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*Neokoehleria langkastii* Senghas (Orchidaceae) An Addition to the Flora of Colombia.

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## Abstract

*Neokoehleria langkastii* Senghas (Orchidaceae) an Ecuadorian species discovered in the department of Putumayo is added to the flora of Colombia.

## Introduction

In the department of Putumayo in Colombia near the municipality of Mocoa a population of a small epiphyte (approximately 2 cm tall) was discovered. At first observation it seemed morphologically to resemble *Scelochilus* Klotzsch (Allg. Gartenzeitung 9: 261, 1841). *Scelochilus* is described as small epiphytes clustered with small pseudobulbs, terminal leaf, with an erect or pendant racemose inflorescence with few to several flowers, flowers often half closed, lateral sepals connate with an obtuse sack-like extension, with two narrowly separated spurs inside the sack-like extension of the lateral sepals. The plants discovered have only one flower in every case observed and the labellum lacks the two spurs found in *Scelochilus*. In addition, in *Scelochilus* the sepaline spur is conical but club-shaped in the plants discovered. The next possibility was *Trichocentrum* Poepp. & Endl. which also have small pseudobulbs with a apical leaf and a single flowered raceme. However, *Trichocentrum* have a short column with a pair of apical wings and large resupinate spreading flowers.

The similarity to *Scelochilus* led to the investigation of three genera considered synonyms of *Scelochilus*. The three synonyms were *Scelochiloides* Dodson & M. W. Chase (Icon. Pl. Trop., ser. 2, 3: t. 293, 1989) defined by the presence of a single nectariferous horn at the base of the labellum (vs. 2 in *Scelochilus*), *Scelochilopsis* Dodson & M. W. Chase (Orquideologia 21: 61, 1998) characterized by the lack of spur and *Neokoehleria* Schltr. (Repert. Spec. Nov. Regni Veg. 10: 390, 1912) distinguished from *Scelochilus* by the shape of the sepaline spur.

Pupulin and Bogarin (2005) stated that “after the removal of a few species to the closely related *Neokoheleria* and *Scelochilopsis*, *Scelochilus* includes some 50 species. Thereby, recognizing the genera *Neokoheleria* and *Scelochilopsis*.

Molecular studies by Chase, Williams and co-workers (Williams *et al.* 2001, 2001a, Sosa *et al.* 2001,

Chase 2009), to determine the phylogenetic relationships within the *Oncidiinae*, demonstrated that the genera centered around *Comparettia* are all embedded within *Scelochilus*. Chase *et al.* (2008) stated that morphologically, taxa in this group differ only in subtle details of their nectar horns and the relative length of the spur that embrace them. Chase *et al.* (2008) combined all the species of this group (*Chaenanthus* Lindl., *Diadenium* Poepp. & Endl., *Neokoehleria*, *Pfitzeria* Senghas, *Scelochilopsis*, *Scelochilus*, and *Stigmatorthos* Dodson & M. W. Chase), into the single genus *Comparettia*. Although the morphological and molecular data clearly distinguish these genera, Chase *et al.* (2008) states: “In general, we favor fewer, larger genera (“lumping”), which we believe is easier for users of a system of classification to manage and use. Narrowly circumscribed genera, regardless of how homogenous, result in a system that only specialists can readily and effectively use.”

Neubig *et al.* (2012) demonstrates by molecular evidence that there are distinct lineages in *Comparettia*. Neubig *et al.* (2012) demonstrates that there are two distinct clades within *Scelochilus*. One comprising species of *Neokoehleria* the other species of *Scelochilus*. However, Neubig *et al.* (2012) did not include species of *Scelochilopsis* nor of *Scelochiloides* and six species included in the study were not identified at the species level.

Observing the morphological differences and supported by the molecular evidences (Neubig *et al.* 2012), we choose to consider *Neokoehleria* separate from *Scelochilus* and both from *Comparettia*.

The plants discovered near Mocoa best fit the definition of the genus *Neokoehleria*. The labellum is adorned with a pair of lamellae and with globular appendages on the terminal parts of the base of the labellum characters which define *Neokoehleria*.

We here add to the flora of Colombia a new genus and the following species.

*Neokoehleria langkastii* Senghas *Caesiana* 10: 28 (1998).

Type: Type: Ecuador. Loja, probably near Paute, 1800 m. Cultivated at HEID. Collected from the garden at HEID, 4 August 1998. Holotype: HEID.

Synonyms:

*Comparettia langkastii* [Senghas] M. W. Chase & N. H. Williams *Lindleyana* 21(3): 29 (2008).

*Scelochilus langkastii* (Senghas) Dodson *Native Ecuadorian Orchids* 5: 1180 (2004).

Voucher Specimen: Colombia. Department of Putumayo near the municipality of Mocoa. Collected by Carlos Alberto Cerna, Specimen from cultivation in collection of Luisa Maria Carmona. June 2023. (HPUJ).

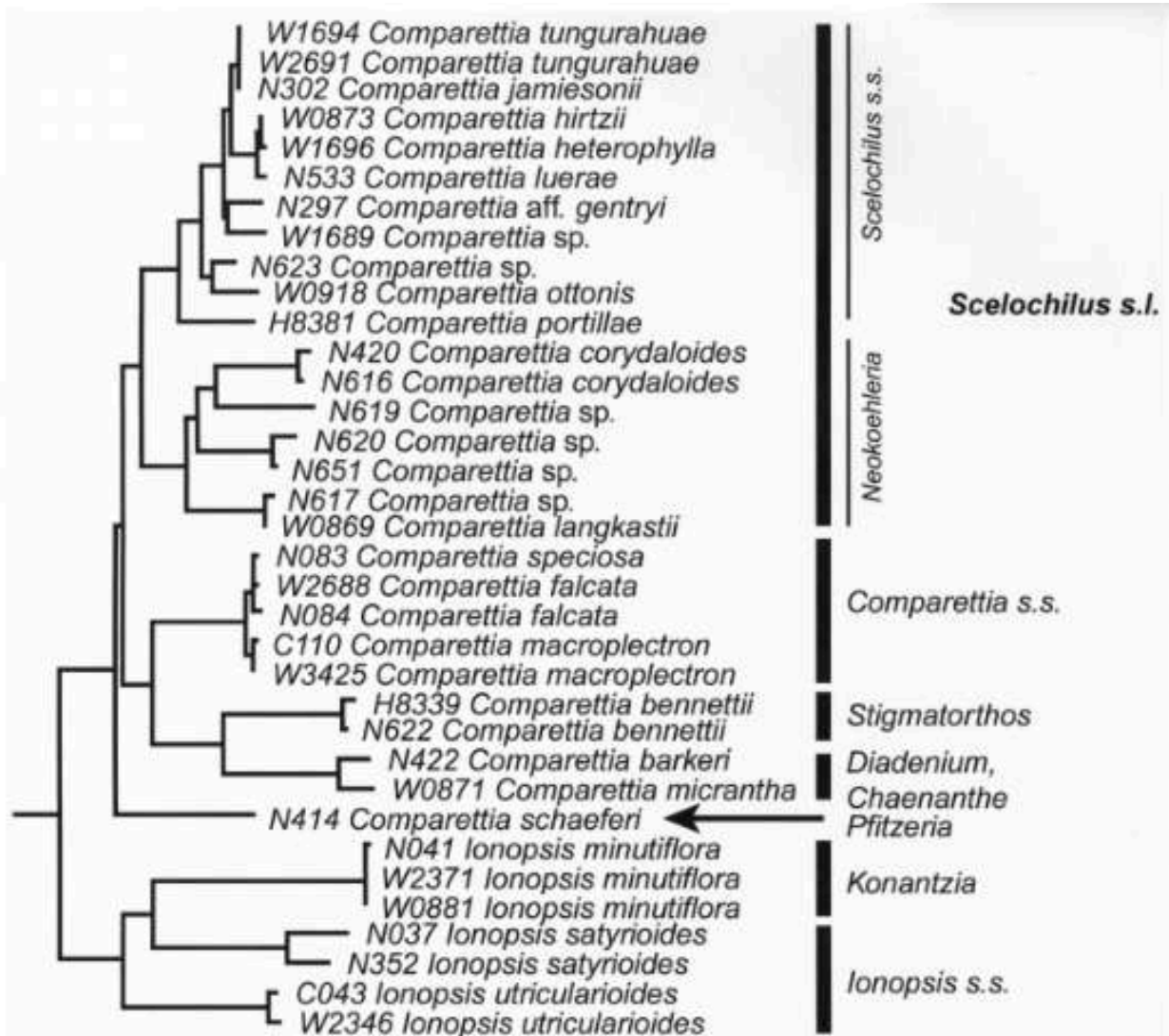
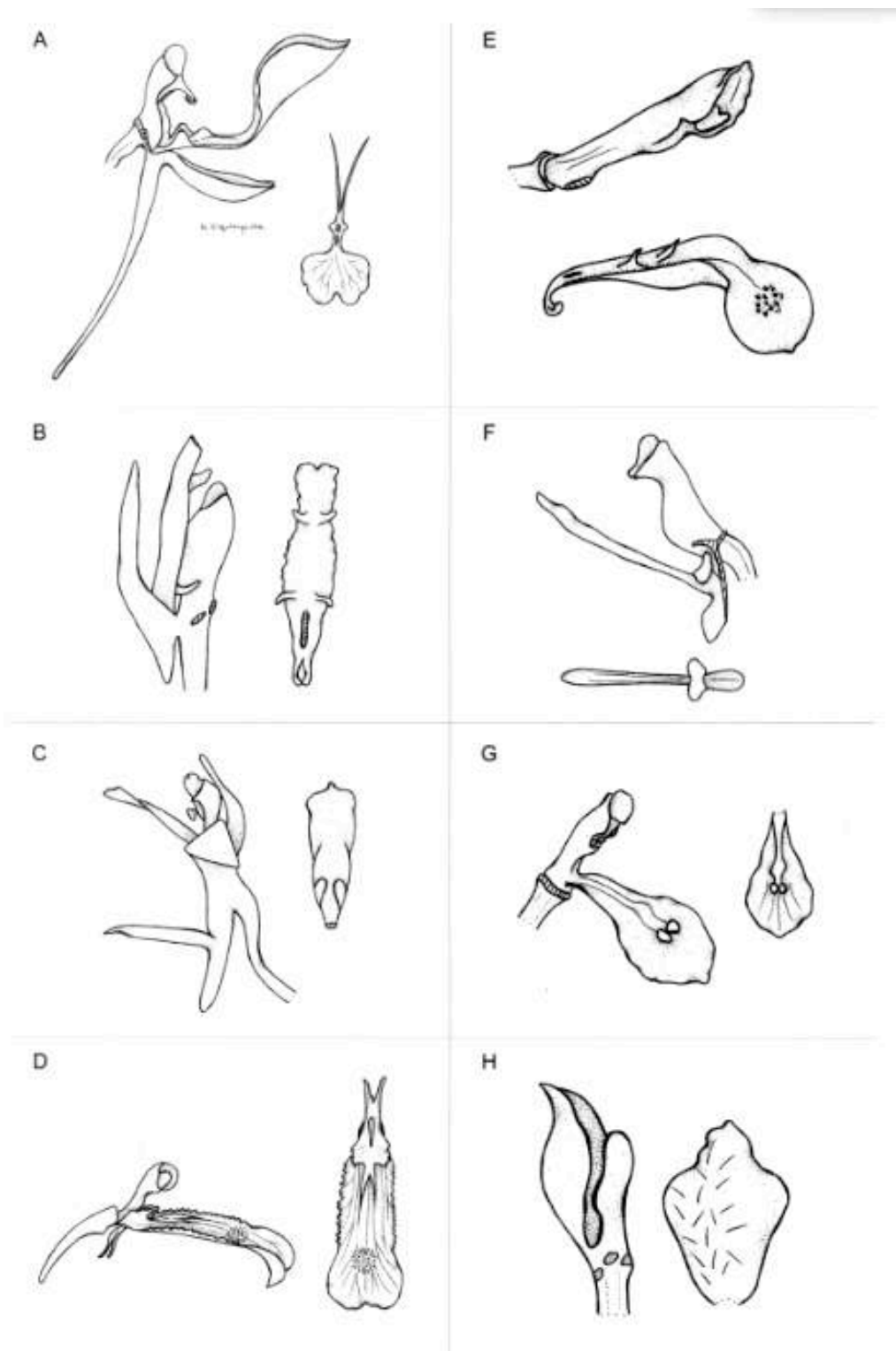


FIG. 2. Partial tree modified from single maximum likelihood tree resulting from analysis of the combined five-region data set (nrITS, matK-trnK, psbE, ycf1, rbcL) in Neubig et al. (2012).

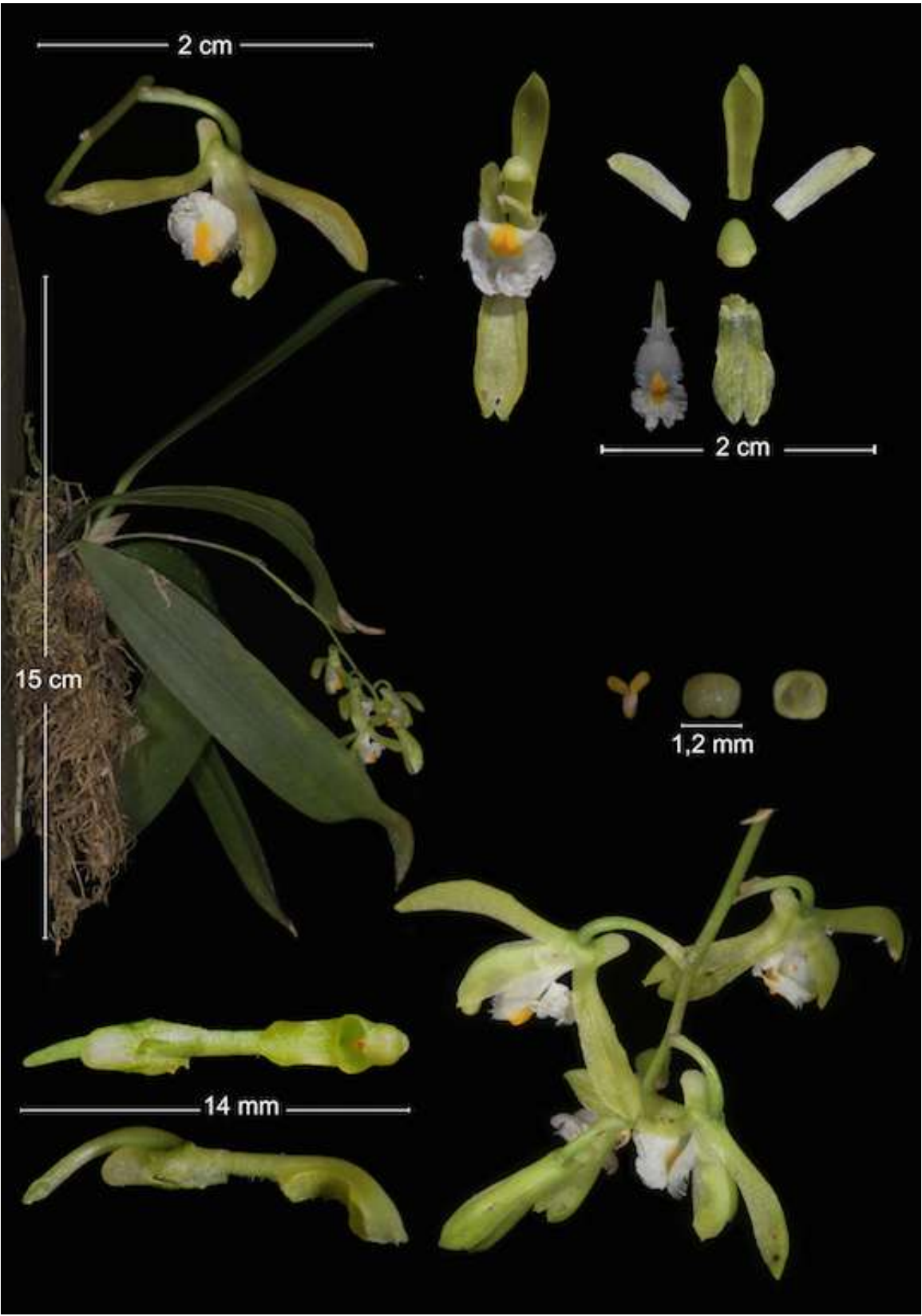
Partial tree from Neubig *et al.* 2012. Illustration from Szlachetko and Kolanowska 2015.



Comparison of gynostemium and labellum structure. A. *Compayretia*, B. *Scelochilus*, C. *Diadenium*, D. *Neokoehleria*, E. *Scelochiloides*, F. *Stigmatorthos*, G. *Scelochilopsis*, H. *Pfitzria*. (Illustration from Szlachetko and Kolanowska 2015).



*Comporettia falcata* Poepp. & Endl. Type of the genus.



*Scelochilus colombianum* Uribe-Velez and Saulea.



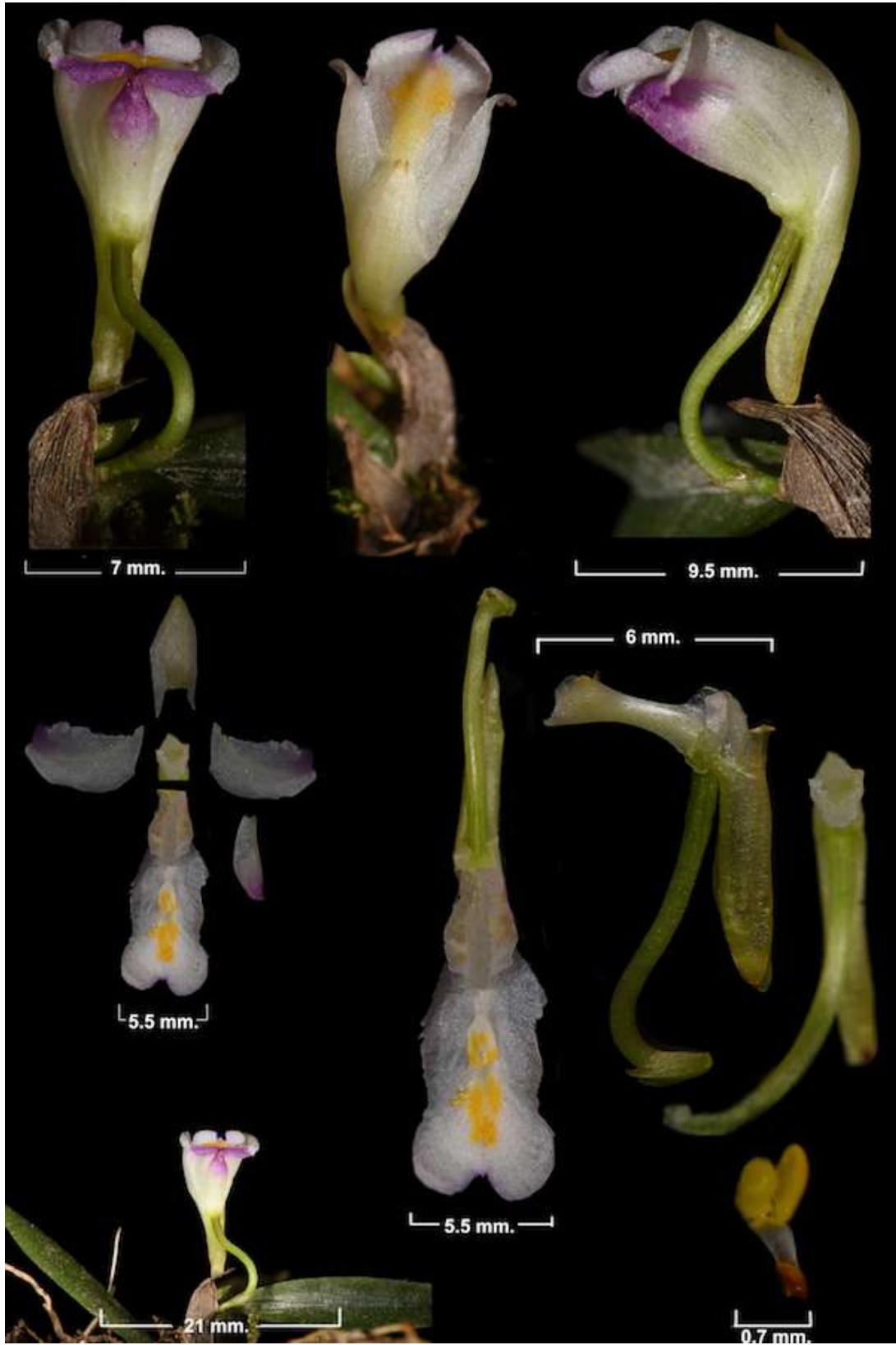


*Neokoehleria langkastii* Senghas.



*Neokoehleria langkastii* Senghas.





*Neokoehleria langkastii* Senghas.

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