



Encyclia fimbriata (Orchidaceae: Laeliinae), a new large-flowered species from Bahia, Brazil

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Abstract

A new orchid species from Brazil, *Encyclia fimbriata*, is described and illustrated. It is known only from montane rain forest in southern Bahia. Flower morphology, especially the fringed midlobe of the labellum, crested callus and teeth of the clinandrium, distinguish it from any other species of the genus.

Key words: Epiphytes, flora of Bahia, Neotropics

Resumo

Uma nova espécie de orquídea do Brasil, *Encyclia fimbriata*, é descrita e ilustrada. Esta é somente conhecida de floresta montana do sul da Bahia. A morfologia da flor, especialmente o lobo medial do labelo fimbriado, o calo sinuoso e os dentes do clinândrio, a diferenciam de todas as demais espécies do gênero.

Palavras-chave: Epífitas, flora da Bahia, Neotrópico

Introduction

Encyclia is the second largest genus in the Neotropical subtribe Laeliinae, being surpassed only by *Epidendrum* (Dressler 1993, Pridgeon *et al.* 2003, Chase *et al.* 2004). Many *Encyclia* species have ornamental value due to their large and showy flowers. There are about 120 species occurring from Florida, Mexico and West Indies to Brazil and northern Argentina (Withner 1998, 2000, van den Berg & Carnevali F.-C. 2005). Barros *et al.* (2010) listed 54 species for Brazil, of which 42 are endemic, and 14 occur in Bahia State.

Species of *Encyclia* are adapted to many habitats and often occur in extreme conditions such as dry and seasonally dry forests and flooded forests. In Brazil, many epiphytic species occur in deciduous or semi-deciduous forests in seasonally dry areas. Other species grow on exposed rocks as facultative epiphytes (Higgins *et al.* 2003). Overall, *Encyclia* species can be characterized by being epiphytic, lithophytic or terrestrial herbs with globose, ovoid or pyriform pseudobulbs with 1–4 apical, fleshy leaves, simple or double racemes, that can be rarely shorter or usually much longer than the leaves, and medium to large showy, fragrant flowers. The generic name refers to the labellum that surrounds the column (van den Berg & Carnevali F.-C. 2005), the former is trilobed and free or slightly adnate to the base of the column.

During work being carried out for a revision of the Brazilian species of *Encyclia*, we found a specimen in the CEPEC herbarium (Comissão Executiva do Plano da Lavoura Cacaueira—CEPLAC, Ilhéus, Bahia) in southern Bahia that is an undescribed species of the genus.

Materials and methods

The specimen was examined and illustrated with the aid of a stereomicroscope. A detailed comparison with previous studies was used to confirm that the material does not fit any known species of *Encyclia* (Pabst & Dungs 1975, 1977, Fowlie & Duveen 1992, Withner 1998, 2000, Campacci 2003, Castro Neto & Campacci 2003, Castro Neto 2006). Botanical terminology used in the description follows Dressler & Pollard (1974), Weberling (1989), Dressler (1993), Harris & Harris (1994) and Stearn (2004).

Taxonomy

Encyclia fimbriata C.A.Bastos, Van den Berg & Meneguzzo, *sp. nov.* (Fig. 1)

Haec species E. fowliei floribus brunneo-olivaceis, sepalis ovatis, petalis spathulatis cum margine undulata similis, sed sepalis concavis, lobis lateralibus labelli majoribus (1.3 cm longis et 0,8 cm latis), lobo mediano fimbriato cum duobus callis cristatis longitudinalibus, clinandrio cum dentibus lateralibus cornutis et rostelo triangulari protuberanti revoluto imprimis differt.

Type:—BRAZIL: Bahia: southeastern portion of the state, 19 January 2006, *Thomas et al. 14604* (holotype CEPEC!).

Epiphytic herb. Pseudobulbs ovoid, 5.0–6.0 × 1.0–1.5 cm. Leaves 3, narrow-lanceolate, 20.0–26.7 × 1.0–1.4 cm. Inflorescence a double raceme, weakly branched; peduncle 53.6 × 0.3 cm, peduncle bracts closed, obconic, 1.4 × 0.8 cm; rachis up to 30.0 cm long; floral bracts deltoid, 0.4 × 0.3 cm. Flowers resupinate; pedicel 3.0 cm long; ovary 0.3 cm wide, smooth; sepals obovate, slightly concave, base constricted, margin entire, patent, tan-olive, dorsal sepal with apex obtuse, 1.3–1.9 × 0.6–0.8 cm, lateral sepals apiculate, 1.5–1.8 × 0.6–0.9 cm; petals oblique, spathulate, patent, tan-olive, margin gently wavy, about 1.5 × 1.0 cm; lip trilobed, cream streaked with purple, 1.5 × 2.0 cm, lateral lobes obovate, oblique, base constricted, apex obtuse to rounded, margin entire, oblique in angle of 50°, 1.3 × 0.8 cm, median lobe 1.5 × 1.0 cm, reniform, margin fringed, fringes 0.25 cm long; two longitudinal and parallel calli united to form crests in the terminal portion, apices of the calluses ending in the center of the median lobe; column semi-clavate, 1.0 × 0.3 cm, clinandrium apex tridentate, median tooth triangular, lateral teeth horn-like, apices praemorse, stigma obovate, rostellum triangular, protruding, revolute; column wings oblong, involute, apex truncate; anther oblong, rostrate, 0.3 × 0.2 cm, pollinia 4, in pairs, ovate, laterally compressed, waxy, equal, yellow, granular caudicle. Capsule not seen.

Distribution:—Found so far only in southern portion of Bahia State, Brazil, 850–990 m in montane wet forest, known from a single collection.

Etymology:—From the Latin *fimbriatus*, in reference to the fimbriate midlobe of this species, not observed in any previously known species in the genus.

Discussion:—Floral morphology of *Encyclia fimbriata* indicates affinities with *E. fowliei* Duveen (1990: 38), endemic to southern Bahia and also an epiphyte in Atlantic Forest (Fowlie & Duveen 1992, Barros *et al.* 2010). Similarities include the tan-olive color of the petals and sepals, ovate sepals and spathulate petals, as well as the gently wavy margins of the latter (Fig. 2). Nevertheless, the much larger lip of *E. fimbriata*, horn-like teeth of the clinandrium and protruding rostellum are reminiscent of *E. euosma* (Reichenbach 1877: 79) Porto & Brade (1935: 28). The wavy midlobe of *E. bragancae* Ruschi (1975: 84) and horn-like teeth of the clinandrium also suggest a relationship between *E. fimbriata* and the last. *Encyclia fimbriata* can be separated from similar species by several features of its floral morphology and distribution (Table 1).

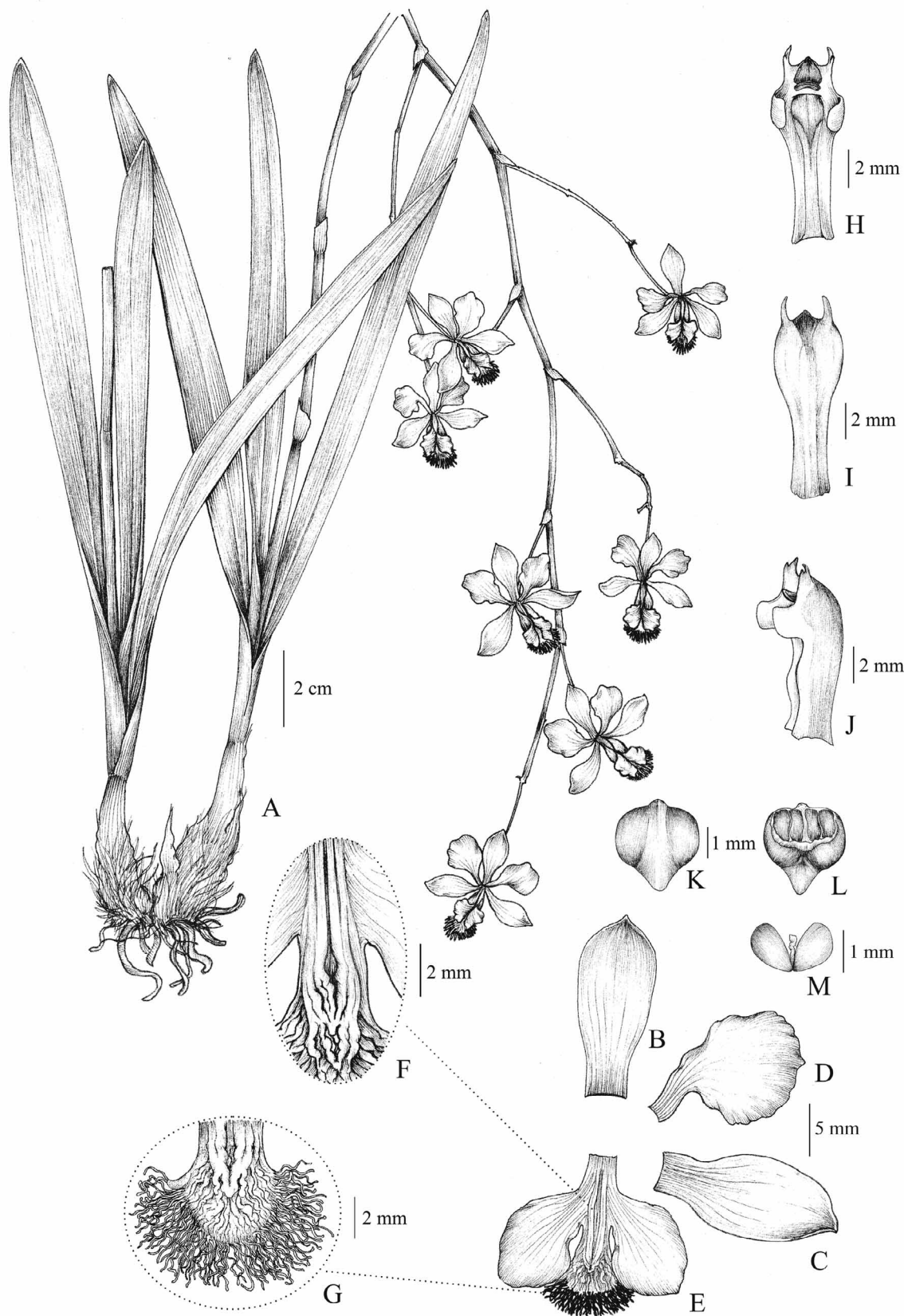


FIGURE 1. A. Habit. B. Dorsal Sepal. C. Lateral sepal. D. Petal. E. Labellum. F. Callus of the labellum. G. Detail of the fringed area on the labellum midlobe. H. Column in ventral view. I. Column in dorsal view. J. Column in lateral view. K. Anther cap in dorsal view. L. Anther cap in ventral view. M. Pollinarium. Based on *Thomas et al. 14604* (CEPEC).

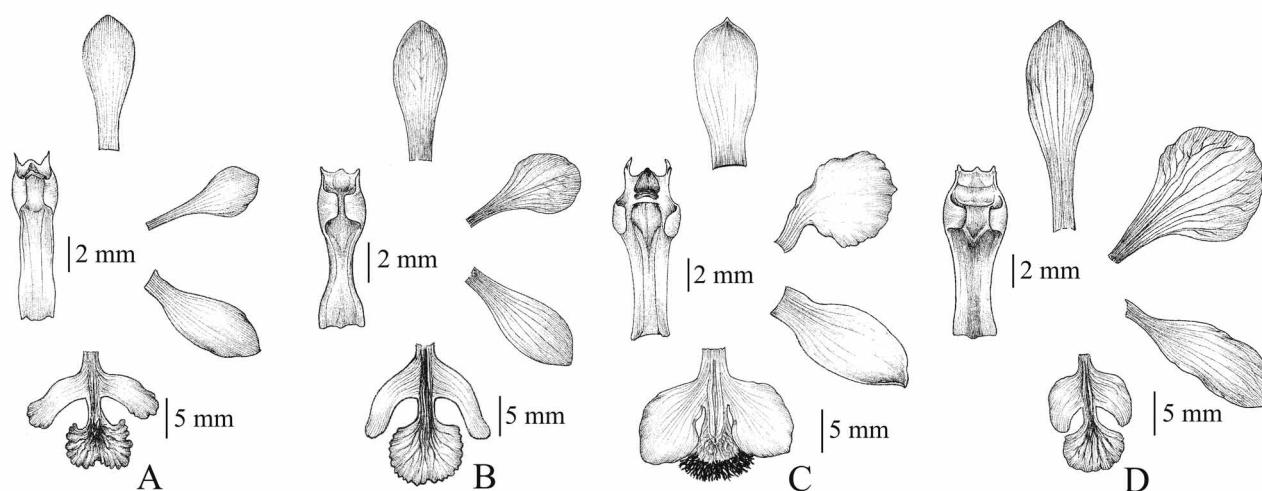


FIGURE 2. Flower diagrams and columns in ventral views. **A.** *Encyclia bragancae* (Bastos 325, HUEFS). **B.** *Encyclia euosma* (Bastos 305, HUEFS). **C.** *Encyclia fimbriata* (Thomas *et al.* 14604, CEPEC). **D.** *Encyclia fowliei* (Bastos 322, HUEFS).

TABLE 1. Comparison of floral morphology for *Encyclia bragancae*, *E. euosma*, *E. fowliei* and the new species, *E. fimbriata*.

	<i>Encyclia bragancae</i>	<i>Encyclia euosma</i>	<i>Encyclia fowliei</i>	<i>Encyclia fimbriata</i>
Lateral lobes of the labellum	0.8 × 0.3 cm	1.1 × 0.3 cm	0.6 × 0.4 cm	1.3 × 0.8 cm
Terminal lobes of the labellum	0.5 × 0.8 cm, strongly wavy	0.8 × 0.9 cm, margin wavy	0.5 × 0.7 cm, margin gently wavy	0.8 × 1.0 cm, margin fimbriate
Calluses of the labellum	veins dispersed in the midlobe	veins dispersed in the midlobe	veins dispersed in the midlobe	crested in the center of the midlobe
Lateral teeth of the clinandrium	extended horn-like	shortly horn-like	small triangular	extended horn-like
Rostellum	triangular protruding, revolute	triangular protruding, involute	depressed	triangular protruding, revolute

There is a published list of the flowering plants in the area where the type specimen was collected (Amorim *et al.* 2009). In this list only two *Encyclia* were reported and not identified to species level, as *Encyclia* sp. 1 and *Encyclia* sp. 2. The latter corresponds to *E. fimbriata*, here described, whereas *Encyclia* sp. 1 is in fact a specimen of *E. unaensis* Fowlie (1991: 26), vegetatively much smaller than *E. fimbriata* and with completely different flowers. The measurements in our description above are based on the single specimen available to us, but we have bracketed these data a little so that the description is more likely to apply to additional collections, if they are ever made.

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