

Why species in Australia, New Zealand, and Pacific Islands are threatened

The development of Australia's native wildlife is closely linked to the geologic history of that island continent. Hundreds of millions of years ago, all of Earth's continents were connected in one land mass, called Pangaea. About 200 million years ago, the southern part of Pangaea broke away, becoming the modern-day land regions of Africa, Antarctica, Australia, India, and South America. For a time, Australia was still connected to South America, and animals were able to move between these lands. That is why, today, animals known as *marsupials* are found only on those two continents. (A marsupial is a mammal that carries its developing young inside a pouch in which young are *nursed* [fed milk].)

Some 1,500 *species* in Australia, New Zealand, and Pacific Islands are threatened, many critically. (A species is a group of animals or plants that have certain permanent characteristics in common and are able to interbreed.) Of course, this number includes only those species known to science. Many species remain undiscovered. And almost certainly, a number of these animals are in peril or have even disappeared.

Human effect. Australia's animal life began to change after people arrived there, roughly 50,000 years ago. Those first settlers, known as the Aboriginal People of Australia, brought a kind of dog called a dingo with them. Some dingoes escaped into the wild, and today their descendants prey on such native animals as wallabies, woma pythons, numbats, and woylies.

Australia's wildlife changed even more after Europeans began to settle there in the 1700's. The descendants of animals these settlers introduced are often considered major pests and predators today. For example, introduced cats and foxes have killed huge numbers of native birds and other small animals. In addition, many *habitats* have been eliminated by the

development of farms and cities. (A habitat is the kind of place in which an organism usually lives.)

New Zealand and New Guinea. The wildlife of New Zealand, an island country about 1,000 miles (1,600 kilometers) southeast of Australia, was similarly affected by human settlers. Polynesian settlers and British immigrants introduced plants and animals and changed the landscape by farming, grazing, and other activities. A similar story played out in New Guinea, an island just north of Australia.

On all three islands, human activities have drastically changed in a relatively short time *ecosystems* that evolved over many years. (An ecosystem is made up of a community of plants and animals and their physical environment.) Native species have often suffered because of these activities.

In this volume. The species presented in this volume represent a variety of endangered animals in Australia, New Zealand, and Pacific Islands. From the smallest and simplest to the largest and most powerful, the continent's wildlife is facing challenges from human beings.

Scientific sequence. These species are presented in a standard scientific sequence that generally goes from simple to complex. This sequence starts with insects or other *invertebrates* (animals without backbones) and then fish, amphibians, reptiles, birds, and mammals.

Range. Red areas on maps indicate an animal's *range* (area in which it occurs naturally) in Australia, New Zealand, or Pacific Islands.

Glossary. Italicized words, except for scientific names, appear with their definitions in the Glossary at the end of the book.

Conservation status. Each species discussed in this book is listed with its common name, scientific name, and conservation status. The conservation status tells how seriously a species is threatened. Unless noted differently, the status is according to the International Union for Conservation of Nature (IUCN), a global organization of conservation groups. The most serious IUCN status is *Extinct*, followed by *Extinct in the Wild*, *Critically Endangered*, *Endangered*, *Vulnerable*, *Near Threatened*, and *Least Concern*. Criteria used to determine these conservation statuses are listed to the right.

Other designations are based on Australia's Environment Protection and Biodiversity Conservation Act 1999 (EPBC) or the New Zealand Threat Classification System (NZTCS). The organizations use different criteria when assigning their statuses.

Conservation status

Extinct All individuals of the species have died

Extinct in the Wild The species is no longer observed in its past range

Critically Endangered The species will become extinct unless immediate conservation action is taken

Endangered The species is at high risk of becoming extinct due to a large decrease in range, population, or both

Vulnerable The species is at some risk of becoming extinct due to a moderate decrease in range, population, or both

Near Threatened The species is likely to become threatened in the future

Least Concern The species is common throughout its range

Icons. The icons indicate various threats that have made animals vulnerable to extinction.

Key to icons



Disease



Overfishing



Habitat disturbance



Pet trade



Habitat loss



Pollution



Hunting



Ranching

Urolophus bucculentus

Conservation status: Vulnerable

“Stingaree” is the name used in Australia for a flat, long-tailed marine fish known as a stingray in North America. The great, or sandyback, stingaree lives off the coast of southeastern Australia. The yellow-brown fish usually stays near the sea bottom, where it hunts mainly for *crustaceans* (hard-shelled animals).

Poisonous spine. The great stingaree may grow to about 35 inches (89 centimeters) long, making it one of the largest stingarees in Australian waters. The disc-shaped body of the animal, not counting the tail, is wider than it is long.

Near the base of the tail is a large spine attached to a poisonous gland. When a fish or other animal—or a person—disturbs the great stingaree, its tail swings upward to jab the disturber with the spine. The spine attack can be as dangerous to a person as a poisonous snakebite. Female stingarees that don't want to be bothered sometimes stab males that are trying to mate with them.

Reproduction. Female great stingarees carry their developing young inside their bodies—somewhat like mammals. But unlike a mammal mother, a stingaree mom does not have a *placenta* to nourish the young. (A placenta is a disk-shaped organ that enables the developing young to obtain food and oxygen from the mother's blood.) Instead, the great stingaree produces a nutritious substance called “uterine milk” for its young. After growing inside the mother for more than a year, one to five young, called pups, are born.

Threats. Huge numbers of great stingarees are caught by *commercial* (business) fishing operations, especially off the coast of the Australian state of New South Wales. As a result, the stingaree population in that area has fallen greatly since the 1970's. The stingarees are



usually not the fishers' target, because stingarees do not have much food value. Rather, they often become *bycatch* (animals accidentally swept up by fishers trying to catch more desirable food fish). Sometimes, fishers kill the stingarees they catch out of fear of getting stung. But even stingarees thrown back into the water may be harmed. Simply handling a pregnant great stingaree can cause its pups to die.

Another problem for conservationists is that stingarees are slow to reproduce. They become sexually mature later in life. In addition, the females carry their developing young for 15 to 19 months, so they produce pups only every other year. As a result, scientists do not expect the stingaree population to rebound quickly, even though the fish are legally protected by Australian laws.

The great stingaree is often a victim of commercial fishing operations seeking more desirable fish species for human consumers.



Large ground (Grand) skink



Oligosoma grande

Conservation status: Vulnerable (IUCN)
Nationally endangered (NZTCS)

The large ground skink—also known as the grand skink—is one of the largest lizards in New Zealand. This skink is also one of the rarest reptiles in either New Zealand or Australia. It is found only in an area called Otago on the South Island, one of the two main islands that make up New Zealand.

The large ground skink lives in areas with tall clumps of grass growing between outcrops of coarse rock. Large cracks in the rocks shelter the lizard from hot temperatures and predators.

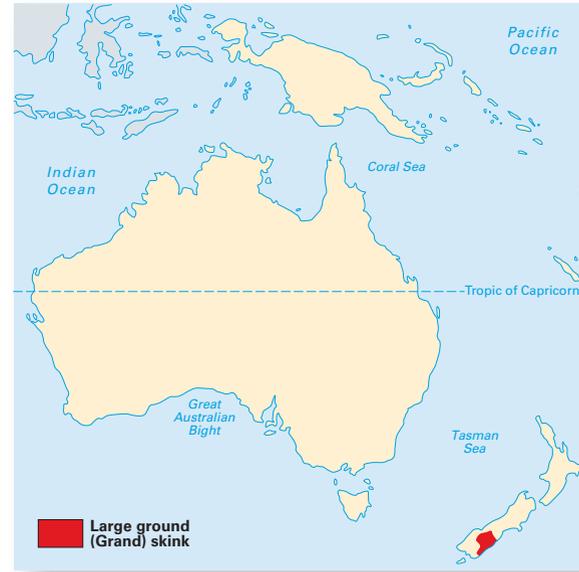
Appearance. The large ground skink may grow to a length of 11 inches (28 centimeters). Its short-legged body is mainly black with many yellowish flecks. This color combination serves as a type of *camouflage* (protection that makes the animal less visible). In this way, the reptile can hide among the dark lichen-covered rocks found throughout its *habitat* (living place).

Daily life. Large ground skinks are most often seen during the daytime, especially when it is sunny. They may scamper over rock surfaces or across the grassy ground in search of insects, fruits, or other food. These reptiles are *omnivores*—that is, they eat a wide variety of plants and animals.

Large ground skinks are able to breed when they reach the age of four. Females have from two to four young each year. But only about 60 percent of the young survive to adulthood.

Still, for a lizard, the large ground skink has a rather lengthy lifespan. Some have lived more than 17 years in the wild. In *captivity* (zoos or other places in which animals are kept for safety or display and sometimes bred), they may live even longer.

Threats. The large ground skink's remaining habitat is only a small remnant of its original *range* (area in which an animal naturally



lives). Various human activities—including mining, forestry, and agriculture—have destroyed much of the lizard's original habitat. Unfortunately, large ground skinks seem to have little natural fear of predators and so are easy prey for cats, stoats, weasels, ferrets, and hedgehogs introduced to the region by people.

Conservation. Conservationists established a recovery plan in the 1990's to help protect populations of wild large ground skinks. The plan also was designed to help another threatened species in the same region called the Otago skink.

Part of the plan involves breeding the lizards in *captivity* (zoos and other protected places) to build up the size of the populations, with the goal of releasing many of the animals into protected reserves in the wild. Another part of the plan involves trapping mammals, particularly *feral* (formerly tamed) cats, that prey on large ground skinks.

The large ground skink makes for an easy meal because the lizard seems to have little natural fear of cats and other predators introduced to its habitat by people.





Eudyptes schlegeli

Conservation status: Vulnerable

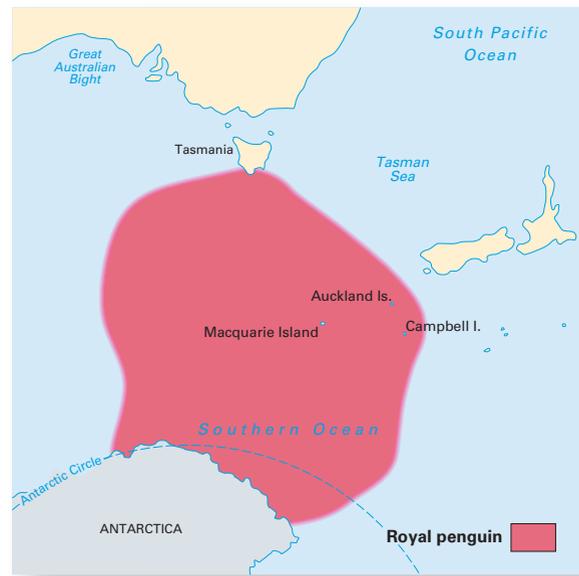
The royal penguin is a so-called crested penguin, with long yellow crests, or plumes, above the eyes. Its crests are similar to those of a related penguin called the macaroni penguin. Some people think that the crests on these birds look like macaroni noodles. The macaroni and royal penguins are sometimes classified as the same *species* (type).

The royal penguin has an orange bill and the typical black-and-white “tuxedo” coloration of most penguins. Standing approximately 2.3 feet (70 centimeters) tall, it is a medium-sized penguin. Females are usually a bit shorter than males.

Habitat. During their breeding season, the penguins live on Macquarie Island, as well as two nearby Pacific islands, about halfway between New Zealand and Antarctica. They nest in large colonies, laying their eggs on level rocky or sandy ground. During the rest of the year, they swim to other areas to search for food. They have been sighted in waters from Tasmania, off the southeastern coast of Australia, to Antarctica. Royal penguins eat fish, squid, and shrimp-like *crustaceans* (hard-shelled animals) called euphausiids.

Commercial importance. During the 1800’s and early 1900’s, royal penguins and other penguin species were hunted for important manufactured products. Millions of the seabirds were killed for their fat, which was used for fuel in lamps to provide light and for tanning leather. The penguins were also killed to get their feathers, which were used for clothing decorations, and for their skins, which were used to make caps, slippers, purses, and other products.

The mass killing of the penguins stopped only after cheaper and better alternatives to animal fat became available. These alternatives included petroleum products and *synthetic* (artificially made) fabrics.



Stable but fragile. The royal penguin population has recovered and is currently believed to be stable, with more than 1 million individuals. However, the IUCN still classifies the species as *Vulnerable*, mainly because of the penguin’s extremely limited breeding *range*. (A range is the area in which an animal naturally lives.) Such a small range for reproduction leaves the penguin extremely vulnerable to a natural or environmental disaster, such as a serious oil spill, that could wipe them out.

Threats. Royal penguins face a number of continuing threats. Among these are rats that eat their eggs and young; plastic debris that kills the penguins that eat it; and even researchers and tourists who disturb the birds. In addition, *commercial* (business) fishing operations in the Antarctic have greatly reduced the numbers of the fish the penguins prey on.

During the breeding season, royal penguins form large colonies of up to 500,000 pairs, mainly on Macquarie Island. Scientists are not sure where the migratory birds live during the rest of the year.





Myrmecobius fasciatus

Conservation status: Endangered (IUCN)
Vulnerable (EPBC)

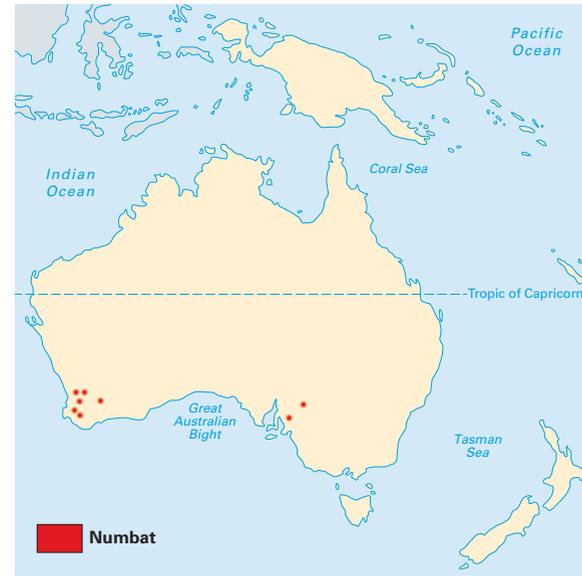
The numbat is a small, graceful *marsupial* with a unique appearance. (A marsupial is a mammal that carries its incompletely developed young inside a pouch in which the young are *nursed* [fed milk].) It has a slender reddish-brown body, about 10 inches (25 centimeters) long, with black and white stripes across its back and rump. A bold, black stripe marks the side of the head from snout to ear. The animal's tail is long and bushy.

Female numbats are unusual among marsupials in not having an enclosed pouch for their young. Instead, the mothers carry their young in an open pouch that has long guard hairs to warm and protect their babies. The young cling to the mother's hair and nipples.

Behavior. The numbat also displays unusual behaviors. Unlike most marsupials, which are *nocturnal* (active at night), numbats are active during the daytime. They walk around with their narrow snout to the ground, smelling for the shallow underground tunnels of termites. When they detect the hidden insects, they use their front claws to scratch open the tunnels. They then use their long, sticky tongue to lick up the insects. According to some estimates, a numbat may eat as many as 20,000 termites every day. They sometimes also eat ants.

During the night, numbats usually rest inside hollow logs, underground burrows made by other animals, or other sheltered places, hidden from predators. Two of their most dangerous enemies are introduced, or nonnative, red foxes and domestic cats. If a numbat's shelter is discovered by a predator, the numbat may use its rear end to block the entrance. The skin on its rear end is thick, so even if a predator bites it, the numbat will probably survive.

Habitat. Numbats live mainly in *semiarid* (somewhat dry) scrubby woodlands dominated



by eucalyptus shrubs and trees. Before the 1900's, numbats were common throughout southern Australia. But today they are found only in the southwestern corner and south central area of the country.

Threats. Numbat populations have fallen greatly as their natural woodland *habitat* (living place) has been cleared for agricultural developments. Predators—not only red foxes and cats, but also dogs and dingoes—have further reduced numbat numbers. Frequent large fires in some areas have burned up the dead logs that numbats prefer for shelter.

Conservation. The numbat is the official emblem of the state of Western Australia. Various laws passed to preserve this endangered *species* (type) have led to a reduction in the fox population and the establishment of nature reserves. Scientists have also reintroduced numbats to areas from which they had disappeared.

The number of numbats has fallen dramatically because of habitat change and attacks from introduced animals.

