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Nomenclatural notes in *Guarianthe* (Orchidaceae: Laeliinae): clarification of *Guarianthe* ×*deckeri, G.* ×*guatemalensis* and *G. patinii*

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Abstract

In the present paper, I propose three new combinations in *Guarianthe* as a result of finding previously ignored binomials and correct misinterpretation of the articles on hybrid names of the International Code of Nomenclature. The correct names for the species and nothospecies up to now known as *Guarianthe patinii* and *Guarianthe* ×*guatemalensis* are, respectively, *Guarianthe hennisiana* and *Guarianthe* ×*laelioides*. The infraspecific combination *Guarianthe* ×*laelioides* f. *pachecoi* is proposed for *Cattleya pachecoi*. Finally I propose lectotypes for several names.

Resumen

Se proponen tres nuevas combinaciones em *Guarianthe* como resultado del descubrimiento de binomios previamente ignorados y para corregir errores en la interpretación del Código Internacional de Nomenclatura Botánica. Los nombres correctos para la especie y notoespecie conocidas hasta ahora como *Guarianthe patinii* y *Guarianthe* ×guatemalensis son, respectivamente, *Guarianthe hennisiana* y *Guarianthe* ×*laelioides*. La combinación infraespecífica, *Guarianthe* ×*laelioides* f. *pachecoi* es propuesta para *Cattleya pachecoi*. Además, se proponen lectotipificiones para varios de los nombres.

Key words: *Guarianthe hennisiana*, *Guarianthe* ×*laelioides*, *Guarianthe* ×*laelioides* f. *pachecoi*, hybrid nomenclature, nothospecies

Introduction

Guarianthe Dressler & Higgins (2003: 37) was established to accommodate four species from Central and South America previously included in *Cattleya* (Lindley 1824: t. 33). This decision was based mainly in the molecular phylogenetic studies of the nuclear ribosomal internal transcribed spacers (ITS) of van den Berg *et al*. (2000) and also confirmed by van den Berg *et al.* (2009) using plastid data. This also was clear from the clear morphological coherence among the species. The genus would correspond to a small clade sister to *Rhyncholaelia* Schlechter (1919: 477). However, establishing phylogenetic relationships of this small has been plagued by topological incongruences mostly regarding the position of *G. bowringiana* (O'Brien 1885: 683) Dressler & Higgins (2003: 38). This species was not recovered within the core clade including *Rhyncholaelia* and *Guarianthe* based solely on ITS (van den Berg *et al.* 2000), but was recovered in a polytomy among *Guarianthe*, *Brassavola* (Brown 1813: 216) and *Cattleya* in the Bayesian tree based on *rbcL*, *trnL-F*, *matK* and ITS (van den Berg *et al.* 2009). A recent study (Higgins & van den Berg 2010) was carried out on a combined analysis of 25 morphological characters and seven DNA regions (*trnL* intron, *trnL-trnF* spacer, *matK* gene, introns of *trnK, rps16* intron, *psbA-trnH* spacer and ITS). In the morphological analysis, *Guarianthe* was sister to *Cattleya sensu lato*, whereas *Rhyncholaelia* was sister to *Brassavola*. The analysis with only molecular data placed *Cattleya araguaiensis* Pabst (1967: 9) within *Guarianthe*, which was in turn sister to *Rhyncholaelia*, whereas *Guarianthe bowringiana* was again sister to *Guarianthe+Rhyncholaelia+C. araguaiensis*. In the combined Bayesian tree with morphological and molecular characters, *Brassavola* and *Rhyncholaelia* were sister groups, which in turn were sister to *Guarianthe* (with *C. araguaiensis* embedded). *Guarianthe bowringiana* was again placed as sister to all species in the *Guarianthe* clade. With all these conflicts, it is evident that the phylogeny of this

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