



## 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 dedereichorum*, 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