

ENCYCLIA OSSENBACHIANA (ORCHIDACEAE: LAELIINAE),
A NEW SPECIES FROM COSTA RICA

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ABSTRACT. A new species of *Encyclia* (Orchidaceae) from Costa Rica is described and illustrated. Among Mesoamerican species of *Encyclia*, *E. ossenbachiana* may be distinguished by its strongly reflexed sepals and petals, linear-oblong, narrow lateral lobes of the lip, subquadrate-truncate midlobe, callus presenting two retrorse, rounded keels that join at the rear apex to form a narrow cuniculus, and the exauriculate column.

Key words: Orchidaceae, Laeliinae, *Encyclia ossenbachiana*, Costa Rica, Central America

INTRODUCTION

The taxonomy of the Central American species of *Encyclia* Hook. (Orchidaceae: Laeliinae) has been rather disputed, both at the level of generic circumscriptions and of species concepts (Hooker 1828; Lindley 1831, 1842, 1853; Ames et al. 1936; Dressler 1961, 1962, 1984, 1993, 2003, 2004; Dressler & Pollard 1971, 1974; Withner 1998, 2001; van den Berg et al. 2000; Higgins et al. 2003). Even after conclusive recognition of the distinctness of *Encyclia* and its segregation from the genus *Epidendrum* L. (Dressler 1961) and removal from *Encyclia* of the large bulk of species now assigned to *Prosthechea* Knowl. & Westc. (Higgins 1998), the identity of many of the Mesoamerican species remains confusing (see, for example, Dressler 2004 vs. Withner 1998, 2001). This is partly caused by the great similarity of many Central American taxa close to *E. gravaida* (Lindl.) Schltr., as well as by the application of old names, often based on poorly defined concepts.

The use of broad concepts of *Encyclia* species to circumvent the difficulty of finding clear ways to distinguish them reached its apex during the first half of the last century. In their comprehensive studies on the genus *Epidendrum* (including *Encyclia*) of North and Central America, Oakes Ames and his co-workers considered most of the species with medium-sized flowers and a more or less orbicular midlobe of the lip as part of a “polymorphic alliance,” considering them as varieties of a single variable species, a very broadly defined *Epidendrum oncidioides* Lindl. (Ames et al. 1936). A better understanding of Lindley’s concept of *E. oncidioides*, a Brazilian species somewhat restricted in distribution (Dressler 1962, Carnevali & Ramírez 1988, Carnevali et al. 1994), reveals that the gross lumping of Central American species under a few of

the oldest names is untenable. A recent key to the *Encyclia* species of Mesoamerica offered by Dressler (2004), notwithstanding a typographical error in the duplication of a couplet, strongly enhanced our understanding of this group.

As understood today, *Encyclia* includes some 90 species distributed from Florida and Mexico through Central America, the Bahamas, and the Caribbean islands to Peru and Argentina in South America. Three main distribution centers exist in Mexico, the Antilles, and the Atlantic coast of southern Brazil. Plants of *Encyclia* are epiphytes (rarely lithophytes) characterized by mostly conic-ovoid pseudobulbs with few terminal, coriaceous leaves, and terminal inflorescence, racemose or paniculate, without a spathe. The resupinate flowers (with the exception of the type species, *E. viridiflora* Hook.) have spreading sepals and petals, a three-lobed lip mostly free from the column, the column provided with three terminal, short teeth, and fusiform fruits.

Apart from the large-flowered *Encyclia cordigera* (Kunth) Dressler and *E. alata* (Batem.) Schltr., species of *Encyclia* from southern Central America are usually characterized by small flowers with green perianth and white, glabrous lip, often marked with purple guides. Species concepts within this group are not yet sharply defined. The author, who currently is studying the status of the Costa Rican taxa close to *E. gravaida*, has found among the studied material (mostly fresh flowers from plants grown at Jardín Botánico Lankester, University of Costa Rica), a species that shows morphological features so peculiar that it can be confidently described here as new to science.

TAXONOMIC TREATMENT

Encyclia ossenbachiana Pupulin, sp. nov. TYPE:
Costa Rica—Cartago: Tierra Blanca, Río

Reventado, along the river edge, at ca. 1900 m. A plant collected by Rafael A. González Rodríguez, July 2001, flowered in cultivation at Jardín Botánico Lankester, Dulce Nombre de Cartago, 8 July 2003, *D. Bogarín* 357 (holotype, USJ!). FIGURE 1.

Ab *Encyclia mooreanae* (Rolfe) Schltr. sepalis petalisque viridibus immaculatis, labelli lobulis lateralibus oblongo-linearibus multo angustioribus, lobulo intermedio transverse late elliptico vel orbicularis apici subcuadrato vel subretuso-truncato, callo in disco ornato duabus carinis rotundatis retrorsis postice elevatis apicibus junctis cuniculum angustum formantibus distincta; a *Encyclia ceratistidi* (Lindl.) Schltr. inflorescentiae ovarioque dense corrige ovarioque dense, floribus multo minoribus, sepalis tepalisque valde reflexis, labelli lobulis lateralibus angustioribus apicibus adaxialibus maculae purpureae notatis, lobulo intermedio maculae purpureae magnae notato, columnae exalatae differt.

Plant epiphytic, caespitose, with a very short rhizome, to 70 cm tall. **Roots** white, produced from the base of the pseudobulb and the rhizome, 0.9–1.1 mm in diam. **Pseudobulbs** ovoid to subpyriform, subtended by scarious bracts shredded with age, 3.5–5.5 × 2.3–3.0 cm, 2- (rarely 3-) foliate at apex. **Leaves** ligulate-oblong, acute, the apex somewhat irregularly bilobed, coriaceous, curving with age, 24–55 × 1.9–2.3 cm. **Inflorescence** terminal, arching, stout, warty, a panicle raceme to 150 cm long; peduncle terete, to 45 cm long, covered by 6–8 scarious, tightly sheathing bracts 8–11 mm long; lateral branches perpendicular to the main rachis, densely warty, 7–14 cm long, 2–11 flowered. **Floral bracts** triangular-ovate, acute, scarious, 3 × 2.5–3.0 mm. **Ovary** pedicellate, terete, warty, arching, to 1.5 cm long including the pedicel. **Flowers** resupinate, spreading-reflexed, scented, the sepals and petals pale apple green, the sepals dorsally blotched with brown at the apex, the lip white, blotched purple on the center of midlobe, the lateral lobes abaxially provided with a large brown blotch and a purple blotch at the center of the adaxial apex; the callus white; the column pale green at the base, white at apex, with a bright yellow anther. **Sepals** subsimilar, oblanceolate-oblong, acute, reflexed, dorsally carinate and provided with a prominent, apical callus, slightly conduplicate toward the apex. **Dorsal sepal** 10 × 3 mm. **Lateral sepals** slightly oblique, 10–11 × 3.5–4.0 mm. **Petals** spatulate to unguiculate, obtuse, minutely apiculate, reflexed, 9 × 3.0–3.5 mm. **Lip** basally adnate to the column for 2 mm, deeply 3-lobed, 10 × 8 mm across the lateral lobes; lateral lobes linear-oblong, rounded, slightly wider toward the apex, erect and flanking the column in natural position, the apices neatly reflexed, 5 × 2 mm; isth-

mus ca. 1 mm long, subquadrate, minutely papillose on the lateral margins; midlobe suborbicular, retuse, 6 × 7 mm, provided at the base with an ovate-elliptic, laminar, flat callus, decurrent in front into a low keel running toward the lip apex, on which is a second callus composed by 2 retrorse rounded keels, highest in the rear portion, joining at the base to form a narrow cuniculus. **Column** straight, subclavate, semiterete, truncate, 7 mm long. **Anther** cap widely ovate, cucullate, 4-celled. **Pollinia** 4 in 2 pairs, obovate, strongly flattened, on narrowly linear, basally bifid caudicles.

PARATYPE: Costa Rica—Alajuela: Alfaro Ruiz, Palmira, Zona Protectora El Chayote, along the continental divide, 2100 m, 8 March 2001, flowered in cultivation at Jardín Botánico Lankester, University of Costa Rica, 2 June 2004, *F. Pupulin & G. Barboza* 5237 (Jardín Bot. Lankester, Spirit!).

EPONYMY: Named in honor of Carlos Ossenbach Sauter, founder of the Charles H. Lankester Foundation and research associate of Jardín Botánico Lankester, University of Costa Rica, in recognition of his contributions to the development of Costa Rican orchidology.

DISTRIBUTION: Only known from Costa Rica.

ECOLOGY: Epiphytic in submontane rain forests along the crests of the Central Volcanic range in Costa Rica, at 1900–2100 m. Flowering occurs at least in June and July.

In flower size, *Encyclia ossenbachiana* approaches *E. mooreana* (Rolfe) Schltr., described in 1891 from a specimen without locality data, to which it also resembles in the purple blotches at the apex of the reflexed lateral lobes of the lip and on the blade of the midlobe. The lateral lobes, however, are linear-oblong in *E. ossenbachiana*, whereas they are notably narrowed at the base and widely expanded at apex in *E. mooreana*, and the midlobe is subquadrate-truncate in *E. ossenbachiana* vs. rounded in *E. mooreana*. The two species also differ in the color of sepals and petals, which are completely green in *E. ossenbachiana* and flecked with purple in *E. mooreana*, as well as in the shape of the callus. On the top of the laminar callus that is typical of many *Encyclia* species, *E. ossenbachiana* presents two retrorse, rounded keels that join at the base to form a narrow cuniculus.

The shape of the lateral lobes of the lip has been widely used to separate species groups in Central American *Encyclia*, and it is a useful character to distinguish *E. mooreana* from the closely related *E. ceratistes* (Lindl.) Schltr. (Ames et al. 1936; Williams 1946, 1951; Hamer

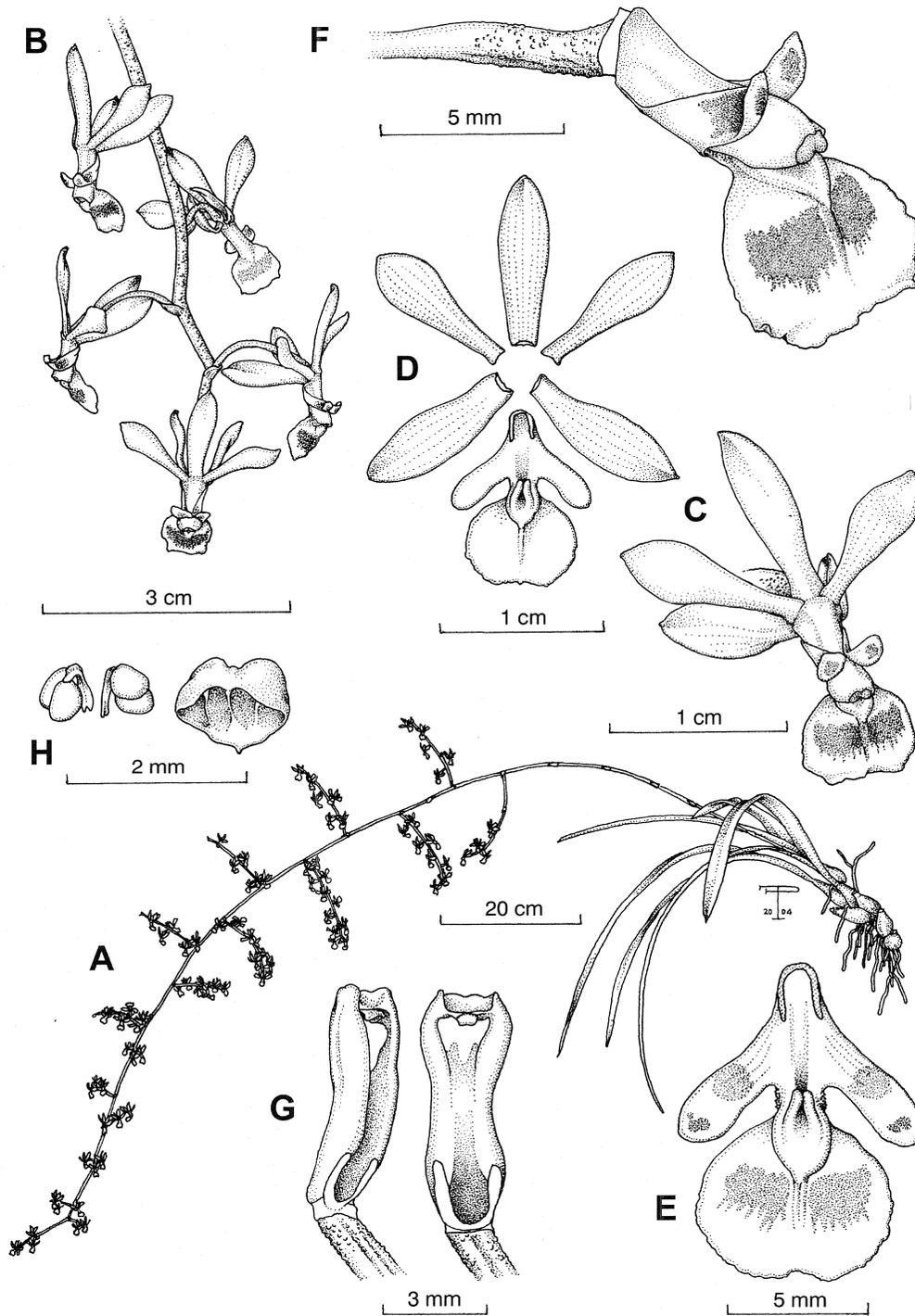


FIGURE 1. *Encyclia ossenbachiana* Pupulin. A. Habit. B. Detail of the rachis. C. Flower. D. Dissected perianth. E. Lip, spread. F. Column and lip, three-quarters view. G. Column, three-quarters and ventral views. H. Pollinaria and anther cap. Drawn by the author from the holotype.

1974; Mora-Retana & Atwood 1992; Dressler 1993, 2003, 2004). The latter species was originally described from a plant collected by Hartweg in the "Spanish Main," or northern South America (Lindley 1844), and its distribution ranges from Mexico to Colombia and Venezuela. The oblong-ligulate lateral lobes of the lip of *E. ossenbachiana* are comparatively narrower and marked with a round purple blotch at apex, but they agree in shape to those of *E. ceratistes*. Nonetheless, the two species differ in many aspects. The inflorescence and the ovary of *E. ossenbachiana* are densely verruculose (vs. slightly warty to glabrous in *E. ceratistes*), the perianth segments are smaller in *E. ossenbachiana* (10–11 vs. 13–16 mm long), and the sepals and petals are strongly reflexed in *E. ossenbachiana* (spreading in *E. ceratistes*). In the original protologue, Lindley (1844) stated that the column of *Epidendrum ceratistes* is "bicornuta" (or provided with two horn-like arms), whereas in Costa Rican populations the column only presents two very reduced teeth; however, the column of *E. ossenbachiana* is not winged at all. A photograph of the flowers of *E. ossenbachiana* was published by Pupulin (2005: 261) without determination.

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