



Two new species of *Calibrachoa* (Solanaceae) from subtropical South America

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Abstract

We describe and illustrate two new species of *Calibrachoa*, *C. irgangiana* and *C. longistyla*, from the Pampean region in southern South America. *Calibrachoa irgangiana* is characterized by a suite of characters: decumbent stems, viscid vestiture, the leaf midribs with a distinctive ligneous callus at the base, purple funnel-shaped corolla, and long stamens with connivent anthers opening at the mouth of the corolla tube. *Calibrachoa longistyla* is best recognized by its whitish corolla with the style apex and stigma exerted above the anthers of the longest stamens. Following the IUCN classification, both species are considered threatened.

Keywords: Petunieae, Pampean region, IUCN conservation status

Introduction

Calibrachoa Cerv. in La Llave & Lexarza (1825: 3) is a subtropical South American genus of Solanaceae closely related to *Petunia* Jussieu, from which most species were segregated (Stehmann *et al.* 2009). *Calibrachoa* is recognized by its woody stems, reciprocative corolla aestivation, and seeds with straight anticlinal walls, while *Petunia* has more herbaceous stems, imbricate corolla aestivation, and seeds with undulate anticlinal walls (Stehmann *et al.* 2009). The groups also have distinct chromosome numbers, $n=7$ in *Petunia* (Watanabe *et al.* 1996a), and $n=9$ or 18 in *Calibrachoa* (Stehmann *et al.* 1996, Watanabe *et al.* 1996b).

Hunziker (2001), in his comprehensive taxonomic treatment of the genera of Solanaceae, recognized *Petunia* as established by Fries (1911), including *Calibrachoa* as a synonym. At that time, he did not accept the reproductive and cytological evidence that caused recent authors to resurrect the genus *Calibrachoa* (Wijsman 1983, Wijsman & Jong 1985, Wijnands & Bohs 1986, Stehmann *et al.* 1996, Watanabe *et al.* 1996). Stehmann & Semir (1997) made nomenclatural rearrangements in *Petunia* and *Calibrachoa*. Later, anatomical studies (Reis *et al.* 2002) and molecular analyses using RFLP chloroplast DNA (Ando *et al.* 2005) and nuclear ITS, cpDNA and mtDNA sequences (Kulcheski *et al.* 2006) corroborated the existence of two genera as predicted previously by Wijsman & Jong (1985). In a recent molecular phylogeny of Solanaceae based on the cpDNA regions *ndhF* and *trnL-F*, Olmstead *et al.* (2008) placed *Calibrachoa* as part of the clade Petunieae, related to *Fabiana* Ruiz & Pavon, an Andean genus with which it shares the same chromosome number ($n=9$). The relationships among the genera of the clade are still not clear and need further study.

Calibrachoa comprises about 25 species, most of them found in southern Brazil. *Calibrachoa parviflora* (Juss.) D'Arcy in Kartesz & Gandhi (1989: 465), an autogamous species with reduced flowers, has the largest geographical range, with a disjunct distribution between South and North America. The other species are typically widely distributed in subtropical South America, except *C. elegans*, an endemic species of Minas