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Specklinia centenaria (Orchidaceae, Pleurothallidinae), a new species from Guatemala

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Abstract

During a field studying of the Guatemalan volcano range, the first author came to find a population of *Specklinia* clearly belonging to the complex *Specklinia grobyi* (Bateman ex Lindley) F. Barros-*Specklinia picta* (Lindley) Pridgeon & M.W. Chase. After a thorough analysis of the morphological characters, as well vegetative as floral, the plants proved to represent a new taxon, here described at the specific rank. A detailed morphological description is given, together with a sketch of the perianth. The new entity is compared to the Guatemalan members of the above complex and more precisely to *Specklinia grobyi*.

Résumé

A l'occasion de l'étude de terrain de la chaîne volcanique guatémaltèque, il a été donné au premier auteur de découvrir une population de *Specklinia* appartenant manifestement au complexe *Specklinia grobyi* (Bateman ex Lindley) F. Barros-*Specklinia picta* (Lindley) Pridgeon & M.W. Chase. L'analyse détaillée de la morphologie, florale comme végétative, nous a menés à considérer qu'il s'agissait d'un taxon nouveau, que nous décrivons

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ici au rang d'espèce. Sa description morphologique est accompagnée d'une planche de dessins du périanthe. La nouvelle entité est comparée aux représentants guatémaltèques du complexe et, de manière plus complète, à *Specklinia grobyi*.

Resumen

Después de estudiar la geobotánica de la cadena volcánica guatemalteca se pudo detectar una población de *Specklinia* claramente perteneciente al complejo *Specklinia grobyi* (Bateman ex Lindley) F. Barros-*Specklinia picta* (Lindley) Pridgeon & M.W. Chase. Al analizar detenidamente la morfología floral y vegetativa se pudo determinar que se trataba de una nueva especie. Se describe a continuación la especie con icono, diagnosis y notas taxonómicas.

Keywords: *Specklinia grobyi*, taxonomy, Volcano range
Mots clés : Chaîne volcanique, *Specklinia grobyi*, taxinomie
Palabras-clave: Cadena volcánica, *Specklinia grobyi*, taxonomia

Introduction

The subtribe Pleurothallidinae Lindley ex G. Don (1839: 636) is undoubtedly one of the largest plant groups, with about 6000 species, found in Central and South America. The generic organisation of the subtribe is a subject of great discussions among the taxonomists (e.g. Pridgeon & Chase, 2001; Chiron *et al.*, 2012; Archila *et al.*, 2018). For a long time this group has been underestimated and rarely studied, until Carl Luer, together with a number of botanical researchers, began to devote themselves to these orchids, producing a lot of information during decades. It is worth noting that the flower morphology in the subtribe is much similar to the *Bulbophyllum* Thouars (1822: tab. esp. 3 sub u.) one, a genus pollinated by flies, mostly present in Asia and Africa, with a few species escaped to American continent. This suggests that Pleurothallidinae are also pollinated by flies. Various mecanisms have been identified in relation to insect pollination: oil secretion by elaiophores attracting ants (Archila & Chiron, 2015), Puyanian mimicry with its pseudocopulation process by dipterans in *Lepanthes* O. Swartz (1799: 85) (Archila, 2001), floral dances in the process of attracting miniature flies in the genus *Lankesteriana* Karremans (2014: 321) and in the genus *Trichosalpinx* Luer (1983: 393) *stricto*

sensu (Archila & Szlachetko, 2014). *Specklinia* Lindley (1830: 8) is one of the genera making up the subtribe.

For over 150 years *Specklinia* was placed into the synonymy of *Pleurothallis* R. Brown (1813: 211). Only recently the generic name was resurected (Pridgeon *et al*, 2001). In Guatemala the representants of the genus have been studied, as *Pleurothallis*, as soon as the interest for Guatemalan members of the family Orchidaceae arised. Since the name revival very few species have been described (Archila *et al*., 2015), even if new specimens have been recorded (Archila, 2014; Archila *et. al.,* 2018). Hitherto 15 (WCSP, 2021) to 21 (Archila *et al*., 2018) species of *Specklinia sensu lato* are known in the country, although some of them could be transferred into other genera such as *Lomax* Luer (2006: 88), *Sylphia* Luer (2006: 227) or *Tribulago* Luer (2006: 265), all of them not accepted by WCSP (2021).

Upon a field work on the Guatemala's Pacific Volcanic Belt, the first author found a small population (less than 10 individuals) of a *Specklinia* species, isolated on a volcano at 1700 m asl. This species presented the main features of the taxa gathered into the so-called "*Specklinia grobyi* (Bateman ex Lindley, 1836: t. 1797) F. Barros (1984: 110)-*Specklinia picta* (Lindley, 1836: sub t. 1797) Pridgeon & M.W. Chase (2001: 259) complex". The taxonomy of this group has been somewhat confuse since some decades and still needs a complete revision. In Guatemala it is represented by 4 species: *Specklinia grobyi* [as *Pleurothallis choconiana* S. Watson (1888: 285) and *Pleurothallis marginata* Lindley (1838: misc. 42), both typified by Guatemalan specimens], *Specklinia microphylla* (A. Richard & Galeotti, 1845 : 17) Pridgeon & M.W. Chase (2001: 258), *Specklinia picta* and *Specklinia pisinna* (Luer, 1991: 105) Solano & Soto Arenas (2003: xi). Based on available literature and type-specimens, we realized that the recently discovered taxon was different from all the concerned taxa, the Guatemalan representants of *Specklinia grobyi* (and to a smaller extent *Specklinia picta*) being its closest relative. However the two entities present several morphological and ecological differences. We describe here the former as a new species.

Taxonomic treatment

***Specklinia centenaria* Archila & Chiron, *sp. nov*.**

Type: Guatemala, Quetzaltenango Volcán Santa María, III/2015, collected by Fredy Archila at 1700 m. a.s.l., *FA-5000* (BIGU).

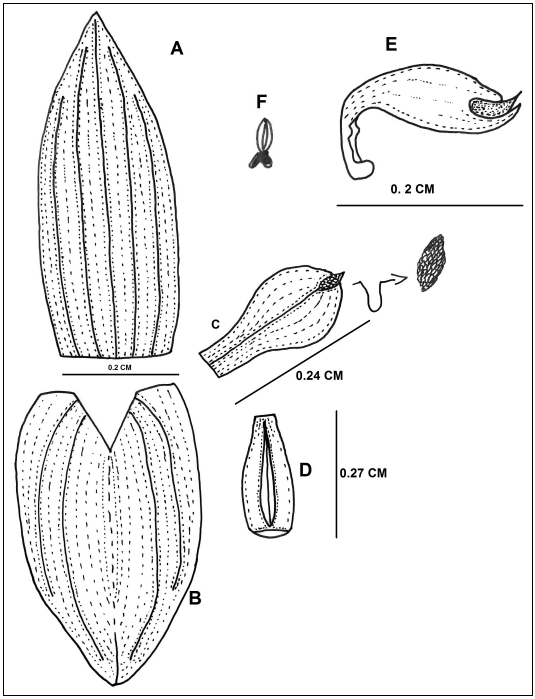
Etymology. From the Spanish word "*centenario*", in reference to the centennial of the foundation of the *Escuela Nacional Central de Agricultura*, where the first author has been trained.

Haec species Specklinia grobyi (Bateman ex Lindley) F. Barros similis est sed foliis longe petiolatis (petiolo 1.7 cm longo versus 0.4 cm longo), inflorescencia breviore paucifloraque (usque ad 5 flores versus 8-10), floribus flavovirentibus (versus luteis cum sepalorum apicibus violaceis), sepalo dorsale oblongo (versus ovato), petalis spathulatis apice acuto-acuminatis (versus ellipticis subacutis), columna apice tridentata, dentibus lateralibus magnis (versus minutis), differt.

Creeping plant. Ramicauls terete, thin, 0.8-0.9 cm long, 0.05-0.06 cm wide, 1-2-articulate, the upper internode ca. 0.35 cm long, basal part of ramicauls surrounded with sheaths soon dry. Leaves green without any spot, petiolate; petiole ca. 0.7-0.8 cm long; leaf lamina obovate to narrowly obovate, ca. 2 cm long, 0.6 cm wide, 0.09 cm thick, concave in the adaxial portion, coriaceous, nerved, slightly papillose along the nerves on the abaxial face, apically obtuse, minutely tridentate, the median tooth sometimes inconspicuous. Inflorescence basal, pedunculate; peduncle green, rather short, 3.3 cm long, racemose, bearing 3-5 yellowish green flowers. Dorsal sepal oblong, 0.57 cm long, 0.18 cm wide, acute. Lateral sepals fully united into an obovate, apically obtuse, 0.5 cm × 0.27 cm synsepal. Petals spathulate, 0.24 cm long, 0.14 cm wide, mucronate with an apex acute-acuminate, thickened and papillose-glandular. Lip obovate-oblong apically subtruncate, 0.27 cm long, 0.12 cm wide at the widest point, with in the median central part a thickened callus that does not reach neither the apex nor the base. Gynostemium apically recurved, 0.2 cm long, 0.08 cm wide in the widest part, with an elongate column foot 0.08 cm long, apex of the column tridentate with the lateral teeth elongate and obliquely acuminate. Pollinia 2, 0.04 cm long including the viscidium, curved, distant along the median part; viscidium blade-like and bipartite. Fig. 1, 2A & 3A.

The species is endemic to the Guatemalan Pacific Volcanic Belt. The plants grow at 1700 m asl in primary forests either as epiphytes or, when growing on volcanic stones, as lithophytes. The species was flowering in March.

Taxonomic notes. Somewhat similar to Guatemalan representatives of *Specklinia grobyi*, the new entity (Fig. 2A and 3A) differs from it by a few morphological features. Compared to *Specklinia centenaria*, the former (Fig. 2B and 3B) is a cespitose plant presenting shorter ramicaules (0.25 cm long



versus 0.8-0.9 cm), leaves with shorter petioles (0.15 cm long *vs*. 0.7-0.8 cm), leaf lamina lenticular, fleshy, broadly elliptic (*vs*. obovate to narrowly obovate), 0.8 × 0.7 cm (*vs*. 2 × 0.6 cm), not ornamented (*vs*. slightly papillose) on the nerves, with an acute and distinctly (*vs*. minutely) tridentate apex, the median tooth prominent (*vs*. sometimes inconspicuous), inflorescences longer (9-12 cm long *vs*. ca. 3.3 cm) and purple, with 8-10 flowers (*vs*. 3-5), flowers yellow with the sepal apices purple (*vs*. fully yellowish green), a

Fig. 1. ***Specklinia centenaria***
A. Dorsal sepal. B. Lateral sepals. C. Petal. D. Lip. E. Gynostemium. F. Pollinarium.
[Drawing by Fredy Archila]

dorsal sepal ovate (*vs*. oblong), lateral sepals united on only 90% of their length (*vs*. 100%) in an elliptic (*vs*. obovate) synsepal, petals elliptic subacute (*vs*. spathulate acute-acuminate), a lip oblong (*vs*. obovate-oblong truncate), a gynostemium winged in the median part (*vs*. wingless) and minutely dentate (*vs*. tridentate with long lateral teeth) at the apex. Moreover *S. grobyi* grows in the Atlantic tropical rainy zones, at 200-700 m asl (*vs*. Pacific Volcanic Belt, at 1700 m asl).

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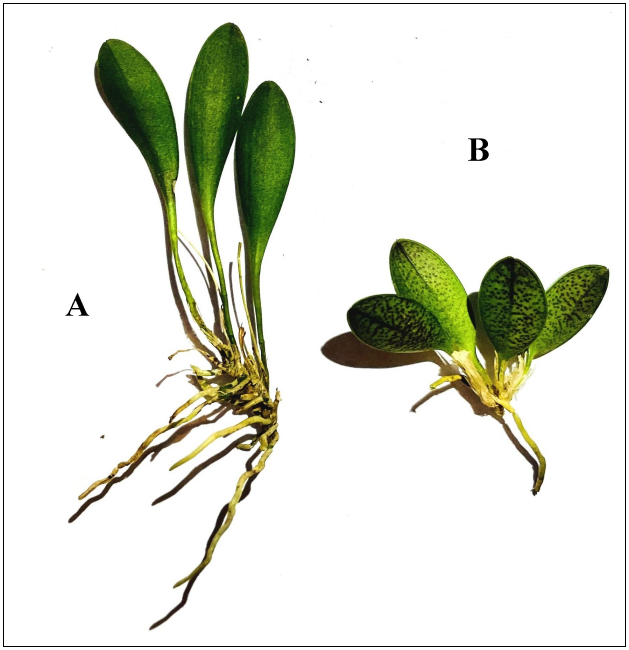

Fig. 2. Comparison of plants
A. *Specklinia centenaria* – B. *Specklinia grobyi* [ph. Fredy Archila]

Fig. 3. Comparison of inflorescences
A. *Specklinia centenaria* – B. *Specklinia grobyi* [ph. Fredy Archila]

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