

Chilean Trees

Chile is effectively a biological island. To the North it is protected by the Atacama Desert, the driest in the world. To the East it is shielded by the Andes Mountains, the second highest mountain range in the world. To the South its waters border on the Antarctic, the coldest region in the world. And to the West its long coast line overlooks the Pacific Ocean, the greatest ocean in the world. It consequently has the highest percentage (46%) of unique plant species of any South American country.

The facts are very clear: the air we breathe, the clothes we wear, the food we eat, the water we drink and about 80% of the medicines we use are all dependent on plants! They are the backbone of life. Among the most interesting of these plants in Chile are its trees and remarkably, considering its remoteness, many of these have been exported to other continents, usually by explorers and adventurers who brought their seeds home from their travels.

Earlier this year the Anglo Chilean Society organised an event at the Chilean Embassy in London on the subject of Chilean Trees around the world. Rodrigo Fernández Carbó, a Chilean documentary film maker and lover of the flora and fauna of his country gave an illustrated address on the subject. He said that ten years ago, while touring the gardens where Wagner found inspiration for his opera *Parsifal*, he happened across a Chilean Palm (*Jubaea chilensis*). This chance find took place in Villa Rufolo, in Southern Italy, and led him to seek out native Chilean trees in other parts of the world. Through contact with botanical gardens, specialists, ordinary folk, and on his own travels, Rodrigo discovered a surprising amount of innumerable species growing abroad.

He wrote a book about this labour of love.ⁱ Here are some of his stories, though sadly without the excellent photographs that accompany them in the book.

Probably the best known of Chilean trees is *Araucaria araucana*, better known to English speakers as the Monkey Puzzle tree. You will find this in countless suburban gardens in England but there's a splendid specimen standing tall in St. Brelade's Cemetery on the island of Jersey in the English Channel. The story goes that Captain Philippe Janvrin, aged 44, had returned to the Island of Jersey in September 1721, infected by a deadly epidemic. On the brink of death, he anchored his boat '*Esther*' facing the medieval Church of St. Brelade, wishing to rest eternally in the graveyard of the church where 11 years before he had made his marriage vows to his bride, Elizabeth Orange.

It is said that Captain Janvin had a seed of the Araucaria in his jacket pocket where the tree germinated. But whether this is true must remain a Puzzle.ⁱⁱ

What we do know is that Sir Herbert Maxwell planted two hundred Monkey Puzzle trees in the woods of Monreith, near Port William in Scotland. In 1877 Sir Herbert became the 7th Baron of Monreith. He sat as a Member of Parliament, and was a novelist and essayist ('Scottish Gardens' among his books). But he is best known as a horticulturist and his greatest legacy is his Monkey Puzzle wood. From this Richard Baines, curator of Logan Botanic Garden has planted 100 Monkey Puzzle trees in Castle Douglas, West Scotland.

Much further north you can find Monkey Puzzle trees in the Isle of Skye. The MacLeod Clan resides in the Dunvegan Castle there, the Scottish castle longest inhabited by the same family. It has been the stronghold of the clan for eight centuries. Over the years the castle has been visited by important figures such as Sir Walter Scott, Queen Elizabeth II and the Japanese Emperor Akihito. It has also served as a location for several films, such as *Highlander* with Christopher Lambert and the recent *Macbeth* with Michael Fassbender.

The Monkey Puzzle tree is the most prominent in Dunvegan Castle Garden. It was planted in 1850 when Norman MacLeod presided as 25th Chief of the Clan MacLeod. In 1960, when the clan was headed by Dame Flora MacLeod (28th Chief of the Clan MacLeod), two other Chilean trees were introduced: the Taique (*Desfontainia fulgens*) and the Notro (*Embothrium coccineum*).

On the other side of Scotland Martin Gardner has created the Chilean Terrace at the Royal Botanic Garden in Edinburgh. He has visited Chile more than thirty times and led on the publication of two important books '*Threatened Plants of Central and South Chile*' (2005) and '*Plants from the Woods and Forests of Chile*' (2015). The latter book features newly commissioned watercolour paintings of 81 native species, mostly painted directly from life using species growing at the Royal Botanical Gardens.

Much further south you can find Monkey Puzzle trees in Spain. Castle Soutomaior in Galicia dates to the 12th century. Its name comes from its position on the largest hill in the Soto valley. Today the surname Sotomayor, or Soutomaior in Galician, is common in Spain. In 1879 the property was inherited by the Marqués de la Vega de Armijo, who restored the main building, turning it into a neo-Gothic castle and creating the gardens. Several species were brought from various nurseries, arboreta and botanical gardens in Europe, including a Monkey Puzzle tree, now planted in a prominent spot. Since 1985 the Soutomaior Castle has been designated a monument of Galician architectural and cultural heritage.

Noone remembers who planted the Monkey Puzzle tree outside Bordeaux Cathedral in France. The Cathedral was consecrated in 1096 by Pope Urban II. In 1137 it was the place of the wedding between Eleanor of Aquitaine and the future King Louis VII of France. In the mid-nineteenth century, Orélie Antoine de Tounens, a French lawyer and idealist from the Aquitaine region of which Bordeaux is the capital, travelled to Chile. Amid the forests of the south, he proclaimed himself King of Araucania and Patagonia.

Among the native tribes of this notional region were the Pehuenches, a branch of the Mapuche the only indigent tribe to withstand the Spanish Conquistadores in the 16th century. They survive today and the Araucaria is the centre of their life. Its seed, the piñon or ngüilliu, has great energy value for its high content of proteins, lipids and carbohydrates, and is the basis of their diet, used for everything from pinions drinks to bread. The resin is used in medicine as a tonic for ulcers, among other applications. And beyond its physical properties, the Monkey Puzzle tree is also part of their spiritual world.

Orélie Antoine, King of Araucania and Patagonia, was exiled from Chile. Returning to France, he established his reign in Bordeaux where he gave peerages, an unfurled flag, minted coins and had an anthem composed. His descendants to this day are under his successor Prince Antoine. Perhaps a member of this nobility planted the tree in honour of the founder. But that also remains a Puzzle.

Another famous Chilean tree is the Palm (*Jubaea chilensis*) and it too has travelled far and wide. It can also be found in Spain in no less a distinguished place than the Royal Palace of Aranjuez. This Chilean Palm was introduced in the middle of the nineteenth century after the revival of the Parterre Garden. Philip V ordered a French style with the disposition of the elements such as the Tajo River and the palace, creating a magnificent place of relaxation for royalty in their day. The Parterre Garden is the closest of the four gardens to the Palace and today is catalogued with the 'Singular Trees of Madrid'. The gardens achieved fame thanks to the Concerto of Aranjuez by Joaquin Rodrigo, considered the most listened to classical Spanish composition in the world. In 2001 the Palace and gardens were inscribed as a UNESCO World Heritage Site.

In San Luis Obispo in California we can find no less than 90 Chilean Palm trees. These were all lovingly planted by Jan Von Engel, a German immigrant who came to the USA in 1954 to study agriculture at the University of California, San Luis Obispo. While passing through King City, 100 miles north of San Luis Obispo he noticed a centennial Chilean Palm which literally poked out of the roof of a building. It was a hotel which at the time was called the Palm Inn (now Fireside Inn, perhaps the tree was chopped down for firewood). From the sidewalk with his wife Verena, Jan gathered numerous coconuts (seeds) that were spread out with no future use in sight. Four years after seeding them, he selected 90 to plant in the hills next to the educational centre of the Botanical Garden.

Singapore, with the aim of creating a 'city in a garden', built the Gardens by the Bay. Opened in 2012 it occupies over 54 hectares. There are two big greenhouses, one of which, the Flower Dome, holds the Guinness Record as the Largest Glass greenhouse in the world. It is designed with the latest sustainable technology, is carbon neutral and creates an ideal microclimate for exotic plants. At the centre of this 12,000 m² greenhouse sixteen Chilean Palms stand tall.

Another spectacular greenhouse is Eden Project in Cornwall, one of the largest and most innovative sustainability projects in the worldⁱⁱⁱ. Eden Project created one space focused on 'Wild Chile'. This includes numerous native Chilean species from Fitzroya, Podocarpus and Nothofagus to small bushes. Eden Project makes use of the opening of an old kaolin mine (a raw material for making porcelain). The process left large holes in the ground from washing out the kaolin (clay) with high powered water jets. Eden Project was able to fill the ex-mines with gardens. The transparent domes, made with ETFE (Ethylene tetrafluoroethylene), comprise of a double layer of hexagons and pentagons that give them resistance, light and isolation.

'Wild Chile' is located in the outer gardens and includes six Fitzroyas or Chilean Larches (*Fitzroya cupressoides*), 11 sharp leaf Mañios (*Podocarpus nubigenus*), 25 longleaf Mañios (*Podocarpus salignus*), two Rauli (*Nothofagus alpine*), three Robles (*Nothofagus obliqua*), three Tineos (*Weinmannia trichosperma*), two Lumas (*Amomyrtus luma*), two Canelos (*Drimys winteri*), two Notros, five Taiques, an Ulmo (*Eucryphia cordifolia*) and 71 Monkey Puzzle Trees.

In a different area of the garden, Eden Project has a Climate Change exhibit, which includes two Chilean Palms and some plants originally from the arid foothills of the Andes, demonstrating their ability to grow in diverse climates including English weather.

These are just a handful of the 60 stories in Rodrigo's wonderful book. The rest include Monkey Puzzle trees in Bratislava, Canada, France, Ireland, the Netherlands, Norway, USA and Wales; Chilean Palm trees in Australia, Canary Islands, France, Ireland, Italy, Portugal, and Switzerland; Lumas in England and Ireland; Chilean Larches in England and Wales; Tineos in Ireland; Acacias in France; Roble beech trees in Wales; the very last Sophora Toromiro found by the Norwegian explorer Thor Heyerdahl and restored in Gothenburg Botanical Garden; and many more. It is no coincidence that Darwin formed his scientific theory of evolution by natural selection after his extended visit to Chile on the *Beagle*.

ⁱ *Chilean Trees Around the World*. Rodrigo Fernández Carbó. Ograma. Santiago de Chile. 2018

ⁱⁱ In 1837 a select ceremony took place in Pencarrow House in Cornwall. The guests of Sir William Molesworth wanted a glimpse of the *Araucaria araucana*, the exotic tree born from a seed from the ends of the world. One of the guests, the distinguished barrister Charles Austin, upon seeing the intricate conifer of pointy leaves commented "it would even puzzle a monkey to climb that tree", thus the origin of the popular name "Monkey Puzzle" that most commonly describes the *Araucaria araucana* in English speaking countries. In Chile they just call it the Araucaria.

ⁱⁱⁱ Eden Project was founded by Sir Tim Smit KBE. It has contributed £1.5 billion to the Cornish economy.

David Pearson