

## TWO OVERLOOKED SPECIES OF *MAXILLARIA* FROM CENTRAL AMERICA

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**ABSTRACT.** Two new species of *Maxillaria* from Costa Rica are described to validate names for use in each of several regional floras. The first species treated, *M. chionantha* (also widespread in Panama), is related to *M. pachyacron* Schltr. but the leaves are broader, the flowers are somewhat smaller and entirely white. The second species, *M. haberi*, is best compared to *M. planicola* C.Schweinf., but the pseudobulbs are subtended by at least one foliaceous bract, and the lip has a 3-carinate callus unlike the ligulate callus with furcate trichomes of the latter species.

Recent revisionary efforts and examination of types has revealed that a number of specimens in herbaria are undescribed from southern Central America. Examination of regional orchid floras from South America cast doubt on the presence of these species south and east of Panama, so published names based on South American types doubtfully apply to the species here described.

**Maxillaria chionantha** J.T.Atwood, sp. nov.

FIGURE 1.

**TYPE:** PANAMA. Prov. Veraguas: Vicinity of Continental Divide, third branch of Río Santa María to drop-off to lowlands, 12-15 km NW of Santa Fe, 650-750 m, 16-17 Nov 1974, R. L. Dressler 4839 (Holotype: SEL).

Species affinis *Maxillariae pachyacroni* Schltr. sed foliis latioribus, floribus minoribus, albis, et ovariis brevioribus distinguitur.

**Plant** epiphytic, caespitose, sometimes densely so, 10-30 cm high. **Stems** approximate; roots slender, to 1 mm in diameter. **Pseudobulbs** ovoid, laterally compressed, 2-3 cm long, usually concealed by 1-3 subtending, foliaceous, and long petiolate sheaths. **Leaves** long petiolate; petiole  $\frac{1}{4}$ - $\frac{1}{2}$  the blade, abruptly narrowed above the articulation; blade elliptic, usually broadly so, 5-13  $\times$  2-5 cm, acute and apiculate. **Inflorescence** 1 per rhizome bract; scape 3.5-8 cm long, concealed by acute scape bracts; ovary 1-2.2 cm long, somewhat warty, subtended and much exceeded by a cucullate, acute floral bract. **Flowers** campanulate, white turning tan with age, with ivory to light yellow lip. **Sepals**, lanceolate, attenuate, acute, 30-45  $\times$  6-8 mm; the laterals forming a chin 5-7 mm long. **Petals** lanceolate, attenuate, acute, 25-40  $\times$  4-6 mm. **Lip** oblong, simple to lightly 3-lobate on the upper  $\frac{1}{3}$ , ca. 12  $\times$  5 mm when spread; lateral lobes slightly embracing the column; midlobe deltoid, verrucose,

with recurved apex; callus a ligule from the base to above the middle, swollen in front. **Column** 7 mm long, 11 mm including foot, foot 4-5 mm long, operculum 2 mm long, somewhat hidden from the broadened, dentate anther bed; pollinia 4, supported on a saddle-shaped viscidium and stipe. **Fruit** a capsule, 4.5-6 cm long.

**PARATYPES:** COSTA RICA. Prov. Alajuela: La Virgen del Socorro. 700-900 m, 27 Aug 1978, C. Todzia 415 (CR). PANAMA. Comarca de San Blas: Cerro Habü, vicinity of peak, 2500 ft, K. Sytsma et al. 2735 (MO). Prov. Bocas del Toro: Oleoducto Road, near Continental Divide, Fortuna Dam area, 1000 m, 5 Feb 1984, H. W. Churchill et al. 4553 (MO). Prov. Coclé: Aseradero El Copé N of El Copé, stream east of sawmill, downstream, 700-800 m, 3 Nov 1980, R. L. Dressler 5974 (FLAS). Hills north of El Valle de Antón, ca. 800 m, 9 Oct 1972, R. L. Dressler 4232 (FLAS). Prov. Darien: Vicinity of upper gold mining camp of Tyler Kittredge on headwaters of Río Tuquesa ca 2 air km from Continental Divide, T. B. Croat 27239 (MO). Prov. Panamá: La Eneida, region of Cerro Jefe, 1 Jan 1968, R. L. Dressler 3304 (FLAS). Prov. Veraguas: From third branch of Río Santa María to drop-off to Calovébora, 12-15 km NW of Santa Fe, elev. 650-750 m, 4 Sep 1975, R. L. Dressler 5146 (FLAS). Near third branch of Río Santa María, 10-14 km. NW of Santa Fe, 650-750 m, 10-11 Oct 1975, R. L. Dressler 5159 (FLAS).

**ETYMOLOGY:** Named after the white flowers.

*Maxillaria chionantha* is an epiphyte of premontane evergreen forests at 600-1000 m elev. Two available specimens from Coclé and Darien, Panama are larger than those from eastern Panama and Costa Rica but have identical flowers. It closely resembles *M. pachyacron* Schltr. which has usually longer inflorescences and larger flowers with more attenuate segments and with much more distinctly 3-lobate lip on the upper

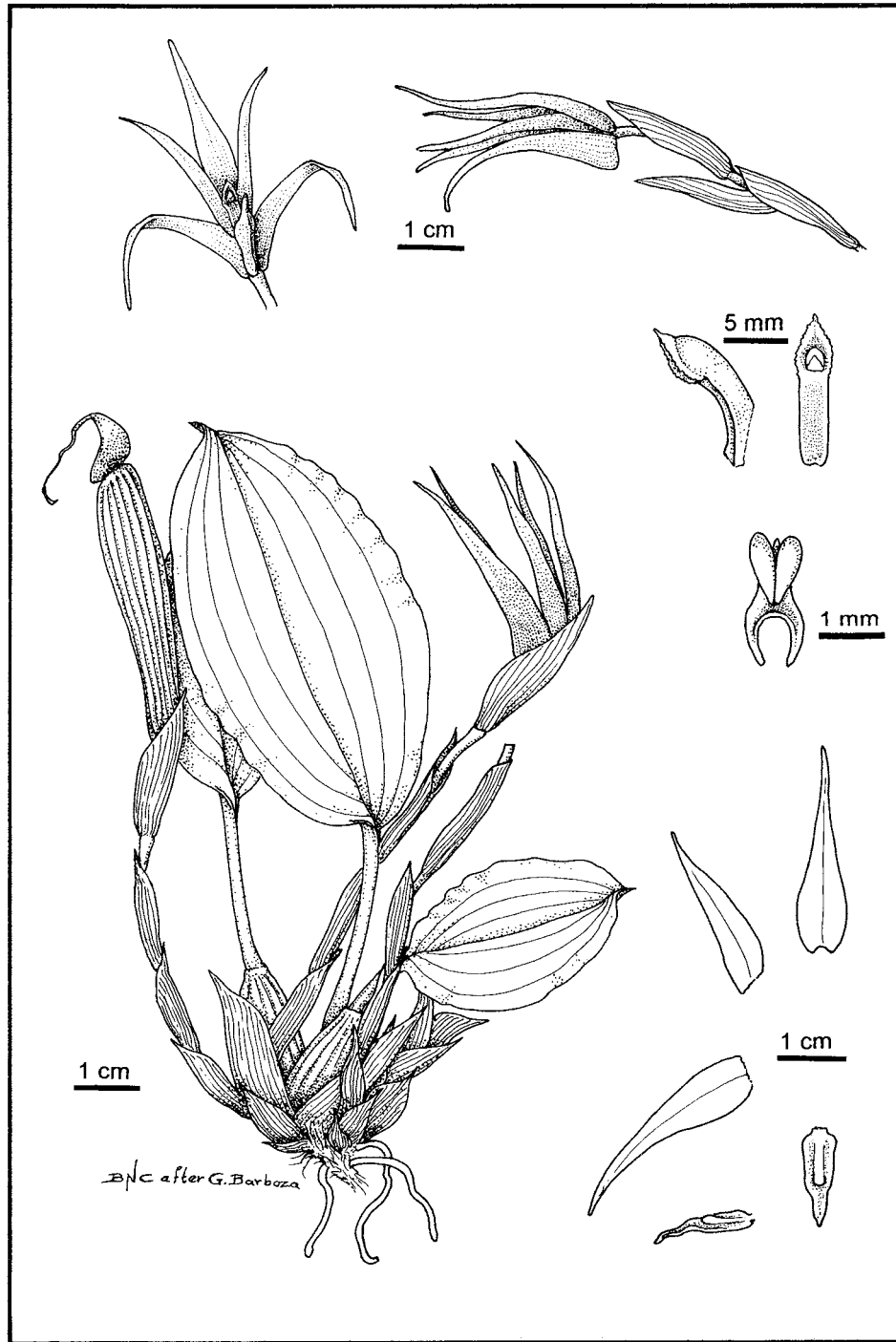


FIGURE 1. *Maxillaria chionantha* J.T. Atwood. Illustration: Barbara Culbertson; habit after Gabriel Barboza.

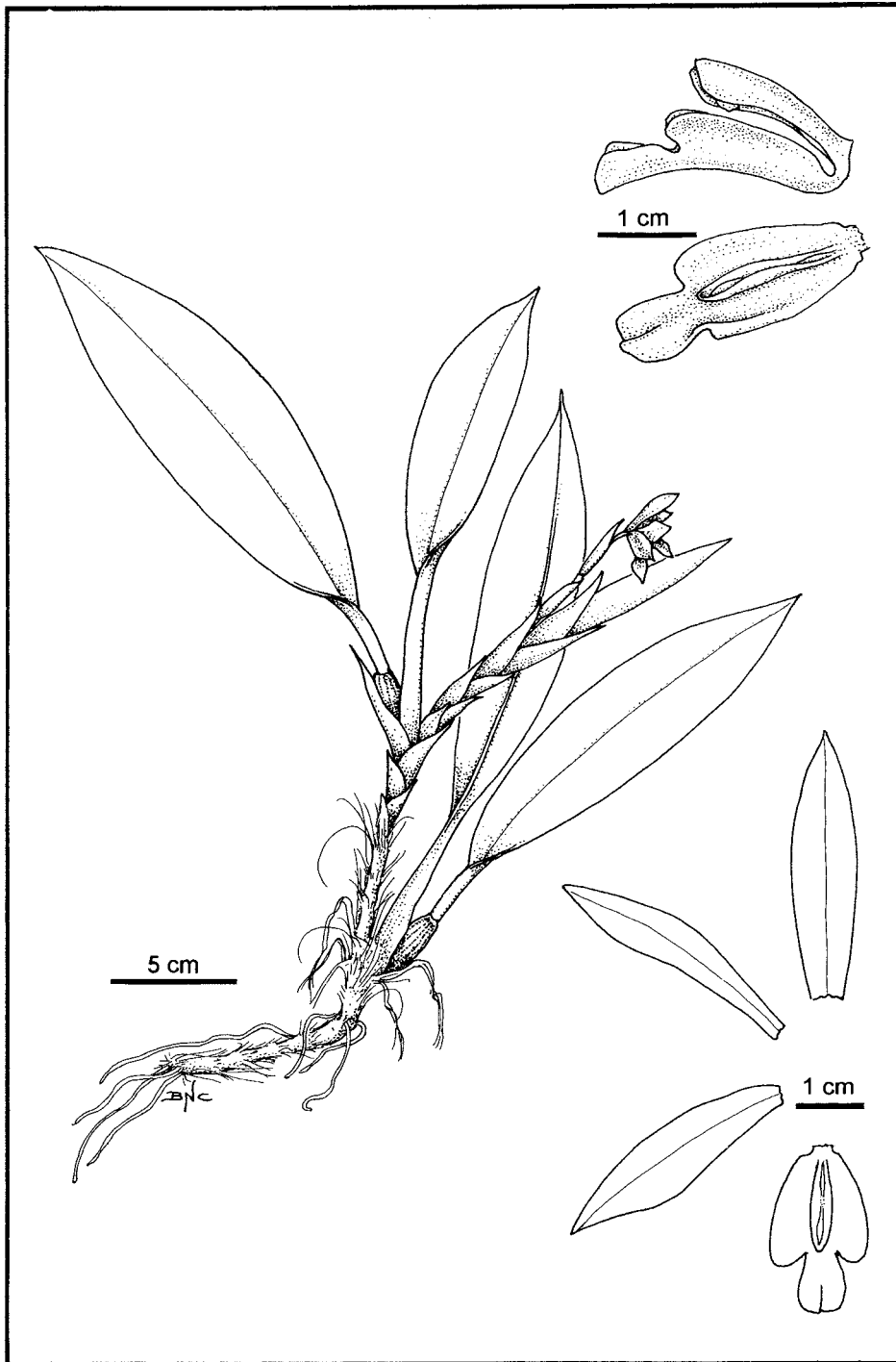


FIGURE 2. *Maxillaria haberi* J.T. Atwood. Illustration: Barbara Culbertson.

$\frac{1}{2}$ . *Maxillaria pachyacron* also has shorter pseudobulbs and grows at higher elevations. *Maxillaria chionantha* is also closely related to *Maxillaria attenuata* Ames & C.Schweinf., a species also with distinctly petiolate leaves, attenuate floral segments and nearly simple lip, but is easily distinguished by the larger plant, larger and white flowers, rather than the red to maroon flowers of the latter species. The description as well as illustration of the flower by Barbara Culbertson is based in part on spirit-preserved material from live accession at Selby Gardens collected in western Panama by R. L. Dressler (SEL 1993-0202A).

*Maxillaria haberi* J.T. Atwood, sp. nov.

FIGURE 2.

TYPE: COSTA RICA. Prov. Heredia: Forest between Río Peje and Río Sardinialito, Atlantic slope of Volcán Barva, 700–750 m, 4 Apr 1986, *M. H. Grayum* 6769 (Holotype: CR).

Planta rhizomatosa, pseudobulbis in rhizomatibus, foliis petiolatis et grandis ut in *Maxillaria planicola* C.Schweinf. sed pseudobulbis cum bracteis foliatis subtentis, et floribus cum labellis tricarinatis differt.

**Plant** a conspicuously rhizomatous epiphyte to at least 50 cm tall, probably pendent when large. Rhizome 6–8 mm in diameter, 7–10 cm long between pseudobulbs, concealed when young by acute, non-foliaceous bracts; roots slender, to 1 mm in diameter. **Pseudobulbs** ovate, laterally compressed, subtended by 1–3 leaves, 3.5–5 × 1.5–2 cm, with 1-foliolate apex. **Leaves** elliptic-oblongate, conspicuously petiolate, the blade 12–22 × 4–6 cm, acute. **Inflorescence** appearing in the flush of new growth, scapes 4–5 cm long, ovary 10–13 mm long, somewhat exceeded by the subtending floral bract. **Flower** somewhat spreading, yellow to orange or tan, the lip maroon-red near base, white near apex. **Sepals** similar, elliptic-lanceolate, ca. 3.8–4.1 × 1 cm, acute. **Petals** oblongate, ca. 3.7 × 6 mm, acute. **Lip** rather fleshy, obovate in general outline, 2.5 × 1.8 cm when spread, 3-lobate on the upper  $\frac{1}{3}$ ; lateral lobes embracing the column; midlobe subquadrate, obtuse; callus of 3 keels from the base to below the sinuses of the lateral lobes, the middle keel lower and less distinct than the outer.

**Column** slightly arcuate, 1.8–2 cm long excluding unknown operculum, with a swelling on the lower  $\frac{1}{3}$  ventral side. Pollinia unknown. Capsules unknown.

PARATYPES: COSTA RICA. Prov. Alajuela: Reserva Biológica Monteverde, Río Peñas Blancas, Campo 4, Río Celeste Vertiente Atlántica, 1 Sep 1987, *William Haber & Eladio Cruz* 7474 (MO); Reserva Biológica Monteverde Río Peñas Blancas, Sector Los Enanos hasta Eladio's, 850 m, 5 Jul 1989, *E. Bello* 1023 (INBIO, MO).

ETYMOLOGY: Named after Willaim Haber of the Missouri Botanical Gardens and expert on the flora of Monteverde.

*Maxillaria haberi* is known only from the three collections cited and made between 1986 and 1989. Apparently a rare species, recent attempts to relocate it have failed. It is most readily distinguished by the combination of long-rhizomatous habit with pseudobulbs, the large, elliptic-oblongate leaves and by the relatively large, yellow flowers. The plant appears similar to that of *M. planicola* C.Schweinf. but has foliaceous sheaths at the base of the pseudobulbs. The flowers are also large as in *M. planicola* but the lip is proportionately longer and has a callus of three keels rather than of stiff hairs and a ligule. Flowering season: at least April, July and September. The type is based on a Grayum specimen as rehydration of the flower from the Haber and Cruz specimen was not possible.

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