



about Australia

flora and fauna

- Australia is a land like no other, with about one million different native species. More than 80 per cent of the country's flowering plants, mammals, reptiles and frogs are unique to Australia, along with most of its freshwater fish and almost half of its birds.

Australia's marine environment is home to 4000 fish species, 1700 coral species, 50 types of marine mammal and a wide range of seabirds. Most marine species found in southern Australian waters occur nowhere else.

Australia's geographic isolation has meant that much of its flora and fauna is very different from species in other parts of the world. Most are found nowhere else. However, some closely related species are found on the continents which once made up the ancient southern supercontinent Gondwana.

Covered in rainforest and ferns 300 million years ago, Gondwana included South America, Africa, India and Antarctica. Most of Australia's flora and fauna have their origins in Gondwana, which broke up about 140 million years ago.

Australia separated from Antarctica 50 million years ago. As it drifted away from the southern polar region, its climate became warmer and drier and new species of plants and animals evolved and came to dominate the landscape.

Flora

Most of the Gondwanan forests were replaced by tough-leaved open forests of eucalypts and acacias. Some isolated remnants of

key facts

- Australia has around 10 per cent of the world's biodiversity.
- Of the estimated 20 000 species of vascular plants found in Australia, 16 000 are found nowhere else in the world.
- Of the 378 species of mammals in Australia, more than 80 per cent are unique to Australia.
- Of the 869 types of Australian reptile, 773 are found nowhere else.

the ancient Gondwanan forests remain. These include the cool and warm temperate rainforests of Tasmania and eastern Australia and the dry rainforests or scrub forests of northern Australia. These forests have high conservation values.

In 1994, the Wollemi Pine was found in a remote valley in the Blue Mountains of New South Wales. It is believed to be representative of a now extinct group of trees that existed at the time of the dinosaurs, making it a species that has been around for 65 million years.

There are now an estimated 20 000 vascular and 7700 non-vascular plants, and 250 000 species of fungi in Australia. Plants include living fossils such as the cycad palm and the grass tree, and brilliant wildflowers such as

the waratah, Sturt's desert pea, banksia and kangaroo paws.

Australia has over 1000 species of acacia, which Australians call 'wattle', and around 2800 species in the *Myrtaceae* family, which includes eucalypts (or gum trees) and melaleucas.

Wildflowers, including everlasting daisies, turn the arid and savanna grassland areas of Australia into carpets of colour after rain. Native forests are limited to wetter coastal districts, and rainforests are found mainly in Queensland.

The high diversity of flora includes large numbers of species in ecologically significant genera such as *Acacia*, *Eucalyptus*, *Melaleuca*, *Grevillea* and *Allocasuarina*. Acacias tend to dominate in drier inland parts of Australia, while eucalypts dominate in wetter parts. Australia's unique flora includes the Proteaceae family of *Banksia*, *Dryandra*, *Grevillea*, *Hakea* and *Telopea* (waratah).

The most common vegetation types today are those that have adapted to arid conditions, where the land has not been cleared for agriculture. The dominant type of vegetation in Australia—23 per cent—is the hummock grasslands in Western Australia, South Australia and the Northern Territory. In the east eucalypt woodlands are prevalent, and in the west there are *Acacia* forests, woodlands and shrublands. Tussock grasslands are found largely in Queensland.

Fauna

In Australia there are more than 378 species of mammals, 828 species of birds, 300 species of lizards, 140 species of snakes and two species of crocodiles. Of the mammals, almost half are marsupials. The rest are either placental mammals or monotremes.

Among Australia's best-known animals are the kangaroo, koala, echidna, dingo, platypus, wallaby and wombat.

Australia has more than 140 species of marsupials, including kangaroos, wallabies, koalas, wombats and the Tasmanian Devil, which is now found only in Tasmania.

There are 55 different species of kangaroos and wallabies—macropods—native to Australia. Macropods vary greatly in size and weight, ranging from half a kilogram to 90 kilograms. The main difference between wallabies and kangaroos is in size—wallabies tend to be smaller. Some stand as tall as humans and others are as small as domestic cats.

In many rural areas where their populations are high, kangaroos are regarded as pests because they compete with sheep and cattle for scarce pasture and water. Kangaroo harvesting contributes to the sustainability of the Australian environment. Estimates of Australia's kangaroo population vary between 30 and 60 million.

The dingo is Australia's native wild dog and its largest carnivorous mammal. In some pastoral areas, dingoes are also regarded as pests due to the threat they pose to sheep and other farm animals. In an effort to keep fertile south-east Australia relatively free of dingoes, the world's largest fence was built, spanning 5320 kilometres from Queensland to South Australia.

Australia hosts another unique animal group, the monotremes, which are egg-laying mammals, often referred to as 'living fossils'.

The most distinctive is the platypus, a river-dwelling animal with a duck-like bill, a furry body and webbed feet.

Of the 828 bird species listed in Australia, about half are found nowhere else. Isolation has also contributed to the development

and survival of unusual birds. These range from tiny honeyeaters to the large, flightless emu, which stands nearly two metres tall. In between is a vast array of waterbirds, seabirds and birds that dwell in open woodlands and forests. Some outstanding examples are cassowaries, black swans, fairy penguins, kookaburras, lyrebirds and currawongs.

There are 55 species of parrots in Australia. Many of these birds are as numerous as they are colourful, including a spectacular variety of cockatoos, rosellas, lorikeets, cockatiels, parakeets and budgerigars.

Australia has more species of venomous snakes than any other continent (21 of the world's 25 deadliest snakes). Fear of snake bites is common among people planning to travel in Australia. However, bites are rare and most often occur when a snake is deliberately provoked by a human.

Australia's diverse oceans support around 4000 of the world's 22 000 types of fish, as well as 30 of the world's 58 seagrass species. Australia is also home to the world's largest coral reef system, the UNESCO World Heritage-listed Great Barrier Reef. Marine species of note include the predatory great white shark, which grows up to six metres in length; the giant filter-feeding whale shark, which can reach lengths of 12 metres; the bluebottle or Portuguese man-of-war, which is a common hazard at many Australian beaches; and the box jellyfish, which is one of the most venomous animals in the world.

Environmental challenges

The arrival of Europeans has had a significant impact on Australia's flora and fauna. There are at least 18 introduced mammals with established feral populations in Australia. Cats and foxes are responsible for the decline and

extinction of several native animals. The feral rabbit population has degraded some areas of Australian farmland, and their rapid spread led to the construction of three rabbit-proof fences spanning some 3256 kilometres in Western Australia between 1901 and 1907. Introduced plants have also caused substantial damage to native vegetation and habitats.

Australia is also the driest inhabited continent on earth. While Australia is rich in biodiversity, Australian soils are highly dependent on vegetation cover to generate nutrients and provide stability. Land clearing, water extraction and poor soil conservation have had an adverse impact on the country's flora and fauna.

Although Australia is very active in marine biology education and conservation, the pressure caused by human activity continues to take its toll on marine environments. Climate change also presents a major challenge to Australia's fragile environment, with likely impacts on its biodiversity.

Climate change poses a particular threat to specific areas, such as Australia's alpine regions, the Great Barrier Reef, tropical rainforests, some species of *Eucalyptus*, and coastal mangrove and wetland systems like Kakadu in the Northern Territory.

Caring for our country

In 2008, the Government committed \$2.25 billion over five years for a new program to protect Australia's unique natural environment and improve the sustainable management of our natural resources. *Caring for our country* promotes biodiversity, sustainable farm practices, natural resource management in remote and northern Australia and the development of community skills,

knowledge and engagement in environmental protection. It supports our natural icons, coastal environments and critical aquatic habitats and the National Reserve System (a series of protected areas currently encompassing more than 11 per cent of Australia's continental land area).

Under the *Caring for our country* program, funding has been allocated for programs to rescue the Great Barrier Reef, repair fragile coastal ecosystems, save the endangered Tasmanian Devil, fight the cane toad menace and control other feral animals and weeds, improve water quality in the Gippsland Lakes of southern Australia, employ additional Indigenous rangers, expand the Indigenous Protected Area network and assist Indigenous Australians enter the carbon trading market.

More information

Australian National Botanical Gardens
www.anbg.gov.au

Department of the Environment, Water,
Heritage and the Arts
www.environment.gov.au

Department of Agriculture, Forestry
and Fisheries
www.daff.gov.au

Commonwealth Scientific and Industrial
Research Organisation
www.csiro.gov.au

National Trust of Australia
www.nationaltrust.org.au

Great Barrier Reef Marine Park Authority
www.gbrmpa.gov.au

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