



Re-evaluation of the *Mandevilla subsessilis* species complex and resurrection of *M. platydictyla* (Apocynaceae: Apocynoideae)

LUCIO LOZADA-PÉREZ^{1,2} & LEONARDO O. ALVARADO-CÁRDENAS¹

¹ Departamento de Biología Comparada, Facultad de Ciencias, Universidad Nacional Autónoma de México, Apartado Postal 70-283, 04510, Mexico, D.F. Mexico.

² Corresponding author: luciolozada@hotmail.com

Abstract

The present work re-evaluates the *Mandevilla subsessilis* complex (Apocynaceae: Apocynoideae). Based on morphological analysis, including UPGMA, we recognize two separate species, respectively distributed primarily west and east of the Isthmus of Tehuantepec: *M. platydictyla* (with *M. mollis* as a synonym) and *M. subsessilis*. *Mandevilla platydictyla* is found from the Sierras de Chiapas to Nicaragua, whereas *M. subsessilis* is endemic to Mexico, particularly the Sierra Madre del Sur.

Keywords: Endemism, Mexico, systematics

Introduction

Mandevilla Lindley (1840:7) is one of the most diverse taxa of the Apocynaceae, with more than 170 species (Simões *et al.* 2007, Morales 2011) distributed from the southern United States and the Antilles to Argentina and Paraguay (Alvarado-Cárdenas & Morales 2014). The species in the genus exhibit very diverse floral morphology, in the shape and size of the floral bracts, sepals, corolla and gynoecium, which represent important characters for their identification (Morales 1998, Alvarado-Cárdenas & Morales 2014, Woodson 1932, 1933). Numerous contributions have helped solve problems in the nomenclature and systematics in the genus (Simões *et al.* 2004, 2006, 2007, Morales 1998, 2007a, b, 2011, Alvarado-Cárdenas & Morales 2014), however many taxonomic aspects require further study.

Among the aspects that require resolution are circumscriptional problems in several species complexes, which present morphological variation and make the distinction between taxa confusing. One of these complexes includes three morphologically similar species referred to different sections by Woodson (1932, 1933), but synonymized by more recent authors under a single entity [species listed in order of description]: (1) *M. subsessilis* (A. de Candolle 1855: 451) Woodson (1932:59), described initially as *Echites subsessilis* by A. de Candolle (1844: 451) [included by Woodson under section *Montanae* Woodson (1933: 661)], (2) *Mandevilla platydictyla* Woodson (1932:55) [included by Woodson under section *Tubiflorae* Woodson (1933: 647)], and (3) *M. mollis* Lundell (1942:47). In the late 1990s, *M. mollis* and *M. platydictyla* were subsumed as synonyms under *M. subsessilis* by Morales (1998: 228)—without any explicit argument—where they currently remain (Morales 2009a, b, Alvarado-Cárdenas & Morales 2014). *Mandevilla subsessilis* is characterized by its foliaceous sepals, hypocrateriform corollas, stamens inserted more than halfway along the flower tube, and leaves with short petioles. It is distributed from Mexico through Nicaragua. A detailed revision of specimens along this distribution allowed the recognition of two main morphotypes of *M. subsessilis* (Fig. 1). Conspicuous differences were found, visible to the naked eye, in the sepals and fruit. For example, specimens from the states of Chiapas and Oaxaca (Mexico) and from Nicaragua exhibit very large sepals and completely fused, continuous, glabrous, lenticulate follicles. In contrast, specimens collected in Guerrero State exhibit smaller sepals and follicles in varying levels of development, fused only at the apex, that are subcontinuous, glabrous, and without lenticels (Appendix A). These characteristics are also shared by some specimens from Oaxaca (Appendix A). The variation observed would correspond to the species recognized by Woodson (1932, 1933) or Lundell (1942), as noted above. However, taxonomists have repeatedly treated these morphotypes as a single entity (Morales 1998, 2006,