



Lectotypifications in the genera *Bulnesia* (Zygophyllaceae)

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Zygophyllaceae Brown (1814, add literature) is distributed in arid and semiarid regions in the tropics and subtropics of the world, comprising 22 genera and 230–240 species of trees, shrubs, sub shrubs and annual or perennial herbs (Sheahan 2007). The family was first divided by Engler (1931) into seven subfamilies and 8 tribes and 4 subtribes. Nonetheless, recent molecular studies only support the recognition of three subfamilies (see Sheahan & Chase 1996, 2000), Larreoideae being the major representative of the family in South America.

Larreoideae is a monophyletic group that comprises seven genera (Lia *et al.* 2001) mostly distributed in Argentina (Descole *et al.* 1940) with several species of economic and medicinal interest (Sheahan 2007). In order to complete the monograph of the family for the Flora Argentina project as well as molecular and biogeographical analyses, an updated taxonomic revision of Larreoideae was needed. In the revisionary framework it was detected that two names within *Bulnesia* Gay (1845, add literature) required lectotypifications: *B. macrocarpa* Philippi and *B. sarmientoi* Lorentz ex Griseb. It is important to mention that *B. sarmientoi* is the type species of the subgenus *Gonopterodendron* Griseb. (Palacios & Hunziker 1984), therefore the designation of a lectotype for this name is crucial for any studies within the group.

Details on the lectotypes selected, isolectotypes and their herbaria are included. All protologues were checked in their original publications and digital images of type specimens were observed in virtual herbaria and JSTOR website (<http://plants.jstor.org>).

1. ***Bulnesia sarmientoi* Lorentz ex Grisebach (1879: 75). Lectotype (here designated):**—ARGENTINA. [Salta]: Dragones. Gr. Chaco ad fl. Bermejo, August 1873, *P. G. Lorentz & G. Hieronymus* 576 (GOET008963!; isolectotypes BAF00000191!, BAF00000192!, BAF00000193!, CORD00005909!, CORD00005910!, GOET008964!)

Notes:—Grisebach (1879: 75) cited on the protologue of *B. sarmientoi* “Gr. Chaco, ubi ad medium fl. Bermejo eximie Viget: Vernac nom. Palo santo”. Two specimens matching this description were found in GOET (GOET008963 and GOET008964), and the lectotype designated here corresponds to the specimen GOET008963 for presenting original collection labels (not copies as its duplicate) and for being the most complete specimen in terms of number and conservation of leaves and fruits of the mounted materials.

2. ***Bulnesia macrocarpa* Philippi (1870: 167). [= *Bulnesia retama* (Gillies ex Hooker & Arnott) Grisebach]. Lectotype (here designed):**—ARGENTINA. Mendoza, 1868/69, *P. Ortega s.n.* (SGO000002960!)

Notes:—Philippi’s (1870: 167) only mention of a type for *B. macrocarpa* is “Crece en la vecindad de Mendoza”. In the first pages of the publication (1870: 159), Philippi also states that the plant catalogue was concluded thanks to the contribution of W. Diaz’s collections, as well as the collections of other botanists such as J.M. Landbeck, P. Ortega, and E. Reed. Two specimens found in SGO collected by P. Ortega (SGO000002959 and SGO000002960) match the location referred in the original publication, although Ortega at that time (1869) was the director of the National Museum of Natural History of Chile (MNHN-1870: 159). Both materials are equally preserved and present the same number of specimens mounted on the sheet. However, the specimen SGO000002959 bears a label of *F. Philippi* 339 which can lead to erroneous interpretations. The specimen SGO000002960 is designated here as lectotype for presenting P. Ortega as only collector.

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