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*Anacheilium minimum* Sauleda and Uribe-Velez (Orchidaceae) an Addition to the Flora of Colombia.

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#### Abstract

A new species is published in the genus *Anacheilium* Hoffmanns. The use of *Prosthechea* as the genus is rejected for the reasons given.

The genus *Anacheilium* was established by Hoffmanns. (*Anacheilium* Reichenbach ex Hoffmannsegg, Verzeichniss der Orchideen 21. 1842) based on *Epidendrum cochleatum* L. The genus was not accepted originally being considered synonymous with the sub-genus *Osmophytum* Lindl.

The genus *Epidendrum* continued to be widely used until Schlechter (1914) published a reevaluation of the genus *Encyclia* Hook, transferring to the genus species with an entirely or partially free, generally tri-lobed labellum.

Authors still continued to use the genus *Epidendrum* L in its original sense, making only some minor changes (Ames, Hubbard & Schweinfurth, 1936; Ames & Correll, 1952).

Other authors used Schlechter's genus *Encyclia* (Hoehne, 1952; Lemee, 1955; Dressler, 1961; Dressler and Pollard, 1974) transferring species in the section *Aulizeum* and *Osmophytum*, to the genus *Encyclia*, enlarging the concept of *Encyclia* as proposed by Schlechter. However, Acuña (1939) and Small (1933) accepted the genus *Anacheilium* as proposed by Hoffmannsegg in their floras.

Higgins (1997) stated: “The genus *Encyclia* is currently divided into three subgenera: *Encyclia* subgenus *Osmophytum*, *Encyclia* subgenus *Encyclia*, and *Encyclia* subgenus *Dinema*. An ongoing systematic study of the genus *Encyclia* based on holomorphology has determined that the genus is neither cohesive nor monophyletic (Higgins, unpublished). In a preliminary molecular study, analysis of the internal transcribed spacer (ITS) sequences of nuclear ribosomal DNA supports the morphological conclusion that the *Encyclia* subgenus *Osmophytum* clade should to be raised to the generic level because these species are sister to the *Cattleya-Laelia* clade and not to the *Encyclia* subgenus *Encyclia* clade. However, the monophyly of the three currently recognized subgenera of *Encyclia* i.e., *Encyclia* subg. *Osmophytum*, *Encyclia* subg. *Encyclia*, and *Encyclia* subg. *Dinema* is supported by both morphological and molecular analyses.”

Higgins (1997) then proposed using *Prosthechea* at the generic level stating that this “will lead to a more predictive classification” and removing of all the species without the characteristics of *Encyclia* as originally proposed by Hooker and later reevaluated by Schlechter.

This resulted in a conglomeration of many distinct genera being included in *Prosthechea* and being considered synonyms of *Prosthechea*.

***Prosthechea*** (as proposed by Higgins, 1997) Knowles & Westc., Fl. Cab. 2: 111 (1838).

*Hormidium* Lindl. ex Heynh., Nom. Bot. Hort.: 880 (1841).

*Anacheilium* Hoffmanns., Linnaea 16(Litt.): 229 (1842).

*Epicladium* Small, Fl. Miami: 56 (1913).

*Euchile* (Dressler & G. E. Pollard) Withner, Cattleyas and & Relatives 5: 137 (1998).

*Pseudencyclia* Chiron & V. P. Castro, Richardiana 4: 31 (2003).

*Panarica* Withner & P. A. Harding, Cattleyas & Relatives: Debatable Epidendrum: 207 (2004).

*Pollardia* Withner & P. A. Harding, Cattleyas & Relatives: Debatable Epidendrum: 217 (2004).

When a comparison is made to the type of *Prosthechea*, with the species transferred from *Encyclia* and *Epidendrum* into *Prosthechea* by Higgins, their morphology does not match the type of *Prosthechea*. When all of the species listed in *Prosthechea* by Higgins are considered in their established corresponding genera only *Prosthechea glauca* Knowles & Westc. remains.

*Prosthechea* then appears to be a monotypic genus. The only species that resemble *Prosthechea* are species similar to Small's *Epicladium*. However, in *Epicladium* the column structure is different from *Prosthechea*. In addition, the molecular data of Higgins appears to closely group most of the species in groups corresponding to the genera listed as synonyms of *Prosthechea*.

Prior to Higgins (1997) Pabst *et al.* (1981) published a paper reestablishing the genus *Anacheilium* and transferring the species in *Encyclia* section *Osmophytum* to *Anacheilium*. After Higgins (1997) the genus was again treated by Withner and Harding (2004). The publication by Withner and Harding (2004) has been the last treatment of the genus.

We here abide by the traditional definition of a genus, which is a group of similar species, as is the genus *Anacheilium*, not groups of similar species, as is the concept of *Prosthechea* of Higgins.

For the above reasons we here describe a new species for Colombia as an *Anacheilium* and reject Higgins's concept of *Prosthechea*.

***Anacheilium minimum* Sauleda and Uribe-Velez, sp. nov.**

Type: Colombia, department of Caqueta, road between Altamira and Florencia at El Portico, elev. 1900-2000 m. Specimen from cultivation, in collection of Jose Luis Aguirre, specimen made March 4, 2022. Holotype, HPUJ.

**Additional Specimens**

Colombia, Department of Cauca, from La Bota Caucana, near the headwaters of the Caqueta River, 1700 m. Specimen from cultivation in collection of Jose Luis Aguirre, specimen made January 17, 2022. (HPUJ). Colombia, Department of Santander, exact locality unknown. Specimen from cultivation in collection of Jose Luis Aguirre, specimen made March 10, 2022. (HPUJ).

In Colombia this species has always been referred to as a *minicochleatum* recognizing that there is a difference. This species appears to be endemic to Colombia. The size of the plants and the difference in the shape of the keels of the labellum would indicate two different pollinators.

### Etymology

This species is named *minimum* in contrast to *Anacheilium cochleatum* (L.) Hoffmanns, which it resembles but is much smaller.

### Diagnosis

*Anacheilium minimum* Sauleda and Uribe-Velez is similar to *Anacheilium cochleatum* (L.) Hoffmanns., but differs significantly in size of plant and flowers. The plants and flowers of *A. minimum* are half the size of *A. cochleatum*. In addition the shape of the labellum and callus are different. The labellum of *A. cochleatum* is reniform to cordate and the apex is apiculate, the labellum of *A. minimum* is elliptic and the apex is acuminate. In *A. cochleatum* the keels on the labellum are two narrow parallel keels apically dark purple, in *A. minimum* the keels are two broad fleshy keels united at the apex without any purple pigment. In addition, the keels of *A. minimum* more closely resemble the keels of anacheiliums similar to *Anacheilium pamplonense* (Rchb. f.) Withner & Harding.

### Description

Plants epiphytic, caespitose; roots fleshy, produced from a short, rhizome; pseudobulbs basally with 3 to 4 imbricated, scarious bracts, laterally compressed, pyriform, to 3.5 cm long, 1.2 cm wide; leaves 2, produced from apex of pseudobulb, narrowly oblong, acute, to 7 cm long, 1 cm wide; inflorescence simple raceme terminal arising from a conduplicate sheath, to 2.0 cm long, 0.5 cm wide, to 8.0 cm tall, 3 to 8 flowers; flowers chasmogamous, produced sequentially, non-resupinate; pedicellate ovary erect to 1.5 cm long, triangular in cross-section; sepals and petals similar, pale green, narrowly lanceolate, often twisted, acuminate, sepals to 2.5 cm long, 0.5 cm wide, petals to 2.0 cm long, 0.35 cm wide; labellum adnate to the basal half of the column, elliptic to orbicular, apically dark purple, basally white, with dark radiating purple lines from base to apex, to 1.0 cm wide, 1.0 cm long, with two broad fleshy keels united at the apex without any purple pigment; column white with purple spots at base, erect, to 0.5 cm long, 0.2 cm wide, trilobed at apex, two lateral lobes longer than central lobe; anther yellow.



*Anacheilium minimum* Sauleda and Uribe-Velez.



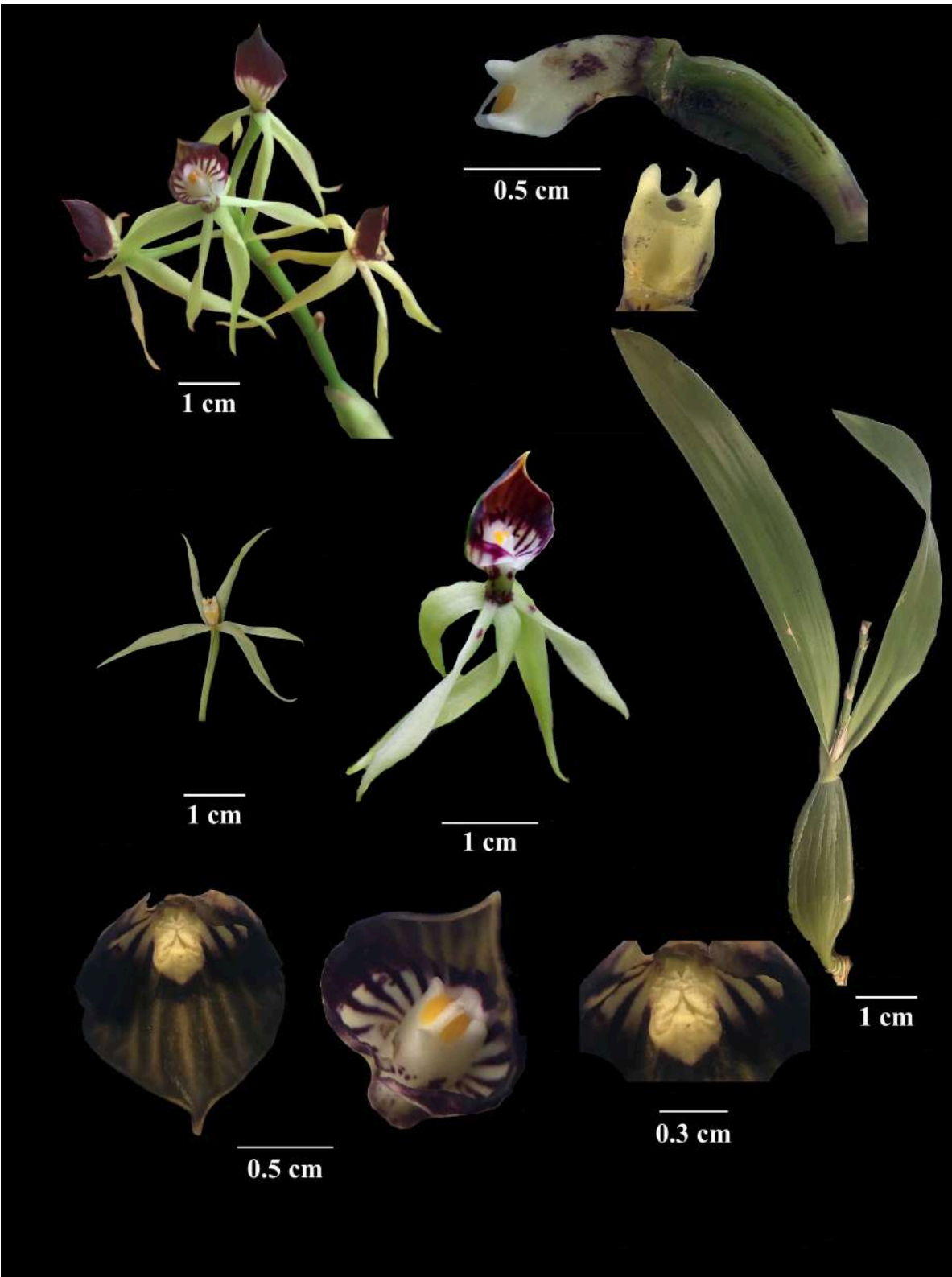
*Anacheilium minimum* Sauleda and Uribe-Velez.



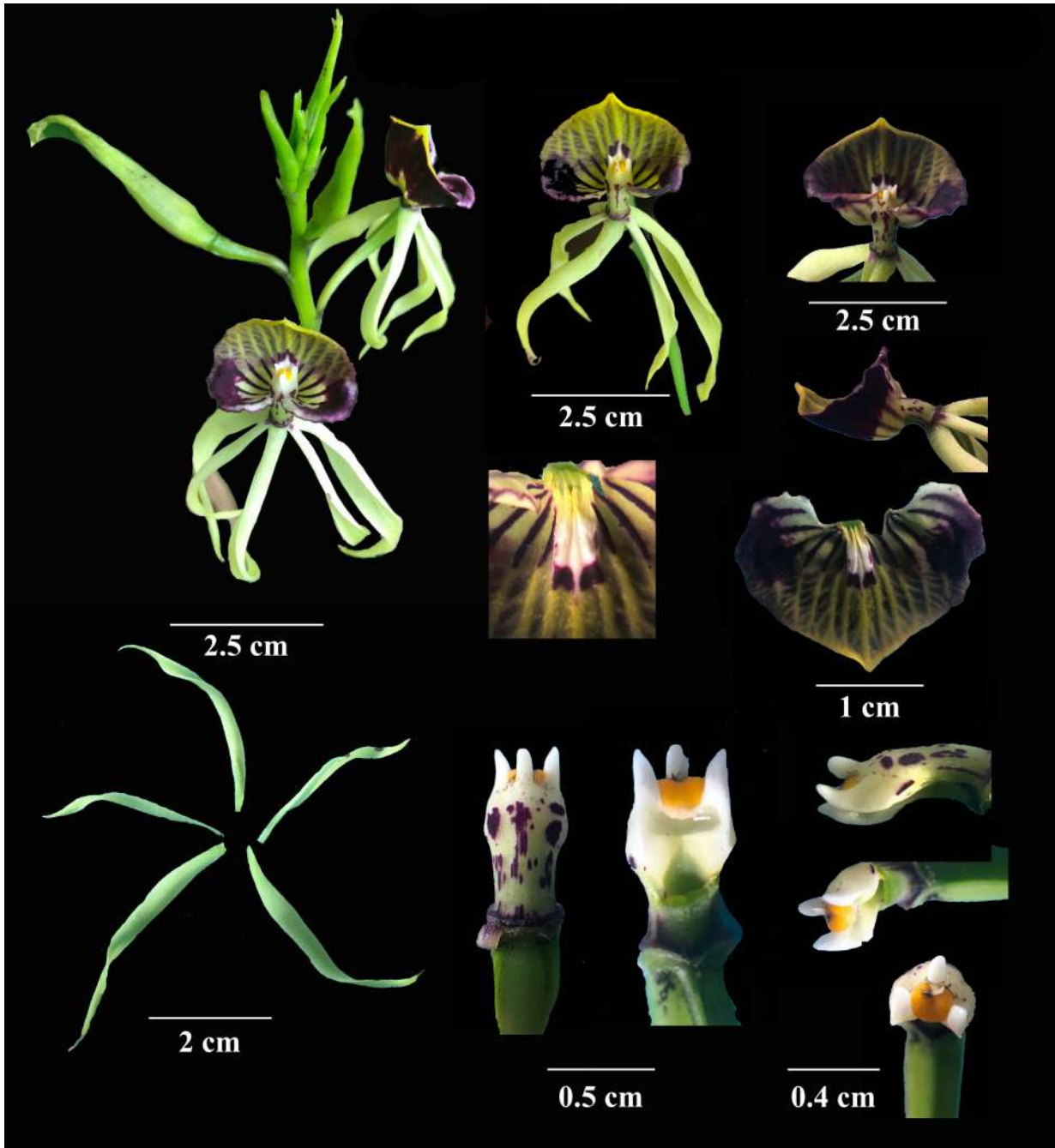
*Anacheilium pamplonense*  
(Rchb. f.) Withner & Harding.



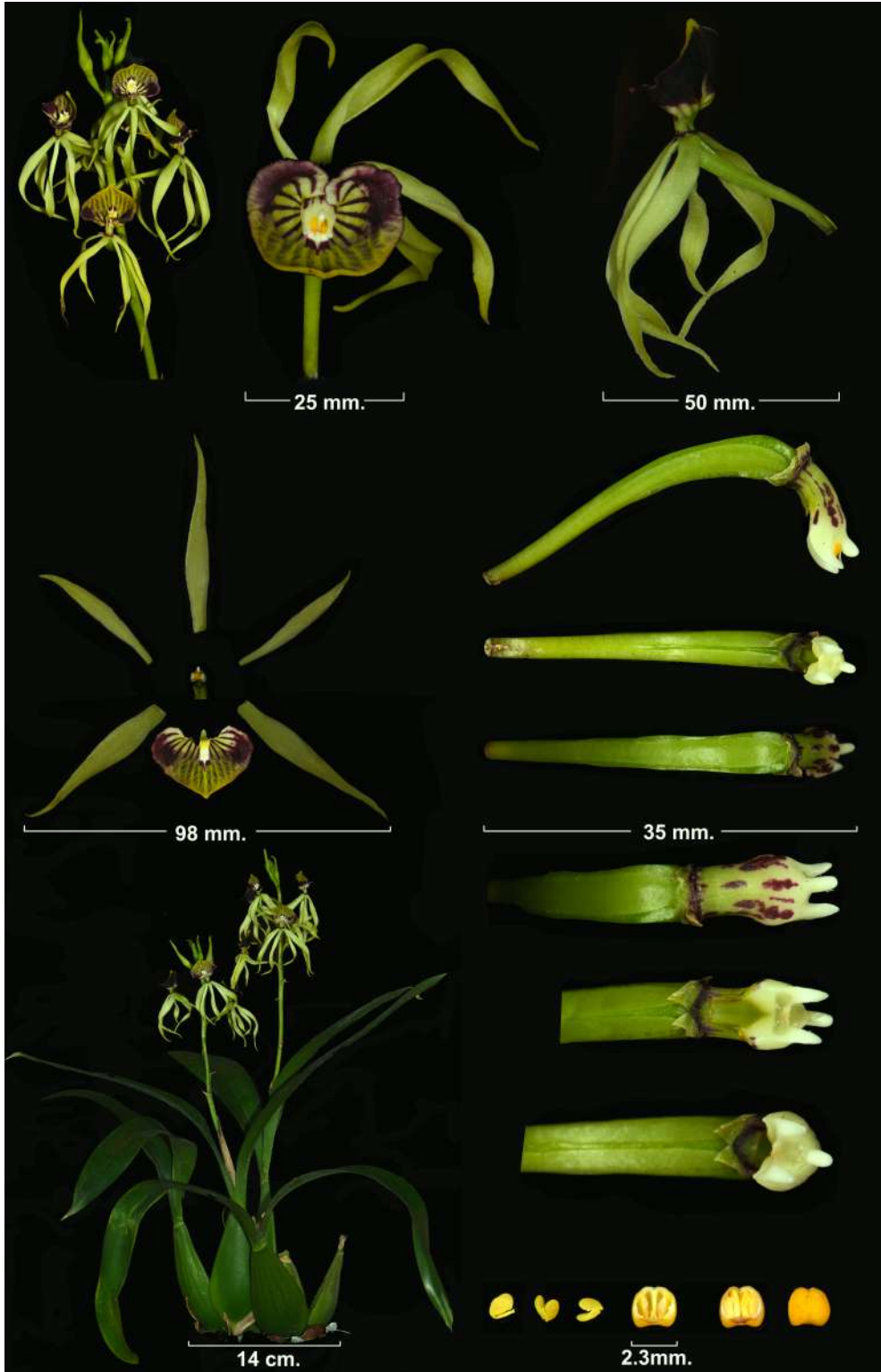
*Anacheilium minimum*  
Sauleda and Uribe-Velez.



*Anacheilium minimum* Sauleda and Uribe-Velez.



*Anacheilium cochleatum* (L.) Hoffmanns.



*Anacheilium cochleatum* (L.) Hoffmanns.



*Anacheilium cochleatum*  
(L.) Hoffmanns.

*Anacheilium minimum*  
Sauleda and Uribe-Velez.



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