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NOTES ON AMERICAN ORCHIDS

BY

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THIS PAPER includes descriptions of several American orchid novelties and a number of miscellaneous orchid notes, among them some nomenclatorial changes which were found to be necessary.

***Spiranthes Romanzoffiana* Chamisso var. *porrifolia* (Lindl.) Ames & Correll comb. nov.**

Spiranthes porrifolia Lindley Gen. & Sp. Orch. Pl. (1840) 467.

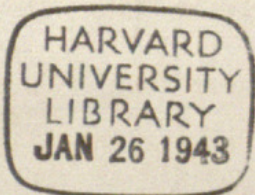
Gyrostachys porrifolia O. Kuntze Rev. Gen. Pl. (1891) 664.

Orchiastrum porrifolium Greene Man. Bot. Reg. San Francisco Bay (1894) 306.

Ibidium porrifolium Rydberg in Bull. Torr. Bot. Club 32 (1905) 610.

Specimens which conform to Lindley's type of *S. porrifolia* are readily distinguishable from the average specimen of *S. Romanzoffiana*. Usually *S. Romanzoffiana* is comparatively slender, with an elongated lax inflorescence, and is quite different in habit from the Unalaskan type. It differs also from the Irish form and from the more northern forms of North America which are characteristically stunted and usually possess a short compact inflorescence.

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The characters commonly used in separating *S. porrifolia* from *S. Romanzoffiana* may be summed up as follows: 1) *S. porrifolia*, calli of the lip rather prominent; lip essentially ovate-lanceolate in outline, usually oblong-quadrate below the constriction, scarcely (if at all) dilated at the apex and usually only cellular-papillose on the apical margin. 2) *S. Romanzoffiana*, calli minute; lip panduriform, orbicular below the constriction, strongly dilated at the apex and usually lacerate on the apical margin.

Intergrading forms between these two entities may be found. Often a lip in other respects like that of typical *S. Romanzoffiana* will possess large, fleshy calli comparable to those which occur normally in *S. porrifolia*. Conversely, a lip like that of *S. porrifolia* will possess the characteristic minute or almost obsolescent calli which characterize *S. Romanzoffiana*. The inflorescence of typical *S. porrifolia* is composed of several ranks of flowers and is characteristically more slender than that of *S. Romanzoffiana*. Several collections of *S. porrifolia* have been seen whose flowers are disposed in a single, secund or spiral rank. However, this occurrence is rare.

We consider the localized *S. porrifolia* to be a geographic variety of the widespread and fairly common *S. Romanzoffiana*, and it will be so treated in our work on the Orchidaceae of North America, north of Mexico. Variety *porrifolia* is at present known to occur in California, where it is rather abundant, and in Utah, Nevada, Washington and Oregon, where it is less common.

Epidendrum Howardii Ames & Correll *sp. nov.*

Herba elata. Pseudobulbus ovoideus, ad apicem bifoliatum sensim angustatus, vaginis magnis scariosis suffultus. Folia suberecta, lineari-ligulata, ad apicem obtusum leviter angustata, coriacea. Pedunculus terminalis, ro-

bustus, pendulus, bracteis brevibus triangularibus scariosis arcte adpressis in nodis ornatus. Inflorescentia rare paniculata, laxiflora. Ramorum et florum bractee similes, minutae, triangulares, acutae, cucullatae. Flores spectabiles, ovario pedicellato gracili. Sepala petalaeque patentia, pallidifusca et atrofusca maculata. Sepala oblanceolata, apice obtuso vel subacuto leviter recurva; sepala lateraliter leviter obliqua. Petala spathulata, apice rotundato apiculata. Labellum columnae basi adnatum, purpureum, profunde trilobatum cum lobis subaequalibus; lobi laterales in positu naturali erecti et supra patentes, extensi oblique obovati, apice late rotundati, marginibus leviter undulatis; lobus medius suborbicularis, apiculatus, marginibus valde undulato-plicatis, isthmo brevi lato basi donatus; discus callo elliptico sulcato super isthmum in nervos tres incrassatos fere usque ad apicem extenso ornatus. Columna crassa, auricula parva triangulari acuta utrinque praedita.

Plant large, up to 2 m. or more tall. Pseudobulb ovoid, tapering to the bifoliate apex, about 7 cm. long and 2 cm. in diameter near the base, subtended by large scarios-fibrous sheaths. Leaves two, at the apex of the pseudobulb, suberect, linear-ligulate, somewhat tapering to the obtuse apex, coriaceous, about 40 cm. long and 2.5 cm. wide below the middle. Peduncle at the apex of the pseudobulb, stout, pendent, somewhat purple-tinged, provided at the nodes with short triangular closely adpressed scarios bracts, 7 dm. or more tall. Inflorescence a sparsely branched panicle, laxly flowered. Floral bracts and bracts subtending the flowering branches similar, minute, triangular-cucullate, acute, up to 5 mm. long. Flowers showy, with slender pedicellate ovaries which are 2–2.5 cm. long. Sepals and petals spreading, light brown, mottled with chocolate-brown. Sepals oblanceolate, slightly recurved at the obtuse to subacute apex,

EXPLANATION OF THE ILLUSTRATION

PLATE I. EPIDENDRUM HOWARDII *Ames & Correll*.
1, plant, one half natural size. 2, flower, front
view, natural size. 3, flower, side view, natural
size. 4, lip, spread out, twice natural size. 5, col-
umn, side view, twice natural size.

EPIDENDRUM

Howardii Ames & Correll



2–2.3 cm. long, 5.5–7 mm. wide near the apex; lateral sepals slightly oblique. Petals spatulate, rounded and apiculate at the apex, with the margins crisped, 1.8–2.2 cm. long, 5.5–6.5 mm. wide near the apex. Lip adnate to base of column, magenta, deeply 3-lobed with the lobes subequal, 1.5–1.8 cm. long and about 2 cm. wide across the lateral lobes when spread out; lateral lobes upturned in natural position, spreading above, obliquely obovate, broadly rounded at the apex, with the margins somewhat undulate, about 1 cm. long and 8 mm. wide above the middle; mid-lobe separated from the lateral lobes by a short fleshy isthmus, suborbicular, apiculate at the apex, with the margins strongly undulate-plicate, about 3 mm. long and 9 mm. wide; disc adorned with an elliptic sulcate callus on the isthmus; callus divided and extended nearly to the apex of the mid-lobe as three thickened nerves. Column rather stout, about 8 mm. long, provided with a small triangular acute auricle on each side at the apex.

This species is related to the *E. oncidoides* Lindl. complex. However, the large lateral lobes of the lip, which are equal to the mid-lobe in size, distinguish it from *E. oncidoides* and its varieties.

We take pleasure in naming this species in honor of its discoverer, Richard A. Howard.

CUBA: Oriente Prov., Sierra de Moa, dense tropical forest, 20 km. west of sawmill at Co. de Moa, July 26, 1941, *R.A. Howard 5939* (TYPE in Herb. Ames No. 61710; ISOTYPE in Herb. Gray).

***Epidendrum verrucosum* Swartz** in Nov. Act. Ups. 6 (1799) 68.

Epidendrum myrianthum Lindl. [var.] *album* "Rehb. f." ex Williams Orch. Grow. Man. ed. 7 (1894) 387.

In making the combination, *E. verrucosum* var. *myrianthum* (Lindl.) Ames & Correll in Bot. Mus. Leaflet.

Harv. Univ. 10 (1942) 82, we inadvertently included in synonymy *E. myrianthum* Lindl. [var.] *album* "Rchb.f." ex Williams. This variety is better referable to the typically white-flowered *E. verrucosum*. The flowers of var. *myrianthum*, instead of being "almost pure white to deep ruby-red or purplish red," are apparently only ruby-red or purplish red.

Hexalectris Warnockii Ames & Correll *sp. nov.*

Herba saprophytica, erecta vel adscendens. Caules graciles, simplices vel raro ramosi, aphylli, bracteati. Inflorescentia racemosa, pauciflora. Florum bracteae ovatae vel ellipticae, acutae, concavae. Sepala lineari-elliptica vel lineari-oblongata, obtusa vel subacuminata; sepalum dorsale canaliculatum; sepala lateralia plusminusve falcata. Petala oblongata vel lineari-spathulata, obtusa vel subacuta, falcata. Labellum in circuitu suborbiculare vel late cuneato-obovatum, supra medium leviter vel conspicue trilobatum, basi rotundatum vel late cuneatum; lobi laterales obtusi vel late rotundati, in positu naturali incurvi; lobus medius valde irregularis, late obcordatus vel subquadratus, aliquid emarginatus, marginibus crenulato-dentatis; lamina prominenter nervosa, cum lamellis tribus medianis magnis undulatis prominentibus quae ex infra labelli medium usque ad prope lobi medii apicem extendunt, et lamella brevior utrinque prope lobi medii basim terminanti. Columna generis.

Plant saprophytic, erect or ascending from a slender rhizome, 1.5–3 dm. tall. Stems slender, simple or occasionally branched, aphyllous, provided with several short tubular sheaths, apparently purplish in color. Inflorescence a laxly six- to eight-flowered raceme, up to 12 cm. long. Floral bracts ovate to elliptic, acute, concave, 5–9 mm. long. Flowers with slender pedicellate ovaries which are about 7 mm. long. Sepals and petals only slightly

spreading, apparently reddish brown. Sepals linear-elliptic to linear-oblongate, obtuse to subacuminate, 1.5–1.8 cm. long, 3.8–4.5 mm. wide at the widest point; dorsal sepal canaliculate; lateral sepals more or less falcate. Petals oblongate to linear-spatulate, obtuse to subacute, falcate, 1.6–2 cm. long, 2.8–3.8 mm. wide above the middle. Lip suborbicular to broadly cuneate-obovate in outline, prominently or shallowly 3-lobed above the middle, rounded to broadly cuneate at the base, 1.5–1.8 cm. long, 1.5–1.6 cm. wide across the lateral lobes when spread out; lateral lobes obtuse to broadly rounded, up-curved in natural position, with the free part up to 4.5 mm. long; mid-lobe very variable, broadly obovate to subquadrate, somewhat emarginate, with the margins crenulate-dentate, 4–6 mm. long, 6–11 mm. wide; lamina prominently nervose, adorned with five parallel lamellae; the three central lamellae prominent, irregularly scalloped and broken on the mid-lobe, extending from below the middle of the lip nearly to the apex of the mid-lobe, and on each side of these a shorter lamella which terminates near the base of the mid-lobe. Column somewhat clavate, arcuate, compressed, about 1 cm. long.

This species is distinguished by its narrow sepals and petals, the distinctive shape of the lip, and the peculiar scalloped and undulated lamellae which adorn the disc of the lip. The lip is very much like that of some species of *Bletia*.

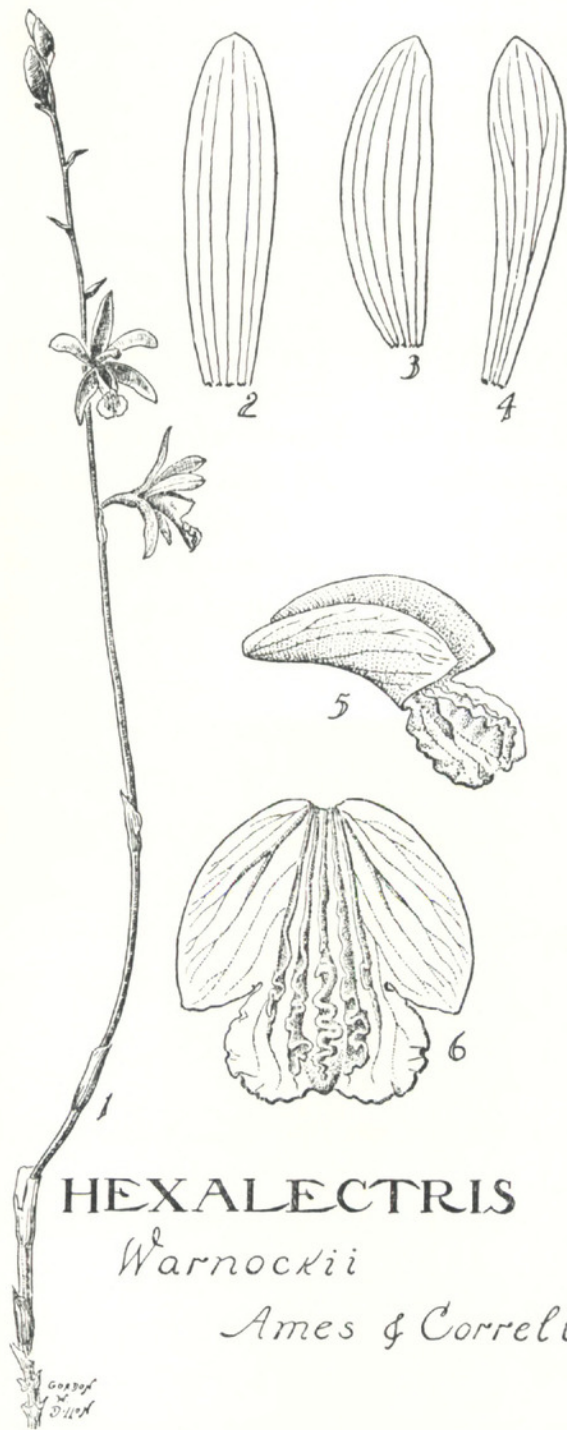
This species is named in honor of Barton H. Warnock, who for many years has been a diligent collector of botanical specimens in the Glass and Chisos Mountains of Texas.

TEXAS: Brewster Co., rare in upper Blue Creek Canyon, Chisos Mts., June 25, 1937, *B. H. Warnock* (Type in Herb. Univ. of Texas); Brewster Co., Chisos Mts., July 25, 1932, *C. H. Mueller* 8957 (Herb. Univ. of Texas); Brewster Co., rare, Upper Juniper Spring and Blue

EXPLANATION OF THE ILLUSTRATION

PLATE II. *HEXALECTRIS WARNOCKII* Ames & Correll.
1, plant, one half natural size. 2, dorsal sepal,
twice natural size. 3, lateral sepal, twice natural
size. 4, petal, twice natural size. 5, lip, side view,
twice natural size. 6, lip, spread out, twice natu-
ral size.

PLATE II



HEXALECTRIS
Warnockii
Ames & Correll

Creek, Chisos Mts., June 25, 1937, *B. H. Warnock 658* (Herb. Sul Ross State Teachers College; U. S. Nat. Herb.); Brewster Co., under *Quercus*, Oak Canyon, alt. 1370 m., July 5, 1931, *J. A. Moore & J. A. Steyermark 3391* (Herb. Mo. Bot. Gard.); Brewster Co., Fern Canyon, Alpine, July 7, 1925, *Mr. & Mrs. W. W. Wimberley* (Herb. Cornell Univ.); Jeff Davis Co., Fern Canyon, July 24, 1938, *O. E. Sperry T507* (Herb. Sul Ross State Teachers College).

It is interesting to note that the genus *Hexalectris* has had a remarkable increase in number of species during the last two years. Prior to October, 1940, only two species were known, *H. spicata* (Walt.) Bernh. and *H. mexicana* Greenm. In June, 1941 (Correll in Bot. Mus. Leaflet Harv. Univ. 10, p. 20), a key was published for the identification of the five species then known.

***Xylobium concavum* (Lindl.) Hemsley** in Godman and Salvin Biol. Centr.-Am. Bot. 3 (1883) 252.

Maxillaria concava Lindley in Bot. Reg. 30 (1844) Misc. p. 4.

Maxillaria stachyobiorum Reichenbach filius in Bot. Zeit. 10 (1852) 735.

Xylobium stachyobiorum Hemsley in Godman and Salvin Biol. Centr.-Am. Bot. 3 (1883) 252.

In describing *Maxillaria concava*, Lindley wrote: "At first sight this species might be mistaken for *M. bractescens*;"

Later, Reichenbach wrote concerning his *Maxillaria stachyobiorum*: "Die Art selbst nächst *M. bractescens* Lindl."

A comparison of an analytical drawing in the Ames Herbarium of a specimen of *M. stachyobiorum* in the Reichenbach Herbarium with a drawing of the lip of *M. concava* taken from a specimen in the Lindley Herbarium shows that they are essentially the same. The lip of *M. stachyobiorum* is shown as somewhat narrower than that

of *M. concava*. However, the lobing and callus is similar in both concepts. Specimens examined have the setaceous floral bracts attributed to *M. concava*.

This species has been found in Mexico, Guatemala, Costa Rica and Panama where it is epiphytic on trees in forests from sea level up to 1200 meters altitude.

Xylobium Powellii Schlechter in Fedde Repert. Beihefte 17 (1922) 66.

Xylobium sublobatum Schlechter in Fedde Repert. Beihefte 19 (1923) 51.

A comparison of an analytical drawing in the Ames Herbarium of the type of *X. sublobatum* in the Schlechter Herbarium with an isotype of *X. Powellii* reveals that they are conspecific. The lateral lobes of the lip of *X. Powellii* are more pronounced than in *X. sublobatum*. Otherwise, the two concepts are identical. The trilamellate disc of the lip is evident in both, and both have the characteristically short pseudobulb and inflorescence.

This species is extremely close to *X. Tuerckheimii* Kränzl. If it were possible to examine the type of that concept, we believe it would prove to be conspecific with *X. Powellii*.

Xylobium Powellii has been found in Costa Rica and Panama where it grows on trees and stumps in forests up to 2000 meters altitude.

Since *Maxillaria*, *Camaridium* and *Ornithidium* are now considered to be congeneric, the following nomenclatorial changes for several Central American species are necessitated.

Maxillaria bracteata (Schltr.) Ames & Correll comb. nov.

Ornithidium bracteatum Schlechter in Fedde Repert. 9 (1911) 217.

Camaridium bracteatum Schlechter in Fedde Repert. Beihefte 19 (1923) 57.

This species has been found only in Costa Rica where it occurs on trees in forests up to 1900 meters altitude.

Maxillaria brevilabia Ames & Correll nom. nov.

Ornithidium Alfaro Ames & Schweinfurth in Sched. Orch. 10 (1930) 98, non *Maxillaria Alfaro* Ames & Schweinfurth.

This species has been found only in Costa Rica where it grows on trees in forests up to 1800 meters altitude.

The specific name is in allusion to the relatively short lip.

Maxillaria concavilabia Ames & Correll nom. nov.

Ornithidium stenophyllum Schlechter in Fedde Repert. Beihefte 19 (1923) 59, nec *Maxillaria stenophylla* Reichenbach filius, nec *Maxillaria stenophylla* Lehman & Kränzlin.

This species has been found only in Costa Rica.

The specific name is in allusion to the prominently concave lip.

Maxillaria falcata Ames & Correll nom. nov.

Ornithidium costaricense Schlechter in Fedde Repert. 8 (1910) 456, non *Maxillaria costaricensis* Schlechter.

This species is common in Costa Rica, the only country in which it has been found. It occurs as an epiphyte on trees in forests up to 2500 meters altitude.

The specific name is in allusion to the falcate lateral lobes of the lip.

Maxillaria paleata (Reichb.f.) Ames & Correll comb. nov.

Ornithidium paleatum Reichenbach filius in Linnaea 41 (1876) 36.

This species has been found in Nicaragua and Costa Rica where it grows on trees in open forests and pastures up to 1050 meters altitude.

Maxillaria quadrata *Ames & Correll nom. nov.*

Ornithidium Lankesteri Ames in Sched. Orch. 4 (1923) 52, non *Maxillaria Lankesteri* Ames.

This species has been found only in Costa Rica where it is epiphytic on trees in pastures and on ridges of upper slopes up to 1900 meters altitude.

The specific name is in allusion to the typically quadrate lateral lobes of the lip. The inflorescence is a showy mass of pinkish white flowers.

Maxillaria serrulata *Ames & Correll nom. nov.*

Camaridium Amparoanum Schlechter in Fedde Repert. Beihefte 19 (1923) 56, non *Maxillaria Amparoana* Schlechter.

This species has been found only in Costa Rica where it is epiphytic on trees.

The specific name is in allusion to the serrulate-denticulate mid-lobe of the lip.

Maxillaria sigmoidea (*C. Schweinf.*) *Ames & Correll comb. nov.*

Ornithidium sigmoideum C. Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 4 (1937) 121.

This species has been found only in Costa Rica where it is epiphytic on trees in forests up to 2000 meters altitude.

Maxillaria purpurea (*Spreng.*) *Ames & Correll comb. nov.*

Epidendrum vestitum Swartz Prodr. Veg. Ind. Occ. (1788) 124, non *Maxillaria vestita* Schlechter.

Cymbidium vestitum Swartz in Nov. Act. Ups. 6 (1799) 70.

Camaridium purpureum Sprengel Syst. Veg. 3 (1826) 735.

Ornithidium vestitum Reichenbach filius in Walp. Ann. Bot. 6 (1863) 491.

Ornithidium simulans Ames & Schweinfurth in Sched. Orch. 10 (1930) 99.

Ornithidium simulans and *O. vestitum* in the past were thought to be separable—*O. simulans* confined to Central America; *O. vestitum* widespread in the West Indies and northern South America. However, a comparison of these two concepts shows that they are identical.

This species has been found in Guatemala, Honduras, throughout the West Indies and northern South America where it is epiphytic on trees and on rocks in forests at low elevations.

Maxillaria strumata (*Endres & Reichb.f.*) Ames & Correll comb. nov.

Ornithidium strumatum Endres & Reichenbach filius in Gard. Chron. n.s. 2 (1874) 772.

This species has been found only in Costa Rica.

Maxillaria trilobata Ames & Correll nom. nov.

Camaridium Brenesii Schlechter in Fedde Repert. Beihefte 19 (1923) 237, non *Maxillaria Brenesii* Schlechter.

This species has been found only in Costa Rica where it grows on trees in cloud forests up to 1500 meters altitude.

The specific name is in allusion to the prominently 3-lobed lip.

Maxillaria Tonduzii (*Schltr.*) Ames & Correll comb. nov.

Camaridium costaricense Schlechter in Fedde Repert.

3 (1907) 250, non *Maxillaria costaricensis* Schlechter.
Camaridium Tonduzii Schlechter in Fedde Repert. 8
(1910) 571.

This species has been found only in Costa Rica where it occurs as an epiphyte on trees up to 1600 meters altitude.

Maxillaria Wrightii (Schltr.) Ames & Correll comb. nov.

Camaridium Wrightii Schlechter in Fedde Repert. 16
(1920) 448.

Ornithidium Wrightii C. Schweinfurth in Bot. Mus. Leaflet. Harv. Univ. 4 (1937) 95.

This species has been found in Nicaragua and Costa Rica.

Maxillaria Wrightii (Schltr.) Ames & Correll var. **imbricata** (Schltr.) Ames & Correll comb. nov.

Camaridium imbricatum Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 415, non *Maxillaria imbricata* Rodriguez.

Ornithidium Schlechterianum C. Schweinfurth in Bot. Mus. Leaflet. Harv. Univ. 4 (1937) 94.

Vegetatively, var. *imbricata* is extremely close to the typical form of the species. However, the flowers are only one half to two thirds as large as those of typical *M. Wrightii*.

Variety *imbricata* has been found only in Costa Rica where it grows on trees and in soil on banks up to 2400 meters altitude.

Maxillaria Adolphii (Schltr.) Ames & Correll comb. nov.

Ornithidium Tonduzii Schlechter in Fedde Repert. 3
(1907) 250, non *Maxillaria Tonduzii* (Schltr.) Ames & Correll.

Camaridium Adolphi Schlechter in Fedde Repert. Beihefte 19 (1923) 58; Fedde Repert. Beihefte 59 (1931) 2, Nr. 263.

This species has been found only in Costa Rica where it grows on trees in forests up to 2600 meters altitude.

Odontoglossum convallarioides (Schltr.) Ames & Correll comb. nov.

Osmoglossum convallarioides Schlechter in Fedde Repert. Beihefte 19 (1923) 148.

This species forms with *Odontoglossum Egertonii* Lindl. and *O. pulchellum* Batem. ex Lindl. a complex group of plants. All three species are similar in habit. However, there are floral differences which readily keep them apart. This species differs from *O. Egertonii* in that the broader lateral sepals are almost free instead of being united almost to the apex as in that species, and the lip is distinctly constricted below the middle, a character lacking in *O. Egertonii*. The column of *O. convallarioides* is almost without apical lobules, whereas the column of *O. Egertonii* is deeply 3-lobed with the lobes fringed. *Odontoglossum convallarioides* differs from *O. pulchellum* not only in the smaller flowers but also in the column which is not conspicuously lobulate and in the lip which is flat and concave instead of being strongly arcuate-deflexed as in that species.

This species is rare in Mexico and Guatemala, but common in Costa Rica, where it occurs as an epiphyte on trees in forests usually at high elevations up to 2700 meters altitude.

Oncidium guatemalense Schlechter in Fedde Repert. 10 (1912) 362.

Odontoglossum oliganthum Reichenbach filius in Bonpl. 4 (1856) 321.

Oncidium guatemalense and *Odontoglossum oliganthum* have in the past been considered as distinct. However, we now consider them to be identical and referable to *Oncidium guatemalense*.

This species is rare in Mexico and Guatemala where it occurs as an epiphyte on trees in forests up to 2000 meters altitude.

***Oncidium Wentworthianum* Bateman ex Lindley**
var. **tenue** (Lindl.) Ames & Correll comb. nov.

Oncidium tenue Lindley in Journ. Hort. Soc. 3 (1848) 76, fig.

Variety *tenue* differs from the typical form of the species mainly in the usually smaller and differently colored flowers. The strongly undulate sepals and petals have an acute-apiculate apex and are commonly shorter and narrower than in typical *O. Wentworthianum*. They are solidly reddish brown with the apical fourth yellow, whereas the sepals and petals of the typical form are lemon-yellow with dark brown irregular blotches or stains on the lower half. The lip of var. *tenue* is adorned with a wide solid wine-colored band across the broad isthmus. The callus of the lip and the column-wings are essentially alike in the two concepts. The inflorescence of var. *tenue* is occasionally as much as three meters in length and the branches are usually short and few-flowered. The floral measurements are as follows: Sepals 1.1–1.5 cm. long, 3.5–6 mm. wide; petals 1–1.3 cm. long, 4–6 mm. wide; lip 1.3–1.8 cm. long, 1.1–1.4 cm. wide across the auriculate lateral lobes, 9–11 mm. wide across the bilobulate mid-lobe.

There is little doubt that this variety has been confused with *O. ansiferum* Reichb.f. and other species in the *O. reflexum* Lindl. complex. It is easily distinguished from *O. ansiferum* by the differently shaped callus of the lip

and the column-wings. An examination of Lindley's illustration of *O. tenue* shows the short-branched inflorescence which is characteristic of this variety.

Variety *tenue* is rare in Mexico and Guatemala where it is epiphytic on trees in humid forests up to about 1000 meters altitude.

***Leochilus Johnstonii* Ames & Correll sp. nov.**

Herba parva, glabra, saepissime caespitosa. Pseudobulbi inconspicui, suborbiculares, apice unifoliati, basi vaginis distichis foliiferis celantibus ornati. Folia lineari-ligulata, obtusa, articulata, coriacea; vaginae valde conduplicatae, crassae, marginibus hyalinis. Inflorescentia in pseudobulbi basi axillaris, quam folia multo brevior, erecto-adscendens vel patens et pendula, pluriflora; pedunculus et rachis angulata. Florum bracteae triangulari-ovatae vel triangulari-lanceolatae, acutae, concavae, scariosae. Flores parvi, cum ovariis pedicellatis crassis sigmoideo-arcuatis, tripartitis. Sepala libera, elliptica vel elliptico-lanceolata, acuta, dorso carinata, navicularia; sepalum dorsale erecto-arcuatum, cucullum super columnam formans; sepala lateralia obliqua, patentia. Petala elliptica vel oblongo-elliptica, obtusa vel subacuta, leviter concava, plusminusve porrecta. Labellum patens, ellipticum, leviter retusum, marginibus paulo recurvis minute undulatis, conspicue trinervium nervis ramosis; discus ima basi callo profunde concavo glabro, et antice callo subquadrato leviter sulcato puberulo ornatus. Columna carnosa, clavata, medio stelidio parvo oblique triangulari obtuso porrecto utrinque donata. Capsula obovoideo-ellipsoidea vel late ellipsoidea, tenuiter pedicellata, erostata, triquetra angulis valde alatis.

Plant small, glabrous, usually growing in clumps, up to 11 cm. tall. Pseudobulbs inconspicuous, suborbicular, less than 6 mm. long, about 3 mm. wide, unifoliate,

EXPLANATION OF THE ILLUSTRATION

PLATE III. *LEOCHILUS JOHNSTONII* Ames & Correll.
1, plant, one and one fifth times natural size. 2,
flower, front view, spread open, three times natu-
ral size. 3, flower, front-side view, partly spread
open, three times natural size.

LEOCHILUS

Johnstonii Ames & Correll



completely concealed by leaf-sheaths. Leaf solitary at apex of pseudobulb, also several distichously arranged at base of pseudobulb, linear-ligulate, obtuse, coriaceous, articulate, 2.5–6.5 cm. long, 5–10 mm. wide; sheaths thick, strongly conduplicate, with hyaline margins, 8–15 mm. long. Inflorescence from axil of leaf at base of pseudobulb, much shorter than the leaves, erect-ascending or spreading-pendent, several-flowered, up to 4 cm. long; peduncle and rachis angular. Floral bracts triangular-ovate to triangular-lanceolate, acute, concave, scarious, 3–5 mm. long. Flowers small, with stout sigmoid-arcuate 3-winged pedicellate ovaries which are about 8 mm. long, with the wings of the ovary continuous into the sepals. Sepals free, elliptic to elliptic-lanceolate, acute, dorsally carinate, longitudinally concave, 6.5–7 mm. long, 2–2.3 mm. wide; dorsal sepal erect-arcuate to form a hood over the column; lateral sepals spreading, oblique. Petals elliptic to oblong-elliptic, obtuse to subacute, slightly concave, somewhat directed forward, 5.5–6 mm. long, 2.2–2.8 mm. wide. Lip spreading, elliptic, lightly retuse at the apex, with the slightly recurved margins minutely undulate, prominently 3-nerved with the nerves branched, about 6 mm. long and 3.5 mm. wide at the middle; disc provided at the extreme base with a deeply concave glabrous callus with very fleshy margins which are open in front, with a subquadrate slightly sulcate puberulent callus in front of the concave base, the entire callus about 3 mm. long and 1 mm. wide. Column fleshy, clavate, about 3 mm. long, provided on each side about the middle with a small obliquely triangular obtuse arm which projects forward. Capsule on a slender pedicel, obovoid-ellipsoid to broadly ellipsoid, beakless, triangular in cross-section with the three angles prominently winged, about 1.5 cm. long.

Superficially, *L. Johnstonii* is most closely allied to *L.*

tricuspidatus (Reichb.f.) Kränzl., of Costa Rica. However, it differs from that species in the short inflorescences which are always exceeded by the leaves; the elliptic (instead of obovate) lip which is not strongly deflexed at the base and which is only slightly retuse instead of being bilobulate at the apex; and in the shape of the callus at the extreme base of the lip. The two species are similar in their capsules which are beakless and strongly 3-winged. The flowers, except for being smaller, are almost identical in appearance with those of *L. oncidoides* Knowles & Westc. However, the lateral sepals are entirely free at the base, whereas those of *L. oncidoides* are united for about one third their length. Vegetatively, these two species are very different. The inconspicuous pseudobulbs, short and stubby inflorescences, and beakless strongly 3-winged capsule of *L. Johnstonii* immediately separate it from *L. oncidoides*.

It is of interest to note that the descriptions we have seen of the genus *Leochilus* fail to describe adequately the fruits of the various species included in that genus. The capsules are usually briefly described as "ellipsoidal, beaked." They are actually rotund-trigonous to ellipsoid, strongly beaked or beakless, and with or without prominent wings.

We take pleasure in naming this species in honor of its discoverer, John R. Johnston.

GUATEMALA: Alta Verapaz, Tactic, *J. R. Johnston 1864* (TYPE in Herb. Ames No. 61709); mountains east of Tactic, on road to Tamahú, dense wet forest, on tree, 1500-1650 meters altitude, *P. C. Standley 71432* (Herb. Field Mus.).

***Leochilus labiatus* (Sw.) O. Kuntze** Rev. Gen. Pl. (1891) 656 (as *Leiochilus*)—Cogniaux in Urban Symb. Antill. 4 (1903) 182.

Epidendrum labiatum Swartz Prodr. Veg. Ind. Occ. (1788) 124; Fl. Ind. Occ. (1799) 1493.

Liparis labiata Sprengel Syst. Veg. 3 (1826) 741.

Rodriguesia cochlearis Lindley in Ann. & Mag. Nat. Hist. 5 (1840) 116.

Leochilus cochlearis Lindley in Bot. Reg. 28 (1842) Misc. p. 23.

Oncidium labiatum Reichenbach filius in Walp. Ann. 6 (1863) 741.

Leiochilus gracilis Schlechter in Fedde Repert. Beihefte 19 (1923) 152.

A comparison of *Leochilus labiatus* and *L. gracilis* reveals that they are identical. Heretofore, *L. labiatus* has been considered as occurring only in the West Indies, whereas *L. gracilis* was thought to be restricted to Central America.

This species is found in Guatemala, Honduras, Costa Rica, Panama, Cuba, Hispaniola, Puerto Rico, Guadeloupe, Dominica, St. Vincent and Trinidad. It is epiphytic on trees in dense or open forests up to 1200 meters altitude.

Leochilus scriptus Reichenbach filius Xen. Orch. 1 (1854) 15, t. 6.

Cryptosanus scriptus Scheidweiler in Otto & Dietrich Allg. Gartenz. 11 (1843) 101.

Oncidium scriptum Reichenbach filius in Walp. Ann. Bot. 6 (1863) 772.

There is a sterile specimen from Cuba in the Ames Herbarium (*Bohnhoff*) which is undoubtedly this species. Vegetatively, it is an exact match for typical material from Central America. It is noted here as from Cuba in order that it may be brought to the attention of botanical collectors. The area of distribution may now be defined as Guatemala, Honduras, Costa Rica, Panama and questionably Cuba. Two species of *Leochilus*, *L. labiatus*

(Sw.) O. Ktze. and *L. salvus* (Reichb.f.) Griseb., are definitely known to occur in Cuba.

Ornithocephalus inflexus Lindley in Ann. & Mag. Nat. Hist. ser. 1, 4 (1840) 384.

Ornithocephalus mexicanus A. Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3 (1845) 24.

Ornithocephalus elephas Reichenbach filius in Walp. Ann. Bot. 6 (1863) 493.

Ornithocephalus Pottisiae S. Watson in W.T. Brigham Guatemala the Land of the Quetzal (1887) 429, *nomen*; in Proc. Am. Acad. 22 (1887) 478.

Ornithocephalus Tonduzii Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 420.

A number of concepts, based for the most part on minor variations, have been proposed for this variable species. A comparison of an analytical drawing in the Ames Herbarium of the type of *O. Tonduzii* in the Schlechter Herbarium with a photograph (with analytical drawings) of the type of *O. inflexus* shows that these concepts are conspecific. An examination of a tracing in the Ames Herbarium of the type of *O. elephas* in the Reichenbach Herbarium reveals that it is referable to *O. inflexus*. An examination of the type of *O. Pottisiae* in the Gray Herbarium shows that it is the same as *O. inflexus*.

This species has been found in Mexico, British Honduras, Guatemala, Honduras and Costa Rica where it occurs as an epiphyte on trees in forests and pasturelands up to 1100 meters altitude.



Ames, Oakes and Correll, Donovan Stewart. 1943. "Notes on American Orchids." *Botanical Museum leaflets, Harvard University* 11(1), 1–28.

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