

Monkey Puzzle

Araucaria araucana

Other Names: Pehuén, monkey tail tree, Chilean pine, Pino Araucana, Pino Chileno, Piñonero.

Family: Araucariaceae

Natural Range: Southern Chile and western Argentina

IUCN Conservation Status

Endangered (EN)

Chile's National Tree, the monkey puzzle, is an extremely long-lived species introduced to many gardens as an ornamental plant in Europe and the U.S. In its native range, the species is still highly threatened.

The monkey puzzle tree is an evergreen species of conifer from the temperate rainforests of south central Chile and adjacent areas in Argentina. In Chile, the species distribution is divided between two distinct ecosystems; the Andes, and due to its high salt resistance, the coast.

The species forms a pyramidal shape when very young but as it ages, takes on a top heavy appearance. The mature trees are covered by leathery, spiky leaves and may reach a height of 50 metres and can live for up to 2,000 years. Like other conifers, it produces cones, and each of these releases between 120-200 seeds, called "piñones".

The species is of great historical and social importance in its native range. Piñones are edible and form an important food source for the indigenous Pehuenche people of central south of Chile. Monkey puzzle wood is also prized as timber due to its durability and resistance to fungal decay. It has been used for beams in buildings, bridges, piers, roofs, furniture, boat structures, veneers and plywood.

As a result of its natural beauty and striking appearance the species has been adopted as a flagship for a number of National Parks in Chile where it is also the National Tree. Further afield it is highly valued as an ornamental plant by gardeners, particularly in Europe and North America. It's popularity

as a garden plant is such that an individual has begun a mapping project which seeks to record locations of monkey puzzles in private gardens throughout the world.

As a favoured ornamental tree, the species is also prevalent in botanic garden and arboreta collections worldwide. The *Global Survey of Ex situ Conifer Collections* reports that the species is present in 162 *ex-situ* collections. [Read the full report here.](#)

Despite its popularity in garden collections, in its native habitat, monkey puzzle trees are highly threatened. The species exist within a habitat that is vulnerable to fire, as a result of recurrent volcanism. The species has evolved within this environment and as such, establishes well under the partial shade of forests dominated by *Nothofagus* species particularly following fires. Similarly, the monkey puzzle tree is often one of the first 'colonists' of rocky sites following a burning event.

However fire, logging and grazing have led to rapid destruction of the monkey puzzle's habitat, making it more difficult for the species to cope with repeated burning events. During 2001-2002 20,000 hectares of native araucaria forest were dramatically burnt in southern Chile affecting more than 50% of arucaria forest in Tolhuaca National Park and Malleco National Reserve.

Fires are still an issue for the remaining populations; in 2014 a national emergency was declared in Chile when intense fires burned through more than 6000 hectares in at least three national parks. Conservationists feared for the ancient trees within the sites that contain the only officially protected individuals.

Despite the logging ban put in place in 1990, other pressures remain high. Threats to the species include deforestation, grazing, seed collection and expansion of plantations with exotic trees all of which are exacerbated by fire (some of which are anthropogenic) and low levels of natural regeneration. In 2013, the species was upgraded to Endangered on the IUCN Red List of Threatened Species because the species populations are small and fragmented, meaning populations are vulnerable to persisting threats of grazing, logging and fire.

The Global Trees Campaign supported restoration of monkey puzzle forest and conducted educational programmes during two projects between 2003 and 2007. This work has had a long-term impact; follow-up surveys

conducted in 2013 (ten years after 2,000 monkey puzzle seedlings were planted in the wild by the GTC) found that 90% of the seedlings had survived.

Selected references:

Premoli, Quiroga, & Gardner (2013) *Araucaria araucana*. The IUCN Red List of Threatened Species 2013.

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