

## Chilean Opuntioideae

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The Opuntioideae in Chile are represented by populations from five different genera. These are *Cumulopuntia*, *Cylindropuntia*, *Maihue niopsis*, *Miqueliopuntia* and *Tunilla*. To better understand relationships between these genera and species a multitude of characters were recorded and studied. These are stem-shape, spination, flowers, fruit and seeds. All of the above genera have cylindrical to ovate stem joints, with the exception of *Tunilla*, which only sometimes have cylindrical stems, most have flattened, pad-like stems. Spines are variable in length, shape, attitude and quantity. Flowers vary between genera, but are very much alike between species. Fruit varies in shape and fruit wall thickness, from being filled with pulp when ripe and without pulp. Seed can be used to identify genera. Seed testa-cell studies support species delineation.

The study used data from 102 field collections by the author, collected over several expeditions. Many of the specimens are vouchered in the herbarium of the Desert Botanical Garden (DBG), Phoenix, Arizona, and the Museum of Natural History in Santiago, Chile. Some live material is cultivated at DBG.

*Cumulopuntia* (excluding *C. sphaerica*) has its distribution from the 23rd to 18th latitude south.

All the populations grow above 2500 m and in some cases to 4500 m.

*Cumulopuntia sphaerica* grows almost anywhere, from sea level to 3500 m and extends the range south to the 33rd latitude.

*Cylindropuntia runcam* is the only species of this genus occurring throughout South America.

In Chile several populations were observed. Seeds are not known.

*Maihue niopsis* has its distribution from the 33rd to 20th latitude. *Maihue niopsis* and

*Cumulopuntia* overlap between the 20th to the 18th latitude, sometimes growing side by side in the same habitats. Some *Maihue niopsis* spp. will grow at 4500m but there are a few populations at 600 m. Most populations grow between 2000-3000 m.

*Miqueliopuntia* has a limited distribution from slightly above sea level to about 1000 m over the latitudes of 27th to the 29th degree south.

*Tunilla* has its distribution from the 21st to the 18th latitude in altitude from 3000-4000 m, usually in the same habitats as *Cumulopuntia*.