

TWO NEW SPECIES OF COSTA RICAN *MAXILLARIA* (ORCHIDACEAE), AND A CLARIFICATION OF *MAXILLARIA BRACTEATA*¹

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ABSTRACT

Original materials on which the name, *Ornithidium bracteatum* [*Maxillaria bracteata*], is based were examined and evaluated. While the lectotype (here designated) and camera lucida drawing of a newly rehydrated flower are consistent with Schlechter's original description, his drawing with discordant frontal view of the lip suggests a mixture from two different species. Based largely on the lip, the name has been misapplied to two other species described here for the first time and is actually an earlier synonym for the well known *Maxillaria vagans*.

DURING THE preparation of a species revision of *Maxillaria* for *Flora Costaricensis* and *Manual de las Plantas de Costa Rica*, misapplications of names that caused confusion among collections have become apparent. One such misapplication involves the name, *Maxillaria bracteata* (Schltr.) Ames & Correll, based on *Ornithidium bracteatum* Schltr. (Feddes Repert. 9:217-218, 1911). The name has been applied to two species that lack pseudobulbs on canes, yet the original description states: "pseudobulbis erectis vel suberectis, i.e. rhizomati subparallelis..." Part of the confusion was created by Schlechter's published drawing (Feddes Repert. Beih. 59: t.70, 1931) showing a lip with discordant frontal view (Fig. 1). This view showing a relatively short midlobe with keel is more or less consistent with one of the species described below. But it is discordant with the original description and the lateral view of the lip and column in the

same analysis showing the midlobe to be about half the length of the lip.

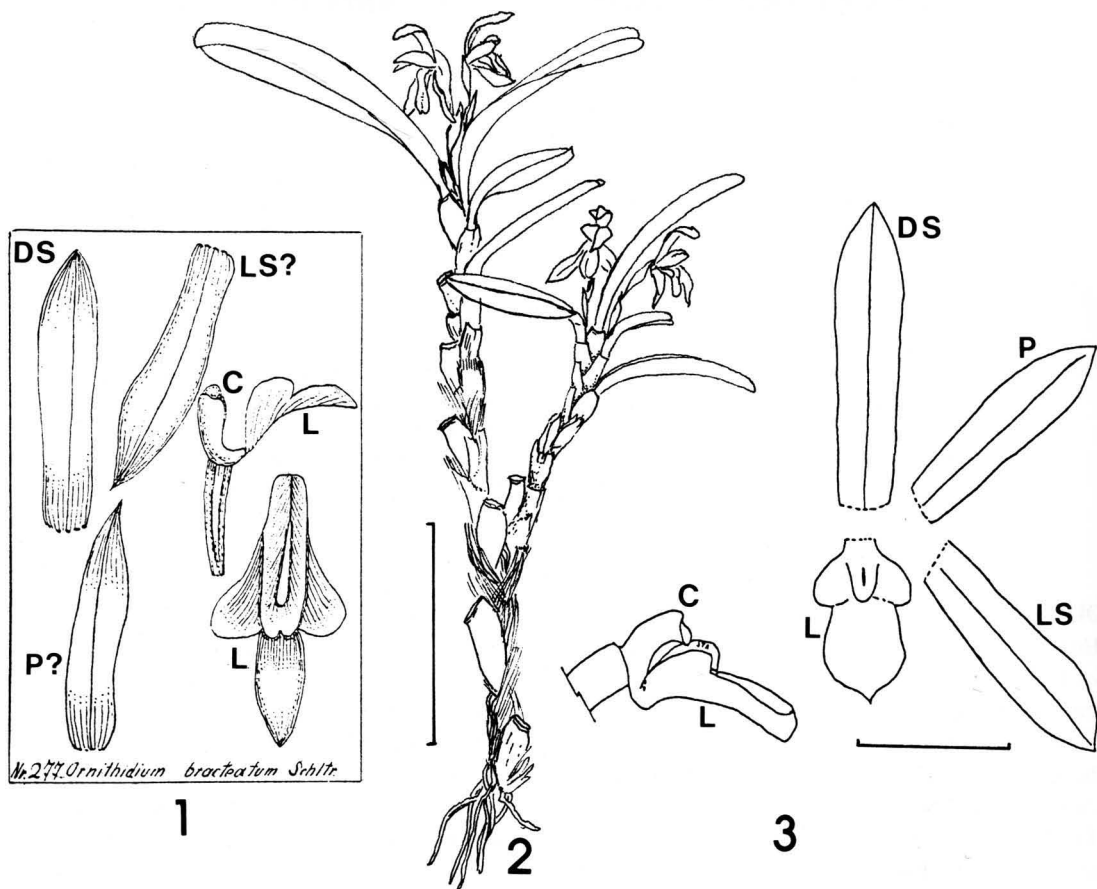
A previously unrecognized isotype of *Ornithidium bracteatum* Schltr. has surfaced (*Tonduz 12344*, US 577579 here designated as lectotype) showing erect growth with distinct pseudobulbs (e.g., Fig. 2 based on *Atwood 89-53*). Rehydration of one flower from the lectotype (Fig. 3) shows that the plant is identical with a plant described as *Maxillaria vagans* A. & C. Schweinf. (*Sched. Orch. 8:65-66, 1925*). *Maxillaria bracteata* is therefore an older, yet unfamiliar name for a common Costa Rican epiphyte, and no names are available for the other two species, clearly distinguishable by the canes without pseudobulbs (the latter restricted to sessile, juvenile shoots), column length, and very different callus. Both species are detailed below.

Maxillaria amabilis J. T. Atwood, *sp. nov.*
TYPE: COSTA RICA: Prov. Alajuela: Zona Protectora, Chayote, Llano Bonito, Naranjo, 1,200 m, *L. D. Gómez, G. Herrera, & W. Murillo 23979* (Holotype: MO 3588005; Isotypes: F 2006021, SEL). Fig. 4,

Species affinis *M. falcatae* Ames & Correll sed flore grandiore, lobo mediano longiore, et carina antice acuta calli distinguitur.

Plant a large, erect, cane-forming epiphyte to at least 90 cm tall. Canes of mature shoots lacking

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Figs. 1-3. *Maxillaria bracteata*. 1. Floral analysis published by Rudolf Schlechter. 2. Plant habit. Scale = 10 cm. G. Barboza. 3. Floral analysis based on rehydration from the type. Scale = 10 mm. Compare frontal view of lip with Figure 1. J. T. Atwood. Figure Abbreviations: DS, dorsal sepal; LS, lateral sepal; P, petal; L, lip; C, column.

pseudobulbs, concealed by rugose leaf sheaths, mostly leafless on the lower canes; roots mostly restricted to the base, to about 1.5 mm in diameter. **Pseudobulbs** present only at base (as caespitose juveniles), about 5 cm tall and 2.5 cm wide, laterally compressed, sessile, subtended by 1-2 foliaceous sheaths, apically 1-foliate with shortly petiolate leaf. **Leaves** thin, articulate; the blade keeled below, 4-17 cm long, 1.3-2.8 cm wide; the apex obtuse to rounded and unequally 2-lobate. **Inflorescences** several per leaf axil, long for the genus and sometimes exceeding the subtending leaf; scapes to about 9 cm long; ovary with pedicel 9-11 mm long, subtended by a subequal to longer subulate, acute floral bract. **Flower** large for the genus, campanulate, to about 2.5 cm long, white, or the outer surfaces of sepals and petals with pink

stripe; lip yellow or orange. **Sepals** similar, oblong-elliptic, 2.2-2.5 cm long, 4.5-6 mm wide, the apex acute and carinate externally. **Petals** oblanceolate, about 2.2 cm long, 5.5-6.5 mm wide, acute to acuminate. **Lip** loosely rigid with the column foot, canaliculate on the lower half, 3-lobate on the upper half, about 9 mm long and 3 mm wide in natural position, 1.2 cm long when spread; the lateral lobes embracing the column; midlobe ovate, obtuse; callus a truncate lamina terminating at about the lobe sinuses, with a keel on the lower half elevated and acute in front. **Column** nearly straight, cylindrical, 9 mm long excluding foot and operculum; foot short, about 2 mm long; operculum about 1.5 mm in diameter, pollinia 4.

PARATYPES: COSTA RICA. Prov. Alajuela: Region of Zarcero, Palmira, 6,000 ft., *Austin Smith*

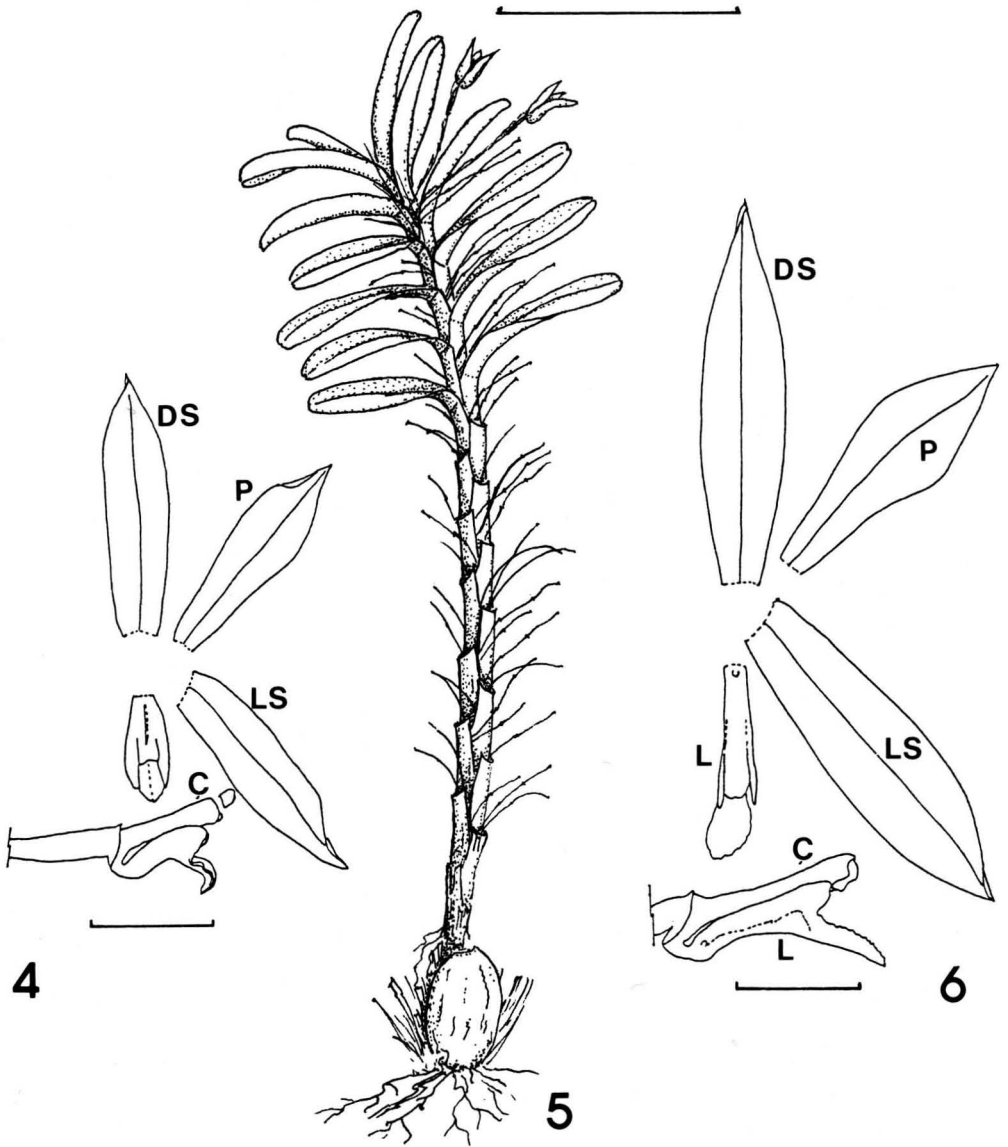


Fig. 4. *Maxillaria amabile*. Floral analysis. Note operculum at column apex. Scale = 10 mm. J. T. Atwood.

Figs. 5-6. *Maxillaria monteverdensis*. 5. Plant habit. Scale = 10 cm. G. Barboza. 6. Floral analysis. Scale = 10 mm. J. T. Atwood.

H499 (F); loc. cit., *Austin Smith H107* (AMES, F); loc. cit., 1250 m, *Brenes 1159* (NY).

EYMOLOGY: Named in allusion to the pretty flowers.

Maxillaria amabilis is a poorly known epiphyte apparently of premontane and montane rainforests at 1,200-1,900 m elev. Flowering occurs at least in October and January.

Maxillaria monteverdensis J. T. Atwood & G.

Barboza, *sp. nov.* TYPE: COSTA RICA: Intersection of Provinces Alajuela, Guanacaste, and Puntarenas, Monteverde Reserve, at 1,600-1,700 m elev., *J. T. Atwood 89-33* (Holotype: SEL, Isotype: CR). Fig. 5, 6.

Species affinis *M. falcata* Ames & Correll sed flore grandiore, lobo mediano longiore, et callo papilla basi non carinato distinguitur.

Plant a large, erect, cane-forming epiphyte to at least 35 cm tall, and probably much taller. Canes

of mature shoots lacking pseudobulbs, concealed by rugose leaf sheaths, mostly leafless on the lower canes; roots mostly restricted to the base, to about 2 mm in diameter. **Pseudobulbs** present only at the base of the plant (as caespitose juveniles), about 4.5 cm tall and 2.5 cm wide, laterally compressed, sessile, apically 1-foliate with shortly petiolate leaf. **Leaves** thin, articulate; the blade keeled below, 4-11 cm long, 1.5-2 cm wide; the apex obtuse to rounded and unequally 2-lobate. **Inflorescences** several per leaf axil, long for the genus and sometimes exceeding the subtending leaf; scapes to about 8 cm long; ovary with pedicel 1.3-1.5 mm long, subtended by a somewhat longer subulate, acute floral bract. **Flower** large for the genus, campanulate, to about 3.2 cm long, white to pinkish with lip yellow to orange, fragrant. **Sepals** similar, oblong, 2.5-3.1 cm long, about 5-7 mm wide, the apex acute. **Petals** falcate-ob lanceolate, about 2.5-2.7 cm long, 6.5-9 mm wide, acute to acuminate. **Lip** loosely rigid with the column foot, canaliculate on the lower 2/3, 3-lobate on the upper 1/3, about 1.5-1.8 cm long and 3.5-4 mm wide in natural

position, to 2 cm long when spread; the lateral lobes embracing the column; midlobe ovate, obtuse and with crenulate margin; callus a truncate to rounded lamina terminating at about the lobe sinuses, with a single papilla at the base. **Column** nearly straight, cylindric, 1.2-1.5 cm long excluding foot and operculum; foot short, about 3 mm long; pollinia unknown, undoubtedly 4.

PARATYPES: COSTA RICA: Intersection of Provinces Alajuela, Guanacaste, and Puntarenas on Continental Divide, 1,580-1,700 m, *W. C. Burger & J. L. Gentry, Jr. 8746* (F); Atlantic drainage, elev. 1,700-1,800 m, *V. J. Dryer 1144* (F).

EYMOLOGY: Named for the type locality, Monteverde, Costa Rica.

Maxillaria monteverdensis is apparently endemic to Monteverde at 1,500-1,800 m elev. in lower montane rain forests. It is most closely related to *M. amabilis* but has longer ovaries, larger flowers, and the lip has a single papilla at the base instead of a distinct keel. It is represented by only three collections. Flowering time is at least January to March.