Towards a stable generic circumscription in Oxypetalinae (Apocynaceae)

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Abstract

Based on phylogenetic studies and morphological evidence, we propose the synonymization of Morrenia and Schistogyne under Araujia and Oxypetalum respectively. As a result, eight new combinations are proposed in Araujia (A. brachystephana, A. hassleriana, A. herzogii, A. odorata, A. scalae, A. stuckertiana, A. stuckertiana subsp. grandiflora and A. variegata), and eight in Oxypetalum, including two new names (O. fiebrigii, O. heptalobum, O. karstenianum, O. longipedunculatum, O. pentaseta, O. pubescens, O. sylvestre and O. tucumanense). We provide new synonymies and designate lectotypes for Lagenia megapotamica, Morrenia hassleriana, M. herzogii, M. intermedia, Schistogyne boliviensis, S. longipedunculata and S. sylvestris. We also clarify the typification of Tweedia.

Key words: Araujia, classification, Morrenia, Oxypetalum, Schistogyne, Tweedia

Introduction

The systematics of Asclepiadoideae (Apocynaceae) has received a great boost from molecular phylogenetics. Relationships in the subfamily are much better understood than ten years ago, and numerous taxonomic changes have been proposed to reflect these advances. Neotropical species of Asclepiadoideae are distributed in just four lineages, the largest including members of the Metastelmatinae, Oxypetalinae and Gonolobinae. Together, these three subtribes form the core group of a clade informally referred as the “MOG” clade (Rapini et al. 2003, Liede-Schumann et al. 2005).

The plastid phylogenetic framework presented for the neotropical Asclepiadoideae by Rapini et al. (2003) and Liede-Schumann et al. (2005) provided important evidence to support significant subtribal rearrangements. The Metastelmatinae became restricted to the New World, also including genera previously classified in the Marsdenieae, such as Barjonia Decaisne (1844: 512) and Nephradenia Decaisne (1844: 604); whereas most Old World species of the subtribe were transferred to the Cynanchinae (Liede & Täuber 2002, Rapini et al. 2003). Reducing the Gonolobeae to the rank of subtribe (Liede 1997) improved the classification as the Gonolobinae are nested within the New World Asclepiadeae (Rapini et al. 2003). The Oxypetalinae were amplified to include a few genera previously considered in the Metastelmatinae, such as Philibertia Kunth in Humboldt & Bonpland (1819: 195) and Funastrum Fournier (1882: 388) (Rapini et al. 2003, 2006). And finally, the Orthosieae were created based on the previous Orthosieae, but excluding Peplonia Decaisne (1844: 545) and Macroditassa Malme (1927: 9), which were shown to belong to the Metastelmatinae (Rapini et al. 2004, Liede-Schumann et al. 2005).

Internal resolution varies among the three largest subtribes of the MOG core group. In Metastelmatinae, phylogenetic studies supported the fusion of Goniaanthela Malme (1927: 6) and the monotypic Peplonia...