

## A NEW SPECIES OF *EPIDENDRUM* (ORCHIDACEAE) FROM PANAMA

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**Abstract.** A new species of *Epidendrum* is described and illustrated based on Panamanian material. The new entity belongs to the *E. nocturnum* complex and is distinguished by its oblong-elliptic leaves and by lip shape.

**Key words:** biodiversity, Darién, *Epidendrum*, Neotropics, Panama

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### INTRODUCTION

The genus *Epidendrum* L., with *ca* 1500 species, is one of the largest taxa of this rank in Orchidaceae (e.g., Pinheiro & Barros 2007; Pinheiro *et al.* 2009). While its representatives show a high level of morphological variation, the genus is recognized by the usually cane-like, simple or branching stem, distichous, conduplicate leaves, usually articulate, unilocular ovary, and lip usually ornamented with 2 basal globose calli, often with an additional pair of laminar calli ending in a narrow keel or a complex callus. The unique feature of the genus is fusion between the lip and gynostemium margins, forming the so-called cuniculus. The gynostemium may be slender to thick, elongate or short, erect or slightly arched, and the clinandrium abbreviated to longer than the anther. A column foot usually is absent. The anther is erect, subincumbent or incumbent, dorsiventrally flattened and ellipsoid to ovoid in outline. The connective is narrow, thin, and usually elongate towards the apex, forming a beak. Usually 4 pollinia are produced (Szlachetko & Margońska 2002). The 3-ribbed capsule is ellipsoid, pyriform to subspherical.

*Epidendrum* species are found in various habitats including paramo, open areas of steep slopes, sand dunes, humid forest understorey, scrub and

roadside vegetation (Pridgeon *et al.* 2005). Representatives of the genus are distributed from Argentina to North Carolina (USA).

The generitype of *Epidendrum* is *E. nocturnum* Jacq., which for a long time was treated as a variable species with a wide geographical range. Studies by Hágsater and collaborators (e.g., Hágsater & Salazar 1993; Hágsater & Soto 2003; Hágsater & Sánchez Saldaña 2004, 2008, 2010) revealed, however, that a number of separated species should be recognized within the *E. nocturnum* complex. This group of species is often referred to as an informal group within *Epidendrum*. Currently *ca* 30 species are included in the *E. nocturnum* complex. They are easily distinguished from other representatives of the genus by their simple stems, short, racemose or pluri-racemose inflorescence lacking a spathaceous bract, and star-shaped flowers with a 3-lobed lip.

Recent research on the orchid flora of the Darién Gap revealed a new species of *Epidendrum* in this region. The new entity belongs to the *E. nocturnum* complex. Previously only two species of this group, *E. litense* Hágsater & Dodson and *E. nocturnum* Jacq., were reported from the study area; the occurrence of the latter was not confirmed during these studies. A key to their identification is given here.

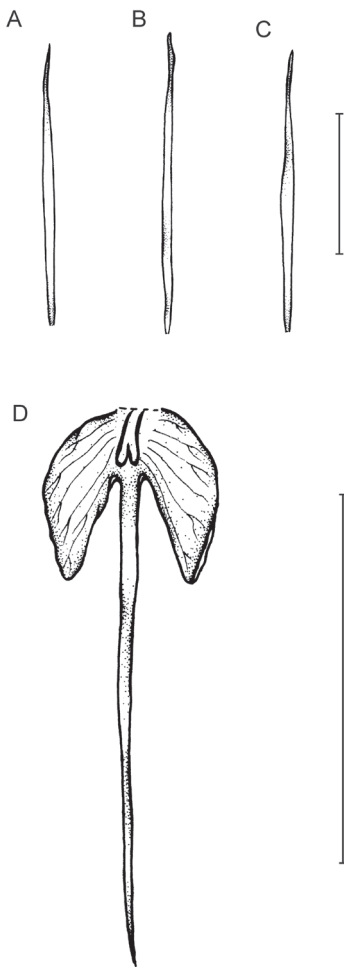
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## DESCRIPTION OF THE NEW SPECIES

*Epidendrum dukei* Kolan. & Mystkowska, *sp. nov.*

Figs 1 &amp; 2

Species similar in habit to *E. portoricense* Hágsater & Ackerman, but with triangular-falcate lip lateral lobes forming *ca* 1/3 of lip length. The lip shape of this species resembles that of *E. litense* Hágsater & Dodson but the leaves are much smaller and the petals are *ca* 3 times narrower than the sepals.



**Fig. 1.** *Epidendrum dukei* Kolan. & Mystkowska, *sp. nov.* – dissected perianth. A – dorsal sepal, B – petal, C – lateral sepal, D – lip. Scale bars = 20 mm. Drawn by N. Olędryńska from the holotype.



**Fig. 2.** Holotype of *Epidendrum dukei* Kolan. & Mystkowska, *sp. nov.*

**HOLOTYPE:** PANAMA. Prov. Darién. Rio Balsa between Manene and Guayabo, 8 Nov. 1967, *J. Duke & N. Nickerson 14950* (MO).

Erect plant *ca* 45 cm tall. Roots basal, fleshy. Stem simple, cane-like, slightly laterally compressed. Leaves coriaceous, sheaths tubular; blade oblong-elliptic, obtuse, 9–11 cm long, 2.2–2.7 cm wide. Inflorescence apical, racemose, flowers open sequentially. Flower star-shaped, tepals greenish-yellow, lip white. Floral bracts 8–10 mm long, triangular. Ovary 45 mm long, not inflated, smooth. Tepals similar, linear-lanceolate, subacute; dorsal sepal 38 mm long, 2 mm wide; petals 40 mm

long, 1.5 mm wide; lateral sepals 40 mm long, 2 mm wide. Lip 3-lobed, 30 mm long, 9 mm wide across lateral lobes; lateral lobes 10 mm long, triangular-falcate, rounded; middle lobe 28 mm long, ensiform, acute; disc with two basal calli. Gynostemium 12 mm long, clinandrium hood erose-dentate.

**ETYMOLOGY.** Dedicated to James Duke, co-collector of the type specimen and author of several books about the flora of Darién.

**DISTRIBUTION AND ECOLOGY.** Known exclusively from the Darién Gap, where it was found growing epiphytically in lowland. Flowering in November.

**NOTES.** The new species undoubtedly belongs to the *E. nocturnum* complex based on its simple stem, racemose inflorescence, lack of a spatheaceous bract, and star-shaped flowers. It is distinguishable from other representatives of the group by its oblong-elliptic leaves and triangular-falcate, rounded lip lateral lobes. In habit the species resembles *E. portoricense* Hágsater & Ackerman and *E. pseudonocturnum* Hágsater & Dodson. *E. dukei* differs in lip shape from both of them: in both species the lip lateral lobes form *ca* 1/2 of lip length. Also, they are semiovate in *E. portoricense*. The tepals of *E. pseudonocturnum* are *ca* 10 times longer than wide (vs 20 times longer in *E. dukei*). In lip shape *E. dukei* resembles *E. litense*, from which it is easily recognizable by its much larger leaves ( $9\text{--}11 \times 2.2\text{--}2.7$  cm vs  $4\text{--}8 \times 0.7\text{--}0.9$  cm), subequally wide tepals (vs petals 3 times narrower than sepals) and linear-lanceolate petals (vs petals linear). *Epidendrum cocornocturnum* Hágsater differs from the new species by having semilanceolate lip lateral lobes and twice-larger flowers.

#### KEY TO SPECIES OF THE *EPIDENDRUM*

##### *NOCTURNUM* COMPLEX FROM THE DARIÉN GAP

1. Leaves elliptic-ovate ..... *E. nocturnum* Jacq.
- 1.\* Leaves narrowly elliptic-lanceolate to oblong-elliptic ..... 2

2. Leaves *ca*  $4\text{--}8 \times 0.7\text{--}0.9$  cm, petals *ca* 3 times narrower than sepals ..... *E. litense* Hágsater & Dodson
2. Leaves *ca*  $9\text{--}11 \times 2.2\text{--}2.7$  cm, petals slightly narrower than sepals ..... *E. dukei* Kolan. & Mystkowska

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