

# Endemic Plant Species of Bolivia and Their Relationships with Vegetation

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## Abstract

The inventory of Bolivia's vascular plants lists 2402 endemic species (ca. 20% of 12,339 of native flora). Among angiosperms, there are 2263 species from 124 families and 641 genera, whereas among pteridophytes, there are 139 species from 16 families and 29 genera. Seven families with the greatest number of endemic species are Orchidaceae (418), Asteraceae (246), Bromeliaceae (147), Cactaceae (127), Poaceae (92), and Piperaceae (81). *Cleistocactus* and *Puya* have 14 and 55 endemic species, respectively, so representing 82.3 and 84.6% of the species in these genera. Bolivia's endemic species show distribution patterns associated with past geological events, orographic dynamics (of the Andes and in the Cerrado), as well as areas of diversification. Dry xeric and humid regions host local and regional endemics in specific families and biogeographic regions of high conservation importance. Humid montane forests in the Yungas and dry inter-Andean valleys are rich in endemic species with 51 and 22% of the total recorded in the respective regions. Nevertheless, there are still many lesser known geographical areas that may generate new information in the short and medium term. Only 165 endemic species (6.9%) have been evaluated for their conservation status following IUCN categories with 49% assessed as endangered (EN).

**Keywords:** angiosperms, humid montane forests, ferns, dry valleys, Cerrado

## 1. Introduction

The Bolivian biota and its endemism are derived from the influence of four biogeographic provinces, the Amazonian, the Andes, the Gran Chaco, and the Cerrado, generating several encounters of mixed elements [1]. For example, in the mountains of the Eastern Cordillera with the mixture of Andean and Amazonian flora, while in the Pantanal area (SE Bolivia) where there are Amazonian, Chaco and Cerrado elements took place. Amazonia is found in the alluvial plain from center to the north of the country, the Andes in mountain ranges in the west side, Cerrado on Precambrian shield in the east (in which it is also circumscribed to the Chiquitanía), and the Gran Chaco on plains and Andean foothills in the south.