



Nine new species and one new name in *Maxillaria* (Orchidaceae)

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Abstract

Nine new species of *Maxillaria* from Peru are described and illustrated, one based on a previously published variety: *M. canarina*, *M. coniformis*, *M. deniseae*, *M. dichaeoides*, *M. flabellata*, *M. hajekii*, *M. leucopurpurea*, *M. striolata*, and *M. visseri*. In addition, the new name *M. calendulina* is proposed for the Colombian *M. aurantiaca* Schlechter (1924: 87).

Key words: Orchidaceae, *Maxillaria*, Colombia, Peru, new taxa, biodiversity

Introduction

This article continues the modern inventory of Peruvian Orchidaceae (Bennett & Christenson 1993, 1994a, 1994b, 1995a, 1995b, 1997, 1998a, 1998b, 1998c, 2001) as well as materials in preparation of a monograph of *Maxillaria* Ruiz & Pavón (1794: t. 25) by one of the current authors (E.A.Christenson). We retain a traditional sense of *Maxillaria* at this time, feeling it is premature to establish segregate genera given the present turmoil in the genus at the species-level. Proliferation of names serves little purpose at our current understanding of the genus and actually hampers both monographic and floristic studies vital to wider conservation efforts.

Taxonomy

Maxillaria calendulina Christenson, *nom. nov.*

Maxillaria aurantiaca Schlechter (1924: 87), *nom. illeg.*; *Camaridium aurantiacum* Blanco (2007: 519). Type: COLOMBIA: west of Barbacoas, 750 m, July 1921, *W. Hopp* 93 (holotype: B, destroyed).

Note: The name *Maxillaria aurantiaca* Schlechter (1924: 87) is preempted in *Maxillaria* by:

Maxillaria aurantiaca (Lindley) Reichenbach (1863: 511), *nom. illeg.*; *Bifrenaria aurantiaca* Lindley (1863: t. 1875);

Lindleyella aurantiaca (Lindley) Schlechter (1914: 414); *Schlechterella aurantiaca* (Lindley) Hoehne (1944: 13).

Type: GUYANA: Demerara, *Hort. Duke of Devonshire s.n.* (holotype: K) = *Rudolfiella aurantiaca* (Lindley) Hoehne (1949: 220).

Maxillaria aurantiaca Richard & Galeotti (1845: 25). Type: MEXICO. = *Xylobium aurantiacum* (Richard & Galeotti) Schlechter (1918: 492).

Maxillaria canarina Bennett & Christenson, *sp. nov.* (Fig. 1)

Species haec Maxillaria lueri Dodson (Dodson & Dodson 1980: t. 155) *similis sed sepalis petalisque canarinus, labello ad medium trilobo medilobo bullato differt.*

Type:—PERU: Amazonas: Nieva, on the road between Lago Pomacocha and Rioja-Moyobamba, 1800 m, *Hort. Hajek* 226 (holotype: USM).

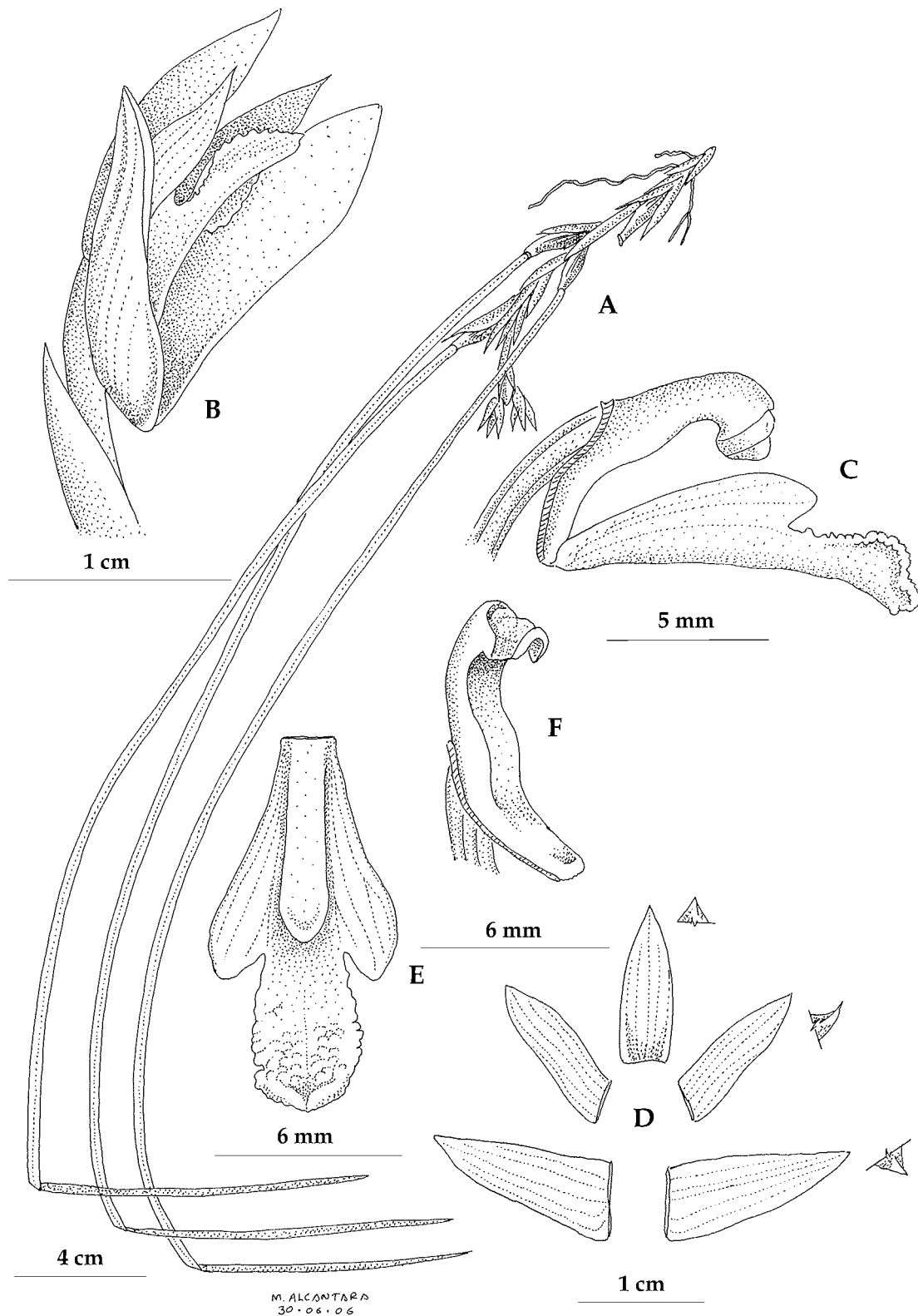


FIGURE 1. *Maxillaria canarina* Bennett & Christenson (drawn from *Hajek* 226 by M. Alcántara A.). **A.** plant in flower; **B.** flower; **C.** column and labellum, side view; **D.** sepals and petals, dissected; **E.** labellum, expanded, from above; **F.** column and foot, 2/3 view.

Pendent subcaespitose clump-forming epiphytes. Pseudobulbs ellipsoid-subfusiform, glossy, becoming irregularly sulcate with age, 2×0.5 cm, subtended by papery bracts, the bracts ovate-lanceolate, pale brown with darker brown spots. Leaves one, linear, acute, 40×0.4 cm. Inflorescences short scapes, ca 2.5 cm long, the floral bracts lanceolate, aciculate, subequal or slightly shorter than the ovaries, ca 1.5 cm long. Flowers strongly cupped, fragrant, yellow, the labellum with a transverse dark red band on the undersurface corresponding to the base of the midlobe, the column white. Dorsal sepal lanceolate to elliptic-lanceolate, shallowly concave, acute, 12×4 mm, the lateral sepals ovate-triangular, acute, subparallel to the labellum, 15×5.5 mm. Petals oblong-lanceolate, acute, 11.5×3 mm. Labellum 3-lobed, cuneate, 13×3.8 mm, the lateral lobes erect-incurved, obliquely oblanceolate, obtuse-rounded, about 2/3 the length of the labellum, the midlobe elliptic, obtuse-rounded, bullate over its entire surface with a weakly defined midvein (groove), the callus from the base of the labellum to the base of the midlobe, oblong-oblanceolate with a triangular apex, acute. Column distinctly hooked below the apex, 5×2 mm, the foot retrorse, subequal to the column, the rostellum hood-like, the pollinia 4, in 2 pairs, on a short common stipe and lunate viscidium. Flowering from May to June but probably sporadically throughout the year as growths mature.

Habitat:—Wet montane forest.

Distribution:—Peru.

Etymology:—From the Latin *canarinus*, meaning canary yellow, referring to the flower color.

Observations:—Distinguished by its pendent habit, extremely long narrow leaves, yellow flowers, bullate midlobe of the labellum, and crozier-like column apex. It is most similar to *M. lueri* Dodson (Dodson & Dodson 1980: t. 155) which differs by having white sepals and petals, and a labellum that is 3-lobed at the apex.

***Maxillaria coniformis* Bennett & Christenson, sp. nov.** (Fig. 2)

Species haec Maxillaria trilobulata Bennett & Christenson (1995a: 197, f. 10) *similis sed magnifloribus, medilobo bullato, clinandrio fimbriato differt.*

Type:—PERU: Amazonas: Bongara, Venceremos Nuevo, 1700 m, 12 June 2005, *D. Bennett & A. Bennett 9159* (holotype: HAO).

Caespitose epiphytes. Pseudobulbs ovoid, 6×3.2 cm, subtended by a foliaceous bract subequal to the leaves. Leaves one, petiolate, oblong-elliptic, subacute, 24×4.5 cm. Inflorescences erect scapes 20–26 cm long, mostly concealed by tubular, acute, bracts, the floral bracts ovate, acute, concave, subequal to the ovaries. Flowers spidery, basal 1/3 dark purple, middle 1/3 cream colored, apical 1/3 purple, the labellum dark purple, the disc covered with cream colored farinaceous trichomes. Sepals linear-lanceolate, long-acuminate terminating in slender tails, the dorsal sepal 8×0.8 cm, the lateral sepals falcate, 8×1 cm. Petals subsimilar to the sepals, falcate, 6.2×0.6 cm. Labellum 3-lobed, 1.8×1.4 cm, the lateral lobes erect-incurved, the lower halves transversely elliptic, the apices obovate, broadly rounded, with undulate margins, the midlobe elliptic-ovate, obtuse-rounded, densely bullate, the callus oblong-oblanceolate, obtuse-rounded, half the length of the labellum, flanked by a pair of slightly shorter calli half the width of the central callus. Column nearly straight, stout, 0.7×0.4 cm, the foot slightly shorter than the column, the clinandrium heavily fringed; the anther globose with a dorsal keel; the viscidium saddle-shaped; the pollinia 4 in two pairs, oblanceolate, obtuse-rounded, 1×1.2 mm. Flowering June and July following the rainy season.

Habitat:—Wet montane forest.

Distribution:—Peru.

Etymology:—Named for the remarkable awl-like, conic flower buds.

Observations:—Distinguished by the weak growth habit (based on experience in cultivation), the strongly conical buds, the 3-lobulate callus, the heavily fringed clinandrium, and the 3-lobed labellum with a densely bullate midlobe.

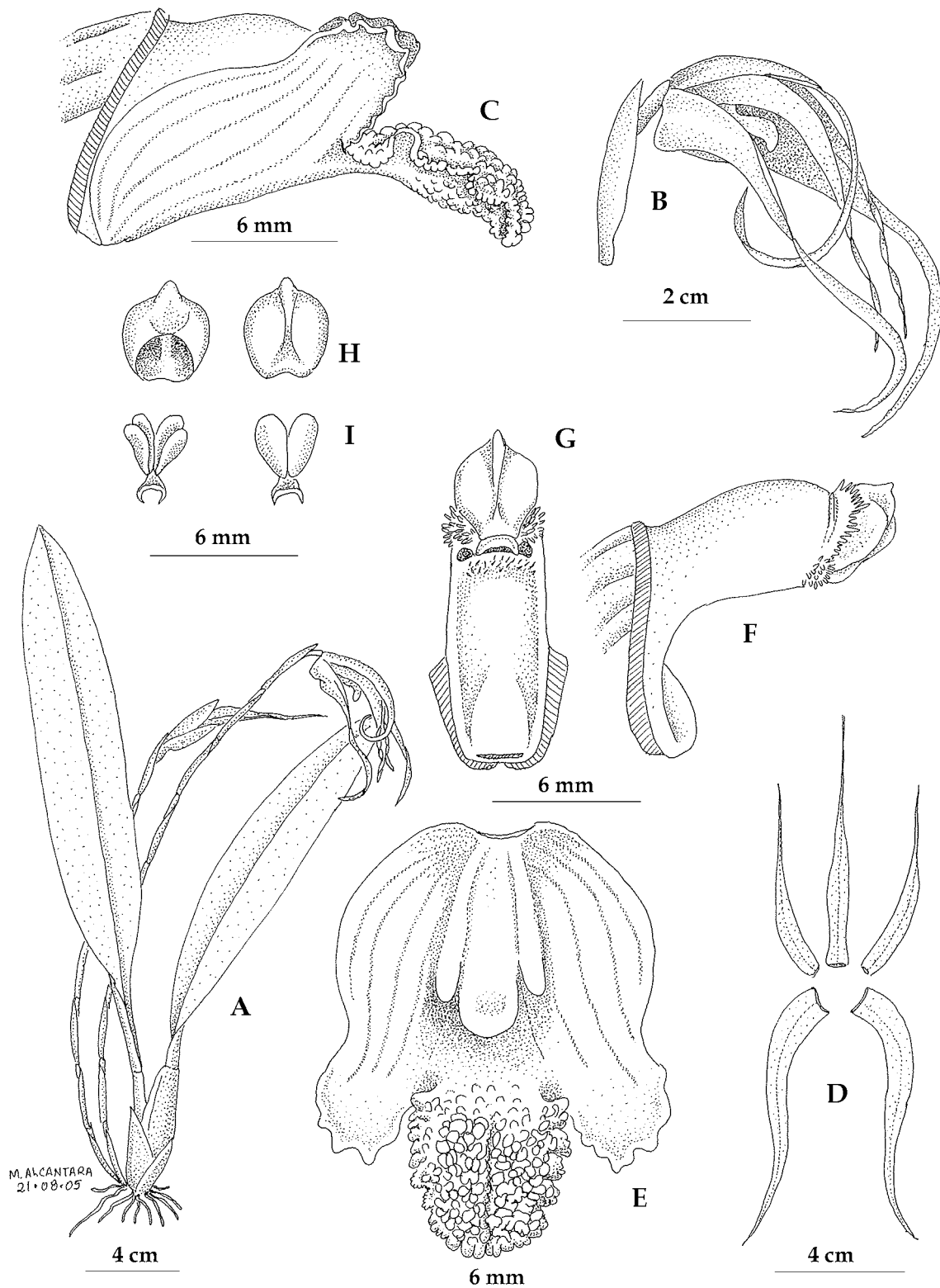


FIGURE 2. *Maxillaria coniformis* Bennett & Christenson (drawn from *Bennett 9159* by M. Alcántara A.). **A.** plant in flower; **B.** flower, **C.** column and labellum, side view; **D.** sepals and petals, dissected; **E.** labellum, expanded, from above; **F.** column and foot, side view; **G.** column, undersurface; **H.** anther, ventral view (left), dorsal view (right); **I.** pollinarium, ventral view (left), dorsal view (right).

Maxillaria deniseae Collantes & Christenson, *nom. nov.* (Fig. 3)

Maxillaria huancabambae (Kraenzl.) Schweinfurth (1945: 277) var. *cuzcoensis* Schweinfurth (1945: 278); *Pityphyllum huancabambae* (Kraenzl.) Whitten (2006: 455) var. *cuzcoense* (C. Schweinf.) Whitten (2006: 456).

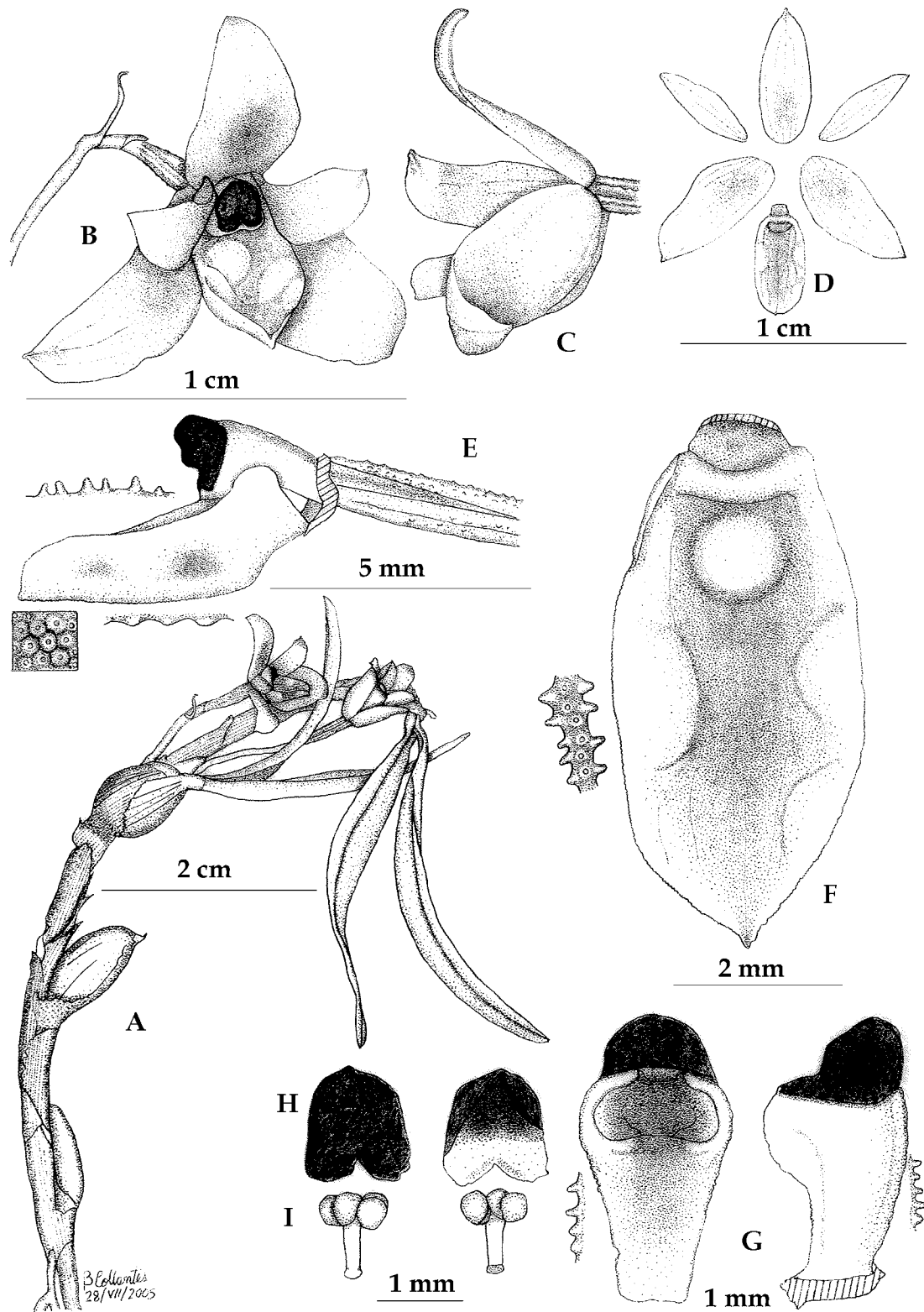


FIGURE 3. *Maxillaria deniseae* Collantes & Christenson (drawn from *Collantes 164* by B. Collantes). **A.** plant in flower; **B.** flower; **C.** flower, side view; **D.** floral dissection; **E.** column and labellum, side view; **F.** labellum, from above; **G.** column, undersurface (left), side view (right); **H.** anther, dorsal view (left), ventral view (right); **I.** pollinarium, dorsal view (left), ventral view (right).

Type:—PERU: Cusco: Prov. Convencion, Hda. Potrero, Sapan-Sachayocc, 2200 m, *C. Vargas 2553* (holotype: AMES; isotype: CUZ), non *Maxillaria cuzcoensis* Schweinfurth (1945: 268).

Miniature pendent epiphytes. Pseudobulbs ovoid, 1.2×0.5 cm, separated by rhizome segments ca 2 cm long. Leaves linear, acute, 5.5–6×0.4 cm. Inflorescences short scapes subequal to the pedicel and ovary. Pedicel and ovary papillose, 7×1 mm. Flowers solitary, cupped, white, the anther nearly black, the pollinia cream colored. Sepals lanceolate, acute, with recurved apices, 8×3 mm. Petals narrowly lanceolate, acute, 6.5×2 mm. Labellum unlobed, elliptic, concave, 6×3 mm, the callus a low circular pad 1 mm in diameter. Column stout, winged, 2×1.5 mm; the pollinarium 1 mm long. Flowering from April to May in nature.

Habitat:—Seasonally dry montane forest.

Distribution:—Peru.

Specimens examined:—PERU: Cusco: Prov. Urubamba, Machu Picchu, Machu Picchu Pueblo Hotel, leg. M. Quispe, *B. Collantes 164* (USM); Prov. Paucartambo, Cosnipata, San Ramon to Union, 1500–1600 m, *D. Moscoso 1050* (CUZ); Prov. Urubamba, Historic Sanctuary of Machu Picchu, Wiñay Wayna, *W. Nauray 353* (CUZ); Prov. Convención, Hacienda Potrero, Sapan-Sachayocc, *C. Vargas 2553* (AMES, CUZ, MO); Prov. Paucartambo, Llutuyoc, 3300 m, *F. Woytkowski 603* (USM).

Etymology:—Named for Denise Guislain Koechlin, wife of the owner of the Machu Picchu Pueblo Hotel.

Observations:—This species is distinguished from *Maxillaria huancabambae* (Kraenzl.) Schweinfurth (1945: 277) by the stark white flowers with a nearly black anther, the narrower sepals, and a labellum without defined lateral lobes. Type: PERU: Cajamarca: Prov. Jaén, Huancabamba, 2600–2700 m, *Weberbauer 6098* (holotype: B, destroyed; isotypes: AMES, US)

Comment:—Schweinfurth (1945) incorrectly cited the type number as *Vargas 2253* but the holotype, marked in his hand, is clearly *Vargas 2553*.

***Maxillaria dichaeoides* Bennett & Christenson, sp. nov.** (Fig. 4)

Species haec Maxillaria ponerantha Reichenbach (1854: 17) *similis sed floribus atropurpureis, petalis trinervis, labello acaloso, anthera non papillosa differt.*

Type:—PERU: San Martín: Along the road in Nieva, *D. Bennett 8027* (holotype: HAO).

Mat-forming epiphytes. Pseudobulbs ellipsoid, compressed, to 1.5×0.5 cm, separated by rhizome segments of varying length, the rhizomes sheathed with foliaceous bracts subsimilar but slightly smaller than the leaves. Leaves 1–2, 1 being more common, oblong, conduplicate at the base, obliquely bilobed at the apex, 1.7×0.5 cm. Inflorescences subsessile from the axil of sheaths on the developing rhizome. Flowers solitary, not opening widely, intense dark purple. Dorsal sepal elliptic, obtuse, concave, 8×3.1 mm, the lateral sepals obliquely broadly ovate, obtuse, 8×3.5 mm. Petals elliptic from a cuneate base, obtuse, 3-nerved, 7×3 mm. Labellum unlobed, elliptic with low involute lateral margins, truncate-emarginate, very glossy, 7.7×3.6 mm, without a callus. Column arching, slightly dilated toward the apex, 5.5×2 mm long; the anther transverse, minutely verruculose; the pollinia 4, suborbicular, in two tightly appressed pairs. Flowering from August to September but probably throughout the year as growths mature.

Habitat:—Wet montane forest.

Distribution:—At least Ecuador and Peru. Dodson and Dodson's (1980: pl. 153) record for *M. foliosa* Ames & Schweinfurth (1925: 60) in Ecuador is *M. dichaeoides*. The specimen has a labellum without callus.

Etymology:—Named for the remarkable resemblance of the plants to the orchid genus *Dichaea*.

Observations:—This species is distinguished by the *Dichaea*-like growth habit, intensely dark purple flowers, the labellum without callus, and the unadorned anther. It is most closely related to *M. ponerantha* Reichenbach (1854: 17) a species with predominately yellow flowers, a well-defined callus, and an anther with a papillose dorsal ridge. It is also similar to *M. cauae* Garay (1967: 258), a species with dark brown flowers, but that species has a well-defined callus and 5-nerved sepals.

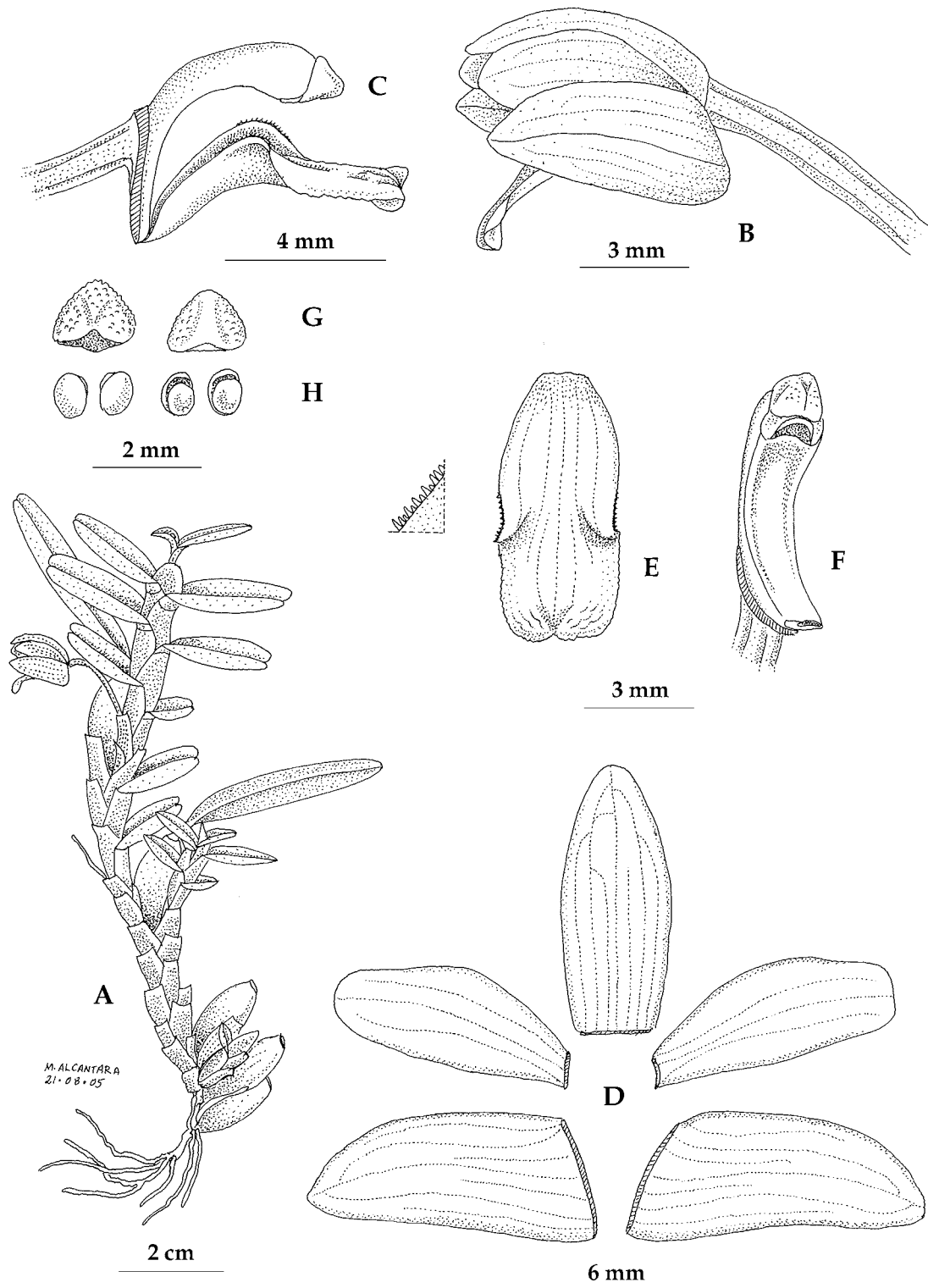


FIGURE 4. *Maxillaria dichaeoides* Bennett & Christenson (drawn from *Bennett 8027* by M. Alcántara A.). **A.** plant in flower; **B.** flower, side view; **C.** column and labellum, side view; **D.** sepals and petals, dissected; **E.** labellum, from above; **F.** column, +/- undersurface; **G.** anther, ventral view (left), dorsal view (right); **H.** pollinia, ventral view (left), dorsal view (right).

Maxillaria flabellata Bennett & Christenson, sp. nov. (Fig. 5)

Species haec Maxillaria grandimentum Schweinfurth (1944: 22) similis sed labello flabellato, callo et pede pubescenti differt.

Type:—PERU: Amazonas: Bongara, Venceremos, 1800 m, *D. Bennett* 8028 (holotype: HAO).

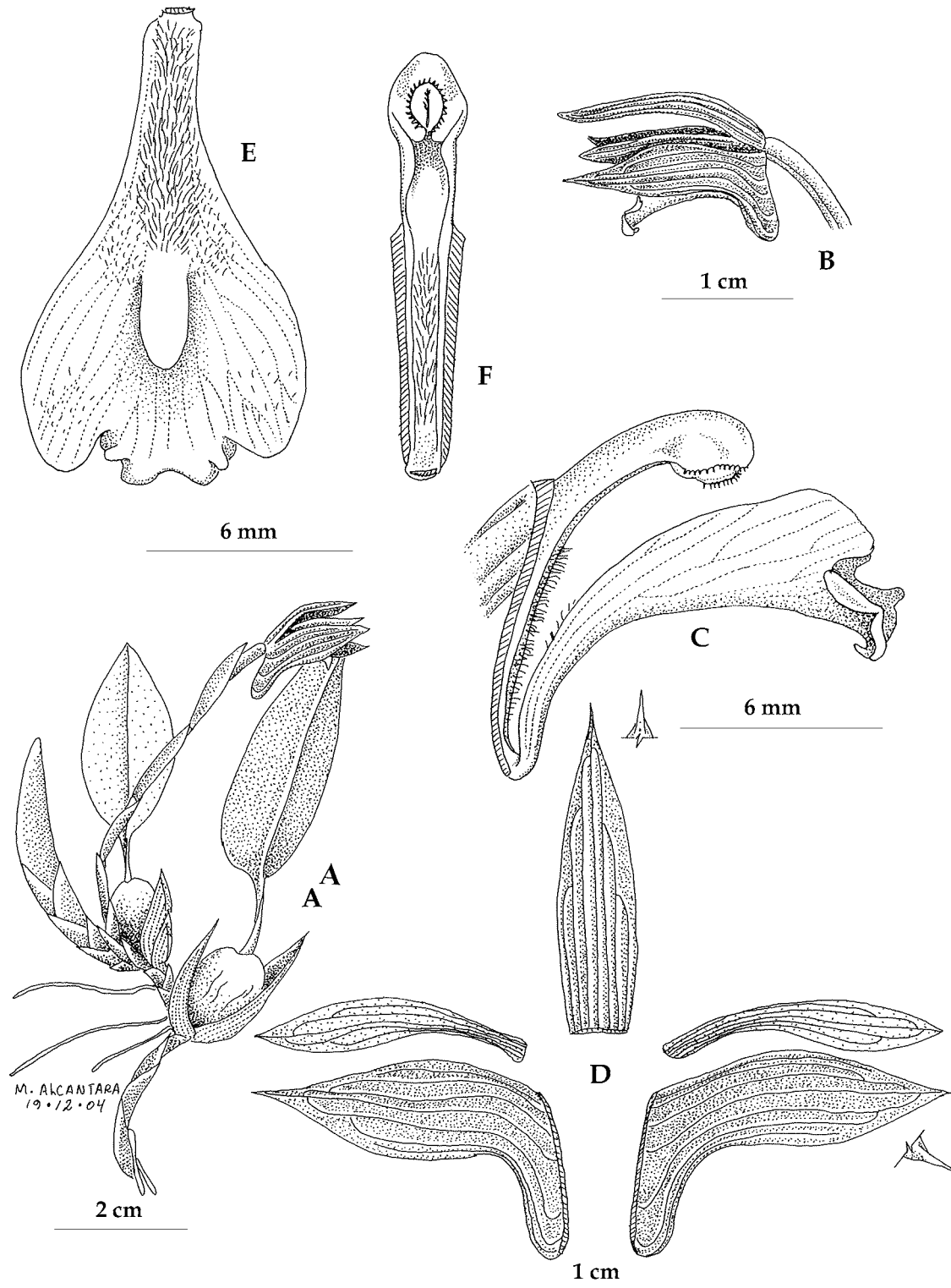


FIGURE 5. *Maxillaria flabellata* Bennett & Christenson (drawn from *Bennett* 8028 by M. Alcántara A.). **A.** plant in flower; **B.** flower, side view; **C.** column and labellum, side view; **D.** sepals and petals, dissected; **E.** labellum, expanded, from above; **F.** column and foot, undersurface.

Miniature subcaespitose epiphytes to 6 cm tall. Pseudobulbs ellipsoid, compressed, 1.5×1.3 cm, separated by rhizome segments to 1 cm long, subtended by papery bract to 2.2 cm long. Leaves one, petiolate, elliptic, acute, 4.3–5.3×1.5 cm. Inflorescences erect scapes 8 cm long, the floral bracts 1.5 cm long, slightly shorter than the ovaries. Flowers with the sepals and petals dark wine purple with brownish tips, the labellum white, the lateral lobes dark purple-veined, the midlobe suffused dark purple, the column white very palely tinged light purple, the clinandrium fringe white. Dorsal sepal lanceolate, acuminate, 1.7×0.4 cm, the lateral sepals elliptic-lanceolate extended with basal lobes conforming to the column foot, acuminate, 1.6×0.5 cm. Petals oblanceolate from a linear claw, acute, 1.4×0.24 cm. Labellum 3-lobed at the apex, flabellate, 1.4×0.8 cm, the lateral lobes obliquely elliptic, obtuse-rounded, erect-incurved, sparsely pubescent, the midlobe transversely elliptic, obtuse-rounded, with undulate revolute margins, the callus oblong, obtuse, densely pubescent on the posterior 2/3, glabrous in front. Column clavate, 6×2.1 mm, the clinandrial hood ciliolate; the foot elongate, densely pubescent, 7 mm long. Flowering in nature in July.

Habitat:—Wet montane forest.

Distribution:—Peru.

Etymology:—Named for distinctive labellum shape.

Observations:—This species is most similar to *M. grandimentum* Schweinfurth (1944: 22) from which it differs by having a flabellate labellum without an extended, oblong midlobe, and a densely pubescent labellum base and foot. The elongate foot and extended bases of the lateral sepals produce a remarkably spur-like structure.

***Maxillaria hajekii* Bennett & Christenson, sp. nov.** (Fig. 6)

Species haec Maxillaria granditenuis Bennett & Christenson (1998c: 71, f. 21) *similis sed floribus parvis, antheris non cristatis, medilobo labellii glabro differt.*

Type:—PERU: Pasco: Cacazu, 1200 m, *C. Hajek 240* (holotype: USM).

Caespitose epiphytes to 30 cm tall. Pseudobulbs ellipsoid, compressed, 3×1.5 cm, separated by rhizome segments to 2 cm long, subtended by foliaceous bracts, the uppermost subequal to the leaves. Leaves one, linear, acuminate, 28×1 cm. Inflorescences erect scapes 5 cm long, the floral bracts 1.2 cm long, lanceolate, acuminate, slightly longer than the ovaries. Flowers pale yellow, the labellum whitish yellow, the lateral lobes with intense narrow dark purple margins, the center of the midlobe intense dark purple, the column and anther white. Dorsal sepal linear-lanceolate, acute, 2.1×0.4 cm, the lateral sepals obliquely linear-lanceolate, acute, 2.1×0.5 cm. Petals linear-lanceolate, subfalcate, acute, 2×0.44 cm. Labellum 3-lobed, 11.5×5.5 mm, the lateral lobes obliquely obovate, obtuse-rounded, suberect-incurved, the midlobe oblong-ovate, obtuse, glabrous, the callus oblong, half the length of the labellum, densely pubescent. Column lightly arcuate, lightly dilated toward the apex, 7.5×2.9 mm; the foot short; the anther helmet-shaped, with a low smooth dorsal thickening, 2.4×2 mm; the viscidium 0.7×1.7 mm. Flowering from June to August after the rainy season.

Habitat:—Montane forest.

Distribution:—Peru.

Etymology:—We gladly name this species for Carlos Hajek, whose keen eye and generosity has brought many interesting plants to our attention. See his website at: www.peruvianorchids.org.

Observations:—This species is related to *M. granditenuis* Bennett & Christenson (1998c: 71, f. 21) but differs by having flowers about half the size, a rounded keel on the anther (not a high crest), and a glabrous midlobe of the labellum. From the lowland species *M. tenuis* Schweinfurth (1945: 289, tab. 18), it is separated by having a densely pubescent callus.

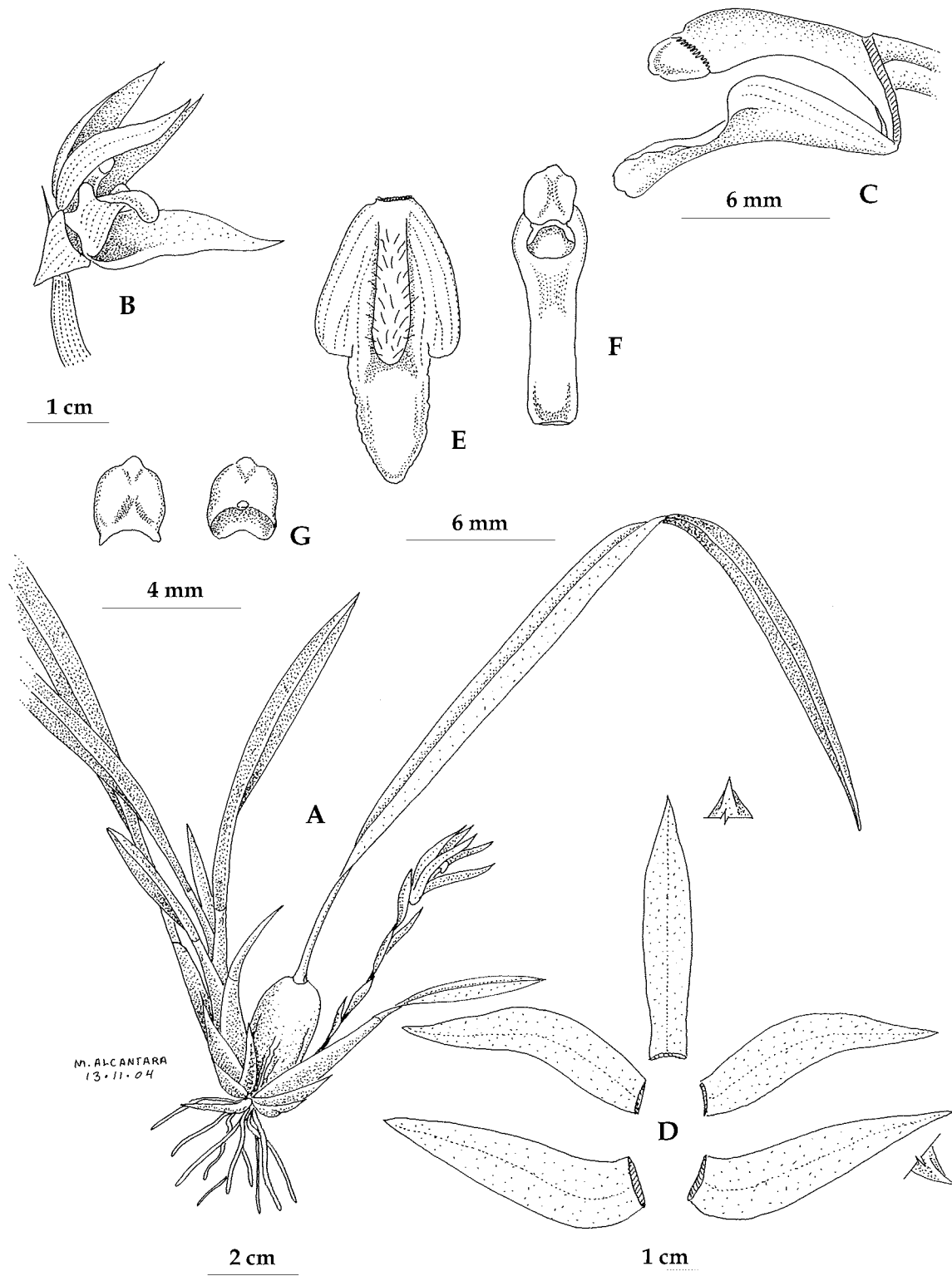


FIGURE 6. *Maxillaria hajekii* Bennett & Christenson (drawn from *Hajek 240* by M. Alcántara A.). **A.** plant in flower; **B.** flower; **C.** column and labellum, side view; **D.** sepals and petals, dissected; **E.** labellum, expanded, from above; **F.** column, undersurface; **G.** anther, dorsal view (left), ventral view (right).

Maxillaria leucopurpurea Bennett & Christenson, sp. nov. (Fig. 7)

Species haec Maxillaria thurstoniorum Dodson (1994: 87) similis sed bracteis nonfoliaceis, floribus coloribus parvioribus, columno tepalisque subaequali differt.

Type.—PERU: Huanuco: Leoncio Prado, Cueva de Las Pavas, 1000 m, 19 Jan 1988, leg. E. Jara P., D. Bennett 4247 (holotype: MOL).

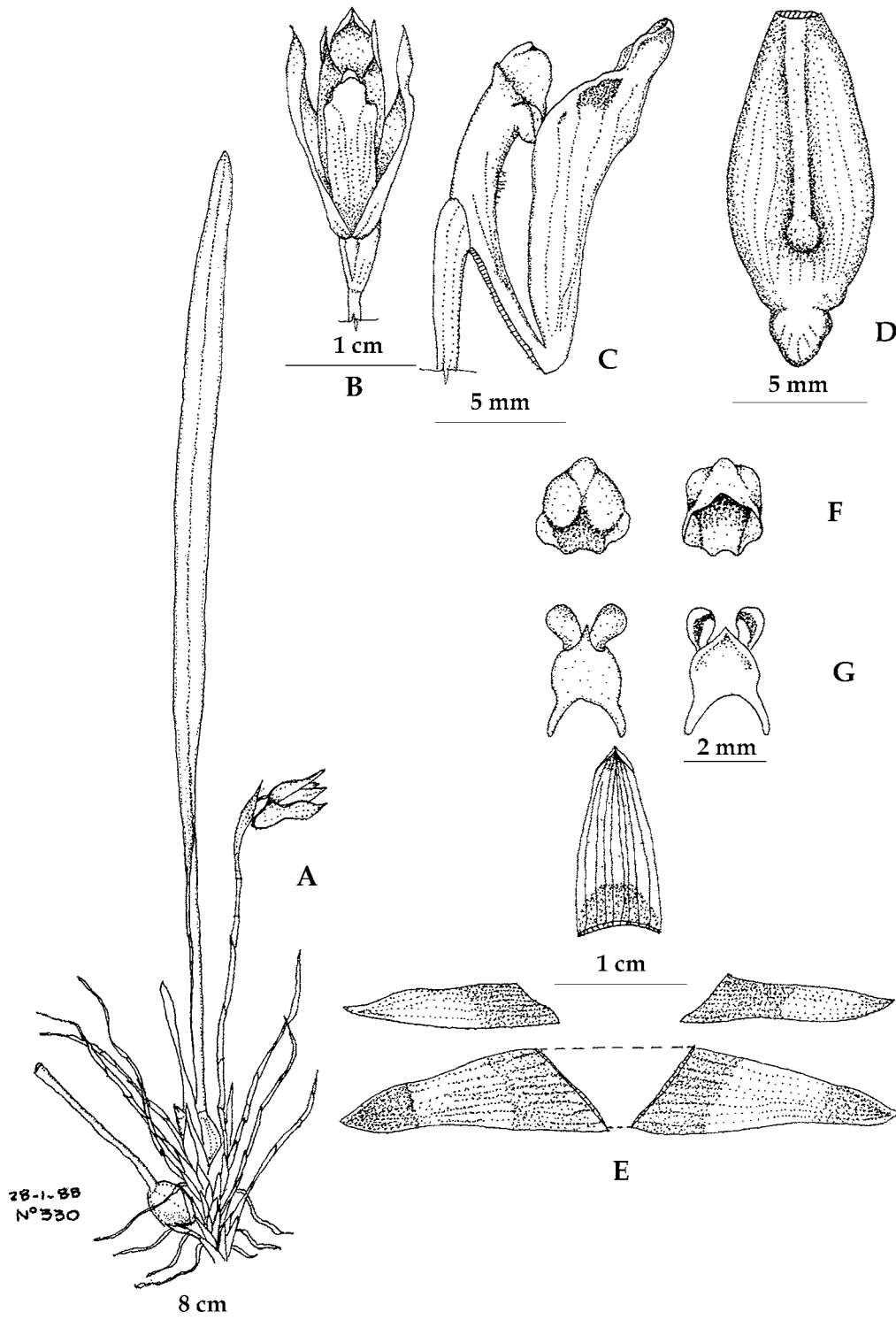


FIGURE 7. *Maxillaria leucopurpurea* Bennett & Christenson (drawn from Bennett 4247 by J. Perez C.). A. plant in flower; B. flower, from below; C. ovary, column, and labellum, side view; D. labellum, expanded, from above; E. sepals and petals, dissected; F. anther, dorsal view (left), ventral view (right).

Caespitose epiphytes 30–35 cm tall. Pseudobulbs ovoid, complanate, 1.3×1 cm, subtended by scarious sheaths longer than the pseudobulb. Leaves one, linear, petiolate, acute, thin-textured, 30×1.2 cm. Inflorescences erect slender scapes to 11 cm long, with 4–5 approximate tubular bracts, the floral bracts ovate, acuminate, subequal to the ovaries, 1.1 cm long. Flowers opening only slightly, the dorsal sepal white with purple suffusion on the basal 1/4, the lateral sepals white in the middle with the veins and margins marked with purple, the petals purple on the lower half, white on the outer half, the labellum and callus white with purple margins, the column white with faint purple streaks below, the ovaries green streaked with purple. Dorsal sepal ovate-triangular, acute, concave, 1.4×0.6 cm, the lateral sepals obliquely triangular, acute, 1.5×0.8 cm. Petals obliquely lanceolate, acuminate, 1.6×0.3 cm. Labellum obscurely 3-lobed below the apex, elliptic in outline, 1.3×0.6 cm, with shallowly erect-involute lateral margins, the callus linear-oblong with a slightly dilated rounded apex, more than half the length of the labellum. Column lightly arcuate and clavate, 1.2 cm long, the foot subequal to the column; the anther with dome-like sides, 2.4×2.4 mm; the pollinarium 3.2×1.8 mm; the pollinia 4, in 2 unequal pairs, sessile on a large viscidium. Flowering in nature from January to February during the rainy season.

Habitat:—Wet montane forest.

Distribution:—Peru.

Etymology:—Named for its purple and white flowers.

Observations:—Similar to the Ecuadorian *M. thurstoniorum* Dodson (1994: 87) by virtue of the long, narrow leaf, *M. leucopurpurea* differs by having scarious bracts, smaller, differently colored flowers, and subequal tepals and column. In *M. thurstoniorum*, the bracts subtending the pseudobulbs are foliaceous, the larger flowers (dorsal sepal = 4.5 cm long) are wine-red with a darker labellum, the tepals are more than twice the length of the column. *Maxillaria leucopurpurea* is also similar to the Peruvian *M. parvibulbosa* Schweinfurth (1945: 283, t. 17) but that species has much broader leaves, larger flowers, and a sharply 3-lobed labellum. It is also similar to the Peruvian *M. cuzcoensis* Schweinfurth (1945: 268) but that species has leaves more than twice as broad and quite different subinflated obtuse bracts on the inflorescences.

***Maxillaria striolata* Bennett & Christenson, *sp. nov.* (Fig. 8)**

Species haec Maxillaria ochroleuca Loddiges ex Lindley (1832: 143) *similis sed foliis latiora, sepalis petalisque sulfureis et striatis, sepalis oblongis differt.*

Type:—PERU: Amazonas: Bongara, near Venceremos, 1800–2000 m, August 2004, *D. Bennett & George Bennett 8979* (HAO).

Caespitose epiphytes to 30 cm tall. Pseudobulbs moderately compressed, oblong with rounded apical corners, 7×3 cm, basally enclosed by several pairs of articulated leaf-bearing sheaths a little shorter than the leaf on the pseudobulb. Leaf 1, narrowly elliptic, attenuate to the conduplicate petiole, apex strongly obliquely, unequally bilobed, 22×3 cm. Inflorescences numerous, basal, shorter or subequal to the pseudobulb in length. Flowers intense yellow, the sepals and petals with 7–9 garnet red veins at the base on the inner surface, the labellum yellow down the middle, the erect lateral lobes very dark purple, the column pale cream with the foot streaked as tepals, the anther pale cream white. Dorsal sepal concave, oblong, lightly contracted near the middle, apex minutely mucronulate, 2.3×0.5 cm, the lateral sepals similar but slightly oblique. Petals linear, long-tapered, 2.2×0.3 cm. Labellum 3-lobed, ovate, obtuse, with a short basal claw, 1.1×0.6 cm, the lateral lobes semielliptic, the mid-lobe thickened, obovoid with the upper surface flat and lower surface convex, sparsely short-pubescent, the callus oblong, rounded. Column lightly arcuate, convex-concave, edge of clinandrium short-fringed, 0.85×0.3 cm, the foot about 3 mm long; the anther 2.7×1–6 mm; the pollinarium 2.8 mm long, the viscidium saddle-shaped, 1.5×1 mm, the pollinia in two unequal and dissimilar pairs, the larger pair 1.3×0.6 mm. Flowering in nature in February and in cultivation during February and June.

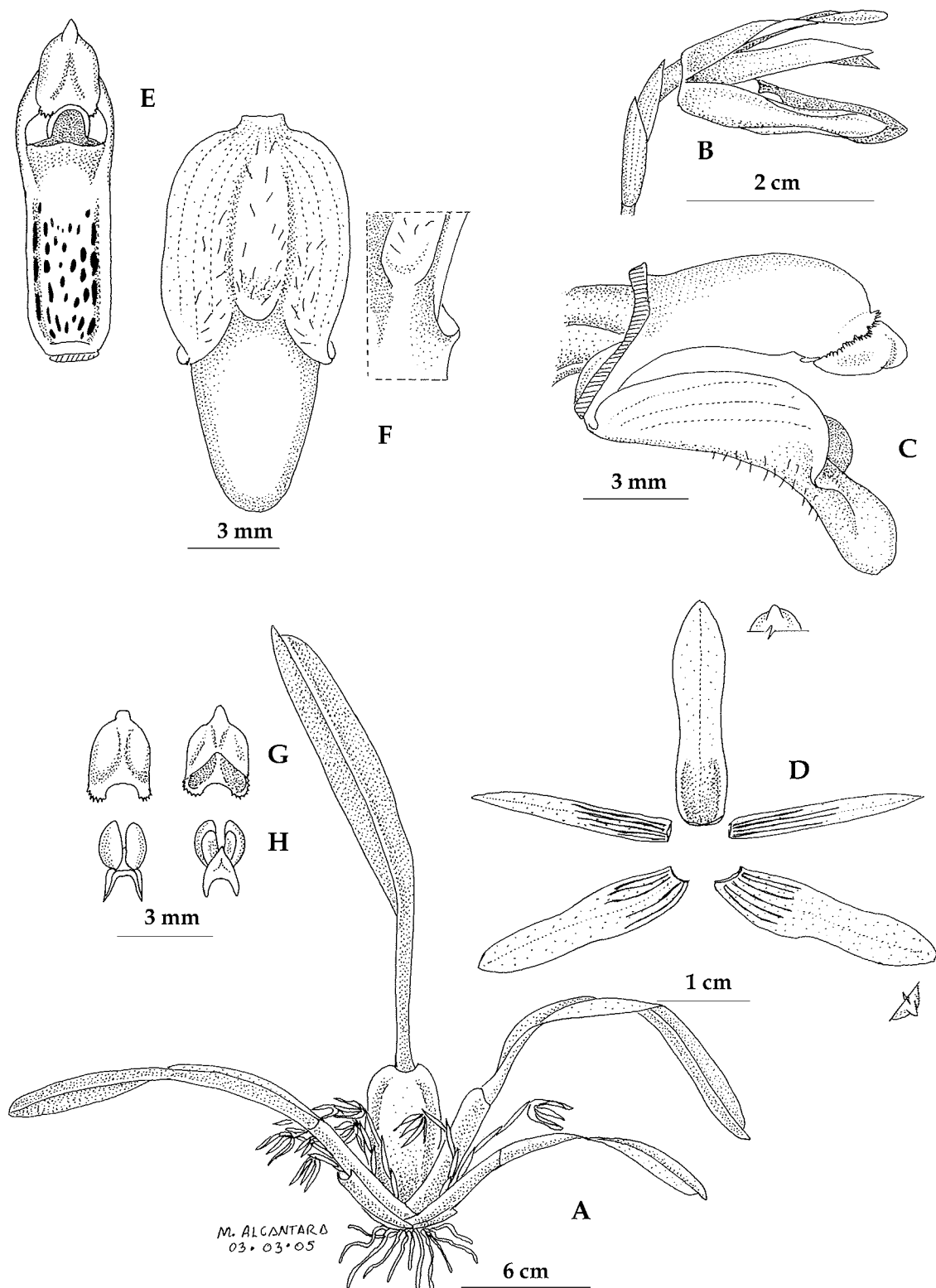


FIGURE 8. *Maxillaria striolata* Bennett & Christenson (drawn from Bennett 8979 by M. Alcántara A.). **A.** plant in flower; **B.** flower, side view; **C.** ovary and labellum, side view; **D.** sepals and petals, dissected; **E.** column, undersurface; **F.** labellum, expanded, from above, with a detail of the callus apex; **G.** anther, dorsal view (left), ventral view (right); **H.** pollinarium, dorsal view (left), ventral view (right).

Habitat:—Cool, wet lower levels of cloud forest.

Distribution:—Ecuador and Peru.

Observations:—Distinguished by the clusters of intense yellow flowers and the partially striped sepals and petals.

Comments:—Dodson (2002) refers to this species as *M. ochroleuca* Loddiges ex Lindley (1832: 143). Type: BRAZIL, Rio de Janeiro, *Hort. Loddiges s. n.* (K!). That species, however, has more slender white sepals and petals as well as nearly linear leaves less than 2 cm wide.

***Maxillaria visseri* Bennett & Christenson, sp. nov.** (Fig. 9)

Species haec Maxillaria frechettei Bennett & Christenson (2001: pl. 694) *similis sed foliis ellipticis, ovario tuberculato, floribus coloribus, labelli medilobo transverso differt.*

Type:—PERU: Amazonas: Bongara, below Venceremos Nuevo along road to Rio Nieva, 1700 m, collector Hans Visser, April 2005, *D. Bennett 9079* (holotype: HAO).

Caespitose epiphytes to 21 cm tall. Pseudobulbs ovoid, 3.3×2 cm, subtended by a pair of foliaceous sheaths, the blades subsimilar to but shorter than the leaves, the sheath bases distichous, imbricating, to 4 cm long. Leaves 1, elliptic, attenuate to the laterally compressed petiole, obtuse, the petiole 3×0.5 cm, the blade 15×5.5 cm. Inflorescences several erect scapes usually shorter than the leaf, to 15 cm long, the peduncle nearly concealed by 5–6, lightly subinflated, lanceolate, graduated bracts, 2–3.3 cm long. Ovary prominently tuberculate. Flowers strongly cupped with the tepals subparallel, the sepals greenish brown tinted pale purple, the petals basal ½ opaque yellowish, apical ½ pale purple, the labellum dull yellow with a dull brownish stain across the midlobe, the column off-white. Sepals and petals elongate, slightly dilated at the base, tapered to long-acuminate tails. Dorsal sepal narrowly triangular, 5.2×0.6 cm at the base, the lateral sepals similar but longer and broader, sigmoid, 5.3×0.9 cm. Petals oblique, falcate, lanceolate-triangular, 4×0.5 cm. Labellum 3-lobed, 1.4×0.9 cm, the lateral lobes erect, semielliptic, each lobe with 4 veins, the veins twice bifurcate at their tips, lobe apices bluntly obtuse, the midlobe transverse, very short, obtuse, surface wrinkled, the disc graduated in thickness from the base to the blunt rounded thick apex, with sparsely dispersed short cilia on the outer surface, the callus oblong, obtuse-rounded, villose on the basal half. Column short, stout, arcuate, convex-lightly concave, 5 mm long, 3.7 mm wide, the clinandrium minutely denticulate, the foot lightly arcuate, adnate to the lateral sepal bases, 7 mm long; the anther helmet-shaped, central ridge rounded, tuberculate in front, 2.9×2.2 mm; the pollinarium 2.9 mm long, the viscidium abruptly u-shaped, 1×1.5 mm, the pollinia 4 in 2 unequal, dissimilar pairs, the outer pair larger, claviform, convex-concave, compressed dorso-ventrally, 2.2×0.9 mm, the smaller pair obovate, nested in the concavity of the larger pair, 1.6×0.8 mm. Flowering in April following the rainy season.

Habitat:—Wet montane forest on branches thickly covered with epiphytic mosses and lichens.

Distribution:—Peru.

Etymology:—Named for Hans Visser, a strong advocate of orchid conservation, who collected the type plant.

Observations:—Distinguished from other *Maxillaria* species by the tuberculate ovary, the slender elongate tepals, the elliptic contour of the 3-lobed labellum, the villose base of the labellum, and the transverse midlobe.

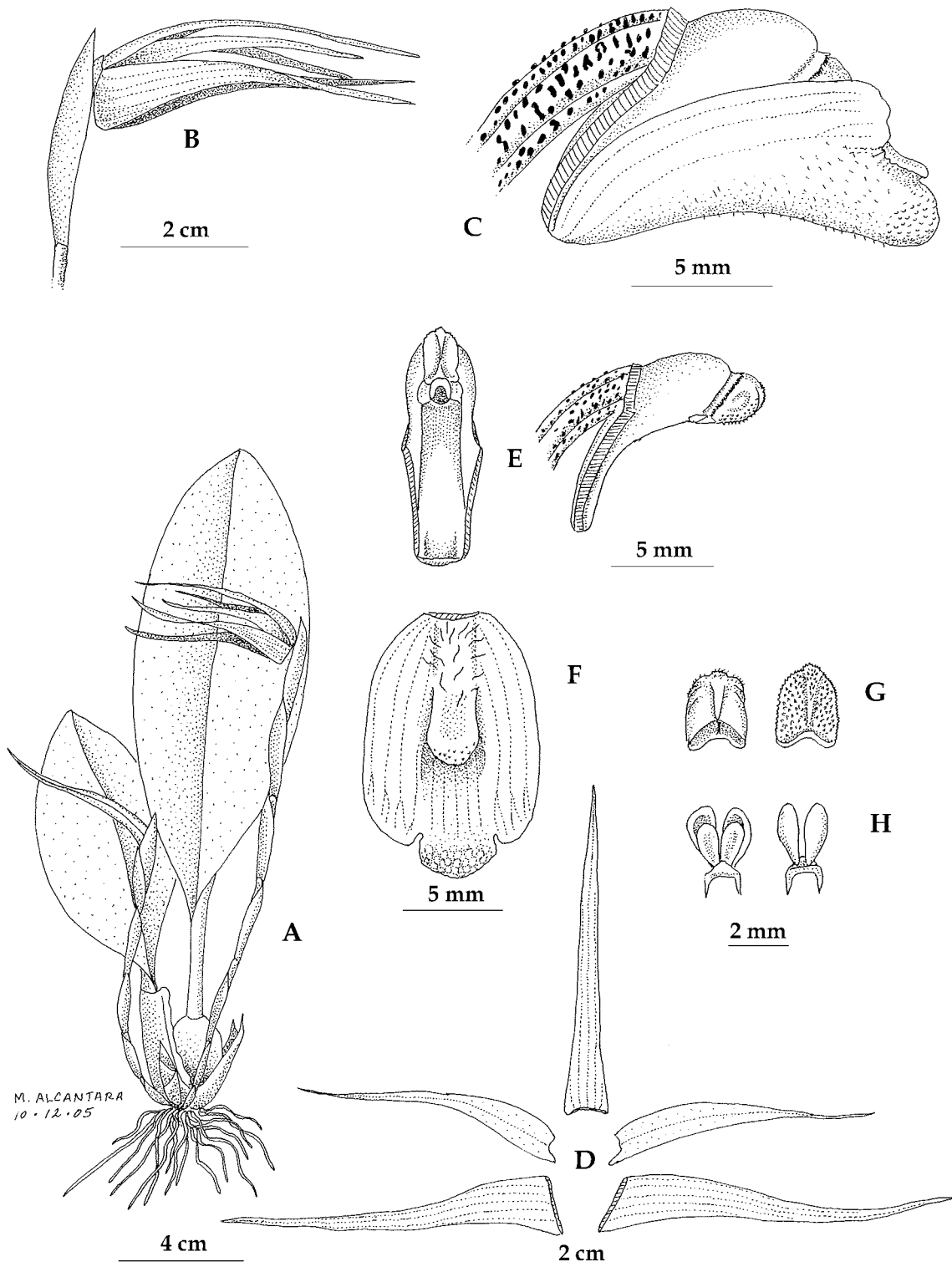


FIGURE 9. *Maxillaria visseri* Bennett & Christenson (drawn from *Bennett 9079* by M. Alcántara A.). **A.** plant in flower; **B.** flower, side view; **C.** ovary, labellum and column, side view; **D.** sepals and petals, dissected; **E.** column and foot, undersurface (left), side view with ovary (right); **F.** labellum, expanded, from above; **G.** anther, dorsal view (left), ventral view (right); **H.** pollinarium, dorsal view (left), ventral view (right).

References

- Ames, O. & Schweinfurth, C. (1925) New or noteworthy species of orchids from the American Tropics. *Schedulae Orchidianae* 8: 1–84.
- Bennett Jr., D.E. & Christenson, E.A. (1993) *Icones Orchidacearum Peruvianarum*, pl. 1–200.
- Bennett Jr., D.E. & Christenson, E.A. (1994a) New species and new combinations in Peruvian Orchidaceae. *Brittonia*, 46, 24–53.
- Bennett Jr., D.E. & Christenson, E.A. (1994b) New species of Peruvian Orchidaceae II. *Brittonia* 46: 228–259.
- Bennett Jr., D.E. & Christenson, E.A. (1995a) New species of Peruvian Orchidaceae III. *Brittonia* 47: 182–209.
- Bennett Jr., D.E. & Christenson, E.A. (1995b) *Icones Orchidacearum Peruvianarum*, pl. 201–400.
- Bennett Jr., D.E. & Christenson, E.A. (1997) New Species of Peruvian Orchidaceae, IV. *Brittonia* 50: 186–191.
- Bennett Jr., D.E. & Christenson, E.A. (1998a) *Icones Orchidacearum Peruvianarum*, pl. 401–600.
- Bennett Jr., D.E. & Christenson, E.A. (1998b) New Species of Peruvian Orchidaceae, V. *Lindleyana* 13: 31–56.
- Bennett Jr., D.E. & Christenson, E.A. (1998c) New species of Peruvian Orchidaceae VI. *Lindleyana* 13: 64–96.
- Bennett Jr., D.E. & Christenson, E.A. (2001) *Icones Orchidacearum Peruvianarum*, pl. 601–800.
- Blanco, M.A., Carnevali, G., Whitten, W.M., Singer, R.B., Koehler, S., Williams, N.H., Ojeda, I., Neubig, K.M. & Endara, L. (2007) Generic Realignments in Maxillariinae (Orchidaceae). *Lankesteriana* 7: 515–537.
- Dodson, C.H. (1994) New orchid species and combinations from Ecuador, 3. *Orquideología* 19: 87.
- Dodson, C.H. (2002) *Native Ecuadorian Orchids, 3: Lepanthopsis–Oliveriana*, Dodson Publishing, 232 pp.
- Dodson, C.H. & Dodson, P.M. (1980) *Icones Plantarum Tropicarum*, ser. 1, pl. 153, 155.
- Garay, L.A. (1967) Studies in American orchids, 6. *Botanical Museum Leaflets* 21: 249–264.
- Hoehne, F.C. (1944) Revisão taxonômica e sistemático do genero *Bifrenaria* Lindl. *Arquivos de Botânica do Estado de São Paulo, n. s., form. maior* 2: 11–14.
- Hoehne, F.C. (1949) *Iconografia de Orchidaceas do Brasil*. São Paulo, t. 300.
- Lindley, J. (1832) *The Genera and Species of Orchidaceous Plants*. Ridgeway, London, 553 pp.
- Lindley, J. (1836) *Bifrenaria aurantiaca*. *Botanical Register* 22, t. 1875.
- Reichenbach, H.G. (1854) Die Wagener'schen Orchideen. *Bonplandia*, 2: 9–26.
- Reichenbach, H.G. (1863) *Maxillaria*. *Annales Botaniques Systematicae* 6: 507–541, 928.
- Richard, A. & Galeotti, H.G. (1845) Orchidographie Mexicaine. *Annales des Sciences Naturelles; Botanique, sér. 3*, 3: 15–33.
- Ruiz, H. & Pavón, J.A. (1794) *Maxillaria. Florae Peruvianae et Chilensis prodromus, sive, Novorum generum plantarum Peruvianarum et Chilensium descriptiones, et icones*. Paleariniano, Rome.
- Schlechter, F.R.R. (1914) *Die Orchideen*, ed. 1. Paul Parey, Berlin, 836 pp.
- Schlechter, F.R.R. (1918) Kritische Aufzählung der bisher aus Zentral-Amerika bekanntgewordenen Orchidaceen. *Beihefte zum Botanischen Centralblatt* 36: 321–529.
- Schlechter, F.R.R. (1924) Beiträge zur Orchideenkunde von Colombia: Orchidaceae Hoppiana. *Repertorium Specierum Novarum Regni Vegetabilis, Beihefte* 27: 5–123.
- Schweinfurth, C. (1944) A novelty in typical *Maxillaria* from Peru. *American Orchid Society Bulletin* 13: 22–24.
- Schweinfurth, C. (1945) Some Peruvian maxillarias. *Botanical Museum Leaflets* 11: 261–307.
- Whitten, W.M., Blanco, M., & Williams, N.H. (2006) Recircumscription of *Pityphyllum*. *Orchids* 75: 452–456.