



***Weberbauerella chilensis* (Fabaceae: Papilionoideae), a new species from the Atacama Desert, Chile**

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Abstract

A new legume species, *Weberbauerella chilensis*, from the Andean foothills in the Tarapacá region in Chile, is described and illustrated. This species represents the first record of the genus in Chile and the Southern Cone of South America and is the third species described for the genus. *Weberbauerella chilensis* resembles *W. brongnartioides* from Peru, but differs primarily in its smaller size, fewer leaflets and habitat conditions.

Key words: Chile, Tarapacá, Perú, new taxon, *Weberbauerella*, Atacama Desert

Introduction

During several field flora studies in the Andean foothills of northern Chile, a Fabaceae-Papilionoideae species was collected that did not belong to any genus known to occur in Chile (Muñoz-Pizarro 1966, Marticorena & Quezada 1985, Marticorena 1990) nor to any other known genus in the Southern Cone of South America (Zuloaga *et al.* 2008a, b). Instead, the morphological features of these specimens indicate that it is a member of the Peruvian genus *Weberbauerella* Ulbrich (1906: 551).

The genus *Weberbauerella* was erected with *Weberbauerella brongnartioides* Ulbrich (1906: 551), based on specimens that Weberbauer collected in 1902 in areas associated with the Lomas formation (oasis de neblina in Chile) on the southern Peruvian coast near Mollendo. *Weberbauerella raimondiana* Ferreyra (1951: 2), was the second species described within the genus. This species is also associated with the Lomas formation and is found near Chala on the Peruvian coast. This genus, characterized by the presence of pustular glands on stems, leaves and flowers, one or few tubers and subshrub or herbaceous habit, has been considered, until now, to be the only Fabaceae genus that is endemic to Peru and its only two known species are considered endangered (Baldeón *et al.* 2006). *Weberbauerella* has been treated within the subtribe Poiretiinae (tribe Aeschynomeneae), together with genera *Amicia* Kunth, *Poiretia* Vent. and *Zornia* J.F.Gmel. (Rudd 1981). However, currently, and based on molecular analysis of the "dalbergioid legumes", these genera form a monophyletic group within the clade *Adesmia*, phylogenetically separated from *Weberbauerella* (Lavin *et al.* 2001), which is considered an isolated genus within the *Dalbergia* clade of the tribe Dalbergieae *s.l.* (Klitgaard & Lavin 2005).

Although the *Weberbauerella* specimens collected in Chile perfectly align with Ulbrich's (1906) description of the genus, their morphological, geographical, and environmental differences from the two known species of *Weberbauerella* are substantial enough to recognize a third, presently undescribed species of this genus.

Figure 3 shows that the known populations of *W. chilensis* are located ca. 600 km from its two congeneric species, which are only known from the area close to their type localities. In addition, there are large environmental differences between the species. *Weberbauerella brongniartioides* and *W. raimondiana* are endemics restricted to Lomas formations below 400 m at the arid desert coast (León *et al.* 1996) in southern Perú (Baldeon *et al.* 2006). These two species are located phytogeographically within the Arequipeño sector (Galan de Mera *et al.* 1997) and have a marked dependence on ENSO events (El Niño-Southern Oscillation) for their proper development. In contrast, *W. chilensis* is a pre-Andean desert element in habitats under a strong influence of ‘La Niña’ events, which is an inverse climatic phenomenon.

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