



A revision of loasoid *Caiophora* (*Caiophora pterosperma*-group, Loasoideae, Loasaceae) from Peru

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Abstract

Caiophora is a taxonomically difficult, nearly exclusively Andean genus of the largely South American family Loasaceae subfam. Loasoideae. Elevational distribution and flower morphology argue for a relatively basal position of loasoid *Caiophora* in the genus. *Caiophora* has not been revised since 1900, and details of their morphology, distribution and species delimitation are incompletely understood. The *Caiophora pterosperma*-group clearly belongs to *Caiophora* based on habit, fruit morphology, karyology and molecular data, but is florally similar to members of the closely allied genera *Loasa* and *Scyphanthus*. The Peruvian members of the *Caiophora pterosperma*-group are here revised. Three species are recognized: *C. pterosperma*, endemic to the departments of Junín and Pasco (including *C. smithii*, *C. serropetala* and *C. pavonii*), *C. stenocarpa* from the departments Cuzco and Huancavelica, and the new species *Caiophora dedereichorium*, endemic to the department of Ancash. All three species occur at low elevations for the genus (down to 2200 m a.s.l.) and in seasonally dry habitats, unlike most representatives of the genus (usually found in mesic habitats at higher elevations). A key to the Peruvian members of the group, diagnoses, drawings and photographs are provided for all species recognized.

Introduction

The family Loasaceae is widely distributed in the Americas with most of the >300 species of the subfamily Loasoideae found in Andean South America, several of them endemic to Peru (Rodríguez & Weigend 2006). During the last years dozens of new species have been described or newly circumscribed, especially in the genera *Nasa* Weigend (2006: 465) and *Mentzelia* Linnaeus (1753: 516) (Florence 1997, Dostert & Weigend 1999, Weigend 1999, 2001, 2002, 2004, Weigend & Rodríguez 2002, 2003, Weigend *et al.* 2003, Rodríguez 2008, Henning & Weigend 2009a, 2009b, 2011, Henning *et al.* 2009, 2011). Especially within the genus *Nasa*, species limits have thus largely been clarified (Weigend 2000b, Weigend & Rodríguez 2002, 2003, Weigend *et al.* 2003, Henning & Weigend 2009a, Henning *et al.* 2011). In contrast, *Caiophora* Presl (1831: 41) has not recently been studied, and its taxonomy is still largely based on older publications, mainly the one and only overall revision by Urban & Gilg (1900), and the subsequent descriptions of individual taxa (Urban & Gilg 1911, Killip 1928, 1934, Macbride 1941, Standley & Barkley 1947, Sleumer 1955) or regional revisions (Argentina: Sleumer 1955). Only the few representatives from Chile and Ecuador have recently been revised (Weigend 2000a, Ackermann & Weigend 2007).

The genus *Caiophora* ranges from Ecuador to Central Argentina and Chile, with most species found at high elevations of the Andes (3500–5000 m a.s.l.), and a centre of diversity in Peru and Bolivia. In preparation for the “Catalogue of the Vascular Plants of the Southern Cone” (Weigend *et al.* 2008) and for the “The Catalogue of the Vascular Plants of Bolivia” (Weigend & Ackermann in press) hundreds of herbarium specimen were revised, and some new, undescribed species were discovered, the majority from Peru. *Caiophora* taxonomy is complicated by widespread interspecific hybridization (Ackermann *et al.* 2008). The