

Flora of Australia



- ▶ There are an astounding 24,000 species of native plants in Australia, making the country's flora one of our most prized assets.
- ▶ The arrival of humans around 50,000 years ago and settlement by Europeans from 1788, has had a significant impact on the flora.
- ▶ The use of fire-stick farming by Aboriginal people led to significant changes in the distribution of plant species over time, and the large-scale modification or destruction of vegetation for agriculture and urban development since 1788 has altered the composition of most terrestrial ecosystems, leading to the extinction of 61 plant species and endangering over 1000 more.

ACACIA

- ▶ Australia boasts more than 1,200 species of Acacia, which are commonly known as wattle trees. The golden wattle is Australia's floral emblem, and is widespread around Canberra, in southern New South Wales, in the Adelaide Hills and Victoria. The flowering season is spring and summer, and Wattle Day is celebrated on 1 September each year.
- ▶ Controversy erupted in the early 2000s when it became evident that the genus as it stood was not monophyletic and that several divergent lineages needed to be placed in separate genera. It turned out that one lineage comprising over 900 species mainly native to Australia was not closely related to the mainly African lineage that contained *A. nilotica*—the first and type species. This meant that the Australian lineage (by far the most prolific in number of species) would need to be renamed. Botanist Les Pedley named this group *Racosperma*, which was inconsistently adopted.
- ▶ A number of species have been introduced to various parts of the world, and two million hectares of commercial plantations have been established. The heterogeneous group varies considerably in habit, from mat-like subshrubs to canopy trees in forest.



EUCALYPTS

- ▶ With 2,800 species of eucalypts (gum trees), these are the trees most commonly associated with Australia. Eucalypts are found in many areas, from the silver and red snow gums of the Australian Alps to the ancient river red gums in South Australia's Flinders Ranges. The Blue Mountains is home to the world's most diverse range of eucalypt species and in fact, the Blue Mountains gets its name from the blue haze believed to be created from the oil-bearing trees. Koalas feed exclusively on certain species of eucalypts.
- ▶ A few species are native to islands north of Australia and a smaller number are only found outside the continent. Eucalypts have been grown in plantations in many other countries because they are fast growing and have valuable timber, or can be used for pulpwood, for honey production or essential oils. In some countries, however, they have been removed because they are highly flammable.



PROTEACEAE

- ▶ The Proteaceae family of flowering plants, including banksias, grevilleas and waratahs, are among Australia's most popular natives. A key characteristic of the Proteaceae family is that flower heads are made up of a number of small flowers. The waratah is widespread in the national parks along the New South Wales coastline.
- ▶ Generally speaking, the diagnostic feature of Proteaceae is the compound flower head or, more accurately, inflorescence. In many genera, the most obvious feature is the large and often very showy inflorescences, consisting of many small flowers densely packed into a compact head or spike. Even this character, however, does not occur in all Proteaceae; Adenanthos species, for example, have solitary flowers. In most Proteaceae species, the pollination mechanism is highly specialised. It usually involves the use of a "pollen-presenter", an area on the style-end that presents the pollen to the pollinator.
- ▶ Proteaceae flower parts occur in fours, but the four tepals are fused into a long, narrow tube with a closed cup at the top, and the filaments of the four stamens are fused to the tepals, in such a way that the anthers are enclosed within the cup. The pistil initially passes along the inside of the perianth tube, so the stigma, too, is enclosed within the cup. As the flower develops, the pistil grows rapidly. Since the stigma is trapped, the style must bend to elongate, and eventually it bends so far, it splits the perianth along one seam. The style continues to grow until anthesis, when the nectaries begin to produce nectar. At this time, the perianth splits into its component tepals, the cup splits apart, and the pistil is released to spring more or less upright.



MELALEUCA

- ▶ Known locally as paperbarks, tea trees or honey myrtles, Melaleuca is a genus of around 170 species in the Myrtle family, of which the majority are endemic to Australia. They are usually found along watercourses or the edges of swamps, and can grow in a variety of soil types. Melaleuca is notable for its essential oils, which are marketed as tea tree oil.
- ▶ Melaleucas are an important food source for nectarivorous insects, birds, and mammals. Many are popular garden plants, either for their attractive flowers or as dense screens and a few have economic value for producing fencing and oils such as "tea tree" oil. Most melaleucas are endemic to Australia.
- ▶ Melaleucas range in size from small shrubs such as *M. aspalathoides* and *M. concinna* which rarely grow to more than 1 m (3 ft 3 in) high, to trees like *M. cajuputi* and *M. quinquenervia*, which can reach 35 m (115 ft). (One specimen of *M. cajuputi* reached 46 m (151 ft))



WILDFLOWERS

- ▶ Wildflowers turn the arid and savanna grassland areas of Australia into carpets of colour when in season. From June until September, more than 12,000 species of wildflower can be seen blooming across Western Australia.
- ▶ From late August to mid-October, more than 100 varieties of wildflower can be seen on Kangaroo Island in South Australia; many are unique to the island. During mid-summer the plains around Mount Kosciuszko erupt in masses of yellow billy buttons, pink trigger plants and silver and white snow daisies. Wildflowers are a protected species in Australia, so please don't be tempted to pick them.



HAEMODORACEAE

- ▶ The Haemodoraceae family comprises more than 100 species, including the iconic Kangaroo Paw. Eleven species of Kangaroo Paw are indigenous to the southwest of Western Australia and can be spotted along creeks, forests and swamps. Kangaroo Paw flowers between August and October and ranges from yellow and green to red, pink, orange or brown.
- ▶ Haemodoraceae is characterized by distichous leathery leaves, which are alternate, succulent, rather large and often ensiform, with entire margins and parallel veins. The leaves are enclosed by a sheath with free margins and alternate, distichous.
- ▶ The plants are hermaphroditic. Pollinators are primarily insects, but also birds or sometimes a small mammal. The woolly-haired flowers grow at the end of a leaflet stalk, in cymes (with lateral branches), panicles or racemes.



EREMOPHILA

- ▶ Commonly referred to as 'emu bushes', the Eremophila is a class of more than 200 species, which are endemic to Australia. These plants can generally be spotted in semi-arid and arid regions, and are largely found in Western Australia. Eremophila are known by their colourful shrubs, and produce fleshy fruits, which are often eaten by animals and birds.
- ▶ The genus Eremophila was first formally described in 1810 by the botanist Robert Brown in *Prodromus Florae Novae Hollandiae* and the first species to be named were *E. oppositifolia* and *E. alternifolia* but Brown did not nominate a type species.
- ▶ The Victorian government botanist, Ferdinand von Mueller was the most influential early naturalist to take an interest in the genus and described 47 species, many of which were collected during expeditions to remote areas of Australia.

