-like portion rather abruptly semiovate-dilated on each side (about 2.2 mm. across), then gradually narrowed into an oblong apically rounded lamina which is slightly longer than the basal portion, denticulate on the apical margins, with the surface of the apical portion irregularly papillose; a low intramarginal keel extends from the lower part of the dilated portion on each side nearly to the apex. Column slender, dilated below, arcuate, about 4 mm. long at the back, slenderly winged with a cucullate apex, provided with a prominent foot.

Pleurothallis dilatata differs from the similar *P. trilineata* Lindl. in having eciliate floral bracts, connate lateral sepals and a more slender lip. It varies from *P. asperilinguis* Reichb.f. in having broader sepals, obtuse petals and a narrower lip.

The specific name is in allusion to the dilated middle portion of the lip.

HUANCVELICA: Prov. Tayacaja, Montepungo, 5 kilometers east of Surcubamba, at 3000 meters altitude, epiphyte on mossy tree trunk, flower pale greenish yellow, January 13, 1939, *H. E. Stork* & *O. B. Horton* 10388. (TYPE in Herb. Univ. Calif.).

Pleurothallis echinocarpa *C. Schweinfurth sp. nov.*

Herba caespitosa cum rhizomate repente. Caules breves, approximati, robusti, vagina scariosa infra velati. Folium lineari-oblongum vel oblongo-ellipticum, acutum, sessile, valde coriaceum. Inflorescentia unica, folium conspicue superans. Racemus laxe pluriflorus, rhachide fractiflexa. Flores mediocres, carnosii. Sepalum dorsale ovato-lanceolatum, acutum, concavum. Sepala lateralía ovato-lanceolata, valde obliqua, acuminata, dorso carinata. Petala breviora, elliptico-lanceolata, acuta vel breviter acuminata, basi utrinque unidentata. Labellum oblanceolato-oblongum, apice denticulato rotundatum, infra medium valde incrassatum, a latere visum infra medium utrinque semiorbiculari-lobatum. Columna crassa. Ovarium dense muricatum.

Plant medium-sized, with an abbreviated ascending rhizome, epiphytic, up to 20 cm. tall. Roots fibrous, glabrous. Stems stout, short, subterete, approximate, up to 3.5 cm. long, monophyllous, concealed below by one or two membranaceous evanescent sheaths, apparently slightly dilated near the apex. Leaf erect, linear-oblong to narrowly elliptic, up to 11.3 cm. long and 2 cm. wide, acute, mucronate, sessile at the cuneate base, thickly coriaceous. Inflorescence solitary, axillary, erect or suberect, stout, up to 16.3 cm. long, much surpassing the leaf, sheathed at base by a short conduplicate spathe up to 1.1 cm. long. Peduncle below the raceme up to 9.2 cm. long, slightly complanate, provided with two or three infundibuliform sheaths. Raceme up to 8.5 cm. long, about 9-flowered or less, loose, with a fractiflex rachis. Floral bracts infundibuliform, complanate, broadly carinate. Flowers medium-sized, campanulate, fleshy. Dorsal sepal ovate-lanceolate, acute, concave, carinate at the apex, 9.5–9.8 mm. long, 4–4.4 mm. wide, 9-nerved. Lateral sepals obliquely ovate-lanceolate or triangular-

lanceolate, navicular, acuminate, 10–10.2 mm. long, 4.2–4.5 mm. wide, carinate especially toward the apex, 8-nerved. Petals elliptic-lanceolate, acute or shortly acuminate, 6.2–6.5 mm. long and 2 mm. wide, slightly oblique, with a small tooth on each side near the base, not decurrent on the column, 5-nerved. Lip 6–6.4 mm. long, 2.5–2.8 mm. wide above the middle, oblanceolate-oblong when viewed from the front, minutely denticulate at the broadly rounded apex, with the auriculate sides near the base slightly incurved, those just below the middle incurved and separated by a large fleshy apically bilobed thickening and the anterior portion cymbiform; when viewed from the side, the margins embracing the fleshy thickening are semiorbicular-lobulate and denticulate toward the front. Column stout, slightly arcuate, about 4.2 mm. long, terminating in a short denticulate wing, with the anterior surface flattened. Ovary densely muricate.

Pleurothallis echinocarpa is apparently very similar to *P. Otopetalum* Schltr. (*Otopetalum tunguraguae* Lehm. & Kränzl.) judging from the description, but I have not seen any examples of that concept. *P. Otopetalum* seems to differ specifically in having more than twice longer inflorescences as well as in characters of the lip. It is a more slender plant than *P. gigantea* Lindl. and lacks the spreading lateral lobes of the lip of that species. The fact that the petals are free from the column distinguishes this species from *P. muricata* Schltr.

HUANUCO: Muña, at about 2100 meters altitude, “in dry wood. The 3 large parts reddish-green; inner yellowish-green,” May 23–June 4, 1923, *J. Francis Macbride* 3969. (TYPE in Herb. Field Mus. No. 535031; DUPLICATE TYPE in Herb. Ames No. 60979).

***Pleurothallis inaequisepala* C. Schweinfurth sp. nov.**

Herba parvula, caespitosa. Caules filiformes, dense aggregati, vaginis paucis lepanthiformibus arctis omnino velati. Folium obovatum vel oblanceolatum vel ellipticum, ad basim angustatum, apice obtusum vel rotundatum, marginatum, valde coriaceum. Inflorescentiae foliis multo breviores, racemosae, paucae, bi-vel quadriflorae. Flores parvi. Sepalum dorsale valde cucullatum, ovatum, longe caudatum. Sepala lateralibus reflexa, triangulari-linearibus, basi breviter connata, uninervia, conduplicata. Petala multo breviora, oblique elliptico-lanceolata, leviter sigmoidea, acuta vel acuminata. Labellum simplex, ovatum vel rhombico-ovatum, obtusum, basi cuneatum. Columna petalorum dimidio subaequalis, crassa, arcuata.

Plant small, slender, caespitose. Roots fibrous, glabrous, relatively stout. Stems crowded, filiform, occasionally superposed, entirely concealed by tubular lepanthiform sheaths, up to 5.5 cm. tall (excluding the upper short branches). Cauline sheaths commonly five or six, close, glabrous, longitudinally nerved, terminating in an infundibuliform marginate hispid mouth. Leaf obovate to oblanceolate (sometimes almost elliptic), more or less gradually narrowed to a short sulcate petiole, obtuse to rounded above with a minutely tridentate apex, up to 3.1 cm. long (rarely) and 7 mm. wide (in the dried specimen), thickly coriaceous, marginate. Inflorescences racemose, very short and diffuse, commonly two to four, about 2- to 4-flowered, very loose, conspicuously shorter than the leaf. Flowers small, membranaceous. Dorsal sepal strongly cucullate, ovate, about 5 mm. long in natural position and 2.4 mm. wide, rather abruptly caudate with the tail about 1.8 mm. long, 3-nerved, with the nerves slightly carinate. Lateral sepals reflexed above the base, linear-triangular, shortly connate near the base, very slightly adnate to the dorsal sepal, about 4.4 mm. long, slightly falcate, long-attenuate, 1-nerved, condu-

plicate, dorsally carinate. Petals much shorter than the sepals, very obliquely elliptic-lanceolate, lightly sigmoid, acute or acuminate, 1-nerved, about 2.2 mm. long and 0.50–0.75 mm. wide, with irregular upper margins. Lip simple, ovate or rhombic-ovate with the lower sides incurved in natural position, broadly obtuse, broadly cuneate at the base, about 1.5 mm. long and 1 mm. wide when expanded, 3-nerved through the lower half, densely minute-papillose throughout except near the base. Column about one half as long as the petals, stout, arcuate.

Pleurothallis inaequisejala suggests the Ecuadorian *P. microcharis* Schltr. in habit. Its smooth-margined sepals and simple lip distinguish this species from *P. chamaelepanthes* Reichb.f.

Cuzco: "Valle de Santa Ana, alturas del Chaco. 3666 mtrs.," August 12, 1928, *F. L. Herrera 2125* (C. Bues coll.). (TYPE in U.S. Nat. Herb. No. 1422530; DUPLICATE TYPE in Herb. Ames No. 60985).

***Pleurothallis lanceolata* Lindley var. *gracilis* C. Schweinfurth var. nov.**

Herba gracilis, folio minore et racemo longiore et sepalis lateralibus omnino coalitis et labello non naviculari a specie differt.

Plant slender, variable. Stems 4.5–11 cm. tall. Leaf prominently petioled like that of the type; lamina elliptic to narrowly elliptic-oblong, up to 10.5 cm. long and 2.7 cm. wide. Raceme commonly much surpassing the leaf, sometimes over 20 cm. long (tip incomplete). Sepals about 2.1 cm. long, lateral ones entirely connate (not bidentate). Lip slightly concave, but not navicular as in the species.

This collection perhaps represents a new species, but without having examined a flower from the type of *Pleurothallis lanceolata*, such treatment appears to be unwise at present.

SAN MARTIN: Zepelacio, near Moyobamba, at 1200-1600 meters altitude, epiphyte in forest, flowers greenish violet, *G. Klug 3563*. (TYPE in Herb. Ames No. 60897).

Pleurothallis longiserpens *C. Schweinfurth* sp. nov.

Herba scandens, saxicola, funiformis. Radices numerosae. Rhizoma elongatum. Caules secundarii breves, graciles, adpressi. Folia lineari-oblongata, adscendentia, apice acuta, infra longe angustata. Inflorescentiae unicae vel plures, sub caulis apice, fasciculatae, uni- vel biflorae. Sepalum dorsale valde cucullatum, a basi oblongo-elliptica abrupte longe caudatum. Sepala lateralibus lineari-lanceolata, sensim caudato-acuminata, usque prope basim libera. Petala multo breviora, spathulato-obovata, apice late rotundata, uninervia. Labellum panduratum vel trilobatum; pars inferior expansa oblato-suborbicularis, pars superior ovato-suborbicularis, fimbriato-lacerata, valde mucronata, superficie papillis dense ornata. Columna parva, crassa, cum pede in cornu validum incurvum terminante.

Plant long-creeping, medium-sized, funiform. Rhizome slender, concealed by a thick bundle of fleshy roots. Secondary stems short, slender, appressed to the rhizome, up to 5 cm. long, concealed by tubular evanescent sheaths, apparently 1-jointed above the middle. Leaves ascending, linear-oblongate, up to 8 cm. long and 8 mm. wide, minutely tridenticulate at the acute apex, gradually narrowed to a sessile base, coriaceous, with margins revolute in the dried specimen. Inflorescences fascicled below the apex of the stem, one to several, abbreviated, 1- or 2-flowered, in the axil of a scarious sheath which is about 1.5 cm. long. Flower rather large, ringent. Dorsal sepal strongly concave, 17.2–21.2 mm. long and 6–6.4 mm. wide, membranaceous, 3-nerved, with the lower portion oblong-elliptic and abruptly narrowed to a

cauda which is 6.3–10.4 mm. long, dorsally carinate along the mid-nerve. Lateral sepals free nearly to the base, obliquely linear-lanceolate, gradually caudate-acuminate, 17–21.1 mm. long and 2.5 mm. wide, 2-nerved, dorsally carinate along the inner nerve. Petals much shorter than the sepals, spatulate-obovate, 4.5–5 mm. long and 4 mm. wide, broadly rounded above with irregular margins (sometimes retuse or acute in the middle), 1-nerved, membranaceous. Lip pandurate or 3-lobed, 5.3–6 mm. long, sessile; basal portion with the erect semiorbicular sides or lobes complicate in the middle in natural position, membranaceous, 2.6–3 mm. long and 4–4.5 mm. across the lip when expanded; anterior portion ovate-suborbicular, slightly narrower than the expanded basal part, prominently mucronate, irregularly fimbriate-lacerate, with the surface densely covered with papillae; disc complicate and fleshy-thickened below in the middle with the thickened portion extended into a pair of short ridges. Column short, fleshy, dilated at the apex both dorsally and ventrally, 2.2–2.8 mm. long at the back, with a short stout foot which terminates in a porrect incurved free horn. Ovary triquetrous with the angles fleshy-alate.

Pleurothallis longiserpens recalls *P. macrorhiza* Lindl. in habit. It differs from *P. soratana* Reichb.f. in having caudate sepals, very small 1-nerved petals and somewhat dissimilar lip.

AYACUCHO: Prov. Huanta, mountains northeast of Huanta, on rocks at 3100–3200 meters altitude, February 1–10, 1926, *A. Weberbauer* 7510 (TYPE in Herb. Ames No. 60978; DUPLICATE TYPE in Herb. Field Mus. No. 562417).

***Pleurothallis quadrata* C. Schweinfurth sp. nov.**

Herba parvula, dense caespitosa. Caules congesti, breves, vaginis duabus tubulatis velati. Folium ovale,

valde coriaceum, apice rotundatum, basi abrupte et breviter petiolatum. Inflorescentiae saepissime duae, quam folium multo longiores, tenues, erectae, supra dense racemosae. Flores minuti, semiglobosi. Sepalum dorsale valde cucullatum, suborbiculare, trinervium, dorso carinatum. Sepala lateralibus parte inferiore connata, valde concava, elliptico-ovata, trinervia, dorso carinata. Petala minora, oblongo-subquadrata, apice truncato retusa, uninervia. Labellum tubulari-involutum, basi concavum, expansum quadratum, apice late truncatum, crasso cum callo angulo exteriori utrinque praeditum. Columna pedata.

Plant small, caespitose, up to 16 cm. high. Roots fibrous, glabrous, numerous. Stems crowded, 2-4 cm. tall, monophyllous, mostly concealed by two loose tubular sheaths which are imbricating and glabrous. Leaf thickly coriaceous, abruptly narrowed to a short petiole; lamina oval, up to 3.9 cm. long and 1.9 cm. wide, minutely retuse at the rounded apex, rounded or broadly cuneate at the base, marginate; petiole short, slender, channelled, up to 8 mm. long. Inflorescences commonly one or two (occasionally remnants of old peduncles are present), much surpassing the leaf, up to 12.6 cm. long, rather densely many-flowered above, very slender, erect or nearly so. Floral bracts very small, infundibuliform, nearly equaling the pedicels. Flowers minute, rose-red, faintly mottled with purple, semiglobose. Dorsal sepal strongly cucullate, rounded at the apex, suborbicular, about 2.1 mm. long, 3-nerved, dorsally carinate, with margins minutely cellular-ciliolate. Lateral sepals connate to about the middle to form a deeply concave lamina about 2.2 mm. long, each sepal elliptic-ovate, 3-nerved, dorsally carinate, obtuse or rounded at the apex. Petals oblong-subquadrate, retuse at the truncate apex, about 1.5 mm. long and half as broad, 1-nerved, sometimes

with a short supplementary nerve. Lip tubular-involute in natural position, concave at base, quadrate when expanded, about 1.5 mm. long and wide, truncate in front with a short broad fleshy callus at each apical angle, 3-nerved. Column short, stout, large for the flower, about 1.2 mm. long at the back, with a stout ovoid foot.

Pleurothallis quadrata appears to be without close allies. The specific name is in allusion to the expanded lip.

JUNIN: Schunke Hacienda, above San Ramón, at 1400-1700 meters altitude, epiphyte in dense forest, June 8-12, 1929, *E. P. Killip* & *A. C. Smith* 24856. (TYPE in U.S. Nat. Herb. No. 1359136).

***Pleurothallis ringens* C. Schweinfurth sp. nov.**

Herba epiphytica, caespitosa. Caules teretes, prope basim uniarticulati, vaginis basilaribus evanidis obtecti. Folium erectum, conspicue petiolatum; lamina ovalis vel ovato-elliptica, apice rotundata vel obtusa; petiolus gracilis, supra sensim dilatatus. Inflorescentiae abbreviatae, uniflorae, in spathae conspicuae axilla. Flos ringens. Sepalum dorsale valde cucullatum, lanceolato-ovatum, acutum vel breviter acuminatum. Sepala lateralina in laminam oblongo-lanceolatam navicularem valde bidentatam connata. Petala lineari-lanceolata, prope basim subquadrata utrinque unidentata. Labellum profunde trilobatum, in positu naturali sigmoideum; lobi laterales parvi, porrecti, arcuato-oblongi, obliquissime bidentati; lobus medius multo major, anguste triangulari-ovatus, apice incurvus. Columna brevis, ad basim sensim dilatata.

Plant caespitose, medium-sized, up to 27 cm. tall from the base of the plant to the apex of the erect leaf. Roots fibrous, glabrous, white or whitish, numerous. Stems terete, monophyllous, up to 16.5 cm. tall, 1-jointed near the base, provided below the middle with two close tubular evanescent sheaths of which the lower shows minutely scabrous nerves. Leaf erect, long-petioled; lamina

oval or ovate-elliptic, rounded or obtuse above with a minutely tridenticulate apex, rounded or broadly cuneate below, up to 8.5 cm. long and 4.2 cm. wide, chartaceous in the dried specimen; petiole 1.5–2 cm. long, slender, channelled, gradually merging into the lamina. Inflorescences abbreviated, 1-flowered, few to numerous, in the axil of a conspicuous conduplicate spathe which is about 1.6 cm. long and minutely scabrous below. Flowers medium-sized, ringent. Dorsal sepal strongly cucullate, lanceolate-ovate when expanded, about 12.3 mm. long and 6.3 mm. wide, acute or short-acuminate, 3-nerved, membranaceous. Lateral sepals connate into an oblong-lanceolate navicular lamina which is sharply bidentate, about 11.8 mm. long and 4 mm. wide, 4-nerved, membranaceous. Petals linear-lanceolate in outline, 7.5–8 mm. long, with a short subquadrate basal portion which terminates in a pair of unequal teeth (one on each side), acute, 1-nerved throughout or 3-nerved to the middle. Lip sigmoid, about 6.4 mm. long in natural position, deeply 3-lobed, with the lateral lobes erect and parallel, the lower sides of the mid-lobe erect and the sides of its rather fleshy upper portion revolute; lateral lobes porrect, arcuate-oblong from an indistinct cucullate claw, very obliquely bilobed above, obtuse with the margins cucullate-incurved; mid-lobe much larger, shortly clawed, narrowly ovate-triangular when expanded, about 6 mm. long and 4 mm. wide at the rounded base, narrowed to an obtuse apex, 3-nerved to the middle with the elongate mid-nerve clavate-thickened near the apex and prominent on the under surface; a small fleshy bilobed callus stands between the lateral lobes and there is a pair of short fleshy thickenings near the base of the mid-lobe. Column very short, about 2.4 mm. long at the back, gradually much dilated toward the base.

This species is very similar to *P. Hitchcockii* Ames

from British Guiana. It differs, however, in having a more robust habit, broader leaves, smaller and less acuminate sepals and a narrower lip which is incurved at the apex.

JUNIN: La Merced, Hacienda Schunke, at about 1200 meters altitude, "epiphyte, translucent with red lines," August 27-September 1, 1923, *J. Francis Macbride 5618*. (TYPE in Herb. Field Mus. No. 536657; DUPLICATE TYPE in Herb. Ames No. 58751); Chanchamayo Valley, at 1500 meters altitude, September 1929, *Carlos Schunke 1097* (flowers rather smaller); same locality at 1200 meters altitude, September 1930, *Schunke 1110*.

***Pleurothallis spathulifolia* C. Schweinfurth sp. nov.**

Herba nana, epiphytica, rhizomate breviter repente. Radices crassae. Caules perbreves, vaginati. Folium spathulatum, apice rotundatum, infra longe angustatum, marginatum. Inflorescentiae unicae vel duae, quam folia multo longiores, laxe racemosae. Flores membranacei. Sepalum dorsale lanceolatum, acutum, concavum. Sepala lateralina in laminam elliptico-ovatum usque ad medium bidentatam connata. Petala oblique elliptico-lanceolata, acuta. Labellum ovato-oblongum, antice rotundatum, basi callo V-formi instructum. Columna late alata cum ala apice trilobata.

Plant dwarf, with the rhizome shortly creeping. Roots fibrous, glabrous, stout for the plant. Stems very short, 3-4 mm. long, enclosed by one to three loose tubular evanescent glabrous sheaths. Leaf spatulate, up to 1.6 cm. long and 6 mm. wide, rounded at the apex with a minutely tridenticulate tip, gradually long-narrowed below, marginate, subcoriaceous. Inflorescences one or two, filiform, much surpassing the leaf, few- (up to 11-) flowered above, rather loose. Floral bracts minute, infundibuliform, aristate, about equaling the recurved pedicels. Flowers small, membranaceous. Dorsal sepal lanceolate,

concave, acute, 3-nerved, about 3 mm. long and 1.2 mm. wide. Lateral sepals acute at the apex, connate almost to the middle to form an elliptic-ovate concave lamina which is about 3 mm. long and is 4-nerved. Petals obliquely elliptic-lanceolate, acute, 1-nerved, about 2.3 mm. long and 1 mm. broad, with minutely irregular margins. Lip ovate-oblong, simple, lightly contracted on each side above the middle, about 1.8 mm. long and 1 mm. wide near the base, broadly rounded and denticulate in front, subtruncate at the base with a pair of minute retrorse auricles, provided in the middle of the base with an inverted V-shaped keel, 3-nerved. Column about 1.4 mm. long, slightly arcuate, broadly winged (especially above) with a 3-lobed termination of which the lobes are denticulate, provided with a short concave foot.

The form of the petals distinguishes this species from its allies *P. fuegii* Reichb.f., *P. subsinuata* Lindl. and *P. truncicola* Reichb.f.

AYACUCHO: Aina, between Huanta and Río Apurimac, epiphyte in open woods, at 750-1000 meters altitude, "segments pinkish red, green at base and at margin," May 7, 17, 1929, E.P. Killip & A.C. Smith 23159. (TYPE in U.S. Nat. Herb. No. 1357922).

Pleurothallis Talpinaria *Reichenbach filius* in Flora 69 (1886) 554.

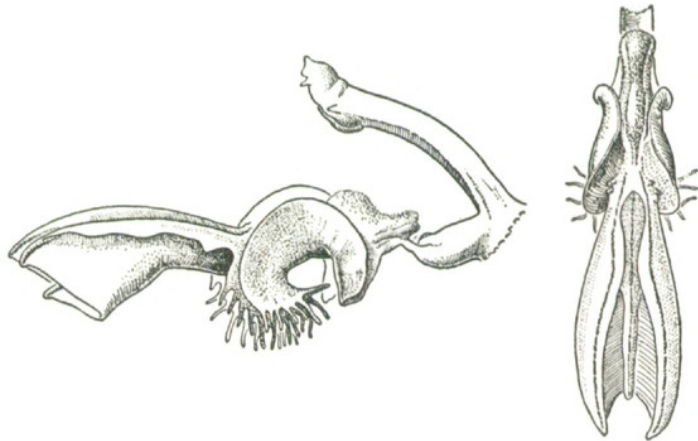
Talpinaria bivalvis Karsten Fl. Columb. 1 (1859) 153, t. 76, non *Pleurothallis bivalvis* Lindl.

Pleurothallis trimeroglossa Schlechter in Fedde Repert. Beih. 9 (1921) 78; ex Mansfeld in Fedde Repert. Beih. 57 (1929) t. 115, nr. 452.

It is evident from a comparison of specimens of the type number of *Pleurothallis trimeroglossa* with the plate and description of *Talpinaria bivalvis* that we are dealing with one species.

In *P. trimeroglossa*, the stems are provided with only two sheaths (not three as described), and these sheaths

scarcely reach beyond the middle of the stems (not altogether concealing them, as stated). The spathe which embraces the peduncles is about 1.5 cm. or less long, whereas it is 2 cm. long in *Talpinaria bivalvis*. The flowers are slightly smaller than those described in *T. bivalvis*, while the petals are markedly shorter than the sepals and not almost equaling them as in *T. bivalvis*.



Lip and column, from side, ten times natural size.
Lip, from above, natural position, ten times natural size.

Judging by a careful examination of the type collection of *Pleurothallis trimeroglossa*, the lip has been interpreted incorrectly by both Karsten and Schlechter. The lower half of the lip has a high flattened pubescent central keel enclosed by a pair of erect conduplicate semiorbicular-lunate lobes which are lacerate-fimbriate in front and recurved; the anterior half is elliptic, or flabellate when expanded, and is prominently tridentate in front.

The origin of *Talpinaria bivalvis* was said to be Colombia and Venezuela, while *Pleurothallis trimeroglossa* came from the Department of Junín in Peru.

***Pleurothallis tenuis* C. Schweinfurth sp. nov.**

Herba parva, caespitosa, epiphytica. Caules graciles, simplices, unifoliati, vaginis paucis infundibuliformibus

omnino obtecti. Folium ellipticum, subacutum vel obtusum, basi in petiolum perbreve angustatum. Inflorescentiae unicae vel duae, folia valde superantes. Racemi laxe pluriflori. Pedicelli longi, arcuati vel patentes. Flores parvi. Sepalum dorsale lanceolatum, longe acuminatum, concavum, trinervium, dorso carinatum. Sepala lateralibus fere libera, triangulari-linearibus, uninervia, dorso carinata. Petala multo minora, oblique elliptico-lanceolata, acuta vel acuminata, uninervia. Labellum lanceolatum, infra medium obscure trilobatum, antice in apicem obtusum angustatum; discus basi incrassatus. Columna gracilis, pedata.

Plant small, caespitose, about 6 cm. tall. Roots fibrous, glabrous, long for the plant. Stems short and slender, simple, spreading, monophyllous, entirely clothed with sheaths, up to 3 cm. long, often with a decumbent base. Cauline sheaths five or less, lepanthiform, minutely scabrous along the longitudinal nerves, infundibuliform above with a flaring marginate hispidulous mouth. Leaf elliptic, subacute to rounded above with a minutely tridentate apex, in the dried specimen shortly petioled at the broadly cuneate base, up to 2.7 cm. long and 9 mm. wide, thickly coriaceous. Inflorescences one or two, arising just below the joint of the leaf, capillary, much surpassing the leaf, arcuate, up to 5 cm. long (including the flowers), loosely few- (up to 10-) flowered. Pedicels arcuate or spreading, much exceeding the minute infundibuliform floral bracts. Flowers small but large for the plant; segments little spreading. Dorsal sepal lanceolate, concave below, rather abruptly long-acuminate above, about 7 mm. long and 2.3 mm. wide near the base, 3-nerved, dorsally carinate especially through the lower part with the keel produced onto the ovary. Lateral sepals triangular-linear or lanceolate-linear, free nearly to the base, about 7.2 mm. long and 1 mm. wide at the

base, 1-nerved, forming a short mentum with the column-foot, dorsally carinate with the keels extending onto the ovary. Petals much shorter than the sepals, very obliquely elliptic-lanceolate, about 3.5 mm. long and 1.1 mm. wide near the middle, acute or acuminate with more or less irregular upper margins, 1-nerved. Lip lanceolate, in natural position with incurved lower margins and recurved apex, when expanded about 3.5 mm. long and 1.7 mm. wide below, cuneate at the base, the lower third dilated into indistinct broadly rounded lobules, the upper portion gradually narrowed to the obtuse apex, 3-nerved through the lower half; lamina fleshy-thickened near the base in the middle, densely minute-papillose above. Column slender, slightly arcuate, dilated at the base, terminating in a trilobulate wing, about 2 mm. long, with a short broad fleshy foot.

Pleurothallis tenuis is apparently allied to the Colombian *P. intricata* Lindl., but differs in the structure of the lip.

Cuzco: *F. L. Herrera 2157* (C. Bues coll.). (TYPE in U.S. Nat. Herb. No. 1423521). AYACUCHO: Aina, between Huanta and Río Apurimac, at 750-1000 meters altitude, epiphyte in dense forest, May 7, 17, 1929, *E. P. Killip & A. C. Smith 22539*. This collection, which consists of advanced specimens with withered flowers on the summit of rounded ovaries, shows one plant about 11 cm. high, with stem about 4 cm. long bearing six hirsute sheaths; another stem bears a leaf about 3.5 cm. long and 1.1 cm. wide; one inflorescence is about 8 cm. long and bears eighteen flowers.

***Pleurothallis Vargasii* C. Schweinfurth sp. nov.**

Herba robusta. Caulis crassus, vaginis duabus vel tribus laxis ornatus. Folium oblongo-ellipticum vel ovale, apice rotundatum vel leviter emarginatum, sessile vel subsessile, valde coriaceum. Inflorescentiae plures, erectae, folio subaequales vel paulo longiores, dense multiflorae. Sepala intus dense pubescentia, extus leviter carinata. Sepalum dorsale ovato-oblongum, apice rotun-

dato apiculatum, quinquenervium. Sepala lateraliala lanceolato-oblonga, acuta, leviter obliqua, trinervia. Petala sepalis multo breviora, elliptico-obovata, apice rotundata, trinervia. Labellum quam petala brevius, leviter trilobatum, apice rotundatum, cum lobulis lateralibus semiobovatis et incurvis. Columna abbreviata, breviter pedata.

Plant robust, probably caespitose (base of stem and rhizome not present). Stem stout, up to 15.5 cm. high, provided with two or three loose tubular scarious sheaths; uppermost sheath separate, much the largest, up to 7.5 cm. long. Leaf oblong-elliptic to oval (often slightly broader above the middle), sessile or subsessile, 11.4–15.5 cm. long, 4.7–7.5 cm. across, broadly rounded and slightly retuse at the apex, cuneate below, thickly coriaceous in the dried specimen, many-nerved with the mid-nerve sulcate above and prominently carinate beneath. Racemes four to six, erect or suberect, densely many-flowered, apparently secund, up to 19 cm. long, shorter than or slightly surpassing the leaf, issuing from a prominent conduplicate shining spathe which is up to 4.2 cm. long. Floral bracts short, infundibuliform. Flowers small for the plant, campanulate with but slightly spreading segments. Sepals subfleshy, closely pubescent within except near the base, lightly carinate without. Dorsal sepal slightly adnate to the lateral sepals at the base, strongly concave below, ovate-oblong, 9.5–10 mm. long, 4.8–5 mm. wide, abruptly rounded and apiculate at the apex, 5-nerved. Lateral sepals lanceolate-oblong, acute, concave below, slightly oblique, 9–9.5 mm. long, about 3.2 mm. wide, 3-nerved (sometimes with a short supplementary nerve), more or less connate near the base. Petals much smaller than the sepals, elliptic-obovate, 4–4.5 mm. long, 2.2–2.7 mm. wide, rounded at the apex, 3-nerved. Lip smaller than the petals, fleshy, lightly 3-lobed, 3-nerved, slightly arcuate in natural position with concave

base incurved sides and flat slightly recurved apex, about 3.7 mm. long, 2.4–3.4 mm. wide (when forcibly expanded), broadly rounded at the apex, cuneate at the base with the lateral margins forming intramarginal semiobovate lobules which end above the middle of the lip. Column minute, stout, about 1.7 mm. long at the back, provided with an abbreviated semiorbicular fleshy foot.

Pleurothallis Vargasii appears to be related to *P. Cassidis* Lindl. and to *P. expansa* Lindl., but has a dissimilar lip from that of both species.

APURIMAC: Prov. Abancay, "bosques altos de Ampay," at 3700 meters altitude, epiphyte (also on the ground), roots branching, June 1938, *C. Vargas* 1075. (TYPE in Herb. Gray No. 7439); *Vargas* 2049.

***Octomeria boliviensis* Rolfe var. *grandifolia* C. Schweinfurth var. nov.**

Herba valde variabilis, caulibus saepissime longioribus et foliis saepissime majoribus et labello basi leviter auriculato a specie differt.

Plant very variable. Stems ranging from 7.5 to 42.3 cm. long. Leaf elliptic-linear to narrowly elliptic-lanceolate, varying (when mature) from 11.7 to 27.7 cm. long including the short petiole and from 1.6 to 3.7 cm. wide. Flowers cream-color, yellow and dark red. Dorsal sepal elliptic-lanceolate, acute, about 1.2 cm. long and 4.5 mm. wide. Lateral sepals similar, slightly oblique. Petals obliquely elliptic-lanceolate, somewhat shorter than the sepals. Lip about 6.5 mm. long, sharply 3-lobed in the middle; lower portion pandurate with a more or less auriculate base; lateral lobes erect in natural position, small, obliquely semiovate, porrect, rounded at the apex; mid-lobe rhombic-ovate, broadly truncate in front with a more or less sharply 3-lobulate apex, erose-denticulate on the margins except near the base; disc with a pair of keels similar to those of the type.

LORETO: Pumayacu, between Balsapuerto and Moyobamba, at 600-1200 meters altitude, epiphyte in forest, August-September, 1933, flowers cream-color, yellow and dark red, *G. Klug 0.15*. (TYPE in Herb. Ames No. 60986; DUPLICATE TYPE in Herb. Field Mus. No. 736349). SAN MARTIN: Zepelacio near Moyobamba, at about 1100 meters altitude, in mountain forest, May 1934, flowers cream-color and violet, *G. Klug 3637*. (Some of the plants of this collection show even smaller stems and leaves than the species, and the flowers are slightly smaller than those described above).

Octomeria complanata *C. Schweinfurth sp. nov.*

Herba parva, caespitosa. Caules numerosi, graciles, complanati, vaginis tubulatis imbricantibus basi ornati. Folium arcuatum, triquetro-subulatum, parvum. Inflorescentiae abbreviatae, plures, uniflorae ut videtur. Sepalum dorsale lanceolato-oblongum vel elliptico-lanceolatum, acutum. Sepala lateralibus anguste oblonga vel oblongo-lanceolata, navicularia, subacuta, paulo longiora. Petala oblique oblongo- vel elliptico-lanceolata, sepalis breviora. Labellum arcuatum, parte inferiore lateribus incurvis, prope basim profunde trilobatum, apice rotundatum, basi late rotundatum; lobi laterales parvi, falcati, anguste triangulari-lanceolati; lobus medius multo major, ovatus; discus breviter bicarinatus. Columna generis.

Plant small, with an abbreviated rhizome. Stems caespitose, numerous, slender, complanate, longitudinally striate, up to 8.5 cm. long, monophyllous, provided in the lower portion with three or four imbricating tubular evanescent sheaths which become progressively larger upward. Leaf seemingly a continuation of the stem, triquetrous-subulate, acute, more or less arcuate, up to 4 cm. long. Inflorescences abbreviated, apparently 1-flowered, several in a fascicle. Flowers small, membranaceous, brown-red. Dorsal sepal lanceolate-oblong to elliptic-lanceolate, acute, concave, up to 5.3 mm. long and 1.6 mm. wide, 3-nerved. Lateral sepals narrowly oblong

or oblong-lanceolate, subacute, navicular, up to 6.1 mm. long and 1.1 mm. wide, 3-nerved. Petals obliquely oblong- or elliptic-lanceolate, somewhat shorter than the sepals, up to 4.1 mm. long and 1 mm. wide, acute, 3-nerved. Lip arcuate with the sides of the lower part erect and incurved in natural position, when expanded oblong-ovate, deeply 3-lobed at the base, rounded at the apex, broadly rounded at the base, about 2.1 mm. long; lateral lobes small, narrow, strongly falcate, triangular-lanceolate; mid-lobe many times larger than the lateral lobes, ovate with the margins (especially the posterior ones) irregular, making a sharp sinus with the lateral lobes; disc with a pair of short keels running from the base of the lateral lobes to the lower part of the mid-lobe. Column slender, arcuate, about 1.8 mm. high measured at the back, dilated below and extended into a stout foot.

Octomeria complanata is apparently distinct by reason of its flattened stems. Its floral segments are similar to those of the Bolivian *O. tenuis* Schltr. which is a much larger species throughout. It differs from the Brazilian *O. brachypetala* Schltr. in its much shorter stems, smaller flowers and in the dissimilar apex of the lip.

LORETO: Mishuyacu, near Iquitos, at 100 meters altitude, in forest, October-November 1929, G. Klug 471. (TYPE in Herb. Ames No. 60987; DUPLICATE TYPES in U.S. Nat. Herb. No. 1455472 and in Herb. Field Mus. No. 620502).

EXPLANATION OF THE ILLUSTRATIONS

PLATE XVII. *PLEUROTHALLIS ECHINOCARPA C. Schweinf.* 1, plant, one half natural size. 2, flower and ovary, from side, twice natural size. 3, lip from above, natural position, five times natural size. 4, lip from side, natural position, five times natural size. 5, dorsal sepal, twice natural size. 6, lateral sepal, twice natural size. 7, petal, twice natural size.

PLEUROTHALLIS BREVISPICATA C. Schweinf. 8, plant, natural size. 9, flower and ovary from side, three times natural size. 10, lip from above, expanded, five times natural size. 11, lip from side, natural position, five times natural size. 12, dorsal sepal, three times natural size. 13, lateral sepals, three times natural size. 14, petal, three times natural size.

PLATE XVIII. *PLEUROTHALLIS INAEQUISEPALA C. Schweinf.* 1, plant, natural size. 2, flower and ovary from side, natural position, five times natural size. 3, dorsal sepal, five times natural size. 4, lateral sepals, natural position, five times natural size. 5, petal, five times natural size. 6, column and lip from side, ten times natural size. 7, lip expanded, ten times natural size.

PLEUROTHALLIS TENUIS C. Schweinf. 8, plant, natural size. 9, flower from side, two and one half times natural size. 10, dorsal sepal, five times natural size. 11, lateral sepals, natural position, five times natural size. 12, petal, five times natural size. 13, column and lip from side, ten times natural size. 14, lip from above, expanded, ten times natural size.

PLATE XIX. *PLEUROTHALLIS QUADRATA* C. Schweinf.

1, plant, natural size. 2, flower from front, expanded, ten times natural size. 3, column and lip from side, ten times natural size. 4, lip from above, expanded, ten times natural size.

PLEUROTHALLIS DILATATA C. Schweinf. 5, plant, one half natural size. 6, flower and ovary from side, four times natural size. 7, column and lip from side, four times natural size. 8, lip from above, expanded, four times natural size. 9, petal, four times natural size.

PLATE XX. *PLEUROTHALLIS LONGISERPENS* C. Schweinf.

1, plant, natural size. 2, flower from above, expanded, twice natural size. 3, flower and ovary from side, natural position, twice natural size. 4, petal, five times natural size. 5, lip and column from side, natural position, five times natural size. 6, lip from above, expanded, five times natural size. 7, column with anterior horn from side, five times natural size.

PLATE XXI. *PLEUROTHALLIS RINGENS* C. Schweinf.

1, plant, one half natural size. 2, lip and column from side, five times natural size. 3, lip from above, partially expanded, five times natural size. 4, dorsal sepal, two and one half times natural size. 5, lateral sepals, two and one half times natural size. 6, petal, five times natural size.

PLATE XXII. *PLEUROTHALLIS SPATHULIFOLIA* C. Schweinf.
1, plant, one and one half times natural size. 2, flower from above, expanded, five times natural size. 3, column and lip from side, ten times natural size. 4, lip from above, twenty times natural size.

PLEUROTHALLIS CAUDATIPETALA C. Schweinf. 5, plant, two and one half times natural size. 6, flower from above, expanded, five times natural size. 7, lip from above, expanded, twenty times natural size. 8, column and lip from side, ten times natural size.

PLATE XXIII. *PLEUROTHALLIS VARGASII* C. Schweinf.
1, plant, one half natural size. 2, flower and ovary from side, five times natural size. 3, column and lip from side, five times natural size. 4, lip from above, five times natural size. 5, petal, five times natural size. 6, dorsal sepal, five times natural size. 7, lateral sepals, expanded, five times natural size.

PLATE XXIV. *OCTOMERIA COMPLANATA* C. Schweinf.
1, plant, natural size. 2, flower and ovary from side, five times natural size. 3, flower from above, expanded, five times natural size. 4, lip from above, expanded, ten times natural size. 5, column and lip from side, ten times natural size.

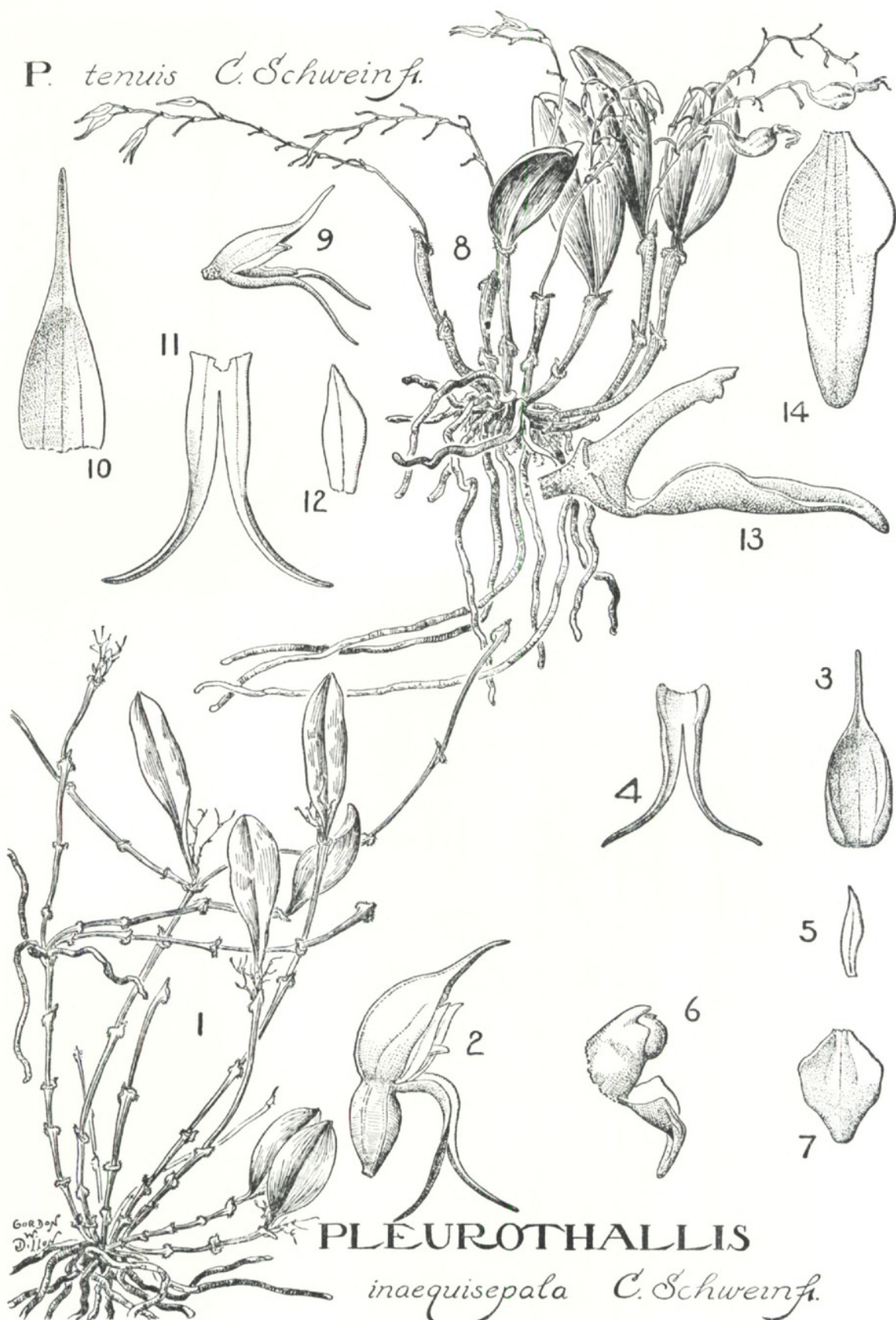
PLEUROTHALLIS

echinocarpa C. Schweinf.



P. brevispicata C. Schweinf.

P. tenuis C. Schweinf.



PLEUROTHALLIS

quadrata C. Schweinf.



P. dilatata C. Schweinf.

PLEUROTHALLIS

longiserpens C. Schweinf.



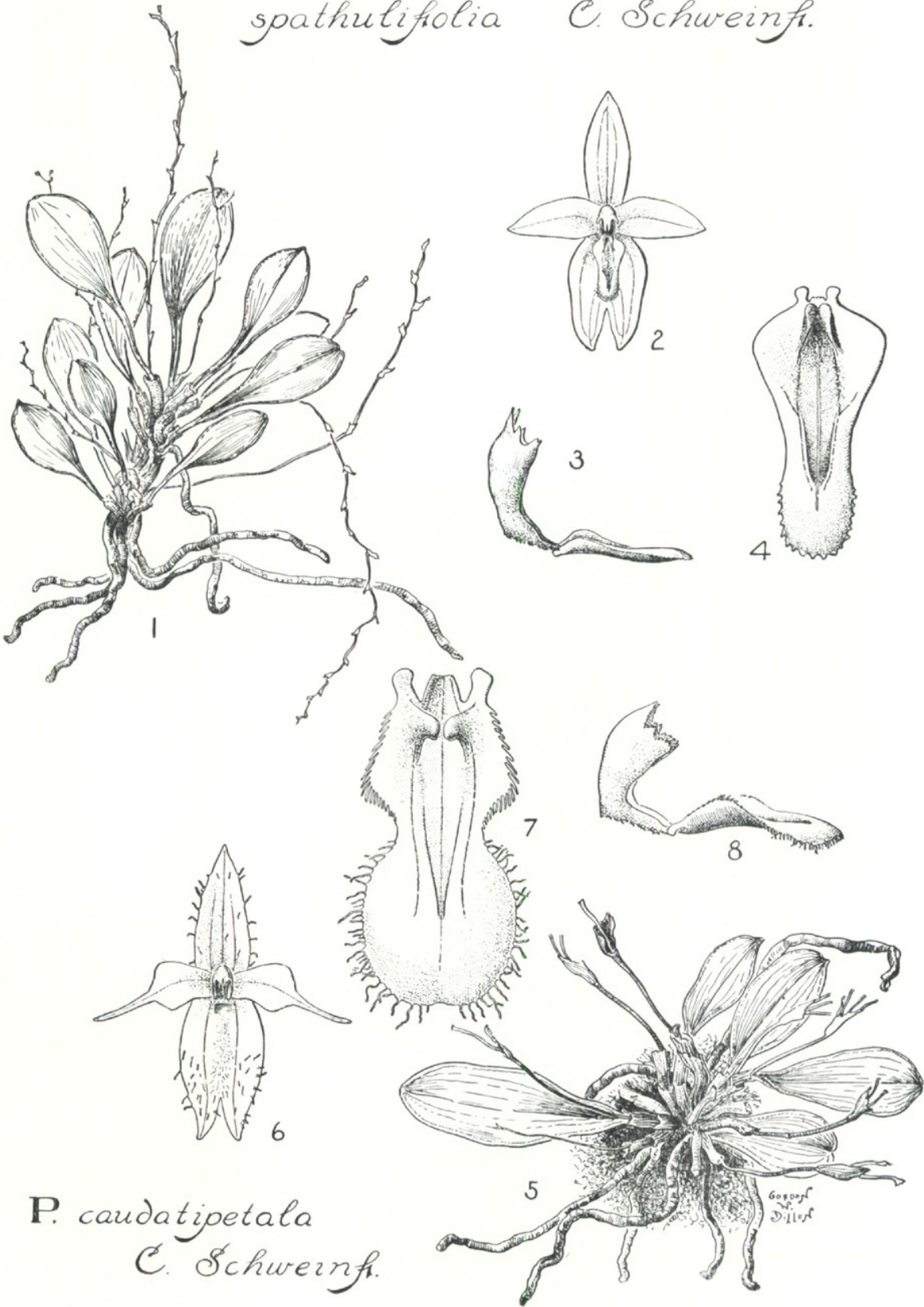
PLEUROTHALLIS

ringens C. Schweinf.



PLEUROTHALLIS

spathulifolia C. Schweinf.



P. caudatipetala
C. Schweinf.



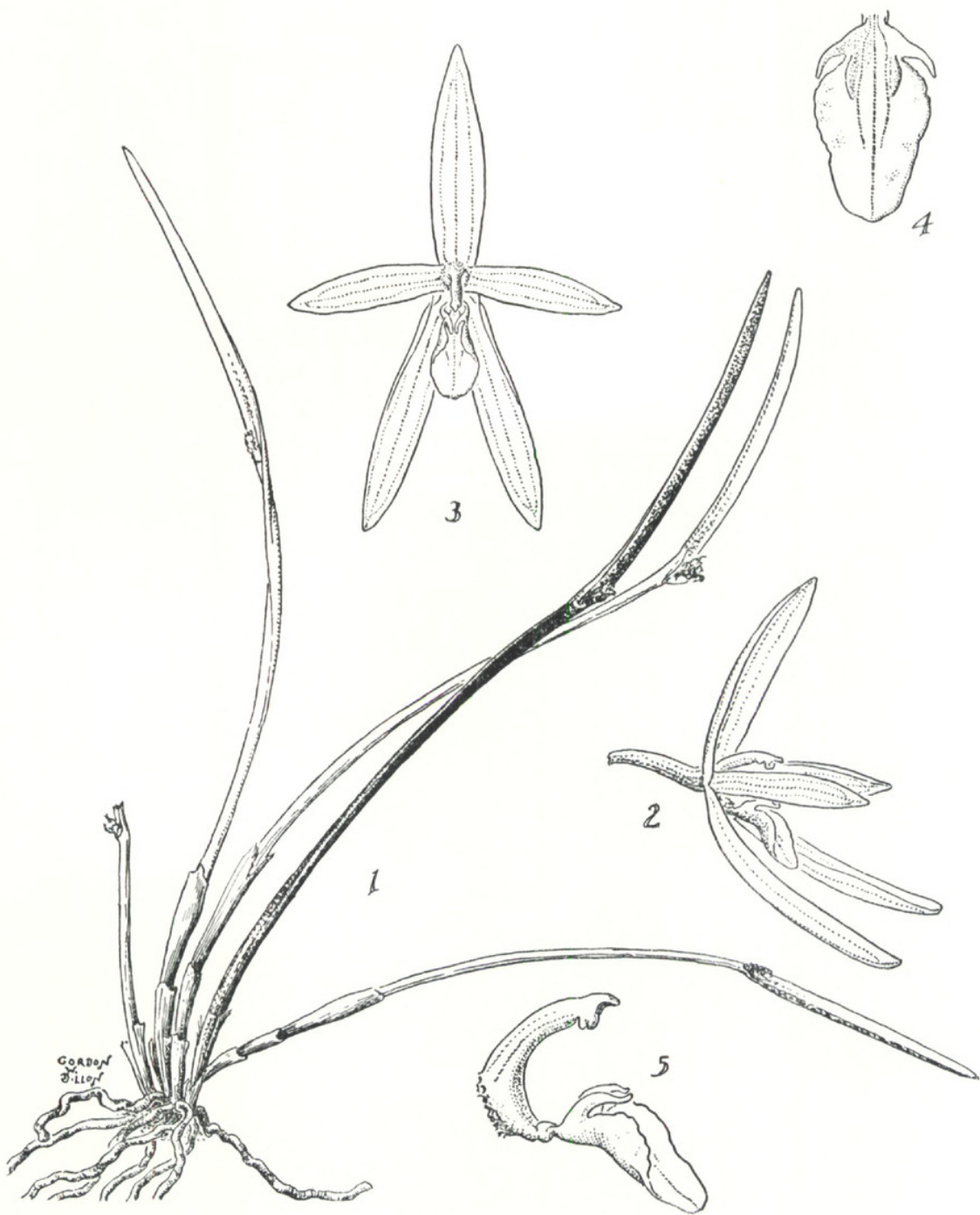
PLEUROTHALLIS

Vargasii

C. Schweinf.

OCTOMERIA

complanata C. Schweinf.





Schweinfurth, Charles. 1942. "Orchidaceae peruviana IV." *Botanical Museum leaflets, Harvard University* 10(7), 173–216. <https://doi.org/10.5962/p.295160>.

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