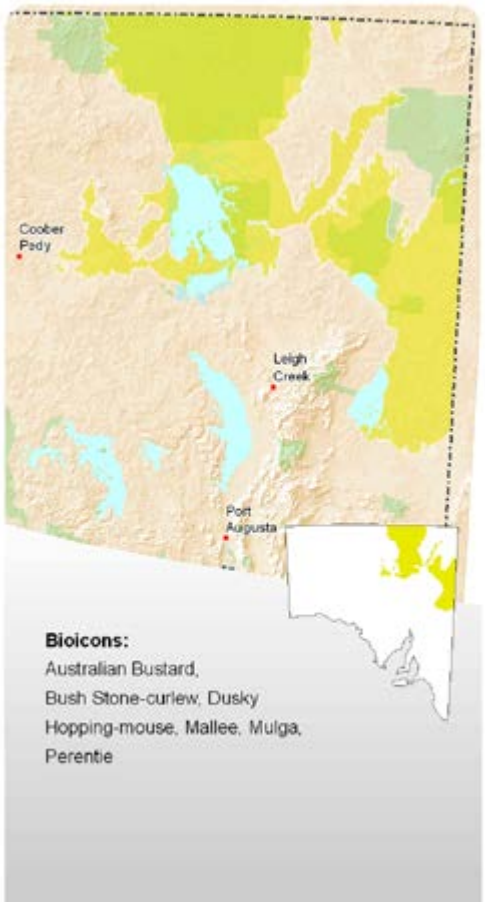
Simpson-Strzelecki Dunefields

Photo ©SATC/John Sones

Near Lake Eyre



The Simpson-Strzelecki Dunefields bioregion is located on the borders of South Australia, Northern Territory and Queensland. About 48% of the bioregion is in South Australia.

It has an arid, subtropical climate and includes the driest area of Australia. Rainfall is between 150mm - 250mm per year and most of the rain falls during summer months.

It also includes Lake Eyre which is the lowest point in Australia at around 15m below sea level. The Great Artesian Basin lies underneath this bioregion.

Biodiversity and habitat

In this bioregion you will find long sand dunes, large saltpans, sand plains and rivers and lakes which are usually dry or restricted to permanent waterholes. Most of the bioregion has intact native vegetation which is mostly hummock and tussock grasslands, open acacia woodlands and acacia shrublands.

The larger lakes are usually dry, but when flooded they contain plenty of fish and attract large bird populations. When wet, the wetlands are an important habitat for Freckled Duck, Musk Duck, Black Swan, Silver Gulls, Australian Pelican, Great Egret and Banded Stilt.

Threatened animals include the Dusky Hopping-mouse, Mulgara and Ampurta. The Lake Eyre Dragon is restricted to Lake Eyre and surrounding salt lakes.

Many smaller mammals are now extinct in the bioregion, including the Pig-footed Bandicoot, Lesser Stick-nest Rat, Burrowing Bettong, Desert Rat Kangaroo and the Bilby.

Threats

Threats to the Simpson-Strzelecki Dunefields bioregion and its dependent species include:

- overgrazing and trampling
- introduced predators, such as foxes and cats
- uncontrolled fires
- invasive weeds.

The bioregion includes Lake Eyre which, when it fills, is Australia's largest lake.

Conservation

The land in this bioregion is mainly used for grazing and nature conservation.

The Simpson Desert Regional Reserve and Conservation Park, Kati Thandai-Lake Eyre National Park, Strzelecki Regional Reserve and Lake Frome Regional Reserve are all found in this bioregion.

You can help conserve the Simpson-Strzelecki Dunefields bioregion and its dependent species by:

- finding out more about how Lake Eyre comes back to life when the water returns
- spreading the word – tell other people about the effects of overgrazing and introduced species on native plant and animal populations and their habitats.

For further information

Public enquiries

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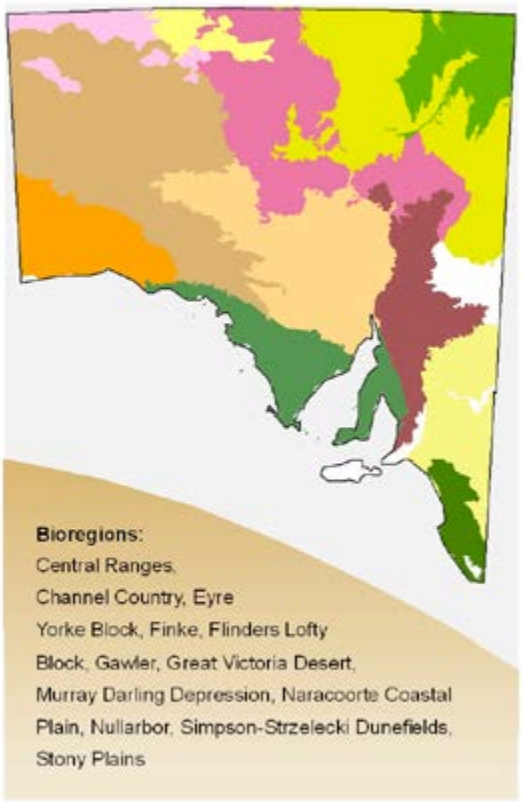
Australian Bustard

Ardeotis australis



Map courtesy of Mapping Unit, Customer and Commerical Services.

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One of Australia's largest birds, the Australian Bustard is up to one metre tall with a wingspan of up to 2.3 metres! Heavy bodied, ground-dwelling birds, males (5-10 kilograms) are up to three times heavier than females (2-3 kilograms). An upright posture, long legs and a black cap of feathers on their heads make them easy to recognise. This bird has the distinction of being Australia's heaviest flying bird. When disturbed these birds walk away slowly (looking quite superior with their heads in the air!). They are strong in flight and sometimes move from one area to another.

Diet

The Australian Bustard is omnivorous, foraging on insects, young birds, lizards, mice, leaves, seeds and fruit. In the arid parts of their range, Australian Bustards are primarily nomadic, tracking rainfall and food sources opportunistically across the landscape.

Breeding

Australian Bustards breed once a year using what is called a 'lek' mating system. This means that when mating, each male uses a 'display site' to try and attract a female. Males put on a show by inflating a large throat sac and strutting around with their tails up making a loud, deep, roaring noise. Females then choose which male to mate with on the basis of their size and display. In the drier arid areas of SA they may not use the lek system, some being more solitary and even monogamous.

From September to November, eggs are laid in a hollow on the ground where the female has a good view of approaching threats while being well camouflaged. Females incubate one to two, rarely three, eggs for around 24 days. After mating males play no further part in raising the chicks.

Habitat

The Australian Bustard lives on dry plains, grasslands and open woodlands, and they favour tussock and hummock grasslands. Occasionally they are seen in modified habitat areas such as farmlands and golf courses.

Fire followers! Groups of Australian Bustards have been seen flocking to fires to eat animals flushed out or killed by them.

Threats

Past hunting reduced their populations and illegal hunting continues. Predation by cats and foxes, habitat degradation from overgrazing rabbits and stock, and habitat clearance and alteration are other major threats to the Australian Bustard. Secondary poisoning from rabbit baiting can also pose a threat to them. These threats have seen a large scale decline in their population in south-east Australia. They are largely now found in northern Australia and southern New Guinea.

Conservation

You can help the Australian Bustard by:

- keeping our wildlife wild! Bustards could become more vulnerable to illegal hunters if they are fed or tamed and if disturbed their nests could fail
- being a responsible pet owner – desex your pets, keep them inside at night and don't take them into national parks.

Photo by Mark Ziembicki — Australian Bustard

Photo by Bruce Doran — Australian Bustard

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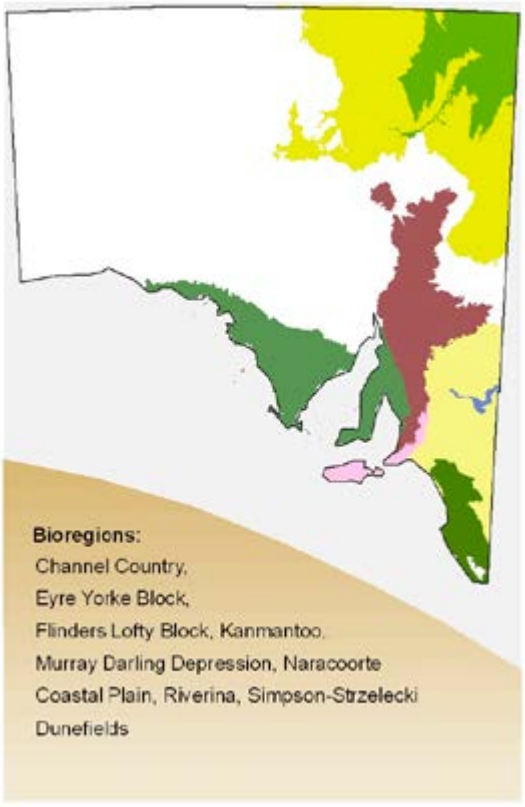
Bush Stone-curlew

Burhinus grallarius



Map courtesy of Mapping Unit, Customer and Commerical Services.

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Bush Stone-curlews are ground-dwelling birds; this means that they roost, feed and nest on the ground. Their big yellow eyes and long legs with knobbly knees allow them to be easily distinguished from other birds. They can live more than 20 years and grow to 50-60 cm tall.

Bush Stone-curlew are nocturnal, and are famous for the wailing sound they make at night. They are such secretive birds that sometimes this call is the only way to know that they are around.

During the day they rest crouching down, head outstretched. When disturbed they tend to freeze instead of flying away, which can make them especially vulnerable to predators. Historically they travelled in groups of 50–100 but it is now rare to see more than four birds together.

Diet

These birds eat insects, small frogs, lizards and snakes.

Breeding

Bush Stone-curlews nest from August to February and usually lay two eggs in a scrape (small bare patch) on the ground. These eggs are mottled brown and grey for camouflage and are incubated by both parents. Unfortunately, only 15 per cent of nesting attempts in the South East of SA are successful.

Habitat

Bush Stone-curlew prefer 'untidy' landscapes covered in fallen timber and debris. The mottled grey-brown colour of their feathers makes them well camouflaged amongst the woody debris of their habitat. These unique birds have disappeared from around 90 per cent of their former habitat on the South Australian mainland.

Threats

Foxes and cats are the Bush Stone-curlew's main predators. The clearance of open woodlands has led to the fragmentation and destruction of suitable habitat. The removal of timber makes them vulnerable to predation from feral animals. Other threats include eggs being trampled by stock and nest disturbance from pets and people.

Aboriginal People associated the curlews with ghosts because of the wailing cries they make at night!

Conservation

You can help protect the Bush Stone-curlew by:

- avoiding taking firewood from woodland environments; these are an important part of the curlew's habitat
- keeping pets inside at night and walk dogs on a lead in woody areas – cats and dogs can kill native birds like the curlew
- trying not to disturb Bush Stone-curlews if you come across them.

Photo by Dan Harley

Bush Stone-curlew

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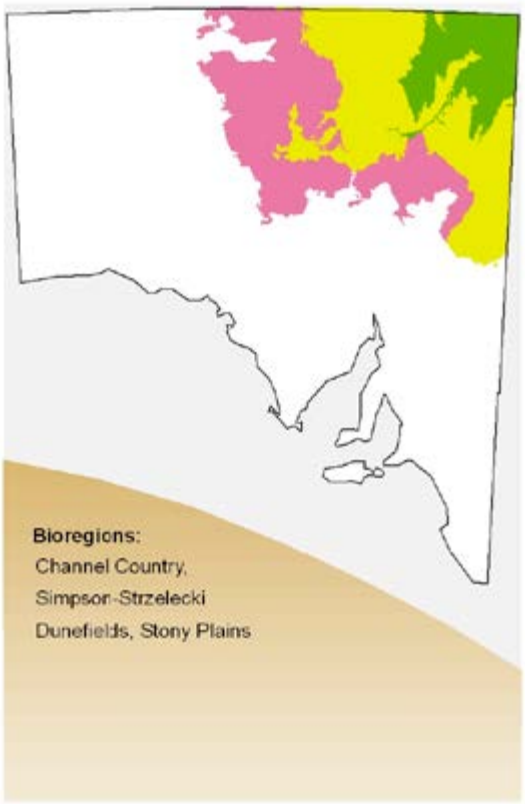
Dusky Hopping-mouse

Notomys fuscus



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Dusky Hopping-mice have long narrow hind feet that they hop on when travelling quickly. They also have large ears, dark eyes, strong incisor teeth and a tail that is longer than their body with black tuft on the end. Similar in appearance to Fawn Hopping-mice, Dusky Hopping-mice are distinguished by their distinctive throat pouch which is present on both females and males! Numbers of this animal have declined greatly since European settlement.

Diet

Their diet consists mainly of plant material (seeds and shoots), berries and occasionally insects. Dusky Hopping-mice do not need to drink as they get moisture from their food. Along with many animals living in arid areas these mice are nocturnal, sheltering in burrows during the day and coming out at night to look for food. They usually forage close to their burrows in the sand dunes, rarely venturing far into surrounding areas.

Breeding

Dusky Hopping-mice are quite fertile and can breed any time of year, but are more likely to breed after rainfall when more food is available. Populations can fluctuate greatly depending on season and other factors.

Habitat

Dusky Hopping-mice are found in northern South Australia and adjoining states. Once widespread throughout many arid areas of the state, they are now restricted to an area east of Lake Eyre. They live in sandy habitats with dunes and perennial vegetation. Dusky Hopping-mice are social animals and live in burrows in groups of three to five individuals. Burrows dug by these mice are elaborate with a series of complex tunnels and chambers up to one metre deep and five metres long. Denser populations of Hopping-mice are usually found near lakes or drainage lines and this may be because areas near water sources have more plants for these animals to eat.

Threats

Dusky Hopping-mice are threatened by habitat degradation. This is caused by vegetation clearance and soil compaction due to farming, stock and development. Burrowing animals struggle to make their nests if the soil becomes too compacted. Predation by cats and foxes is common. Competition with introduced rabbits and house mice for food and habitat is leading to further population decline.

Their burrows have a series of pop-hole entrances that they can escape into.

Conservation

Recovery strategies, such as protecting native vegetation and population research, are being put into action in some of their habitat areas.

You can help the Dusky Hopping-mouse by:

- being a responsible pet owner – desex your cats and dogs, keep them inside at night and don't take them into national parks
- spreading the word – tell other people about the plight of these unique animals
- acting to protect remnant areas of native bush for native species like the Dusky Hopping-mouse.

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Mallee

Eucalyptus spp.

Map courtesy of Mapping Unit, Customer and Commerical Services.

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Mallee comes from an Aboriginal name for a group of eucalypts that grow two to nine metres high. They are multi-stemmed and grow from underground woody bases called lignotubers. Mallee is also the name for the vegetation communities in which Mallee eucalypts grow. These communities usually include several layers of vegetation from large shrubs to small grasses and ephemerals. Mallee support a wide range of biodiversity, including the Malleefowl.

Leaf litter is slow to decompose in Mallee areas because of the dry conditions, so there is often plenty of fuel for a fire. Mallee eucalypts have adapted to cope well with fire. They grow vigorously from dormant shoots under the bark of the branches, the trunks, or the lignotuber. This is called epicormic growth.

Lignotubers store water and nutrients so new branches can grow if they have been damaged or cut to the ground. This has been very annoying for farmers trying to cut them down. They are also very difficult to remove from the ground and used to break a lot of ploughs as they are solid and rock-like. Large-scale clearance started in SA around 1900 when the stump-jump plough was invented. Farmers then conquered the Mallee, but when the trees were gone there were problems with the soil becoming too salty and eroding away. It was realised too late that plant cover is very important for keeping the soil stable and stopping salt water from rising to the surface.

Habitat

Mallee eucalypts grow in the semi-arid parts of southern Australia, and have many adaptations that help them survive the hot, dry conditions. Like most eucalypts, they close the pores of their leaves (stomates) during the heat of the day so they lose less moisture through evaporation.

Threats

Being cleared for agriculture is the biggest threat to Mallees both historically and today. Drought caused by climatic change and too frequent and intense bushfires put pressure on populations of these trees. Their understorey is often grazed on by sheep, cattle and goats. Rabbits also graze on new shoots which can make it more difficult for them to grow. Salinity and habitat fragmentation are other problems Mallee plants face.

Musical Mallees! Didgeridoos are made from the stems of Mallee eucalypts that have been hollowed out by termites.

Conservation

You can help Mallee eucalypts by:

- preserving these trees on your property
- being waterwise at home and helping ease the strain on our limited water sources
- getting involved with revegetation projects like the Million Trees Project.

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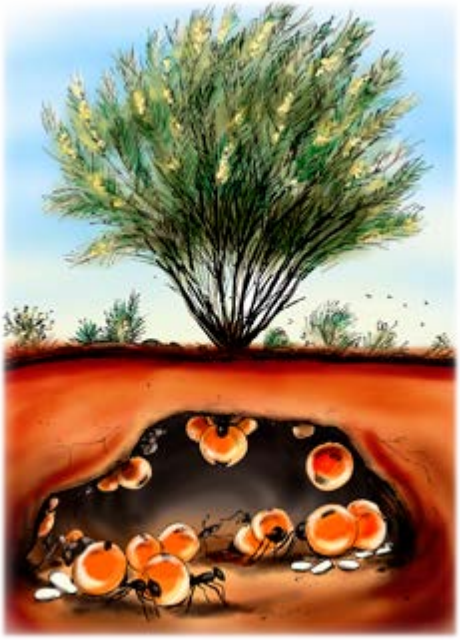
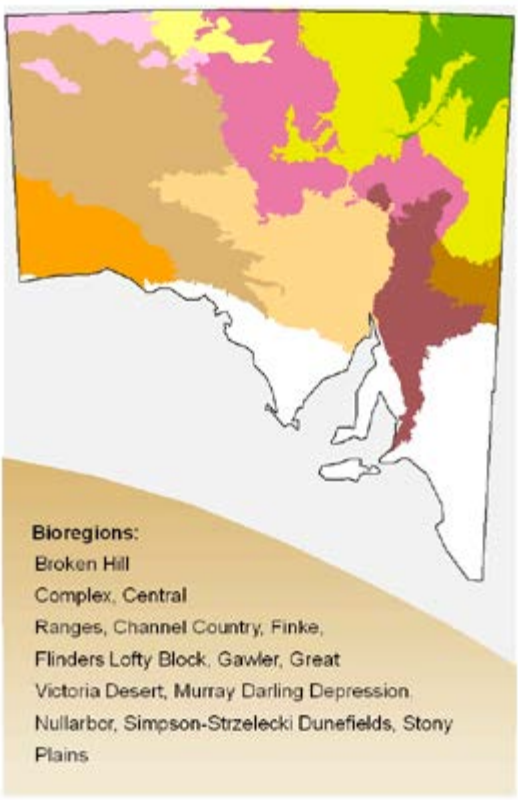
Mulga

Acacia anuera





Map courtesy of Mapping Unit, Customer and Commerical Services.

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Mulgas are single or multi-stemmed acacias. They are classified as a small tree or a large shrub and are the main species in many desert ecosystems, such as Mulga woodlands. Mulgas are also an important food source for stock, especially during droughts.

While most acacias have relatively short life spans, Mulgas are long lived. They can grow to a maximum height of 10 metres. Reduced rainfall or drought conditions can slow or temporarily stop the growth of Mulgas. For this reason, it sometimes takes a Mulga tree 100 years to become mature. It is believed they can live between 300-400 years.

Acacias do not have leaves in a botanical sense, but instead have phyllodes. These are slim, flattened leafstalks. Phyllodes are arranged to avoid full sun and channel rainwater to the roots.

Underground, Mulgas have a taproot which can help the plant access deeper moisture and store water and nutrients. Mulga seedlings which are just 10cm high may have taproots extending three metres into the ground.

Mulga wood is very hard and is popular for use as fence posts and in craftwork. Mulga also had a wide range of traditional uses for some groups of Aboriginal people. These included: food from the seeds, lerps and sap; tools from the wood; resin from the phyllodes; and medicines from the leaflets and twigs. The name 'Mulga' comes from the name one Aboriginal group used for the shields they made from its wood. Honey Ants (*Camponotus inflatus)* make their nests underground beneath Mulga trees. These ants are another popular traditional food as their abdomens are full of a sweet honey-like substance.

Reproduction

Mulgas produce bright yellow flowers at any time of year, usually following rain.

Habitat

Mulgas are common in arid to semi-arid areas of South Australia, New South Wales, Queensland, Western Australia and the Northern Territory.

Threats

The key threats to Mulga are introduced herbivores, such as rabbits and goats, some of which have established feral populations and led to the suppression of the regeneration of arid shrubs such as Mulga and thereby threatening their long-term survival. In some areas, seedlings are eaten and trampled on by rabbits and goats which can be devastating. It is unlikely that there was any successful Mulga regeneration between the 1880's and the 1950s due to the impact of the rabbit!

Mulga trees are also threatened mainly by past and present clearance for agriculture. Changed fire regimes can be another problem – acacias are less fire resistant than eucalyptus.

Climate change also creates a less suitable habitat.

Small insects called Red Mulga Lerp *(Austrotachardia acaciae)* live on the outer branches of Mulga trees. They exude a honey dew to protect themselves from animals. which can be sucked straight off the branch, or soaked in water to make a sweet drink!

Conservation

You can help the Mulga by:

- finding out more about the many ways Aboriginal people use Mulgas and telling your class about it
- getting involved with revegetation projects, like the Million Trees Program.

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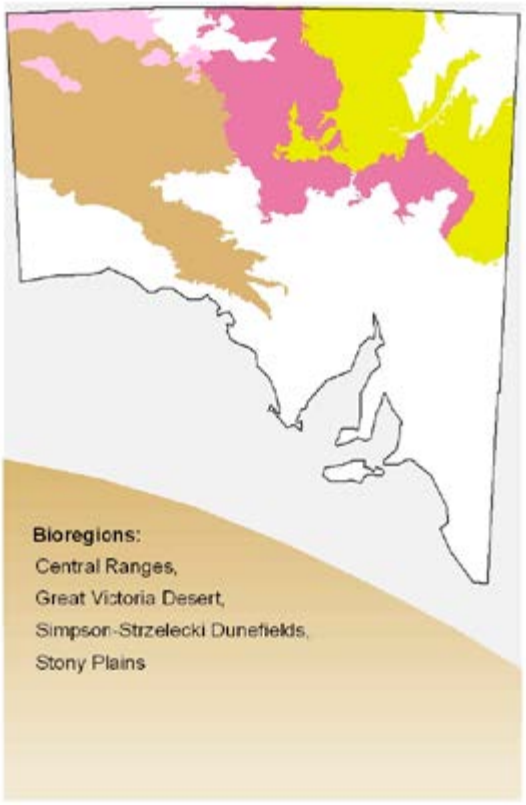
Perentie

Varanus giganteus



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The Perentie is the largest lizard in Australia, growing up to 2.5 metres long. They belong to the monitor family, commonly referred to as goannas. Their appearance is distinctive, with a forked tongue, a long neck and powerful limbs each with five clawed toes on the end. They also have a strong tail and numerous sharp curved, backward pointing teeth. Perenties hibernate from May to August.

They are able to sprint either on all fours or on their hind legs. To get a better view of their surroundings they can stand on their hind legs and balance on their tails. When standing normally or walking, Perenties hold themselves off the ground on their stout legs. This keeps them cooler, away from the heat of the ground. Perenties sometimes lunge forward with an open mouth, either as a bluff or an attack.

Researchers have recently discovered that their bite is slightly venomous. When threatened they rise up, inflate their throat and hiss. If the predator persists they run away, or use their strong tail in defence.

Perenties are a traditional source of food for Aboriginal people living in desert regions.

Diet

They forage on turtle eggs, insects, birds, other reptiles (including juvenile Perenties) mammals and carrion.

Breeding

Female Perenties lay 6-12 eggs beneath a large object or mound. Sometimes they bury eggs in termite mounds where the activity of the insects provides constant warmth. Young are brightly coloured and hatch within three to nine months.

Habitat

Perenties live in arid and semi-arid regions of Australia from Western Queensland to coastal Western Australia. They usually prefer areas around rocky hills and outcrops. To shelter, some Perenties dig burrows with their powerful front legs and claws or take over rabbit burrows. Burrows can be quite large and have several escape exits. Others choose to find shelter in deep rock crevices instead.

Threats

Perenties are preyed on by humans, wedge-tailed eagles and dingoes. Juveniles are preyed on by snakes and large goannas. Climate change is a threat to the Perenties in their desert habitats, and habitat destruction and degradation means they may have less places to live and less food to eat.

A taste for hunting! Like some snakes Perenties can pick up scents in the air and translate them using the Jacobson's organ located on the roof of the mouth. After catching their prey, they violently shake it until dead and swallow it whole.

Conservation

You can help the Perentie by:

- finding out more about the Perentie and other desert-dwelling species and giving a presentation to your class about them
- doing your bit to stop climate change by being wise with your energy use at home
- finding out about monitor lizards living on other parts of the world.

Photo by Peter Copley

Perentie

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