

# THE *ENCYCLIA PYGMAEA* COMPLEX, WITH A NEW CENTRAL AMERICAN SPECIES, *ENCYCLIA RACEMIFERA*<sup>1</sup>

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**ABSTRACT:** *Encyclia racemifera*, here described from Costa Rica and western Panama, is superficially intermediate between *E. pygmaea* and *E. pseudopygmaea* but easily distinguished from both.

*ENCYCLIA PSEUDOPYGMAEA*, described from Costa Rica, has been treated as a synonym of the widespread, lowland *E. pygmaea*, but in Mexico the two are quite distinct (Dressler and Pollard, 1974). *Encyclia pseudopygmaea* generally has longer, more slender pseudobulbs than *E. pygmaea* and occurs at higher elevations, but attempts to separate Costa Rican specimens on these criteria were frustrating. A closer look showed that some small *pygmaea*-like plants from intermediate elevations have large, many-flowered racemes. When this additional feature is considered, the material sorts easily into three distinct species, one of them to be described here.

Dressler and Pollard (1974) treat this complex as *Encyclia* Subgenus *Osmophyta* Section *Hormidium*, a group including *E. grammatoglossa* (Rchb.f.) Dressler and *E. rhynchophora* (Rich. & Galeotti) Dressler. These amply distinct species are included in the following key, but will not be further discussed here.

### Key to *Encyclia* Section *Hormidium*

- 1. Inflorescences surpassing leaves or subequal . . . . . 2
- 1. Inflorescences much shorter than leaves . . . . . 3
  - 2(1). Pseudobulbs unifoliate; sepals 15-27 mm long; northern Central America. . . . . *Encyclia rhynchophora*

- 2. Pseudobulbs bifoliate; sepals 8-10 mm long; South America . . . . . *Encyclia grammatoglossa*
- 3(1). Floral bracts at least as wide as long, abruptly acute or acuminate, subdistichous . . . . . *Encyclia pseudopygmaea*
- 3. Floral bracts longer than wide, triangular-lanceolate, tapering gradually, spiral . . . . . 4
  - 4(3). Flowers 1-4, subfasciculate, rachis concealed; lateral lobes flabellate or suborbicular, rounded in front; midtooth of column long and fingerlike . . . . . *Encyclia pygmaea*
  - 4. Flowers 6-16, racemose, rachis exposed; lateral lobes obliquely ovate (parallel with axis of lip), subacute in front; midtooth short, subequal to lateral teeth . . . . . *Encyclia racemifera*

***Encyclia racemifera*** Dressler, *sp. nov.* TYPE: COSTA RICA: Prov. San José: vicinity of El General, 1470 m, Aug. 1936, A. F. Skutch 2807 (holotype: AMES; isotype MO). Figure 1, A-G.

*E. pygmaeae* (Hook.) Dressler affinis sed inflorescentia racemosa multiflora et lobi lateralibus labellii oblique ovatis.

Epiphytic or lithophytic; **pseudobulbs** ellipsoid to obclavate, 2.5-6 × 0.4-0.9 cm, with sheathing bracts 2.5-3 × 1-1.5 cm, some with rudimentary blades; **leaves** 2 or 3, elliptic to oblong-lanceolate, 2-8 × 0.7-1.3 cm; **inflorescence** 2-4.5 cm, of 6-15 flowers, racemose, from narrow spathe 7-17 × 2.5-3 mm (folded), **floral bracts** thin, triangular-lanceolate, 4-5 × 1.8-2 mm; sepals greenish white, green or brownish green, **petals** similar or white, lip white with purple spot on midlobe; sepals triangular-lanceolate, acute or acuminate, 5-7 × 1.5-2 mm; petals lance-linear, acute, 5-5.5 × 0.7-0.9 mm; lip 4-4.8 mm long, 3-lobed, **lateral lobes** 1.5-2.1 × 2-2.5, subflabellate or ovate (parallel with lip axis), subacute

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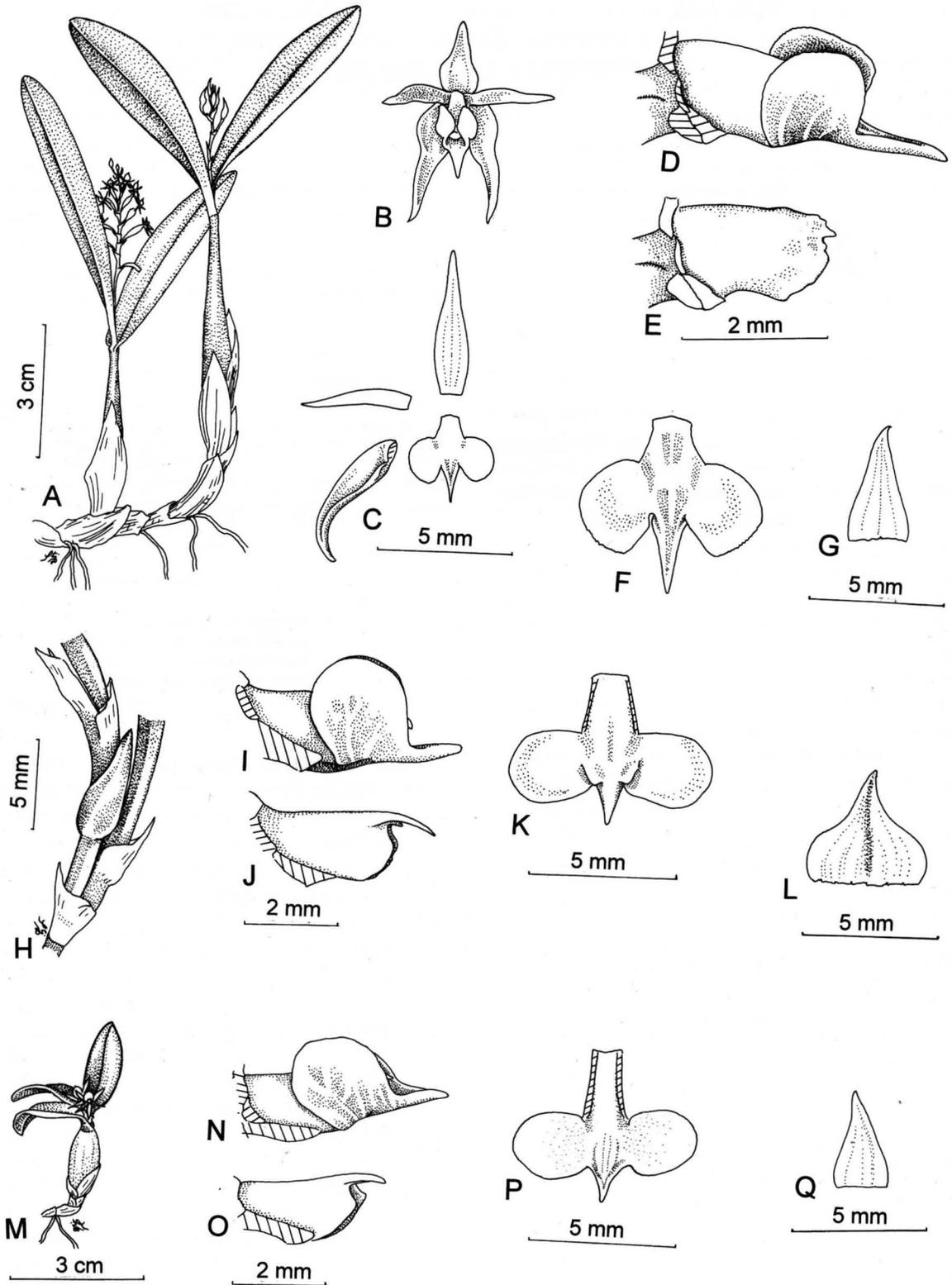


Fig. 1. *Encyclia racemifera*, A-G; *E. pseudopygmaea*, H-L; *E. pygmaea*, M-Q. A, M. Shoots with inflorescences. B. Flower (upside down). C. Perianth, spread out. D, I, N. Columns and lips, side view. E, J, O. Columns with lip removed. F, K, P. Lip.

in front; midlobe triangular, acute, 1–1.5 × 1–1.8 mm; column ca. 3 mm, with midtooth subequal to lateral teeth.

PARATYPES: COSTA RICA: Guanacaste: La Cruz de Abangares, elev. 1400 m, 24 Sept. 1985; *W. A. Haber & E. Bello* C. 2873 (MO), 2897 (MO, SEL); 10°19'N 87°45'W, 1200 m, 2 Dec. 1986, *Haber & Bello* 6328 (MO); Alajuela: San Pedro de San Ramón, Nov. 1921, *A. M. Brenes* 159 (AMES); San José: Entre Tablazo y La Carpintera, 27 Sep. 1933, Comprado a un campesino, *Brenes* 226 (AMES, F); Sabanillas de Acosta, Aug. 1927, *C. H. Lankester* 1148 (AMES); Cartago: Road from Cartago to San Isidro del General, elev. 1800–2800 m, *C. H. Dodson* 2483 (SEL); Puntarenas: Sabanas Murur Bisuk, 9°19'50"N 83°17'20"W, 1800 m, 28 Sep. 1985, *G. Herrera & W. Gamboa* 3583 (MO); between Sitio Cotón and Sitio Tablas, elev. 1500–1600 m, ca. 8°57'N, 82°46'W, 2 Sep. 1983, *G. Davidse* 24499 (MO, SEL); area of Sitio Cotón, elev. 1500–1700 m, ca. 8°57'N, 82°46'W, 3–4 Sep. 1983, *Davidse* 24576 (MO); NW of Las Alturas, 8°57'N 82°51'W, elev. 1450–1600 m, 30 Aug. 1983, *Davidse* 24337 (MO). Panama: Chiriquí, 3 km NE of El Hato del Volcán, base of Volcán Chiriquí, elev. 1500–1800 m, 22 Nov. 1975, *G. Davidse & W. G. D'Arcy* 10,356 (MO, SEL); Upper Río Chiriquí Viejo, vicinity of Monte Lirio, 27 June–13 July, 1300–1900 m, *R. J. Seibert* 426 (MO); Camp Hornito, Fortuna dam site, 1200–1500 m; 16 Aug. 1976, *R. L. Dressler* 5405 (FLAS); vicinity of Fortuna Dam, 1100 m, 5 Dec. 1987, *G. McPherson* 11802 (MO).

Plants with shorter, thicker pseudobulbs may be confused with *E. pygmaea* if one ignores the relatively large and many-flowered inflorescence. Plants with longer, more slender pseudobulbs simulate *E. pseudopygmaea*, but the thin, evenly tapering floral bracts are quite distinct, even on old inflorescences without flowers. The similarities in flowers and floral bracts indicate that *E. racemifera* may be the sister species of *E. pygmaea*, suggesting a Central American origin for that widespread species.

A few collections, such as *Brenes* 159, *Davidse*

24337 and *Haber & Bello* 6328, each show several capsules and appear to be autogamous, but most available collections of *Encyclia racemifera* have few or no capsules, suggesting that outcrossing predominates.

*Encyclia pseudopygmaea* (A. Finet) Dressler & Pollard, *Orquídea* 3: 310. 1974.

*Hormidium pseudopygmaeum* A. Finet, *Bull. Herb. Boiss.* 7: 121, t. 3. 1899, based on *Tonduz* 202, Costa Rica (P, dupl. W!).  
Mexico to Costa Rica.

Generally larger than *E. pygmaea* or *E. racemifera* in all parts, *E. pseudopygmaea* occurs in cloud forest or wet forests from 1300 to 2700 m in elevation. Though the flowers average larger than those of *E. pygmaea* and *E. racemifera* in Costa Rica, there is overlap. In Mexico, however, the flowers of *E. pseudopygmaea* are much larger than those of *E. pygmaea*. The inflorescences of *E. pseudopygmaea* are short, but distinctly racemose. The floral bracts are fleshy, about as wide as long and abruptly acute or acuminate. Further, these distinctive bracts are nearly distichous, as the flowers must also be in life. After the flowers have fallen, the inflorescences simulate those of diminutive Heliconias. In Costa Rica, as in Mexico, the distal flowers may open before the basal flowers; in some cases, there are still buds at the base of the raceme when the upper flowers have fallen (see Fig. 1H).

*Encyclia pygmaea* (Hook.) Dressler, *Brittonia* 13: 265. 1961.

*Epidendrum pygmaeum* Hook., *Jour. Bot.* 1: 49, t. 118. 1833, based on *Hort. Harrison*, Brazil (K!).

*Hormidium pygmaeum* (Hook.) Benth. & Hook. f., *Biol. Centr.-Am. Bot.* 3: 218. 1883.

*Coelogyne triptera* Brongn., *Dup. Voy. Coq. Phan.* 201, t. 42. 1834 (not *Epidendrum tripterum* Sw., 1793, nor Lindley 1841), based on *Brongniart*, Brazil (not seen).

*Hormidium tripterum* (Brongn.) Cogn., *Mart. Fl. Bras.* 3(5): 50. 1898.

←  
spread. **G, L, Q.** Floral bracts, flattened. **H.** Axis of inflorescence with basal bud and pedicels of two open flowers (distal flower fallen). *E. racemifera* based on *Dressler* 5405; *E. pseudopygmaea* based on liquid preserved material from Jardín Lankester; *E. pygmaea* based on liquid preserved material from Palenque, Chiapas, Mexico.

*Encyclia triptera* (Brongn.) Dressler & Pollard, *Phytologia* 21: 436. 1971.

*Epidendrum caespitosum* Poepp. & Endl., *Nov. Gen. ac Sp.* 2: 1, t. 101. 1838, based on *Poeppig*, Peru (not seen).

*Epidendrum uniflorum* Lindl., *Bot. Reg.* 25; misc. 16. 1839 (not *E. uniflorum* Vell., 1825), based on *Barker*, Mexico (K!).

*Hormidium uniflorum* (Lindl.) Heynh., *Nomencl. Bot. Hort.* 1: 880. 1841.

*Epidendrum monanthum* Steudel, *Nomencl. Bot.* ed. 2, 1: 588. 1840.

*Microstylis humilis* Cogn., *Mart. Fl. Bras.* 3(6): 550, t. 114. 1906. based on *Löfgren*, Brazil (not seen).

*Hormidium humile* (Cogn.) Schltr., *Repert. Spec. Nov. Regni Veg.* 16: 331. 1920.

Florida, Greater Antilles, Mexico, Central America and South America to Bolivia and southern Brazil.

Plants from wetter areas may have longer, more slender pseudobulbs, thus approaching *E. pseu-*

*dopygmaea*, but *E. pygmaea* usually has subfasciculate flowers and, in Central America, at least, is restricted to lower elevations, under 1500 meters and usually under 500 meters. The subfasciculate inflorescence with the inflorescence axis concealed by the clasping leaf bases is quite constant over most of the species' range, but a specimen from Bolivia (*J. C. Solomon* 9533 [MO]) has racemes from 6-13 mm long. This anomalous collection does not otherwise resemble *E. racemifera*.

The plants of *E. pygmaea* appear to be autogamous, which may have contributed to its wide geographic range. In Costa Rica, this species appears to be less frequent than either of its close allies. In material borrowed from five herbaria, we received 11 collections of *E. pygmaea*, 16 of *E. racemifera* and 45 of *E. pseudopygmaea*.

#### LITERATURE CITED

- Dressler, R. L., and G. E. Pollard. 1974. *The Genus Encyclia in Mexico*. Asociación Mexicana de Orquideología, Mexico City.