

Photographs appearing on these information sheets have been reproduced with the kind permission of Steve Parish Publishing, Australian Geographic and WIRES.







# Contents

Arboreal Marsupials4	0
Marsupial Carnivores4	4
Burrowing and 'Nesting' Marsupials4	6
Ant Eaters4	9
Monotremes5	0
Reptiles5	52
Lizards5	52
Geckos5	52
Skinks5	5
Dragons5	57
Monitors5	9
Amphibians6	0
Turtles6	0
Frogs6	»2
Glossary6	6
References6	8









# Australia's Animals

Fifty five million years ago, Australia drifted apart from a huge landmass called Gondwanaland. Over tens of millions of years, Australian animals evolved their own separate identity from the rest of the world. Monotremes like the Echidna are found only in Australia and New Guinea, and the majority of the world's marsupials such as the Wombat and Koala are found only in Australia.

People coming to the shores of Australia have caused change which has affected wildlife. Dingoes which were introduced about four thousand years ago competed with the native Thylacine for food on mainland Australia. The Thylacine became extinct on the mainland two thousand years ago.

Over the last two hundred years, successive migrations of people have come to Australia. They have significantly altered the natural environment. Suburbs and farmland bear little resemblance to replaced environments such as rainforest, open woodland, and grassland.

Introduced animals have caused problems. Feral animals such as cats prey on native wildlife. Introduced rabbits compete with native animals for grass and evict Bilbies from their own homes!

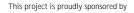
These new species have caused havoc with animals that have adapted to the Australian environment. Since the arrival of these animals some species such as the Lesser Bilby, the Crescent Nailtail Wallaby, and the Tasmanian Thylacine have become extinct. Others such as the Numbat are in danger of extinction.

Efforts have, and are, being made to preserve the natural wildlife of Australia. National Parks have been formed to provide natural habitats for wildlife. Breeding plans have been started with plans to reintroduce Australian animals into their old habitats. Bilbies in West Australia, Numbats in South Australia, and Regent Honeyeaters in New South Wales have been reintroduced into part of their old habitats.

Organisations like WIRES have been formed. WIRES' trained volunteers take in injured native animals and provide care for them. Afterwards the animals are returned, if possible, to the habitat where they were found. These habitats include bush, farmland, parks, and near urban dwellings. Australia has unique animals that need to be preserved for the benefit of our own and future generations.









# How to use these fact sheets

Some information is provided on the orders and families of animals to give a background to the individual native species. Each species comes with an identifying description and a photograph. The habitat and observed behaviour of the animal is given. Food and behaviour are also described. Watch out for the special animal abilities!

Many of the animals, for example Blue-Tongue Lizards and the Willie Wagtail, can be found in the backyard. Some, such as the Wedge-Tailed Eagle, can be only seen away from human settlement. Others, like the Platypus, are rarely seen. Unfortunately, a few like the Numbat are rare. See how many you can discover by looking around!



Blue-Tongue Lizards can be found in the backyard





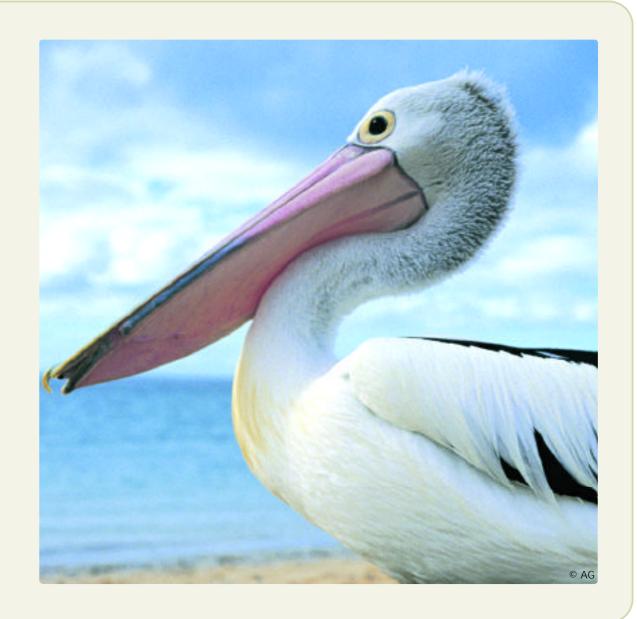


# **Birds**

Birds are four limbed creatures. Two of the limbs are legs, the other two are wings. Feathers cover the skin of birds. Feathers have surfaces that give lift and direction for flying and, as anyone sleeping under a quilt knows, feathers keep you warm.

A bird's jaw is referred to as a beak or a bill. Birds' beaks are somewhat like a fingernail – hard on the outside and soft on the inside. The bones of birds are usually hollow. Less weight enables the bird to fly.

They are warm blooded. The temperature of their surroundings varies but their temperature remains the same. Females lay eggs. At first the young develop inside the safety of the eggshell.









# **Aquatic birds**

Aquatic birds live on and close to the water. They usually eat fish and water invertebrates. One special adaptation is webbed feet.

# White Ibis Common

The Ibis holds a special place in the history of WIRES. In 1985 an injured White Ibis was found in Hyde Park. Nobody knew who would take care of this bird. WIRES was formed to take care of native animals that needed help before being released back into the wild.

### What am I?

The White Ibis was called the Sacred Ibis, but this is a separate African species. The main call is a harsh croak or an 'urk'. Its body is primarily white. The curving bill is black, the head is bald and black, plumes above the tail are black, and legs are dark. Females differ by being only slightly shorter. Size of adults is usually between 65 to 75 centimetres.

### Habitat

Preferred habitats are grasslands, floodplains, marshland, lagoons and mangroves. It has also adapted to people and can be found in parks and gardens. Like pelicans they fly in a V formation because it saves energy on long flights.

### Food

When in water, this bird moves its head from side to side in search of food. The long bill of the White Ibis is useful in digging into the earth for favourite foods which include crayfish and mussels. When mussels are found, they are hammered open upon hard surfaces. The Ibis eats the soft body inside.

Locusts, grasshoppers, beetles, small reptiles and crayfish are other favourite foods. In urban parks they scavenge what is left lying around. So do not leave items lying around as the White Ibis becomes dependent upon them. They may become ill, like in the way we do when we eat too much chocolate.

### Family life

The mating ritual is unusual. Males find a branch on a tall tree in order to attract a female. When a female arrives the male bows. He then offers her a twig. If she accepts they fly off together to nest elsewhere. This nest is a platform in reeds or bushes usually with other Ibis in a large colony. A colony can number up to 10,000. Both parents incubate and feed the chicks. Young are born without feathers and unable to care for themselves, but they quickly grow.











### Australasian Grebe Common with fresh water

#### What am I?

Grebes live on and close to water. The Australasian Glebe prefers tranquil fresh water. Wetlands, dams, and lakes in town are places that the Grebe can be found.

Identifying characteristics are a bill with a cream tip, yellow eye, and a black head with a reddish stripe on the neck. The back is dark brown, the underparts silver and grey and the tail is short. With a body length of 25 to 27 cm and a wingspan of 39 cm the body of the Grebe looks egg shaped.

### Food and Behaviour

The Grebe's diet consists of water insects and small fish. It often dives up to three metres under water in search of food, although it also finds food on the surface.

There are many waterbirds in Australia and there is an easy way for telling the Grebe apart from the others. If threatened, the Australasian Grebe dives under water rather than flying away. Water is its preferred element.

In fact, the Grebe's legs are not very good for walking and it has webbed feet. This waterbird likes water so much that its nest is a floating pile of vegetation. This nest is anchored to a reed or a fallen branch.

### Family life

Both adults take turns sitting on the eggs for 23 days. When the Australasian Grebe leaves the nest, it drapes weed over the eggs and nest. The eggs are kept warm and hidden from predators. Adults stay with the chicks for the first eight weeks.

A piggy backer! Adults sometimes are seen with chicks on their backs.

This waterbird has the strange habit of eating its own feathers to feed to its young. The apparent reason is to prepare the Grebe's chicks from hurting themselves when eating fish that have sharp bones.







### **Australian Pelican**

### Common with fresh water

### What am I?

One of the largest birds in Australia, Pelicans live anywhere that there is a body of water. The Pelican's most obvious feature is its long pink bill with a large throat pouch underneath. Its call is a grunt or a groan.

Colouring is white with some black. The body is from 1.6 to 1.8 metres in length, the wingspan 2.3 to 2.5 metres, and the weight on average is 4 to 6.8 kilograms.

For such a large bird they are light weight. The reason that they weigh so little is because of their very light skeleton which weighs less than 10 percent of their body weight. Less weight helps this large bird to fly. The pelican has webbed feet.

### Bill and pouch

For such a long bill it is extremely sensitive for finding fish under water. The pouch underneath the bill feels like suede. It is used as net. Once Pelicans catch food, they draw the pouch to its breast to drain the water out so that only the food is eaten. The bill and pouch is so large that they can hold as much as 13 litres.

The Pelican's pouch is so big that they have been known to open their bills to collect rain falling!

### Food

Most of their diet is fish. The Australian Pelican, however, will eat anything that they find in the water from tadpoles to turtles. Pelicans work alone or can be cooperative birds. They work in flocks on the water to herd fish into a small area. By beating their wings and using their bills to herd fish into shallow water they can have a feast. Working as a group can lead to fuller stomachs!

### Family life

Pelicans nest close to water in large flocks. Typically they nest after heavy rain. Two eggs are incubated by the adults taking their nesting duties in turn. When the chicks are 25 days old they join a nursery with other Pelican chicks. The nursery is called a crèche. At three months they can fly.









# Birds of prey

There are 24 species of raptor in Australia. Raptors are birds of prey that have a hooked beak. Their sharp and curved claws are called talons. All of these birds feed on other animals. They are mostly active in the day time when they can use their excellent eyesight.

### Brown Falcon Common

### What am I?

Brown in colour, its underparts range from a blotchy white to a blotchy brown, or sometimes just brown.

Male: body 41 to 45 cm, wingspan 89 to 109 cm, 476 g Female: body 48 to 51 cm, wingspan 89 to 109 cm, 610 g

When at rest this is normally a silent bird; when in flight their calls are raucous cackles and screeches.

### Habitat

The Brown Falcon lives on most terrestrial habitats, except closed forest. They are most common in open grassland and agricultural areas. Preferably there are scattered poles or trees around for them to perch on as they wait. In agricultural areas they perch on fence posts.

### Behaviour

From an exposed perch they will look for prey to feed upon. Brown Falcons only occasionally chase prey; they prefer the 'wait and pounce' method of hunting. They perch in the one place until they see prey that is close, then they swoop down to take the animal. Favourite foods are mice and small rabbits. They feed on reptiles, small mammals, insects, and rarely small birds.

### Family life

Most Brown Falcons live as a pair. They will use a nest from another species of hawk or raven, build their own nest, or use a hollow in a tree. Both adults share the incubation of usually about three eggs. The female primarily cares for the young while the male supplies most of the food. The eggs hatch after 30 days and the young leave the nest after 40 to 45 days. In the wild they can live up to 18 years.

A Chicken! Other birds such as Eastern Rosellas do not like Brown Falcons near them. These smaller birds can chase them away!









### Wedge-tailed Eagle Common

### What am I?

This eagle is Australia's largest bird of prey. Feathers cover the lower legs right down to the powerful talons. When in flight their tail forms a wedge with the narrow part of the wedge close to the body.

Male: body 90 cm, wingspan 1.85 m, 3 kg, Female: body 1m, wingspan 2.25 m, 4 kg

Apart from size, one can look at the colouring to tell the young apart from the old. Younger birds are a reddish brown, whereas older birds over 10 years old are a darkish brown.

### Habitat and behaviour

Most natural environments suit the Wedge-tail. However this species does stay away from environments dominated by people. They can soar up to 2000 metres high in search of food. Their Wedge-tail becomes noticeable when they glide and fly.

The Wedge-tail calls by whistling, and a loud and shrill scream. These eagles may hunt singly, in pairs, or as a group. Groups may attack and kill an animal as large as an adult kangaroo. They may lift up to 50 percent of their body weight off the ground. Like the Currawongs they can store food on a branch near them. They eat a lot of animals off the side of the road that have been killed by cars, and often are hit by cars as they 'clean up' the roadside

### Family life

Wedge-tailed Eagles share responsibility for nest building. Whether these nests are in a tree or on a cliff they have a good view of the surrounding country. Nests are often reused and added on to. Nests have been recorded as large as three metres wide and 180 centimetres.

Nests of up to 400 kilograms have been known. That is a lot of sticks!

They also share responsibility for rearing chicks. There may be up to three eagle chicks in the nest. Chicks are covered with a white down.

When young eagles fly together as a flock are called rogues. They have been recorded as travelling 850 kilometres over a seven to eight month period. Widespread over Australia, the Wedge-tailed Eagle can often be spotted soaring far above.

### Them and us

They are a defensive bird that stays away from people. If you approach their nest they may attack. Wedge-tailed Eagles have been known to attack hand gliders and helicopters that stray into their territory.

For years Wedge-tailed Eagles were persecuted by farmers for killing lambs. It was thought that they were becoming endangered because of people hunting them. They, in fact, kill very few lambs. Rabbits and hares make up between 30 to 70 percent of their diet, sometimes more. Wedge-tails are killing the lamb's competition for grass!





This project is proudly sponsored by



# **Diurnal and nocturnal**

Some birds are only active in the day time. They are called diurnal. The Kookaburra heard laughing at dawn and dusk is a day time hunter. Nocturnal birds are only active at night. The Tawny Frogmouth hunts at night. In the day they stay still to avoid detection from other birds. They have very soft and pliant feathers that make no noise in flight.

# Laughing Kookaburra Common

Kookaburras are called the Bushman's alarm clock because they are heard laughing at dawn and dusk.

### What am I?

The Laughing Kookaburra is best known for its laughter. Once one Kookaburra laughs, others of the family usually join in. Other calls are a chuckle or a 'kooah'. This laughter advertises the family's territory to other Kookaburras as a warning to keep away.

The Laughing Kookaburra is the largest member of the Kingfisher family. Kingfishers have large heads, short necks and stout bills. Adult Kookaburras are approximately 45 centimetres long and weigh about 350 grams.

The large bill of the Kookaburra measures 10 centimetres in length and is in two colours. The upper bill is dark while the lower bill is a creamy colour. A brown stripe is behind the eye. The head is creamy, the rest of the body is brown, and there is some mottled brown on the wings.

### What's for dinner

The Laughing Kookaburra will sit on a suitable perch to search for food. It eats mainly large insects, lizards, and snakes, small chicks, some worms and crustaceans. Small prey is eaten whole. Larger prey is bashed against the ground or tree trunks. Bashing breaks up the bones for easy digestion.

### What hunts this bird

Introduced predators include foxes and cats. Kookaburras are not good flyers. If surprised, they will fluff up their wings to try to scare predators away.

### Habitat

The Laughing Kookaburra lives in open forests and woodlands. Suburban areas have parklands, trees in yards and on the streets. So Laughing Kookaburras can also do well in suburbs as long as there is a good food supply.

### Family life

Males and females become permanent partners. They look alike, but the male has a blue patch on its rump; the female has a brown rump. They nest on a flat floored cavity in a tree trunk or on a branch. The two to three eggs hatch within 24 hours of each other. The chicks can fly after five weeks, but are then cared for the next eight to 13 weeks.

The young are not forced to leave their parent's territory. They help protect this territory from other birds. In addition, they help rear and protect their parents' offspring for the first one to two years. They eventually leave to form pairs themselves. This social system is effective in ensuring that the Laughing Kookaburra thrives.











### Tawny Frogmouth Common

### What am I?

The Tawny Frogmouth is nocturnal and looks a bit like an owl. This species is in fact more closely related to the nightjars. The eyes are yellow and the crown of their head is flat. Their wide beak is tufted with bristly feathers which gives them a distinctive appearance. The weak feet lack the curved talons of owls.

This bird is between 35 to 50 centimetres in length. Silvery grey in appearance the feathers are mottled with red and dark colouring. The colouring is useful camouflage for within forests. Voice sounds like an 'oo-oom'.

### Habitat and behaviour

Woodlands, especially gum forests, are their preferred living environment. Dense forests and treeless deserts are avoided. In the day, this bird perches low down on a tree and is very still. Their camouflage works to make them look like a tree branch.

### Food

Food is caught at night. The Tawny Frogmouth pounces from a tree or a perch to the ground. Most of the food consists of insects, worms, slugs, mice and snails. Insects such as moths are caught while in flight. Some reptiles, frogs, birds, and small mammals are also caught.

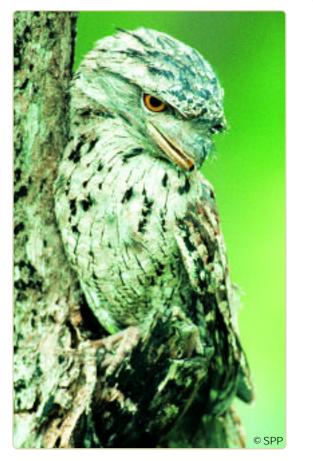
Moths like light. When Tawny Frogmouths see moths illuminated in car beams they give chase. This chasing of food has led to unfortunate accidents with cars.

### Family life

A horizontally forked tree branch is chosen for the nest, which is a loose platform of sticks. Two to three eggs are laid. The male sits on the eggs at day. Both males and females share sitting on the eggs at night. After 30 days the eggs hatch. Both adults take care of the chicks. After 25 days the chicks are ready to leave the nest and live independently.

### Them and us

Sometimes their prey may have insecticides in them. When prey is digested, insecticide can be stored in the Frogmouth's body fat. In cold weather this fat is used. The Tawny Frogmouth may die from using this poisoned fat.









# Black and white

Black and white birds such as Pee Wees, Magpies, Currawongs, Willie Wagtails, Crows, Ravens, and Pied Butcherbirds are noted for their tolerance of people. They live and nest close to houses. They aggressively defend their territory. Some of their songs are used to claim ownership for a territory.

# Willie Wagtail Common

### What am I?

The Willie Wagtail is the largest of the Australian fantails. This bird measures between 18.5 to 21.5 centimetres. Eyes, bill, and the legs are black. A distinctive white stripe like an 'eyebrow' is over the eye. The upper parts are dark to black while the under parts are white.

The Willie Wagtail is known for its calls. Some calls involve scolding. The well known call is a 'sweet, pretty creature' song. Their tail will wag in the air which explains their name.

### Habitat and behaviour

This species lives everywhere in Australia, except for extremely dense and wet forests. Although seen singly or in pairs, flocks can form in winter. The Willie Wagtail is tolerant and tame around people. It often feeds and nests close to houses and areas where people are active. They defend their territory against intruding birds.

### Food

They are active in pursuit of prey. Insects are captured in the air and are pursued on the ground. They are often seen with domestic and farm animals. For example, they sit on the backs of sheep and cattle. As the animal moves and disturbs the ground, the Willie Wagtail darts off to catch insects that have been set in motion.

A thief! Live animals such as horses lose their tail and mane hair to Willie Wagtail nests.

### Family life

The nest is cup shaped and woven from grass. Soft grass, hair, and fur line the inside. A spider's web lines the outside. The eggs are incubated by both parents. After two weeks, the chick is ready to leave the nest. The young stay with the adults until the next chicks arrive. They are then forced away to start life by themselves.









### Pee Wee or Magpie-lark Common

### What am I?

The Pee Wee or Magpie-Lark is one of the most widespread birds in Australia. Magpie-lark is a misleading name as this species has no connection to either magpies or larks. They are sometimes confused with magpies because of their similar colouring.

However, the Pee Wee's size is much smaller at 27 centimetres. The colour is a distinctive black and white. Males have a white eyebrow and a black throat, while females have a white eyebrow and throat. They look graceful on their slender black legs.

### Voice

When pairs call each other they often sit side by side. As each bird calls the wings are raised and then lowered. Each of the birds sings in turn. Pairs sing in duets to each other.

They get the name Pee Wee from their call. This call sounds like 'pee-wee' or 'pee-o-wit'.

### Habitat and behaviour

They do not like the driest deserts or rainforest – but they will live anywhere else in Australia. The pee wee bird likes to live in trees near water. Young and non-breeding birds form flocks which move with the seasons in search of food. Some Pee Wees become nomadic after breeding.

### Food

They mostly feed on the ground and are slow searchers. Pee wees are insectivores or insect eaters so their favourite foods are insects and their larvae. If there is a Pee Wee in the garden, it is helping the gardener by keeping insect pests down. They also eat earthworms, and often visit gardens after a rain storm when the earthworms have come up to the surface. Sometimes they feed on freshwater invertebrates.

### Family life

They build an unusual cup-shaped mud nest. The breeding pair chooses a branch that can be as high as 20 metres off the ground. The bowl of their well made nest is lined with feathers and grass. Cuckoo Shrikes sometimes steal their nests.

The adults share the incubation of the eggs and they both care for the three to five young. The Pee Wees actively defend their nest and territory from other birds.









### Australian Magpie Common

### What am I?

The Magpie grows to between 36 to 44 centimetres long. It can be seen in a variety of places ranging from open timbered areas to people's gardens. They are a black bird with a white collar around their neck, white on their inner wings and on their tail. In southern New South Wales there is the variation of white right down their back.

Magpies are like us and they make a lot of noises, ranging from a loud warble, harsh notes, or a melodious call. They will often sing as a pair.

### Food

The Magpie likes food that is on the ground, one of its favourites is grasshoppers. Another favourite is grubs in the ground. Of course Magpies cannot see these grubs. Good ears! If you see a magpie on the ground look at the way this bird tilts its head. The Magpie might be listening for grubs and insects moving under the grass. If they hear a grub they will then push their five centimetre wedge shaped beak directly into the ground and come out with a fat grub. Gardeners like Magpies!

### Family life

Magpies make cup-shaped nests from sticks and plant stems. Like most birds they are protective parents and that is how we notice them. Some Magpies do not like other creatures near their nests in the breeding season which is from late winter to early March.

### Danger!

Creatures they do not like near the nest include us! Some Magpies will swoop at people who come too close. The swooping is a warning and the Magpie's way of protecting its nestlings. Wearing a hat with false eyes is a way of keeping swooping Magpies from above. The Magpie often aims to miss, but there is a rare one that does not.

Tell and warn others about Magpies that aim to hit! Magpies have a limited territory and there are easy ways of avoiding them such as crossing the street. The season only lasts for a few weeks.









### Pied Currawong Common

#### What am I?

The Pied Currawong has a distinctive yellow iris (eye), its robust bill has a well defined hook on its upper bill. The black body has white crescent markings on the wing, white on the base of the tail and the extreme tip. Both genders are similar, but females tend to be greyer on the underparts. They are 41 to 51 centimetres in length.

The voice is noisy and ringing. Its double call sounds like 'Curra-wong'. They also have a loud whistle like a 'kwok'.

### Habitat

This species lives in forest such as open woodland. Suburban patches of large trees are also ideal. At home in the trees, the Currawong does come down to ground to feed.

### Food

Eating habits are omnivorous. Small lizards, insects, caterpillars, and berries are favoured foods. An individual hunter, they have also been known to hunt in groups. They often take nestlings. Prey may be put aside into their larder, which is often a fork or a crevice of a tree.

People often see the Pied Currawong as it searches for food in picnic grounds or backyards. What we throw away they are adept at searching to find food to eat. When approached they take off in a slow flight.

### Family life

Pied Currawongs are also aggressive to each other. They are often seen defending their territory from other Currawongs.

Currawongs are annual highland to lowland migrants. They breed as pairs in highland forests. Cup nests are built from sticks, roots, grasses and bark. For the winter they migrate to open lowland country where they form large and noisy foraging flocks. However, in human altered landscapes they tend to become sedentary.









# Parrots

This family of birds which includes cockatoos, lorikeets, galahs, and rosellas is one of the better defined. They have a short bill that is strongly hooked. The arrangement of toes has two facing forward and two facing back. Most other birds have three facing forward and one facing back. All parrots, have feet with two toes facing forwards and two toes facing backwards. Compared to people, this is like having two fingers and two thumbs. They are adept at gripping food in their claws. The young are naked at first. Parents hold the chick's bill within their own to feed them.

They are primarily seed eaters. Fruit, berries, flowers and insects supplement their diet. Many of these birds are also excellent mimics: "Who's a pretty Polly?"

# Eastern Rosella Common

#### What am I?

The Eastern Rosella is a colourful member of the parrot family. Their adult size is 30 centimetres. The head is red as is the chest. A white cheek and a pale beak stand out from the surrounding red. Outer tail feathers and wing feathers are blue. The rest of the body is from pale to leaf green.

The name Rosella came from early European settlers who lived near Sydney. They regularly saw this bird near Rose Hill. They called the bird 'Rose Hillers' which became Rosellas.

Their calls vary from harsh screeches to a bell like whistle.

### Habitat

They live in and feed along the edges of parks, gum forests, and woodlands in Eastern Australia. This is one species that has benefited from forest clearing. They feed on the ground and in bushes. They will screech and dash for the cover of trees when alarmed. Preferred nesting sites are gum tree hollows.

### Food

The Eastern Rosella searches for food in the early morning and late afternoon. Favourite seeds and fruit are found on the ground and in trees. With their sharp beak they tear fruit open or crack seeds. They hold the food in one claw. When they eat they raise their claw to the beak.

### Family life

Parents rarely touch each other. The female lays four to eight round white eggs. When chicks hatch they are covered with a soft white down. The female feeds the chicks for the first two weeks before the male helps to feed them. The chicks quickly grow colourful feathers and can fly within five to six weeks time.









### Rainbow Lorikeet Common

#### What am I?

The Rainbow Lorikeet is colourful and is commonly found in gardens that have many flowers. Size is about 28 centimetres, with the female being slightly smaller.

They are well known for their bright colours. The bill is bright red, head is dark blue, the neck yellow, and the stomach is a deep blue. The back and the tail are bright green.

They have a brush tipped tongue. When relaxed the brushes sit against the tongue. When feeding the brushes stick out. This adaptation is extremely useful for feeding on pollen or nectar.

They live to over 20 years old in the wild.

#### Voice

Their calls are varied and loud. They screech when in flight. When they land to feed they noisily chatter among themselves. Flocks flying overhead will respond to chattering flocks below.

### Habitat

Their environment varies enormously. Rainforests, woodlands, mangroves, along watercourses, and people's gardens are favourite living and feeding places. They can fly up to 50 kilometres in search of food.

They use their environment to bathe without going down to water. By fluttering among foliage soaked by dew and rain they keep clean

### Food

The Rainbow Lorikeet is a hungry bird. 70 percent of their time when awake is spent feeding. They can eat 30 to 40 eucalypt flowers every minute. Pollen is a major source of protein and the major part of their diet. Nectar and blossoms from native trees are also taken. Berries, seeds, insect, and larvae are part of their diet. They also like imported fruits and unripe grains. Before grains ripen they are soft enough for this bird to eat.

### Behaviour

They live in flocks and eat with other species of lorikeet. Its bird's call sounds belligerent, and they are. It competes successfully against the introduced Indian Mynahs and Starlings for nesting hollows. Larger birds and other lorikeets may be chased from what it considers to be its food.

### Family life

Male and female birds usually pair for life. A tree in open country is chosen for the nest. Two eggs are laid in a nest of decayed wood dust in a tree hollow. The female incubates the eggs and is fed by the male. Both parents feed the chicks. When the chicks are old enough they fly to a roost.

Rainbow Lorikeets usually live in a roost. Thousands may gather in the one roost to sleep overnight. In the morning they split up into groups of up to 20 in search of food. If food is plentiful there may be flocks of up to a thousand. They generally prefer to travel along the same flight paths when they leave the roost. If the day is hot, day roosts of up to a hundred may occur. Over long distances they travel high, at shorter distances they prefer to fly between trees.









### Sulphur-crested Cockatoo Common

### What am I?

Cockatoos are big parrots that usually have a colourful crest on their head. Males and female Sulphurcrested Cockatoos look alike and are familiar to most people. At 45 centimetres long this white bird with a yellow crest from seven to 13 centimetres on its head and a pale yellow on their underwings is distinctive. The yellow crest is bright and the crest sticks out as part of their repertoire from alarm to curiosity. In flight they have a flap glide wing beat. They can often be identified at a distance because of their irregular flying.

### Voice

When flying, on a tree or on the ground they do one thing. They talk! They are extremely loud and raucous.

### Habitat and food

An adaptable bird they live in native habitats as well as farms or cities. Their roosts are usually near water. They feed in the morning and evening, most likely by hanging off trees for nuts and walking around for seeds on the ground. Sulphur-crested Cockatoos primarily eat seeds, which include grass seeds and crop seeds. They will also eat grubs, insects, berries and buds. Timber decking and panelling on the sides of houses also appeals to them. They have quite an appetite!

When they are roosting they pull branches and bark off the tree that they are on. They appear to destroy these trees so as to keep their bill trimmed.

### On guard!

Sulphur-crested cockatoos have a sentinel system for protecting themselves. One bird will fly to a tree, another will follow, and if there is no danger the flock will then come. When the cockatoos are feeding on the ground at least one will stay up in a tree that is close. If an intruder approaches they screech loudly and the flock flies to safety.

### Family life

The Sulphur-crested Cockatoo builds their nests at least 10 metres above the ground. A hollow branch or tree trunk is preferred. Both males and females prepare the nest by chewing around the entrance and inside. The base of their nest is rotten wood.

Both adults take it in turn to sit upon the eggs to hatch them. After they learn to fly, the young birds stay around. They will sometimes assist their parents in the rearing of the next generation.









# **Flightless birds**

Not all birds fly. Some birds have a wing like a flipper for swimming. Others have reduced wings and increased muscles in their legs for walking. Birds such as an Emu belong to an order called ratites. They do not have a keel on their breast bone to anchor flight muscles. Cassowaries and Penguins are other flightless birds that successfully live without flying.

### Emu Common

### What am I?

The Emu, which stands at two metres tall, is the largest Australian bird and only smaller than its relative, the Ostrich, in the world of birds. Two metres is taller than most people! This species has feathers that are a rough dark grey-brown over the body. Long legs and neck stand out from its dumpy body. A whitish ruff at the base of the neck highlights the pale blue face and neck. As there are no other birds like it in Australia, the Emu is easy to identify.

Unable to fly, the Emu can run at speeds of up to 48 kilometres per hour.

### Behaviour and habitat

This species likes room to move so open country such as open woodland or semi-desert country is preferred. This big bird does not like forests with all those trees and branches to get in its way! Emus need to regularly drink water, so they can be found within walking distance of water.

### Food

Emus like eating grass, vegetable matter, fruit, and also insects like caterpillars. If there is any food around it is not going to starve!

### Family life

This species tends to thrive where there are not many people. The female lays from six to 11 eggs that are a dark grey green. At 13 centimetres long and nine centimetres deep the eggs weigh between 700 to 900 grams. She then leaves them alone. The male sits on the eggs and hatches them. He spends so much time incubating the eggs and not eating that he loses between four to eight kilograms. When born the chicks are striped. After they hatch the chicks walk around with their father for up to six months. Sometimes they meet up with other Emus and form flocks.









### **Interesting Nesters**

A nest is the home for eggs and very young birds (chicks). Nests are usually entered from above, some from the side and some even have doors in them. Male bowerbirds build conspicuous bowers of twigs on the ground, but this is not the nest. Some nests are hard to see because they are built in a dense bush. Other birds, such as the Plover, scrape a hole in the open ground – sometimes even on football fields or traffic islands.

# Superb Lyrebird Common

### What am I?

Males are the show-offs! After their first three to four years of life they grow an ornate tail that they can thrust forward over their body. These feathers are long and roughly look like a lyre which is an old-fashioned musical instrument. The middle tail feathers are white while the solid outer tail fathers are white, black, and chestnut. Their dark brown and grey body is drab by comparison. Females are also dark brown above and grey beneath. They both have strong legs.

Male: body 80 to 98 cm, tail 50 to 60 cm, Female: body 74 to 84 cm

### Song

The Superb Lyrebird has a loud and complex song. They can communicate by loud alarm whistles. But this bird is best known for its expert mimicry. About eighty percent of their songs mimic both natural and mechanical sounds.

People bushwalking have been known to hear chainsaws, car engines, and dog barks deep in National Parks. Maybe they are listening to Superb Lyrebirds!

### Habitat and food

The Lyrebird lives in forests. These forests range from subtropical to temperate and wet forests. The forest floor is raked constantly for soil dwelling invertebrates. Claws on their feet rip away bark on trees to expose invertebrates that live underneath. Spiders and seeds are sometimes part of their diet. A ground dwelling species, they roost in trees at night. This species is not nomadic. They rarely move large distances and stay in a home range that is about 10 kilometres in diameter.

### Family life

The male constructs several earthen mounds within a territory. He then performs a courtship dance on one of these earthen dancing mounds. They throw their tail feathers over the head during courtship. The tail looks like a drooping fan over their body.

The male's part of parenthood is over. The female builds a nest not far off the ground with a side entrance. She lays a single egg. For the nestling the mother keeps the nest scrupulously clean. All droppings are removed by being dropped into water or buried. She takes care of the young until the chick is old enough to be independent.









### Satin Bowerbird Common

#### What am I?

At between 27 to 33 centimetres in length, Satin Bowerbirds are medium sized birds. Younger males and females look rather alike. They are an olive grey above, an off-white below, with brown wings and tail. Young males start to change in their fifth year, by the seventh year they have remarkably changed. He has become very distinctive with glossy blue-black feathers.

### Voice

The bowerbirds hiss, whistle and buzz. Males also have their own 'Weeoo' call. They are also excellent mimics and because they are happy to live in the suburbs they will imitate anything from the telephone to computer games.



### Habitat

Satin Bowerbirds prefer wet forests, woodlands and adjacent open areas. They eat fruit and new shoots of plants most of the year. Insects are caught during the breeding season to a supplement their diet.

### Behaviour

Some people consider bowerbirds as one of the most advanced of all birds because of their noteworthy bower building. Male Satin Bowerbirds are the most well known bowerbirds in Australia. They build and decorate a bower to hold court with females.

The bower is built on the ground and contains two parallel walls of sticks. Chewed vegetable matter helps to hold the walls together. This bower becomes the male Satin Bowerbird's courtship arena. To decorate the bower the male collects a variety of blue objects, which include blue bottle caps, drinking straws and clothes pegs. Away from people, Bowerbirds use blue parrot feathers and flowers.

### Family life

Mating season is from September through to February, but the male bowerbird is a proud builder and maintains his bower all year.

The males test different females' response to the bower by their reaction to pieces of blue 'jewellery'. If she is impressed, she will enter the bower for courtship. Afterwards, she will build her own nest 30 to 35 metres above the ground. He stays in the bower and has nothing to do with the rearing of the nestlings.







# Banded Lapwing Plover Common

#### What am I?

Banded Lapwing Plovers grow to 25 centimetres in size. They are brown above and white below. Their bill is yellow and there is a red strip above it. The crown of their head is black as is the side of the neck and the chest. A white line is behind their eye and there is a white stripe on their wings.

Although this bird has a striking appearance it blends very well into its environment.

### Food

The diet is varied. Insects, invertebrates, seeds, green shoots, and leaves are all eaten. As this bird lives from wet to dry areas their food sources vary as do their eating habits.

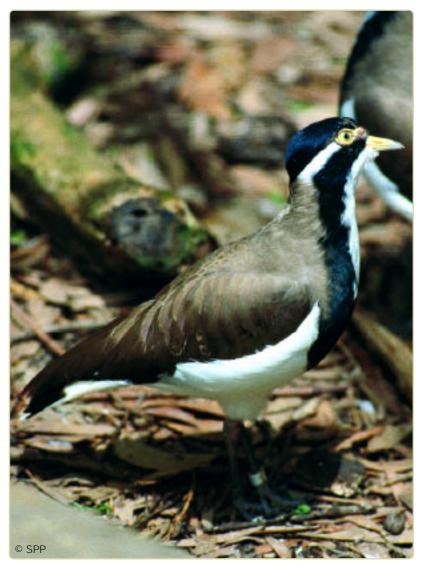
### Habitat and behaviour

The Banded Lapwing Plover is widespread in southern Australia. It lives in open grassland and bare plains. In contrast to most other flying birds they prefer to live in areas with little cover. In this environment they can see danger at a long distance. They breed in local colonies and breeding mostly follows rain.

### Family life

Parents will pretend to be injured to lure intruders away from their nest. If this does not trick the intruder they will dive bomb (the intruder). That intruder is sometimes us. Please respect their territory.

The nest is only a little scrape in the ground lined with some dry grass. There are three to five conically shaped eggs that are beautifully camouflaged. The chicks hatch after a month. These chicks are active and feeding themselves within a day of hatching.









### Crested Pigeon Common

### What am I?

The Crested Pigeon is between 31 to 35 centimetres in length and is grey, but has three distinguishing features. The eyes have a red like ring around them. The brown wings have black bars with a green to purple patch. The black crest on its head is long, stands upright, and is slender. Their voice is either a small coo or a loud whoop. Like most pigeons it also makes calls using the beating of its wings. Listen for the distinctive whistling sound as a pigeon takes off.

### Habitat and food

The Crested Pigeon is familiar in urban, rural, and lightly wooded grasslands. Although they roost and shelter in trees they eat and drink by coming down to ground. They need to drink every day. They stay away from forests which do not have much grass.

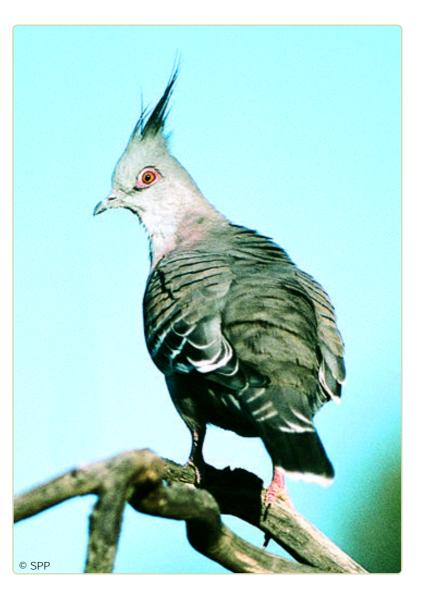
Food consists of mostly grass seeds with an occasional leaf and insect. This is another species that has extended its range with European settlement. As grain growing has become established this pigeon has followed.

### Easily alarmed

If alarmed, this bird takes to the air with a characteristic whistling to its flight. They will often look at the water before coming down to drink. When it lands the tails swings up into the air.

### Family life

Crested Pigeons place their nest in a tree or a dense bush that is close to water. Both parents sit on the two white eggs for 28 days. After hatching, the parents feed the chicks until they are old enough to fly.









# Honeyeaters

Honeyeaters find most of their sustenance from flowers. Honeyeaters have bills of differing lengths which fit into particular native flowers. While the bird is feeding, pollen dusts its feathers. The pollen is carried to the next flower and may fertilise it. As Honeyeaters feed from flowers they also ensure that plant's survival.

# Noisy Miner Common

### What am I?

At 27 centimetres it is characterised by a loud voice and communal living. Legs, bill and skin behind the eyes are yellow. The black crown of the head and cheeks stands out from the grey body.

The noisy part of the name comes from the calls. The flight call is a 'teu', a 'pwee' or a 'zwit'. Typically, the calls are repeatedly uttered by the whole colony. With so many birds calling at once they are noisy!

### Habitat

Up to 30 birds live in a colony. They tend to act as a group rather than as individuals. Noisy Miners are found in woodlands and open forests. Also, they have adapted to suburban existence. They are commonly seen in gardens and parks. The Noisy Miner is one of the easiest native birds to find in the urban environment.

### Food

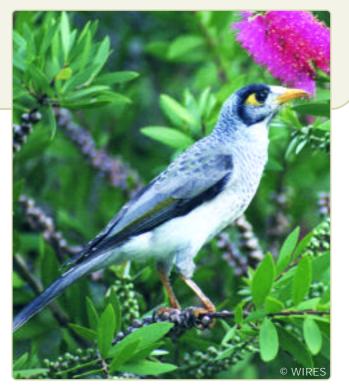
Noisy Miners feed on nectar, fruit and insects. Food is taken from trees, shrubs and on the ground. Because they usually act as a group, they also feed in a group.

### Aggressive

They are bold and curious to outsiders. In particular, they do not tolerate other birds close to them. A group will shriek and mob other birds of the same size and chase them away. They can become so aggressive that they will attack larger birds. Kookaburras and hawks have been attacked! The attacks may be so daunting that most other species of bird are excluded from their territory.

### Family life

The female constructs the nest, which is a cup of bark and grass. She alone incubates the eggs with both parents feeding the nestlings. However, Noisy Miners are animals that act in groups. So in addition, helpers also feed the young. Of interest is that these helpers are mostly male birds.









# Mammals

The class of mammals is warm blooded or endothermic. Their temperature is roughly the same regardless of the surrounding temperature. Mammals have a brain and spinal cord. Milk glands are in the female for feeding the young.

Mammals have four limbs. For example, bats have two feet and two wings, cattle have four legs, and people have two arms and two legs.

Mammals are divided into three subclasses, which are placental mammals, marsupials, and monotremes.

# **Placental Mammals**

Placental mammals give birth to live young. The baby stays inside the mother's body until it is well developed. An organ, called a placenta, feeds the baby during this time. After birth, the baby is usually fed and cared for by the mother. Compared to the rest of the world, Australia has few native placental mammals. One of the most recognisable placental mammals, the dingo, was introduced.



Dingoes are placental mammals







### Dingo Patchy, hybrid danger

### What am I?

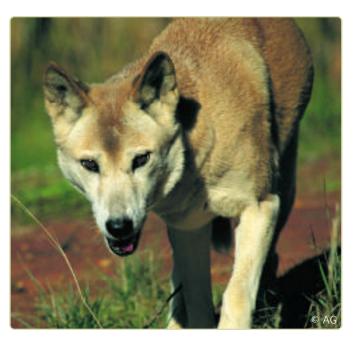
The Dingo is a breed of dog which has a coat that ranges from sandy to red. Its body is about a metre long and adults weigh between 9 to 24 kilograms. The ears are pricked and they have a bushy tail.

### A little history

Dingoes have an unusual history. This dog is not native to Australia. Nor was it imported after the European settlement of Australia.

It is believed that it came to Australia about 3500 to 4000 years ago. Asian seafarers may have brought the Dingo here. Once in Australia some Dingoes lived with Aborigines, but most became wild.

With Aboriginals, Dingoes helped to hunt animals such as kangaroos and possums. In cold nights Dingoes had another purpose. They were used as blankets. But the Dingoes were also using the Aboriginals to keep warm!



### Behaviour

Dingoes, however, prefer to be wild animals. Often seen alone they are, in fact, sociable animals. Most Dingoes usually belong to a pack, which meets every few days.

There are good reasons for this individual and sociable life. A Dingo by itself is good at hunting small animals like rabbits. Packs of Dingoes are better at hunting larger animals. Also when Dingoes have pups other members of the pack assist in rearing them.

### Habitat

A huge 9600 kilometre fence from the Nullarbor Plain to central Queensland keeps dingoes out of much agricultural land. Absent from densely populated human settlements, they live mainly in the eastern highlands of New South Wales.

### Them and us

As successful hunters the Dingoes can survive very well. However they are in danger. Their biggest problem with people is not people - it is the dogs that people have with them. Dingoes breed with these dogs. So in areas of human settlement Dingoes are being replaced by Wild Dogs. Feeding them encourages interaction and can lead to attacks.







### Water Rat Common with water

### What am I?

The Water Rat is well adapted to living near and on the water. The Water Rat and the Platypus are the only two native amphibious mammals. Upper parts of its body range from grey-brown to blackish and it has a furry tail with a broad white tip.

Males: body 31 cm, tail 27 cm, 750 g Females: body 29cm, tail 27cm, 600 g

Heavier Water Rats can weigh over a kilogram. This is one big rat! Rats that came to Australia after European settlement weigh only about 300 grams.

### Made for water

Like the Platypus, the Water Rat has a streamlined body and water repellent fur. The rear feet are broad and webbed to make it a good swimmer. When swimming, only its head and back are visible. Sometimes it will be seen to go under the water in search of food.



Bush rat

### A hunter

Unlike other rodents which prefer grains and plants, this Rat is a fierce hunter. On the water and in! The Water Rat is a predator that will actively seek prey like small fish, shellfish, frogs, and even small birds. Not liking to eat in the water the Water Rat has a feeding platform for eating.

During the 1930s and 1940s this animal was almost hunted to the edge of extinction. Why? Because its sleek fur was used in fur coats!

### Habitat

The Water Rat lives in burrows beside water. Today it is often seen on bodies of still water like dams, slow dams, or sheltered coastal waters.









# **Flying Mammals**

When people think of flying creatures they usually think of birds. Some mammals like bats have evolved to fly. They are usually nocturnal.

# Bats: Flying-foxes and Microbats

Bats, fruit bats, and flying foxes all belong to the same family which are the only nocturnal flying mammals. There are major differences between the bigger bats like the Little-Red and Grey-Headed Flying Foxes and the small bats which are also called microbats like Gould's Wattled Bat or the Little Forest Bat.

The larger bats have excellent eyesight and large eyes and they are not as blind as a bat! They roost together in trees called camps, they eat blossoms, nectar and some fruit and stay awake during winter. Microbats have small eyes but can see well. They sometimes roost in buildings, eat huge quantities of insects, and sleep through cold periods.











### Little Forest Bat Common

### What am I?

About four centimetres long and weighing about five grams the Little Forest Bat is smaller than Gould's. Grey and brown fur covers their body. Large ears are necessary for this bat.

5 grams is a small weight. A pen weighs that much!

### Finding food

Insects are small so this bat finds them by high or sonar echolocation. They make sounds that we cannot hear. The sound bounces off the insect and comes back to the bat. This process is called echolocation, and it means that food is found!



The Little Forest Bat feeds entirely on flying insects. An agile flyer it can do very complicated twists and turns. So at home in the air, that while flying this bat will eat the captured insects.

### Habitat

Eucalypt forests provide the ideal habitat. Little Forest Bats like to roost in tree hollows. When they roost in the day time they are sociable. Up to 50 bats will roost together. Some bats have been seen to share their homes with possums.

Like some people this bat avoids the cold. The Little Forest Bat will stay in their roosts for several weeks if it is too cold to go outside.

### Them and us

They have adapted to living with people. We have created many dark spaces. Roofs of houses make great roosts for the Little Forest Bat!







### **Gould's Wattled Bat**

### Common

### What am I?

Although this is the largest lobe-lipped bat in Australia it is small. These bats weigh about 14 grams. At seven centimetres they are about the size of your hand. They are identifiable by a dark head and shoulders. Their belly is a lighter grey.

Gould's Wattled Bat flies between one to 20 metres above the ground. Their diet consists of a variety of insects. Caterpillars, crickets, moths and scarab beetles form the bulk of the diet.

### Habitat

Eucalypt forest and woodlands are the preferred habitat. Although they like to roost in hollow trees they are well known for roosting where people live. Some of these roosting places include rolled-up canvas blinds and the exhaust pipe of a tractor.

### Family life

They live in colonies of about 30. In cold parts of Australia they hibernate through winter.

Females commonly have twins. In the summer, the mothers fly with their young attached. These young are not attached for too long! The young are very fast maturing and they look like adults after six weeks.











# Little-Red Flying-fox Common

Like all flying foxes, The Little-Red Flying-Fox skim the surface of water in dry conditions. They then lick their wet fur for the moisture.

### What am I?

On average this species weighs 450 grams. As their name suggests they appear red. Their fur colour ranges from a reddish brown to a light brown and covers most of their body. They are quiet flyers but you can tell if they are around. Like other flying-foxes they make a lot of noise at night.

### Food

The Little-Red Flying-fox eats the flowers of paperbark and eucalypts. They do like other food but when they run out of flowers they become nomadic. Inland they like to follow water courses. In coastal areas they are more seasonally nomadic by following the flowering of eucalypts. They are one of the most widely spread of the bats as they can live in environments from mangrove swamps to open woodland. If they cannot find eucalypts to eat they will occasionally raid fruit orchards. They have been known to fly up to 40 kilometres in search of food.

### Habitat

They usually feed within five to 15 kilometres of their camp. They like to live in camps in the branches of trees with a population of up to many thousand individuals. Large branches have been known to the break under their combined weight.









# Grey-headed Flying-fox Vulnerable

### What am I?

This bat has a wingspan of up to a metre and weighs an average of 700 grams. The body is about 25 centimetres long while the forearms are between 14 to 18 centimetres in length. Having arms longer than the body means that this fellow has longer wings than the body. The Grey-headed Flying-Fox is the largest Australian bat.

This flying-fox lives up to its name and is covered in greyish fur all the way down to its toes. A collar of orange brownish fur surrounds its head. They live in groups called camps.

### Food

They can cruise at 35 kilometres per hour for long periods and can fly up to 30 kilometres from their camp in search of food. If there is not that much to eat they can fly up to 70 kilometres in search of food.



This is a fruit and blossom eater that loves to eat food off the canopy of the forest. They like to eat the fruit of both native and introduced species trees and shrubs.

### Habitat

In the day time it is found in camps, sometimes with the Black Flying Fox. Favourite camp site are mangroves and islands.

One you is born between October to January. For the first four weeks, the mother carries the young. Specially curved milk teeth hold the nipple and sharp claws grip on to the mother. When they are older they are left behind in a special crèche. At about six months of age they fly with their mother to learn how to feed.

### Nomadic

They fly to wherever trees are flowering and follow the flowering.

### In danger

The Grey-headed Flying-fox is also endangered because of forest clearing. There is less native forest for this species to live in. The Grey-headed Flying-fox spreads pollen and seeds which helps native vegetation grow elsewhere. Their declining numbers may contribute to less native plant species







# Marsupials

A joey is born after a short pregnancy. The newborn joey is naked, blind, and has undeveloped hind limbs. Using strong front limbs and sense of smell the joey finds its way to the mother's pouch. These pouches shelter the young. The young often stay with their mother for a long time after they are weaned.

# Macropods

Kangaroos and wallabies are marsupials called macropods. The word macropod comes from Greek and means 'big footed'. Inside the mother marsupial the young have a short time to develop. Macropods can quickly bear young.

Kangaroos and wallabies are herbivores that hop. They are characterised by muscular hind legs. Their tail is broad at the base and tapers to the end. They hop on their long hind legs when they want to go fast. When they land the recoil from the previous hop provides energy for the next hop. Macropods are made for hopping! This process is one of the most efficient methods of moving long distances.

Front feet are small and useful. If they want to move slowly both front and hind feet are used. These front feet are used like arms for grooming and handling objects. They can bring food to the macropod's mouth.

Grass is the main food of wallabies and kangaroos. Their colouring is excellent camouflage when they are feeding.









### Long-nosed Potoroo Vulnerable



Most macropods are bigger than this species which has a long nose for sniffing out food. A brown to greyish furred animal, there is a pale belly underneath. The Potoroo is an omnivore.

Males: body 38 cm, tail 25 cm, 1.4 kg Females: body 34 cm, tail 25 cm, 1.2 kg

### Food

Food includes seeds and insects. Most of all the Long-nosed Potoroo digs for its food. Roots, bulbs, spiders, and fungi are also eaten.

### Habitat and behaviour

The Potoroo likes living near the coast where there is a lot of rain. It inhabits coastal heath and sclerophyll forests that have thick undergrowth. The Long-nosed Potoroo likes to form tracks where it lives, which makes for easy travelling.

Often land that looks barren has a variety of wildlife. Just because we cannot see wildlife does not mean the wildlife isn't there.

Like other marsupials this is a nocturnal animal. It comes out at night to feed. Because the Long-nosed Potoroo prefers living in forest or heathland it is hard to see.

But it does leave one trace behind in the day time. Shallow holes in the ground indicate that a Potoroo may have dug for food.

### Family life

The Long-nosed Potoroo builds a rough home of vegetation underneath extremely dense cover. A joey is carried in the pouch for four months. The young are weaned at five to six months and are mature at 10 months. They are mostly solitary.

### Them and us

They were first described by Europeans in 1789. Their numbers have dwindled as their habitat has been cleared for human settlement and activity. More research needs to be done to help prevent the decline in the Potoroo's numbers.









### **Red-necked Wallaby**

### Common

#### What am I?

In Tasmania this medium sized wallaby is called Bennett's Wallaby. Mostly grey, the rusty colour around the head and neck account for its 'red-necked name'. A white stripe is on its upper lip. Muzzle, paws, and largest toe are black.

Males: body length 1 m, tail 80 cm, 20 kg Females: body length 80 cm, tail 72 cm, 14 kg

### Behaviour and habitat

The Red-necked Wallaby spends their day in the forest in a loose group. At sunset they come out to the edge of the forest to eat grass, herbs, and some leaves. If disturbed this feeding party splits up and leaves the feeding ground. Compared to larger kangaroos this wallaby is more solitary and their groups do not stick together.

### Family life

For 40 weeks the joey is carried in the mother's pouch. When the joey first leaves the pouch, mothers and their young behave differently to other macropods. These joeys hide and feed near the cover of the forest while their mothers feed and rest in more open spaces. Young females often stay close to their mother while the young males leave when they are about two years of age.









### Common Wallaroo, or the Euro Common

#### What am I?

In Western Australia and the inland this marsupial is known as the Euro, elsewhere it is called the Common Wallaroo. It is called Common because it is the most widespread of the macropods. Wallaroos are robustly built and have rough fur. The fur tends to be dark grey to brown above and paler on the underside.

Males: body length 1.6 m, tail 90 cm, up to 55 kg Females: body length 1.2 m, tail 75 cm, up to 25 kg

Males weigh twice as much as females. They have more muscular arms and shoulders. Their voice is a loud hiss.

#### Drought fact

All large macropods need to drink. Like humans the Common Wallaroo can modify the landscape, but only on a small scale. If water cannot be found they use their front paws to dig for it. Dry creek beds and dry waterholes are favoured digging sites.

They will dig down through the soil until water seeps into the hole they created. They can drink and survive.

#### Behaviour and habitat

Common Wallaroos mostly live in rocky and hilly country. They spend the day crouched near a boulder or under overhangs. When the heat of the day has passed they come out in the late afternoon. They hop away from their home to graze at night. Favourite foods are grass and shrubs. The Common Wallaroo is very well adapted to dry Australian grasses. Low protein and prickly food such as spinifex can sustain them.

#### Family life

Common Wallaroos live in mobs. After the first nine months the joey leaves the pouch. The joey stays with the mother and becomes independent at 16 months.









#### Eastern Grey Kangaroo With a speed of 64 kilometres per hour this is the fastest Marsupial! Common

#### What am I?

In 1770 Captain Cook landed on the east coast of Australia to record and collect specimens. The Eastern Grey Kangaroo was the largest. This kangaroo is, as its name suggests, found in the east of Australia and is grey. The underside is a lighter grey. After red kangaroos, grey kangaroos are the next largest. The Eastern Grey Kangaroo is different to other kangaroos in that it has hair on the muzzle between the upper lip and the nostrils above.

Male: body length up to 1.6 m, tail 1.1 m, 70 kg Female: body length up to 1.2 m, tail 84 cm, 35 kg

#### Behaviour and habitat

Many kangaroos living together are called a mob. Grey kangaroos prefer to live in mobs. Grassland and open woodland is the typical environment. Resting in the shade of scrub or forest during the day they feed from late afternoon to early in the morning. Grassland provides the preferred grazing for this herbivore.

#### Sentinel

A big advantage of living in a mob is the sentinel system. While kangaroos graze one kangaroo may sense a threat. It will sit upright, the head turning to check out what caused the alarm. If this sentinel senses danger it will flee which is a signal to the other kangaroos. The rest of the mob quickly hop away in large bounds at a fast pace.

#### Natural dangers

The Eastern Grey Kangaroo is so large that it has few native predators. Dingoes and Wedge-tailed Eagles hunt them. Occasionally, a Wedge-tail will take a young kangaroo. Dingoes, when they hunt in packs, sometimes hunt adults.

#### Family life

If there is a drought, females do not have young. They wait until conditions are good to start a new life.

Like other marsupials, offspring do not spend a long time in the mother. They are born after 30 days. The tiny joey makes its way to the safety of the pouch. It suckles for the next 300 days. The joey stays close to its mother for another eight months. At 18 months of age they become independent.

#### Eastern Greys and us

After European settlement there has been much effort spent in trying to make Australia drought resistant. More waterholes means that a large kangaroo like the Eastern Grey can have a greater feeding range. When droughts come imported European farm animals do not do well. Eastern Greys that have evolved to cope with droughts are better survivors than farm animals.











### Red Kangaroo Co

Common

Highest jumper! Jumps over three metres high.

#### What am I?

The Red Kangaroo is the largest living marsupial in Australia. At 90 kilograms in weight it may be heavier than your teacher or parents. Ask for a comparison!

They are also known as the marloo, with females called blue flyers because of their colouring and fast speed. White patches are at the side of the muzzle. The area between the nostrils and the lips has no fur. The paws, toes, and claws are dark. Desert and open grassland is preferred for living.

Male: body length up to 1.8 m, tail 1 m, up to 90 kg, colour red Female: body length up to 1.25 m, tail 90 cm, up to 35 kg, colour blue-grey

Of course, the easiest way of telling these kangaroos apart from others is that the Red Kangaroo male is red and huge.



#### Behaviour and habitat

The Red Kangaroo rests in the day time. It knows to preserve energy in hot and generally dry conditions. At night time it goes out to feed. This kangaroo is found in parts of Australia that have low and unpredictable rainfall. Fire or drought may force them away from their home in search of food.

#### **Desert Living**

Mammals living in the Australian desert must satisfy two criteria to survive. The first is to find shelter from the heat. Red Kangaroos shelter under bushes and trees. The second is to find water. Some desert mammals like the Southern Hairy-nosed Wombat can create their own water from the grass that they eat. Red Kangaroos must have water. People making dams and storing water has helped the Red Kangaroos.

#### Family life

A mob or a family group of about 10 shelters under a tree in the day time. This typical mob has one male, a number of females, and several young animals. In times of good rainfall and feed they may live in mobs of a few hundred.

Joeys stay in the pouch for the first nine months. When they reach 12 months of age they are independent. In drought conditions this sensible marsupial knows not to breed. The females wait until conditions of plenty to have a joey.







## **Arboreal Marsupials**

Possums are tree dwelling plant eaters. However, some come down to the ground to feed. They are sometimes heard when they land on a roof at night. Possums have been quite affected by European settlement. The reason for this is the clearing of trees that has occurred since 1788.

### Brushtail Possum Common

#### What am I?

Grey on their back, they are a paler grey below. One of the noisiest of marsupials they hiss, cough, and scream. They are cat sized. Males are larger than females.

Male: body 35 to 55 cm, tail 25 to 40 cm, 2.9 kg Female: body 35 to 55 cm, tail 25 to 40 cm, 2.4 kg

The best way to tell them apart from other possums is to look at their tail. A friction pad on the underside helps them move from branch to branch. Their tails have a white or dark tip and are brushy apart from a bare strip on the under side. That's why they are called Brushtail Possums.

#### Habitat

In the wild they like living in open eucalypt forest with some older trees. These older trees are necessary because Brushtail Possums live in the hollows of older trees in the day time. At night they come down to ground so as to move from tree to tree. This is how people encounter them. By morning they usually are back up in the safety of the hollow of a large tree. Or sometimes in the roof of a house because they view this as another safe hollow!

#### Family life

The Brushtail Possum has only one joey and keeps the young in the pouch from four to five months. When the young possum leaves the pouch it often travels on the mother's back for six to eight weeks. After this time the young possum leaves its mother to live alone.

#### Possums in the home

The Brushtail Possum is the best known of the possums because it is one of the possums that are very adaptable. Apart from trees they live in the roofs of houses and even in chimneys. One way of getting possums out of the roof is to provide a nest for them attached to a tree. Leaving a light on in the roof also keeps them away, because as nocturnal animals they do not like light









### Ringtail Possum Common

#### What am I?

This Possum weighs between 700 to 1100 grams. The body is between 30 to 35 centimetres in length and is matched by an equally long tail. A white tip at the end of the tail provides the ring in this possum's name.

Their fur is grey to brown and they are white underneath. Unlike Brushtail Possums, Ringtail Possums are sociable animals. It has a call that sounds like twittering. A nocturnal animal, it has excellent night vision.

#### Habitat

It lives in open and closed forests. Coastal scrub and gardens are also favoured. Gum trees with tea trees, bottle brush, and wattles underneath are ideal.

#### Tale of a tail

Would a tail make life easier for you? It does for the Ringtail Possum which uses its tail to grip branches to get around. When they build a nest this tail is also useful for bringing twigs into it. The tail is hairless underneath which acts as a friction pad to move from branch to branch. Compared to Brushtails they rarely come down to earth.

#### Food

One of the few marsupials that can eat gum leaves they will also eat flowers and other leaves. They, unlike the Koala, enjoy some variety in their diet.

#### Nest

Like people, the Ringtail Possum also builds its own home. This is a round nest called a drey. Dreys are found in tree hollows, forks of trees, or dense vegetation. The drey is made from grass, twigs, and shredded bark. It is home for the whole family.

After the young leave the mother's pouch they ride on the father's or the mother's back. Family groups nest and eat together until the young leave home.









### Sugar Glider Common

#### What am I?

Compared to the other possums the Sugar Glider is small to look at. Grey fur is on the upper side and lighter grey fur is underneath. The Sugar Glider is easy to identify because of dark eye patches and the dark stripe that runs from between the eyes to the tail.

Males: body up to 21 cm, tail up to 21 cm, 140 g Female: body up to 21 cm, tail up to 21 cm, 115 g  $\,$ 

Its weight is light for its size because of flight. On either side a loose flap of skin runs from its front paw to its rear paw which is called the gliding membrane.

#### Habitat and gliding

The Sugar Glider lives in open woodland and forest. Why? Because it does not fly, it glides in search of food. There are no wings to flap for power. When this glider leaps off a tree it holds all four paws apart so that this flap of skin acts as a glider. A long tail helps to steer it from tree to tree.

The Sugar Glider has to rely on air currents and can glide for up to 100 metres. They usually land on another tree and have food there. If necessary, they will come down to the ground to move to another tree.

#### Food

Nocturnal, like the other possums, it moves around at night. The Sugar Glider loves to eat leaves, pollen, fruit, and insects. It will also dig into the bark of trees in search of the sap.

This Glider has 'Sugar' in front of its name from possessing a very sweet tooth.

#### Family life

If you see one there will be others nearby. They are sociable creatures who like to share a nest. Like bigger possums, they love older eucalypts with hollows. A female carries two young for two to three months in her pouch. They leave the nest aged five months. Between seven to 10 months, young Sugar Gliders leave their old home to find a new home.

In winter they are sensitive to the cold - so sensitive that they will fall asleep for a few days to avoid a cold period.







### Koala Vulnerable

Please do not call the Koala a Koala Bear. The Koala is not related to any bears. The Koala is a marsupial that has a pouch for carrying young. Bears do not have pouches.

#### What am I?

Koalas only live in gum trees. They have grey brown fur which is waterproof. Ears stick out to the sides. White tufts of fur come out of their ears. The black furless nose looks like a very large button.

Male: 82 cm, 12 kg Female: 73 cm, 11 kg

The word Koala comes from an Aboriginal word which means 'no drink'. Koalas do not come down to earth to drink unless it is very dry. So how do they get their water? They find dew on leaves in the morning. Moisture is also extracted from the leaves they eat.

#### Food

Koalas are very distinctive from other marsupials as they only live in gum trees. Some animals eat a variety of food. The Koala eats only one thing: gum leaves. A tree dwelling, or an arboreal marsupial, the Koala only comes down to earth so as to move to another tree. Awkward on the ground it becomes vulnerable to dogs and to traffic.

Gum leaves make for a very poor quality of food. The Koala eats about 500 grams of gum leaves a night and then rests for 20 hours. The Koala is not being lazy. Gum leaves are a poor source of nutrition. The Koala's stomach has to spend a long time breaking this leaf matter down into energy that they can use.

#### Family life

Koalas live alone. They come together to mate. The female carries one youngster in her rear facing pouch for six months. The joey rides on the mother's back for six months before becoming independent.

#### In danger

Koala used to be in danger from hunting for fur. Today diseases such as Chlamydia affect this marsupial. But the biggest effect comes from land clearing. Koalas need their gum trees. No gum trees equal no Koalas.









## **Marsupial Carnivores**

Most people think of marsupials as herbivores or maybe omnivores. However there are some marsupials that have evolved to eat meat. Carnivores come in a variety of sizes.

### Spotted-tail Quoll Vulnerable

#### What am I?

The Spotted-tail Quoll is the largest marsupial carnivore on the Australian mainland – it is the size of a small dog or a cat! The fur is a reddish-brownish. White spots occur all over the body. The Spotted-tail Quoll is the only Quoll with a spotted tail. In fact, they are the only Australian animal with a spotted tail.

Males: body 75 cm, tail 53 cm, 4 kg Females: body 44 cm, tail 40 cm, 2 kg

#### Behaviour and habitat

This species is solitary and mostly nocturnal. An agile climber, part of the Quoll's waking time is spent climbing around above the floor of the forest. The Quoll also spends some time hunting on the forest

floor. It will hunt creatures up to the size of bandicoots, possums, and rosellas. An efficient hunter they will sometimes chase larger animals away from their food.

Listen! Use your ears to tell if Spotted-tail Quolls are nearby. Their voice is like that of a circular saw.

#### Family life

Quolls are smart in their choice of multiple dens. Caves, crevices in rocks, and hollow logs are all acceptable. If one den is unacceptable they move to another.

When pregnant, females develop a pouch. She carries her young inside for seven weeks. For a further six weeks they are fed in a nest. The father brings food to the female and the young.

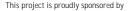
#### In danger

Sadly the Spotted-tail Quoll is now vulnerable on mainland Australia. Their habitats have been destroyed by land clearing. Introduced species such as foxes and cats compete with the Quolls for food. Baiting for introduced animals such as foxes also kills them. So if you see a Spotted-tail Quoll in New South Wales make a note. You can record your sighting at http://www.nationalparks.nsw.gov.au/npws.nsf/Content/spotted\_tailed\_quoll\_online\_form. There are not many of them left.











### **Dusky Antechinus**

### Locally common

#### What am I?

The pointy face and very sharp claws tells a story. This tiny marsupial is a carnivore. The Dusky Antechinus has a coat that ranges from dark grey to a dark brown. They look like large mice or small rats.

Males: body 12.8 cm, tail 10 cm, 65 g Females: body 11.6 cm, tail 10 cm, 41 g  $\,$ 

#### Behaviour and habitat

Preferred environment is an open eucalypt forest that has a dense undergrowth of ferns and shrubs. Using its long claws the Dusky Antechinus likes to dig through topsoil for food. As it cannot see through the soil the Dusky Antechinus uses its very sensitive nose to search for food. Popular food includes insects, spiders, and worms. In summer, Bogong Moths are a favourite food. Occasionally it will add some fruit such as blackberries to its diet.

During the day the Dusky Antechinus, like most marsupials, likes to sleep. A hollow leg is a favourite sleeping place. They live on forest floors where there is a lot of food.

They are a vocal species. When finding something different they make a 'chit' noise. If you find them, be very quiet and see what other sounds they make.

#### Family life

During the winter, females dig their nests or dens under the topsoil. These nests are often under the cover of grass or decaying logs. After a four week gestation, females give birth. Six to eight young are in the pouch for up to eight weeks. The young are then left at home until they become independent at three months of age.



Yellow footed antechinus







# **Burrowing and 'Nesting' Marsupials**

Marsupials need to rest and sleep. At that time they are defenceless. A burrow is an excellent solution for protection. A burrow is constructed in the ground. Sometimes a den or a nest is made out of thick vegetation.

### Common Wombat Common, but patchy

#### What am I?

The Wombat is a large, plant eating marsupial that likes to burrow. It has thick fur which is grey. Up to one metre long this marsupial weighs on average 26 kilograms. Other animals may look delicate but the wombat is solid. When it walks around it looks as if it is waddling. The Common Wombat is different from other wombats because of its nose. Other wombats have hairy noses while this wombat has a large nose that is not covered by hair.

#### Burrower

Like the burrowing Bilby, the Common Wombat builds many burrows. Small burrows are ones that are not that successful. Medium burrows of two to five metres are used only as a temporary home. A major burrow may be up to 20 metres long. That is a lot of work.

#### Behaviour and habitat

This Wombat can live in diverse habitats. From coastal forest to alpine grassland it has a patchy presence. It is more common in mountainous country such as the Snowy Mountains. The Wombat grazes on various grasses and does dig some tubers out of the ground. For three to eight hours of grazing, an individual can travel three kilometres.

The Common Wombat is smart in the way it adapts to the seasons. During the summer it is hot in the day time, so it only comes out at night when the air is cool. During winter some Common Wombats emerge during daylight to bask in the sun and to graze. They have evolved to avoid being out of doors when the climate is too hot or too cold.

The Common Wombat has a very human eating habit. With its front foot the Common Wombat can pick up plant matter to put into its mouth.

Toilet behaviour is unusual. The Wombat leaves its droppings on logs or rocks that are above ground level. Rectangular dung on objects about 15 centimetres above the ground is a sign that a Common Wombat has walked by.

#### Family life

Wombats are solitary creatures. Their burrow may, however, connect to other Wombat burrows. Females carry young in the rear opening pouch for up to six months. When the Common Wombat burrows or digs for tubers, the excavated dirt does not get into the pouch. The child follows her for 11 months after this until they are mature enough to move away.

Why do pouches have a rear opening?

#### Beware!

Wombats have an unusual defence. When attacked in a burrow they place their rear end to the attacker. They then proceed to squash the attacker against the walls or the roof.









### Greater Bilby Extinct NSW, endangered

#### What am I?

The Bilby is not a big marsupial. It is the size of a small cat. The Bilby has soft grey-blue fur and looks delicate. The ears are long like a rabbit. A white tip at the end of its tail is one useful way to identify this creature. When it hops around at night its white tip sticks up in the air like a banner.

Male: body 55 cm, tail 24 to 25 cm, 2.5 kg Female: body 39 cm, tail 24 to 25 cm, 800 to 1100 g

#### Behaviour and habitat

The Bilby lives in the desert. As there is not much water in the desert the Bilby must still drink. The Bilby finds most of its water from the food it eats.

The strong front paws are used to dig for food up to 10 centimetres deep. Their food includes insects and their larvae, seeds, bulbs, fruit and fungi. Seeds are licked from the ground. With so much of its food on and in the ground this marsupial eats a lot of soil with its food.

#### Family life

The Bilby is a strong burrower and likes to dig homes in the soil. These burrows may be up to three metres long and 180 centimetres deep. One Bilby may have up to 12 burrows. For an animal of its small size that is one big digger!

Young remain in the pouch for 75 to 80 days. They are independent within two weeks of leaving the pouch.

#### Endangered

A hundred years ago the Bilby occurred over 70 percent of Australia. Sadly the Bilby is now extinct in New South Wales. The Bilby only occurs in the dry north of West Australia, southwest in the Northern Territory, and southwest Queensland. The main reason for the Bilby's decline in territory and numbers is the introduction of European animals.

Feral cats and foxes prey on the Bilby. Rabbits are also bad to Bilbies. Rabbits compete with Bilbies for food as well as steal their burrows.

Queensland has established a breeding colony of Bilbies with plans to reintroduce them into the wild.









### **Long-nosed Bandicoot**

### Locally common

#### What am I?

Weighing up to a kilogram, the Long-nosed Bandicoot has a body that is about 40 centimetres long. The easiest way to identify this animal is by its face. The muzzle is long and pointed and it has very large ears.

The grey fur of the Long-nosed Bandicoot has an unseen benefit. They have flat fur which keeps moisture away. So they walk around in waterproof fur!

#### Habitat

The eastern coastal region is home to this bandicoot. Found in forest, scrub, and rank grass. Dense undergrowth is preferred. If the conditions are right, the Long-nosed Bandicoot may be found in suburban gardens.

#### Food

The Long-nosed Bandicoot is an omnivorous animal that eats a variety of food. Diet includes larvae, beetles, stems and fungi. Sunset, night, and sunrise are favoured foraging times.

#### Behaviour and family life

It is a solitary animal that likes to spend all day in the nest. The nest is usually in a shallow hole in the ground lined with grass and leaves. When the Bandicoot occupies its nest, it closes the entrance behind it.

12.5 days is a short pregnancy! Litters of two to three are weaned at seven weeks. They are mature at 20 weeks. 12.5 days is the shortest gestation period of any mammal!

#### Them and us

Long-nosed Bandicoots are creatures who like their privacy. It is hard to tell if they are living close. However, gardeners can tell if this Bandicoot lives in the area. When searching for food it leaves small conical holes in the ground.

These holes are just large enough for the Bandicoot's long nose to go in the ground when it searches for food. As Bandicoots dig grubs and beetles out of the ground they do the gardener a favour.

#### Less Long-nosed Bandicoots

Once common in urban areas they are no longer as quite as common. Cats and foxes have decreased their numbers. Also having open gardens is not good for this animal that prefers to live in undergrowth.



Western barred bandicoot







## **Ant Eaters**

The Echidna, Numbat, some birds, frogs, and reptiles eat termites.

Termites eat wood and tough plant fibres. They break down this food in their guts. So when other creatures eat termites, they are getting the advantage of pre-digested food.

### Numbat Extinct NSW, endangered

#### What am I?

The Numbat looks like one of a kind because it is! The Numbat is one of the few marsupials active in daylight and the only one that feeds on termites. The Echidna also feeds on ants, but the Echidna is a monotreme.

Males and females look alike, but the male is slightly larger. On average, they weigh between 300 to 700

grams. They can grow up to 42 centimetres long – they do not look that big as nearly half their length is in their bushy tail. The Numbat has a long snout, a reddish brown body with six to seven white stripes, and a bushy tail that is almost half of its length.

Think of your tongue - the tongue of the Numbat can reach out to half the length of its body. This tongue is used to eat termites.

#### Habitat

Traditionally, the Numbat was found in dry country in the south of Australia. Termite mounds, their only source of food, have to be close by.

#### Food

Like the Echidna the Numbat uses its tongue to lick up termites. They must be quite hungry as they can eat up to 20,000 a day! That is about 10 percent of the body weight of this ant eater. They eat termites in the daytime and sleep in a burrow or hollow log at night so that predators find it difficult to attack them.

#### Hanging young

Most marsupials have pouches. Not the exceptional Numbat! When two to four young are born they have to hang on to their mother. After a few months the mother leaves them in a burrow or hollow while she feeds during daytime, and then she feeds them at night. At eight months of age they start to wander and eventually establish a home range for themselves.

#### Endangered

Before European settlement the Numbat was found in arid country from Western Australia to west New South Wales. Foxes are believed to be the reason for its rapid decline. Now it is only found in South West Western Australia with a new colony re-established in South Australia.









## Monotremes

These mammals lay eggs and after the young hatch the mothers nourish them with milk. They have a lower temperature than other mammals.

### Short-beaked Echidna Common

#### What am I?

There are only two Echidna species. The Long-beaked Echidna lives in New Guinea; the Short-beaked Echidna lives in Australia. The difference is in the size of their beak!

The Echidna in Australia is also known as the Spiny Anteater. The reason is because it is spiny and eats



ants and termites. Echidnas also have fur that is obscured by their spines. The spikes coming out of its body are called spines. It is a prickly fellow with strong and sharp spines covering its body. From two to seven kilograms in weight and 30 to 45 centimetres in length it looks like a walking pin cushion.

#### Behaviour and habitat

The Echidna walks with a slow, rolling gait. All those spines are an excellent defence against other animals. Not liking the heat or the cold the Echidna knows how to handle both extremes well. When the temperature is hot the Echidna is active in the night time, when cold it is active in the day time. Although it prefers land, the Echidna is also a surprisingly good swimmer.

#### Protection

If disturbed, an Echidna on soil will lower its head and vigorously dig itself into the ground. Only spines will be visible. If on rock the Echidna will form into a ball that radiates spines. So if you want to see the Echidna doing what it does naturally, leave this monotreme alone or you will only see spines.

#### Food

The reason that the Echidna is such a good digger is because of food. Ants and termites live in the ground or rotten wood. The Echidna is an expert at digging into these and eating them with its long and sticky tongue.

#### Family life

Female Echidnas build burrows when they are incubating and suckling their young. They lay one egg directly into the pouch. The young are often left in the burrow when the Echidna goes in search of food. About a year later, the young come out of the burrow and are able to feed themselves.









### Platypus Locally Common

Beware! The male Platypus is the most venomous mammal in Australia.

#### What am I?

When the first Platypus was sent to Britain in 1798 it was considered a hoax comprising a duck's bill and feet attached to the body of the rabbit. Of course they were wrong, but it provides a rough description of one of our most unusual animals and one of the most rarely seen.

Unlike most other Australian mammals, the Platypus spends most of its time in the water. The tail is flat to act as a rudder and the leathery bill of the animal looks like a duck's bill.

Male: 55 cm, 2.2 kg, Female: 54 cm, 2 kg

The major difference between the genders is what males have on their back ankles. They have a sharp spur that is 12 millimetres long. A venom gland is attached to this spur. So although it looks cute, the Platypus has a venomous defence.



#### Fur

This monotreme has extremely fine and dense fur. So much fur helps to waterproof the Platypus because it is amphibious and spends most of its time in the water. It is an excellent swimmer because of its webbed feet and broad tail. The only time it does not spend in the water is when it is going home to its burrow close to water.

#### Food

Dawn and dusk are feeding times. When on the surface of the water to breathe only its snout, head, back, and tail are seen. Under water it closes its ears and eyes - so how does it feed? The snout of the Platypus is extremely sensitive and it uses this to find food under the water like shrimps. The captured food is held in cheek pouches.

The Platypus surfaces to eat its catch. An efficient hunter, it can catch nearly half of its body weight in the one night.

#### Shy

This is a shy animal, so it is difficult to see. The Platypus is found in freshwater streams or in dams and lakes of eastern Australia. Even when on land its burrow is protected by vegetation. Feeding times at dawn and dusk are the best times to look for this aquatic mammal.





This project is proudly sponsored by



## **Reptiles**

Like mammals, reptiles are vertebrates that have a spinal cord and brain. However, reptiles are cold blooded or ectothermic. The temperature of their surroundings influence their body temperature. They are more common in warmer climates.

Scales cover a reptile's dry skin. Some reptiles such as the Lace Monitor lays their eggs in the earth, others like the Blue-tongued Lizard give birth to live young. Reptiles are more commonly found in hot climates.

## Lizards

Australia has five families of lizards. Skinks, Dragons, and Monitors are active by day, Geckos and Legless Lizards are active by night.

The skin of a lizard is covered with scales. A thin and horny outside layer of skin protects them. They shed their outside layer from time to time.

## Geckos

Australia is a hot continent to which the Gecko has adapted well. They avoid heat by not being active at day. Rock crevices or hollow legs are favourite sleeping places. Geckos are nocturnal animals. Geckos are fussy animals and do not like the cold. Most geckos rest through the winter.

Geckos and most skinks can break off and replace their tail. Being able to wriggle loose is an excellent defence for escaping from predators. Tails can be regrown.









### Barking Gecko Common

#### What am I?

The Barking Gecko or Thick-tailed Gecko is identified by a dark back that is dotted with white or yellow spots. The tail is carrot shaped and thick. The limbs are long and toes end in small claws. For a gecko it is large and grows to be about 15 centimetres long. This gecko is half the length of a school ruler.

This Gecko's name comes from its bark. Unlike other geckos, the Barking Gecko is tolerant of cold. When other geckos sleep in winter this gecko stays awake.

#### Habitat

Dry woodlands and rocky areas are favoured environments. During the day it shelters under rocks, logs, or in animal's burrows.

#### Food

A nocturnal reptile, it hunts for insects and spiders. Sometimes it hunts other small lizards.

#### Private

Like other wild animals the Barking Gecko does not like to be disturbed. It will raise its body and sway its tail. If further disturbed it will open its mouth, and leap forward to bite. The Barking Gecko is not aggressive, it just loves privacy.











### Wood Gecko Common

What am I?

At six to seven centimetres long this gecko is tiny. Brown on its back, there is a zigzag stipe from neck to tail. The underside is pale. Legs and digits are long.

#### Food and habitat

Favourite places to rest during the day are under fallen timber, stones or litter. The Wood Gecko comes out at night to hunt for insects.

#### Aggressive behaviour

If approached this gecko will stand on all four legs and open its mouth in a threatening manner. The Wood Gecko may bite, but like most other geckos the jaws are not strong enough to break the skin.

Watch, but leave alone. They have more to fear from us as we are so much larger!

#### Another tail

One of their ways of defending against predators is their tail. If some creature grabs them by the tail they will lose it, because unlike other creatures most geckos can regrow their tails.







## Skinks

Skinks are sun loving lizards. They will often be seen lying on a rock or a footpath. There are about three hundred species of Skink found throughout Australia. The following are two of the most common.

## Common Garden Sunskink Common

#### What am I?

This skink has adapted so well to suburban gardens that it is called the Common Garden Sunskink. Ten centimetres at its longest this is one of the most abundant of the small skinks. The skin is from brown to grey. There is a dark, ragged stripe that runs from neck to tail.

#### Behaviour

Common in the garden they will hurry away when people approach. For their safety, they live in cracks where other animals cannot go.

Take your time with these skinks to watch them. They are quite beautiful. Clear dark eyes are always looking around. Their scales shine as if polished. Look closely and they can be seen breathing. Mostly they are always in a position to fly from danger.

Sometimes a few Common Garden Sunskinks are found tangled together and holding each other. Nobody really knows why they do this!

#### Food

These skinks like searching for food among leaves, grass, and fallen timber. Small insects, moths, cockroaches, and worms are favoured foods. As these are often garden pests it is good to have Sunskinks in the garden.

#### Offspring

They mate in spring. Females lay up to six eggs in a communal site. Other females may add up to a total of 200 eggs. They hatch from late summer onwards and are mature in eight months.









### Eastern Blue-tongue Lizard Common

#### What am I?

A blue tongue is the most noticeable characteristic. The tongue is poked out to look for food or as a warning!

Blue-tongue Lizards are one of the largest members of the skink family. This skink which is called a lizard usually grows to about 45 centimetres in length. They have patterns of brown or black fuzzy bands across their grey body. There are seven to nine of these bands on the body, with seven to 10 bands on the tail.

#### Birth

Blue-tongues give birth of up to 25 live young. They look like their parents but for one little difference. Baby Blue-tongues have more definite bars running across their body.

#### Shelter

The Blue-tongue is active in the day and takes shelter at night. Forest litter is useful for hiding in. However, they do prefer the protection of hollow logs.

#### Food

Insects, snails, native fruits, berries, and wildflowers are all for dinner. To eat some of their food such as snails requires something special. What is it? Snail shells are tough to break, but the Blue-Tongue can break them in a single crunch. That is a powerful mouth! It is best to leave Blue-tongues alone.

The Blue-tongue lizard is not very fast or agile. They have small legs in comparison to their body. Luckily for this lizard they like eating slower animals. In particular they like garden pests such as slugs, snails, and plant eating insects. So they are good for the garden!

#### Them and us

Sadly we are not good to them. Dogs and cats hunt them. People use snail baits which poison snails. Blue-tongues eat these snails and are then poisoned.

Blue-tongues often stay in an area for a long period of time. To encourage them to stay here are a few simple hints. Keep cats and dogs away from them. Do not use poisons in the garden: remember that they are helping the garden by killing pests. Blue-tongues also like a hollow log for a home, particularly at night. As a sun loving lizard they also like a place to bask in the sun. Look after a Blue-tongue Lizard and it will help you look after your garden.









## Dragons

These dragons are not fairy tale dragons, but are a family of lizard. They have dull and rough scales that lay side by side. Spikes stick out from their body to keep predators away. Their claws are long and sharp. Most lizards have teeth that are similar in size, dragons have enlarged canines or incisor teeth in their mouth.

### Eastern Bearded Dragon Common

#### What am I?

The Eastern Bearded Dragon is named after the beard around its neck. It usually grows to about 50 to 60 centimetres in length and is coloured grey to brown. The upper side of the body is characterised by obscure dark markings. Their mouths are yellow. Tails are often banded and the underside is pale.

#### Behaviour and habitat

These Dragons like to live in open woodland or dry eucalyptus forests. Adaptable, they are sometimes found in dry scrub or rainforest.

Although they are a comfortable on the ground there is one other place they like to go. They like to climb trees to sun themselves and have a look around. If there are no trees close by, the Eastern Bearded Dragon is adaptable. It will climb up onto a fence post.

They like the sun and are active in the warmer months. They like basking and unfortunately they see roads as a big heat source. Too many are found on the road. During the colder months they hibernate. They lay up to nearly 30 eggs.

#### Food

The Eastern Bearded Dragon is an omnivore. An omnivore likes to eat both plants and meat. This Dragon prefers plants to meat by a ratio of 90 to 10 per cent. The meat is often insects such as crickets. Plants include flowers and soft herbs.

#### Protection

The Eastern Bearded Dragon likes to defend itself by camouflage or by using its beard. It will remain still when approached. By staying still it strives to blend into the background. However if approached closer, the Easter Bearded Dragon has one more trick - when other larger creatures are too close this Dragon will inflate its body. The beard around its neck will become erect. This beard is the major sign that it prefers to be left alone.











### Eastern Water Dragon Common

#### What am I?

The Eastern Water Dragon can grow to 90 centimetres long. Their colour is grey to green with yellow and black markings on their body. A broad black stripe runs from behind the eyes to the back of the head. Females have creamy bellies; males tend to have red bellies. It is a semi-aquatic, semi-arboreal lizard at home in trees and water.

#### Habitat

As the name suggests this Dragon lives on and near water. Eastern Water Dragons are active in the day. They like to sun themselves on she-oaks, other trees, and rocks near water. The Eastern Water Dragon is hard to see. If there is danger it will drop into the water and stay there.

They can sit on the bottom of a waterway for up to 30 minutes. This Dragon has very big lungs. Also a lot of patience!

#### Food

The Eastern Water Dragon is very fast to avoid other animals and to find food. Frogs, crabs, worms, molluscs, and insects are favourite snacks. Berries and fruits are eaten too. So this is another omnivorous animal that likes both plants and meat.

#### Them and us

If you do see this animal close by, you should leave it alone. Why? It has very sharp claws.

After people leave picnic grounds by waterways, the Eastern Water Dragon will often come out to see what there is to eat. Although they avoid people they can successfully share the same environment.









## Monitors

Monitors are diurnal, which means they are active in the day. Their skin is tough with small scales that do not overlap. The limbs are strong and end in gripping claws. The eye has a circular pupil and the tongue is long and deeply forked. When alarmed, the tongue flickers in and out.

The common name for monitors in Australia is the goanna.

### Lace Monitor Common

#### What am I?

The Lace Monitor grows larger than 1.5 metres. The colour of its back is bluey black with yellow bands and mottling. The tail has yellow bands. The forelimbs often have bands of yellow. Underneath is a yellow belly. With such a large body one would think of it as living on the ground.

#### Tree and ground food

However, it is as much home in the trees as on the ground. Therefore the habitat is semi-arboreal and semi-terrestrial. Compared to other lizards all four limbs are strongly developed. So the Lace Monitor can climb trees in search of nestlings and tree dwelling animals. If it thinks that it is being pursued it will climb up a tree on the far side from the observer.

With equal ease it can also walk along the ground in search of reptiles, insects, and small animals. It looks as if it waddles when walking along. Do not be fooled by this as the Lace Monitor can also run!

When in tall grass this lizard will sit on its hind legs and tail like a tripod. It will look around, survey the environment, and then keep on walking.

Male Lace Monitors fight in ritual battles for a mate. They adopt the tripod position of tail and hind feet on the ground. With their upper bodies raised they come together and wrestle!

#### Eggs

One interesting fact about the Lace Monitor is the way that it sometimes lays its eggs. The female Lace Monitor will find a termite mound, and dig a hole in it. She lays her eggs inside. After she leaves the mound the termites set to work repairing the damaged mound. The eggs are sealed inside!

Not only are the eggs protected, but the temperature of the material within the termite mound acts as an incubator.

So the termite mound incubates the eggs. The mother has been known to come back and dig out the young just after they have hatched. Baby Lace Monitors have striking yellow and black bands. At birth they are 28 centimetres long, which is about as long as a ruler.

#### Them and us

They visit parks and picnic grounds in search of scraps. They prefer to run away rather than confront people.









### Amphibians In the world there are three

In the world there are three kinds of amphibians which are frogs and toads, salamanders and newts, and caecilians. An amphibian is a cold blooded vertebrate animal that undergoes two stages in its life cycle. In the first stage the amphibian lives in water and breathes with its gills. At the mature stage it generally lives on land while breathing with lungs. In Australia the most interesting native amphibians are frogs.

## **Turtles**

A turtle's body is covered by two shells which are attached to the backbone and ribs. The upper shell is called the carapace. The turtle's head and four limbs poke through gaps between the two shells. Most freshwater turtles have webbed feet.



Long necked turtle







### Eastern Long-necked Turtle Common with fresh water

#### What am I?

The Eastern Long-necked Turtle has such a long neck it is also known as the Eastern Snake-necked Turtle. Their neck is so long that it tucks in under the side of the shell. In the water, this retractable neck is excellent for reaching out and grabbing prey. The Eastern Long-necked Turtle likes to eat small aquatic animals, which includes tadpoles and small fish. These turtles have long life spans and may live up to 36 years. They weigh about one and a half kilograms.

People also refer to them by the name of 'Stinker'. Their legs contain a gland which produces a foul smelling greasy liquid. If alarmed, it folds its neck into the shell and uses the smell producing glands to keep other creatures away.

#### Shell

The shell length is about 25 centimetres long – this is the size of a dinner plate. The carapace is fawn to dark with a black edge; the lower shell is yellow.

#### Behaviour

In water, only the nostrils come out to breathe. If there is flooding, it knows to move to higher ground. During floods it can be found sleeping on high ground underneath fallen timber. When it is cold, individual turtles often band with others. They dig themselves into mud and hibernate for winter.

Australia is one of the driest parts of the planet. In drought conditions these turtles bury themselves to wait for rain. Amazingly, during the long wait for rain, they only need to take a breath every two to three days. These patient turtles can wait years for rain!

#### **Overland migration**

The Eastern Long-necked Turtle has webbed feet that are made for swimming, but not so good at walking. One kilometre a day is their speed. This is slow, but they can hide from predators under their shell. The Eastern Long-necked Turtle has been known to walk up to 10 kilometres looking for water. They have been seen walking across the landscape in mass migrations, but this is not common.

#### Unpleasant

A female lays at least 12 eggs in a hole near water. Water rats and lizards eat the turtle's eggs. When Eastern Long-necked Turtles hatch, usually after rain, they are keen to get into the nearest water.

Once they are hatched however, most animals do not want to eat them. Because they live up to their name of 'Stinker'. Starving animals have been seen to eat the young turtles, and then vomit them back out!











## Frogs

Frogs are cold blooded or ectothermic, which means that their body temperature is influenced by their surroundings. Frogs can breathe through their lungs as well as their moist skin.

No scales, feathers, or fur protects a frog's skin. Glands of various kinds produce liquids that cover the skin. Frogs usually have damp skin, but this skin may contain poison glands. Also what we carry on our hands can kill them.

#### Do not touch frogs.

The eggs are fertilised outside the mother's body, usually in water. Frog eggs hatch into tadpoles. They have no limbs, just a tail and gills. Maturing tadpoles lose their gill and tail to gain limbs and lungs. They become frogs and can move out of the water. Frogs are called amphibians because of their water and land living environments.

# **Reptile and Frog differences**

Both reptiles and frogs are cold blooded. The major differences are:

Reptile	Frog
Egg fertilised in mother	Egg fertilised outside mother's body
Small version of adult hatches	Tadpole, different from adult, hatches
Adult has dry skin	Adult has moist skin
Tail present	Adults have no tail









### Eastern Banjo Frog Common

#### What am I?

Seven centimetres in size. It is identifiable by a white to yellow stripe under its eye. The back is darkish brown and the skin has a rough texture.

The Eastern Banjo Frog or Eastern Pobblebonk is named after its call. This sounds like the banjo's 'plonk' or 'bonk' or 'kuk-kuk' sound. One frog will call then other frogs will talk back. These can be heard any time of the year coming from vegetation or burrows. For such a small animal the call is loud.

#### Home

It likes to hide in a burrow during the day and when disturbed at night it will hop into the water and wait until it is safe. If you want to see the Eastern Banjo Frog, respect them! Give them some space, and do not get too close.

#### Habitat

The Eastern Banjo Frog likes most damp habitats apart from flowing streams. Like other frogs it eats insects. Apart from its wildlife habitat, it likes to live in urban areas. If there is still water near the home, the Eastern Banjo Frog may be found nearby.

#### Eggs and tadpoles

In October, it calls to each other and mates. The female lays up to 4000 eggs! Each egg is 1.7 millimetres in diameter. The female beats air into the mass of eggs to create froth. This large, floating, and frothy mass of eggs is attached to vegetation in still water.

Dark grey tadpoles are born a few days later. As the water temperature rises over summer the tadpoles develop. When these pools dry, the tadpoles absorb their tail. They also grow legs and leave the water to begin their life as a frog.









### Green Tree Frog Common

#### What am I?

The Green Tree Frog is a familiar frog that grows to 10 centimetres in length, the colour is green and it has a white belly. It is the size of a tennis ball. Large, sticking pads at the end of each digit are used for climbing. This frog can live for up to 23 years.

#### Behaviour and habitat

The Green Tree Frog does live in trees, but it comes down to earth and also lives around and in houses. They are not shy of people; all they want is a wet or a damp environment.

One of its favourite places to live outside the home is in the letterbox, one inside is the toilet!

Daytime is spent in a damp place. At night small creatures are hunted. If the Green Tree Frog is close, it can be heard. It has a deep 'Wark wark wark' call. Female frogs will only respond to calls by males.



#### **Tadpoles**

The Green Tree Frog puts its eggs into still water, like a puddle, and these eggs then sink to the bottom. Growing from an egg to a tadpole takes about six weeks. They hatch within two or more days to become tadpoles. Tadpoles are brown and green. They grow to 4.5 centimetres in length before the tail drops off. At six weeks they move out of the water and start life as a frog.

#### Food

The Green Tree Frogs diet consists mainly of insects. It can also eat very small animals such as mice.









### Spotted Grass Frog Common

#### What am I?

This tiny frog, one of the most common of Australian frogs, is named for its spots. These spots camouflage the frog which likes to be close to water.

The white or yellow or orange stripe that goes down its back helps in identifying this olive green to brown amphibian. The Spotted Grass Frog is most recognisable because of its rapid and low pitched call which sounds like a machine 'kuk-kuk-kuk'. They make this call all year, but most noticeably after rain.

#### Size

As an adult, the Spotted Grass Frog is from 3 to 4.5 cm long. But it is longer at one stage in its life. How is this possible?

When the Spotted Grass Frog is a tadpole it has a tail. A large tadpole measures over 4.5 centimetres. When it grows up to be an adult the tail is absorbed into the body, so it becomes shorter.

#### Habitat

Shelter for the Spotted Grass Frog is provided by logs and stones. They live near the edges of swamps, lagoons, and slow creeks. After rain it breeds along the grass border of these watercourses.

Frogs such as the Spotted Grass Frog stay close to water to stop their skin drying out. If this frog is seen in your backyard there is likely to be water nearby







### Glossary

Aestivate	Process by which animals such as turtles and frogs become inactive in drought time
Amphibian	Creature living on land and water, like a frog
Aquatic	Water dwelling creature; or the habitat for such animals
Arboreal	Tree dwelling animal, such as a koala; or the habitat for such animals
Camp	Place where animals rest together
Carapace	Upper shell of a turtle
Carnivore	Animal that eats animals
Climate	Temperature, wind, rain, etc. of a region
Cold blooded	An animal whose body temperature stays close to the surrounding environmental temperature. Examples are reptiles and amphibians
Colony	Many animals of one species that live together
Common	Refers to a species that can be regularly found within its habitat
Crèche	Nursery where young of the species are kept while adults forage
Diet	A species' habitual food or its way of feeding
Diurnal	Active during the day
Drey	Nest of a Ringtail Possum
Echolocation	Microbats (like Gould's Wattled Bat) send out high frequency calls at short pulses. This frequency strikes an object which bounces off as an 'echo' and returns to the bat's forward facing ears. As the bat gets closer to an object this frequency increases. Echolocation is used for navigation and finding prey
Ecosystem	The interaction of organisms which include animal, plants, fungi, and bacteria in a particular environment
Ectothermic	An animal whose body temperature stays close to the surrounding environmental temperature. Examples are reptiles and amphibians
Endangered	At risk of extinction, with particular reference to a species
Endothermic	An animal that maintains a constant body temperature, regardless of the environment
Evolution	The development of species by small genetic changes over time
Extinct	No member of a species left alive, examples are Thylacines or the Lesser Bilby. Sometimes refers to the extinction of a species in a particular area, such as that there are no more numbats in New South Wales although they do still exist in West Australia
Feral	Refers to introduced animals that have gone wild. In the wild, feral animals include cats, goats, pigs and camels
Forage	Behaviour engaged in by an animal in searching for and finding food
Food chain	A chain of plants and animals linked by which eats the other
Freeze	How an animal can quickly become still if alarmed or curious
Frugivore	Animal that eats nectar, blossoms, fruit
Gestation	The process of carrying young in womb from conception to delivery









Habitat	Place where a particular animal lives. In particular, it refers to physical and biological conditions that are required for a particular species. Some common
	habitats are aquatic (water), terrestrial (land) and arboreal (trees)
Herbivore	Animal that eats plants
Hibernate	In cold weather a state of inaction or sleep
Incubate	Keep eggs at constant temperature to enable them to hatch
Introduced	People bringing species from one place to another. In Australia this includes foxes, rabbits, and camels
Insectivore	Animal that eats insects and arthropods
Invertebrate	Animal that lacks a backbone
Joey	A baby marsupial, as in a kangaroo's joey in the pouch
Larvae	The immature young of any invertebrate animal
Macropod	Big footed herbivores that hop. Includes all kangaroos and wallabies
Mammal	Warm blooded animal with brain and spinal cord that has four limbs. Females possess mammary glands for nourishing of the young
Marsupial	The class of mammals characterised by the female having a pouch in which to carry their young which are born incompletely developed
Mammary glands	Milk producing glands found on mammals
Microbat	Tiny bat that eats insects
Migrate	Move from one place to another, usually for food
Monotreme	A small subclass of mammals that lays eggs. Only echidnas and platypi are monotremes.
Native animal	An animal that evolved in a particular place over a long period of time. In Australia, a native animal refers to those that were here before 1788
Nocturnal	Active during the night
Omnivore	Animal that is both a plant and a meat eater
Pollen	Reproductive substance produced by flowers
Possum	Arboreal marsupial
Predator	Animal that hunts, kills, and eats other animals
Raptor	Bird of prey that has hooked beak and excellent eyesight
Reptile	Cold blooded animal with a brain, vertebrae, and scales on their skin. Reptiles include snakes, lizards, crocodiles, and turtles
Rogue	A young eagle, especially when it forms a flock with other young eagles
Roost	A resting or sleeping place for birds
Sentinel	One or more animals watch for danger while others feed
Species	The basic unit of animal classification. The animals are genetically similar and capable of interbreeding to produce offspring that are fertile
Talon	The claw of a bird, in particular of a bird of prey
Terrestrial	A land habitat on the surface of the earth; used to describe creatures living in such a habitat
Territory	Area controlled by one to a group of one species. They defend it against outsiders from their own species
Vertebrate	Animals that have a brain in a skull with a vertebral column or backbone that supports the body
Vulnerable	A threatened species that is in less danger of extinction than an endangered species
Warm blooded	An animal that maintains a constant body temperature, regardless of the environment







### References

#### Books

A Field Guide to the Mammals of Australia, Peter Menkhorst and Frank Knight, Oxford 2001 Australian Animals Discovered, Peter Stanbury and Graeme Phipps, Pergamon Press 1980 : excellent accounts of literate people's first encounters with Australian wildlife Australian Birds, Donald and Molly Trounson, Collins 1991 Australian Bush Birds in Colour, Irene and Michael Morcombe, Reed 1974 Australia's Endangered Species, Michael Kennedy, Simon and Schuster, 1990 Australian Mammals, Jenny Pollak, Collins 1980 Australian Reptiles and Amphibians, Leonard Cronin, Envirobook 2001 Birds of Australia, J D McDonald, Heinemann 1992 Birds of Australia, Ken Simpson and Nicolas Day, Claremont 1989 Birds of Prey of Australia, Stephen Debus, Oxford 1998 Celebrating Australia Wildlife, Steve Parish, Parish Publishing Complete Book of Australian Birds, editors R. Schodde & S. Tidemann, Reader's Digest 1988 Echidna, Grey Pyers, Binara 2002 : good explanation of Echidna's life cycle Encyclopaedia of Australian Wildlife, Steve Parish, Parish Publishing Encyclopaedia of Australian Wildlife, editor Janet Healey, Reader's Digest 1997 : comprehensive coverage of native animals Field Guide to Australian Birds, Michael Morcombe, Steve Parish Publishing 2000 Frogs and Toads, Harry Breidahl, MacMillan 1992 Magpie Alert, Darryl Jones, UNSW Press book 2002 Reptiles and Amphibians of Australia, H G Cogger, Reed 2000







### References

#### Online

www.abc.net.au/science www.amonline.net.au : useful fact sheets on birds, mammals, amphibians, and reptiles from the Australian Museum www.australianfauna.com www.australianwildlife.com.au www.australianwildlife.org www.calm.wa.gov.au/plants-animals epa.qld.gov.au/nature\_conservation www.esl.com.au/wildlife/plat www.faunanet.gov.au : complementary material to amonline www.frogs.org.au : brief guide to frogs www.gould.edu.au/wildlifecams : Sugar glider, Kookaburra and Gould's Wattled Bat on film www.kipandco.com.au/Main/wildlife www.parks.tas.gov.au/factsheeets www.teachers.ash.org.au/jmresources/animallinks : many linked sites www.users.orac.net.au/~mhumphry www.wildlife.animalworld.com.au/natives : Highly readable account of how easy it is to co-exist with Australian wildlife around the house www.wilmap.com.au/wildlife www.wires.org.au : Comprehensive information from help available for injured native animals and illustrative fact sheets www.zoo.nsw.gov.au/content : Australian animals and others www.zoo.org.au



Rescue Hotline 1800 641 188

Donations \$2 and over are tax deductible

Head Office PO Box 260 Forestville NSW 2087

t 02 8977 3333 f 02 8977 3399 e info@wires.org.au wwww.wires.org.au

CFN 10170 ABN 30 768 872 928 NPWS Licence 10072