



# Junior Ranger

## Review

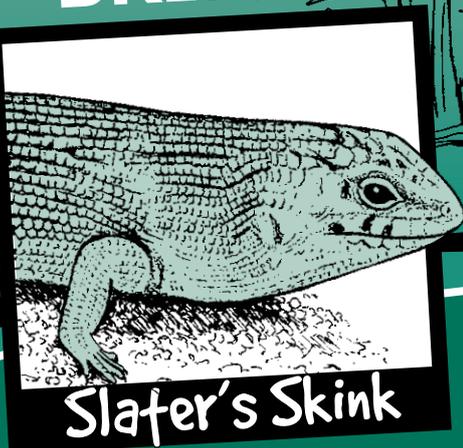
Issue 1 2008



### Plant PROFILE

### On the BRINK

### CREATURE feature



Slater's Skink



Old Man Euro



# Creature Feature

## Old Man Euro

The Euro or Common Wallaroo, *Macropus robustus*, is one of Australia's most common kangaroos. It is one of the animals you are most likely to see as you travel around the Northern Territory. Watch out for Euros because they are often on the road at night!

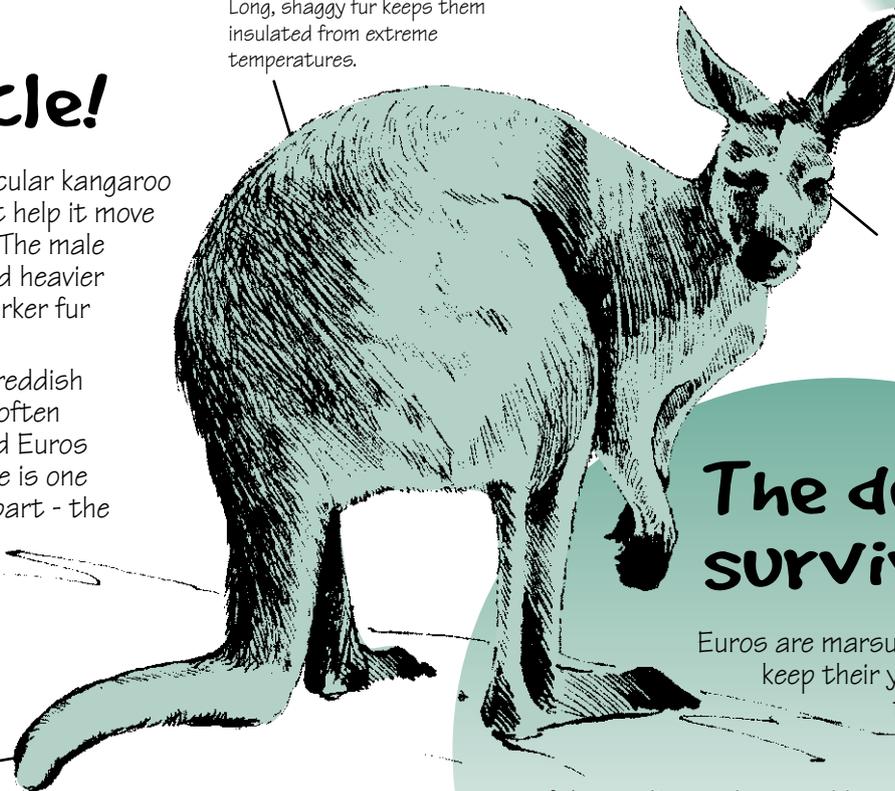
Long, shaggy fur keeps them insulated from extreme temperatures.

### Mr Muscle!

The Euro is a large, muscular kangaroo with large back legs that help it move up and down hills easily. The male Euro is usually larger and heavier (47kg) and has much darker fur than the female (25kg).

Their shaggy fur can be reddish to grey coloured. People often mistake reddish coloured Euros for Red Kangaroos. There is one easy way to tell them apart - the Red Kangaroos have short, fine hair whilst Euros have long, shaggy fur.

A thick, strong tail allows the Euro to move easily through hills and mountain ranges.



Their eyes are shaded with large, bushy eyebrows, protecting them from the sun.

### The desert survivor

Euros are marsupials; the females keep their young in a pouch in the front of their stomach. Living in the drier areas of Australia can be a problem for many animals. The Euro has adapted to living through droughts by only breeding after good summer rains. This guarantees that by the time the baby Euro or joey is old enough to leave the pouch to feed there will be enough grasses to eat.

### G'day from Graham

Welcome to our first edition of the Junior Ranger Review for 2008. Each year we produce four issues packed with information on the Territory's plants and animals. The 'Creature Feature' article showcases one of our animals. 'On the Brink' will tell you about a threatened species. 'Urban Encounter' will introduce you to an animal that you may see in or near your backyard. 'Plant Profile' will highlight one of our great NT plants. 'Discovering Outdoors' will give you an activity to get into. Last, but not least is 'Discovering a Territory Park' where, hopefully, you'll be inspired to visit one of our great NT Parks.

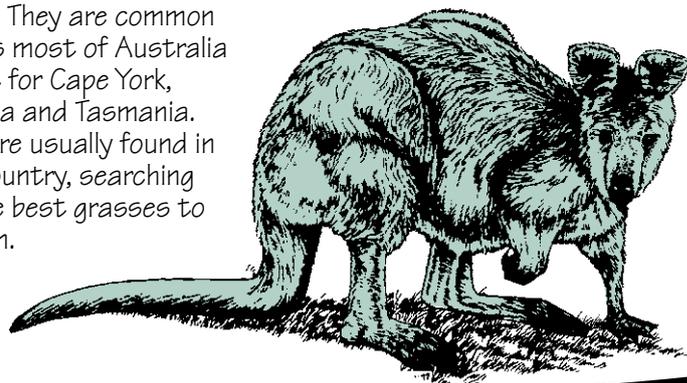
Finally, to all the Junior Rangers out there, welcome to another year of the program.

See you out in the Bush!

Graham

### Australia all over... well almost!

Euros are found throughout the Northern Territory except for the islands on the east and north coastlines and the Darwin region. They are common across most of Australia except for Cape York, Victoria and Tasmania. They are usually found in hilly country, searching for the best grasses to feed on.



# Head for the hills!

When you go walking, look out for Euros. The first sign you might see are their tracks going through the hills. These pathways will often follow the contours of the hill - Euros know how to save energy so they only go up and down when they really have to. An obvious sign (or trace) to look for is their poo! It is usually black and oval shaped with a point at one end. Another sign to look for is shallow holes dug around the base of shrubs. Euros are smart enough to keep out of the midday sun and usually dig themselves a shallow hole in the shade to keep themselves nice and cool. They also retreat into small caves and overhangs to avoid the heat. If you come across a Euro they will usually give you a loud hiss and bound quickly away.

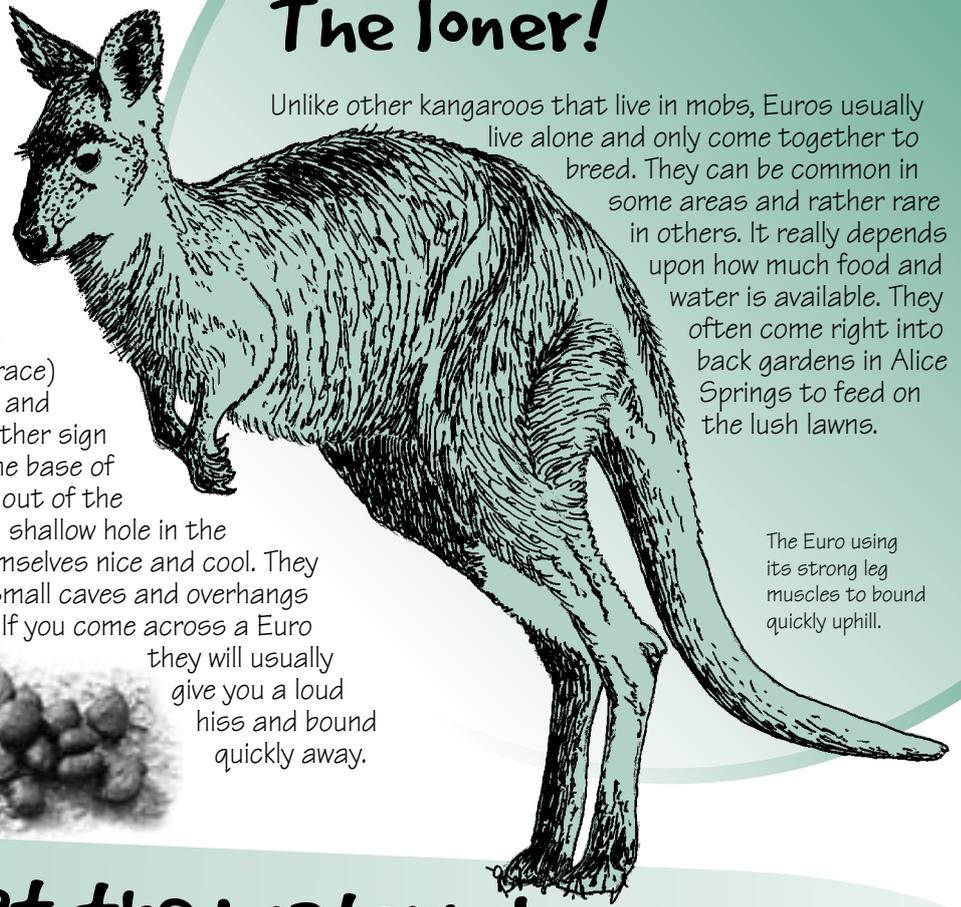


Look out for the poo and the tracks of the Euro.



# The loner!

Unlike other kangaroos that live in mobs, Euros usually live alone and only come together to breed. They can be common in some areas and rather rare in others. It really depends upon how much food and water is available. They often come right into back gardens in Alice Springs to feed on the lush lawns.

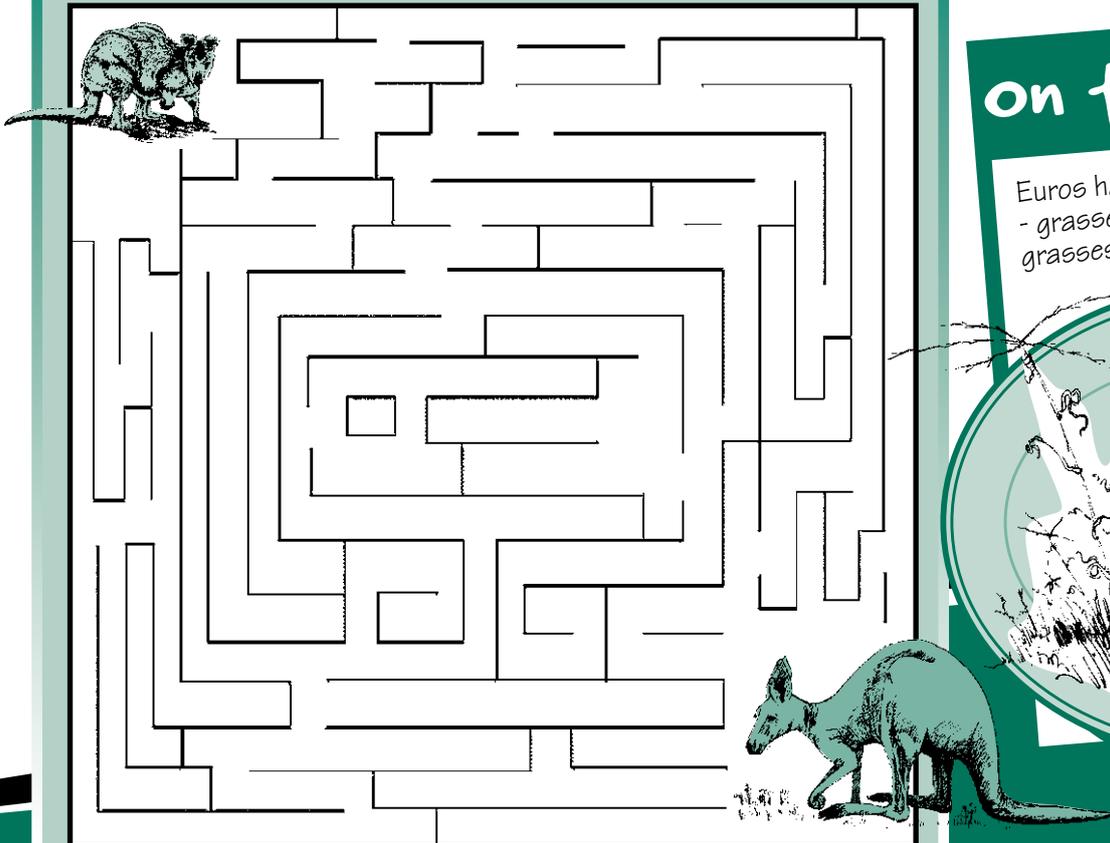


The Euro using its strong leg muscles to bound quickly uphill.

# Ambush at the waterhole

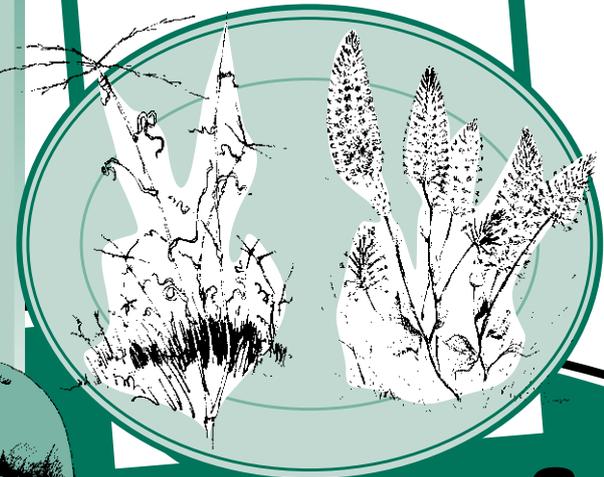
Euros often visit waterholes to drink even though they can get all the moisture they need by eating dew-covered grasses in the morning. Visiting a waterhole can be quite dangerous for them. Dingoes often lay in wait for prey at waterholes and Euros make a tasty meal. Usually Euros are strong and fast enough to escape from a dingo but some waterholes are located inside steep gorges where a Dingo can more easily trap them. When next you visit a waterhole, look for signs of Euro bones.

A Joey has lost her mother - can you help it to find its way home?



# on the Menu

Euros have a simple diet - grasses and herbs and more grasses and herbs!



# On the Brink



## our Sparkling Skink

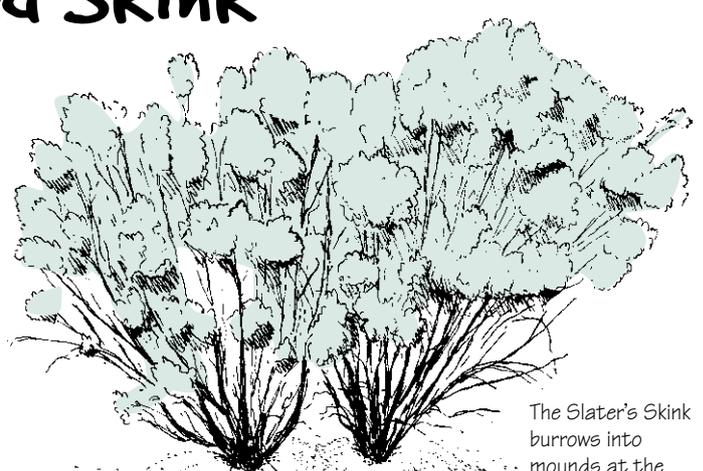
The shy Slater's Skink, *Egernia slateri*, is one of Australia's rarest lizards. It was once quite common across Central Australia, but today is only found in a few scattered locations. Research is starting to tell us a little about these beautiful skinks but time is running out to save them.



## The scarce, scattered Skink

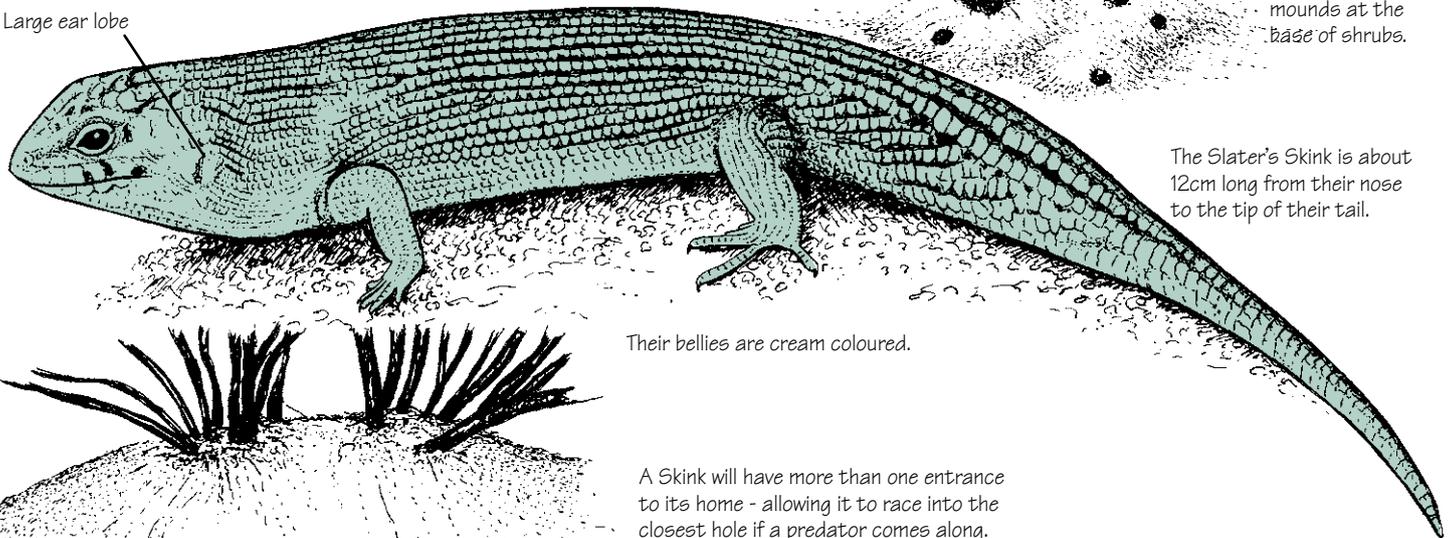
The Slater's Skink is a fat, smooth-skinned lizard, about the size of a sausage! They have an amazing array of black, brown and cream specks all over their body. The sides of its body are more pink coloured while near the head it changes to blue. Like many lizards, they are cream coloured underneath. Like all *Egernia* skinks, they have a small head and large ear lobes.

Most types of skinks in Australia can live in a variety of different habitats - not so the Slater's Skink. They have only been found in a series of small burrows at the base of the Native Fuschia and Corkwood shrubs.



The Slater's Skink burrows into mounds at the base of shrubs.

Large ear lobe



The Slater's Skink is about 12cm long from their nose to the tip of their tail.

Their bellies are cream coloured.

A Skink will have more than one entrance to its home - allowing it to race into the closest hole if a predator comes along.

## Where can you see a Slater's Skink?

You'd have to be the luckiest kid in the world to find a Slater's Skink in the wild. They are extremely shy and even scientists that know exactly where they live find it difficult to sneak up on them. Slater's Skinks are now only found on Owen Springs Reserve and Finke Gorge NP and a couple of other areas just west of Alice Springs. They were first discovered in 1975 just south of Alice Springs, but recent surveys in the same area failed to find any. We are very worried about their future.

## Science Snippet

Today scientists sometimes use motion-activated video cameras to observe small animals like the Slater's Skink. On one occasion, a Mulga snake was filmed plunging in and out of a skink's burrows - a definite threat!

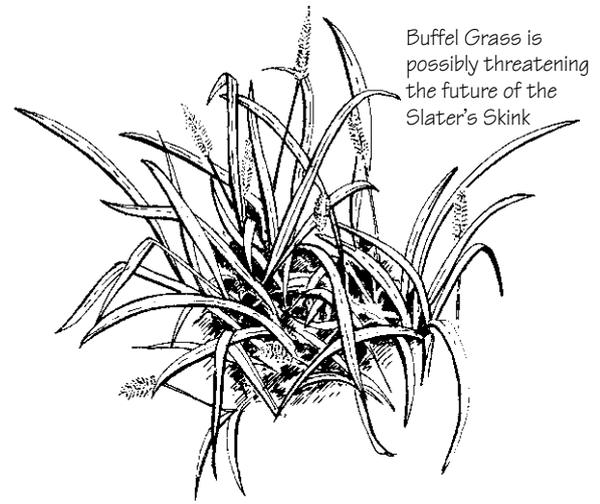
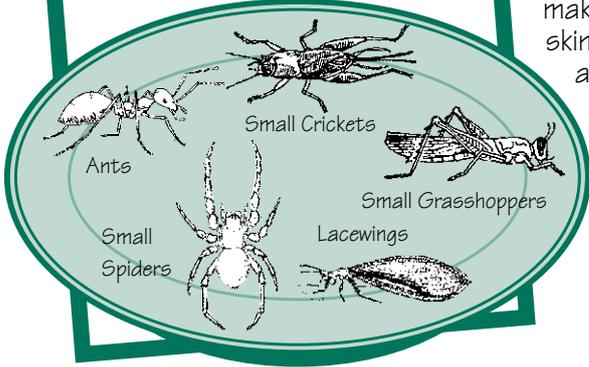
# Why the disappearing act?

Nobody is sure why this skink has become so rare and hard to find. Scientists believe that it may have something to do with the changes in fire patterns in Central Australia over the past 100 years.

It might also have something to do with the introduction and spread of an African/Asian grass called Buffel Grass. Buffel Grass was introduced into Central Australia to help reduce dust storms and to provide food for cattle, and it has now become widespread in some areas. It can grow very thickly in some habitats and scientists believe that it may cover up the Slater's Skinks burrows, making it harder for the skinks to feed. Buffel Grass also loves to burn, but unfortunately, wildfires can threaten the Native Fuschia and Corkwood shrubland in which the skinks like to live.

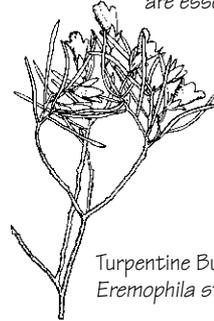
## on the Menu

Slater's Skink favourites



Buffel Grass is possibly threatening the future of the Slater's Skink

Turpentine Bush and Corkwood shrubs are essential for the future of the Slater's Skink.



Turpentine Bush, Eremophila sturtii



Corkwood, Hakea divaricata

# A puzzling problem!

Find the Skink words in the puzzle below. All the words appear in the article. The left over letters reveal a special name.

- |          |         |            |
|----------|---------|------------|
| ACT      | FIRE    | RAREST     |
| BRINK    | FUSCHIA | RECOVERY   |
| BURROW   | GRASS   | SAUSAGE    |
| CORKWOOD | HABITAT | SCIENTISTS |
| EAR      | INSECT  | SKINK      |
| EGERNIA  | PINK    | SLATERS    |
| EXTINCT  | PLAN    |            |

S	L	A	T	E	R	S	T	G	B	C
E	E	T	C	A	S	L	C	R	U	O
G	R	R	N	K	R	A	E	A	R	R
E	K	N	I	R	B	C	S	S	R	K
G	N	N	T	F	O	A	N	S	O	W
A	K	S	X	V	K	N	I	P	W	O
S	C	I	E	N	T	I	S	T	S	O
U	I	R	A	I	N	R	E	G	E	D
A	Y	T	A	T	I	B	A	H	T	R
S	T	S	E	R	A	R	P	L	A	N
E	A	F	U	S	C	H	I	A	E	I

The Slater's Skink sits patiently at its burrow entrance, waiting for small invertebrates to pass by.



# Save our Skink!

The Northern Territory and Australian Governments have worked together to produce a 'Recovery Plan' for the Slater's Skink. This plan gathers together everything we know about the skink and tells us what needs to happen over the next ten years to stop the skink from becoming extinct. One option may be to begin a 'captive breeding' program like the one developed to help the Mala.

## Want to read more?

The Parks and Wildlife Service of the NT recently produced an amazing book on all the threatened species in the NT, including both plants and animals. Check it out at a bookshop or library near you!

**Lost from our Landscape**  
- Threatened Species of the Northern Territory (2007).

# Urban Encounter

## Masked Lapwing



Being attacked by a bird is a frightening experience. The Magpie Lark is famous for it. Another bird that you may have had an unpleasant urban encounter with is the Masked Lapwing, *Vanellus miles*, otherwise commonly called the Masked or Spur-wing Plover.

Masked Lapwings are common right across the Top End, central and eastern Australia. They are easy to recognise, long-legged ground birds. You'll find them hanging out in flocks at your local natural or man-made grassed areas. The shores of lakes and swamps are favourite spots, as are golf courses, farmland paddocks, school ovals, airports and median strips.

## Unmasking a lapwing

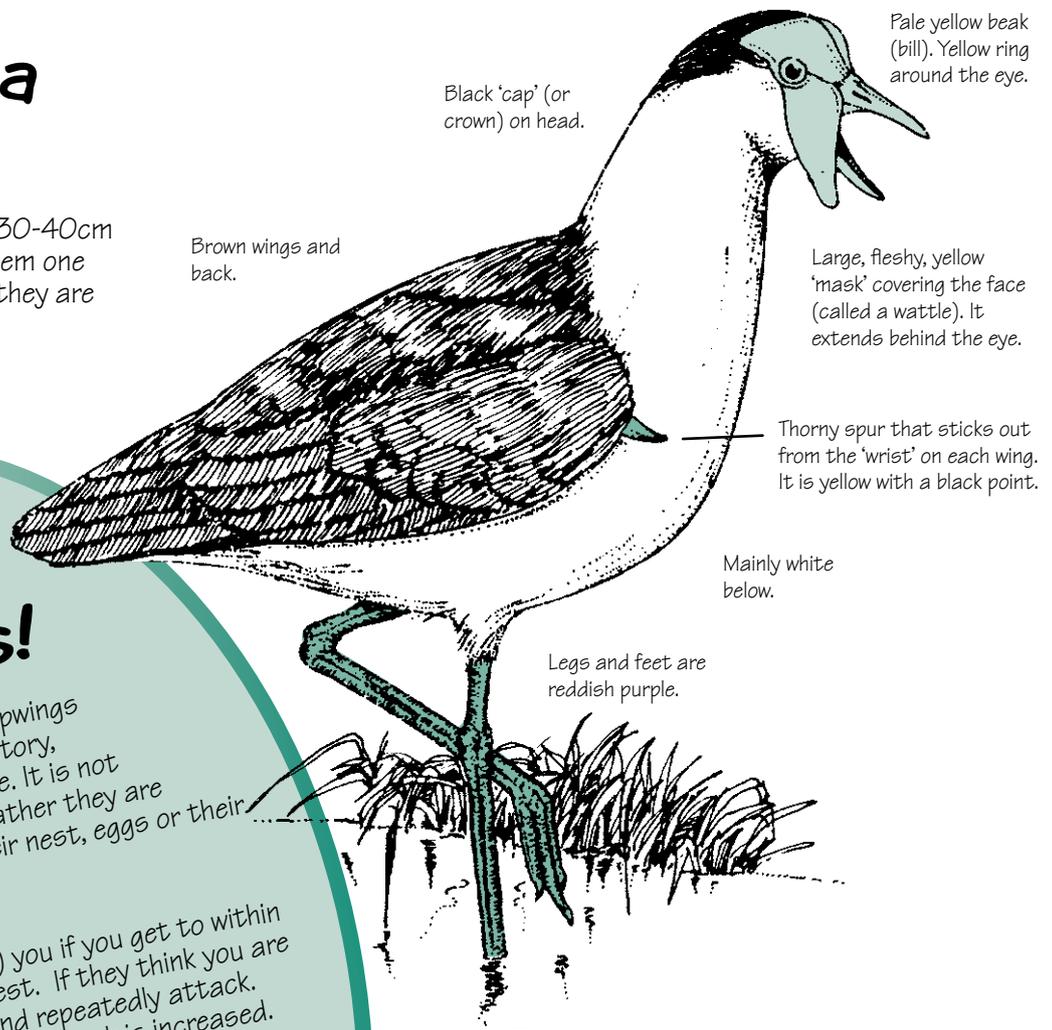
Masked Lapwings are only about 30-40cm high but their behaviour makes them one tough bird. For such a small bird, they are certainly 'gutsy' little creatures.

### Scary swoopers!

Like most animals, Masked Lapwings instinctively protect their territory, particularly during breeding time. It is not because they don't like us but rather they are trying to defend their 'turf' - their nest, eggs or their babies.

Most birds will dive bomb (swoop) you if you get to within 30-50 metres of their ground nest. If they think you are a threat, they will aggressively and repeatedly attack. If you tease them, the likelihood of attack is increased. You will know about it, as they will call loudly with a 'kekekekekekek' alarm warning as they attack.

Swooping is the most common of bird defence behaviours. The bird's aim is to threaten or bluff and the intention is only to scare off any danger. They usually attack with their beaks and feet and aim for our heads. This can be a really scary experience, especially for kids, so the best thing you can do is try to avoid them.

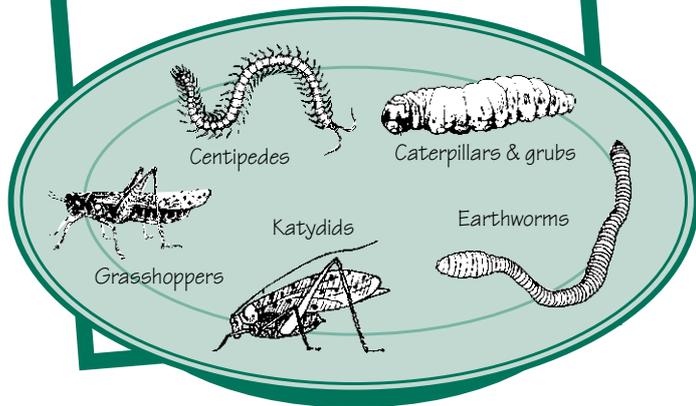


### Did You Know?

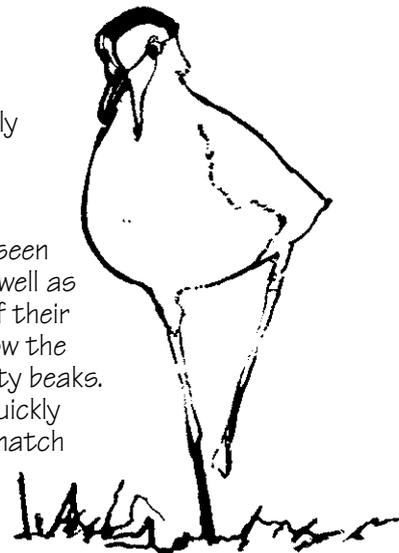
If dive-bombing attacks fail, Masked Lapwings pretend to have a broken wing in an attempt to lure intruders away from their vulnerable nest, eggs or babies. They will 'advertise' this pretend injury by calling loudly.

# on the Menu

## Masked Lapwing favourites



Masked Lapwings feed mainly on a variety of insects and their larvae. They also love earthworms, millipedes and centipedes. They have been seen eating leaves and seeds as well as the occasional frog. Most of their food is prised from just below the ground using their long pointy beaks. If prey is sighted, they will quickly run, head down, until they snatch their meal.



A common pose of a hunting Masked Lapwing is a one legged balancing act.

## Caring and sharing parents

During the breeding season (November to May in the north), Masked Lapwings prefer a little privacy. They leave their flocks to form into lifelong pairs. Mum and dad are doting parents - both help to build and care for their nest, eggs and babies. They prefer barren, rocky ground or short grass to build this nest. It is a simple shallow scraping in the ground. They may come back each year to the same site and re-use their nest. 3-4 yellowish-brown, blotchy black eggs are usually laid.

When the babies are born, they look nothing like their parents. They are a fluffy brown and black on top and white below and are capable of leaving the nest and feeding themselves a few hours after hatching. Even so, mum and dad still aggressively defend them for quite awhile. The chicks may stay with their parents for 1-2 years.



## Camouflage colours

The eggs and babies are coloured this way so they are hard to find for predators. It is a form of camouflage. Many ground nesting birds have similar colouration.

To find out what scientists call this colouration as a means of hiding, use the grid to decode your answer.

	1	2	3	4	5
●	A	B	C	D	E
▲	F	G	H	I	J
★	K	L	M	N	O
■	P	Q	R	S	T
◆	U	V	W	X	Y

3● 3■ 5◆ 1■ 5■ 4▲ 3●

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# Plant Profile

## The Northern Kurrajong

The Northern Kurrajong, *Brachychiton diversifolius*, is the most common of the Territory's 10 species of *Brachychiton*. Australia has over 30 species of kurrajong, and many of us will know at least one of these special trees.

### Diverse by name, diverse by nature

The species name, *diversifolius*, comes from two Latin words. *Diversus* means different (or diverse), and *folium* means leaf. This makes sense, as their leaves really vary as they grow. In fact, the leaves on young plants go through about six changes. Now that's *diversus folium*!

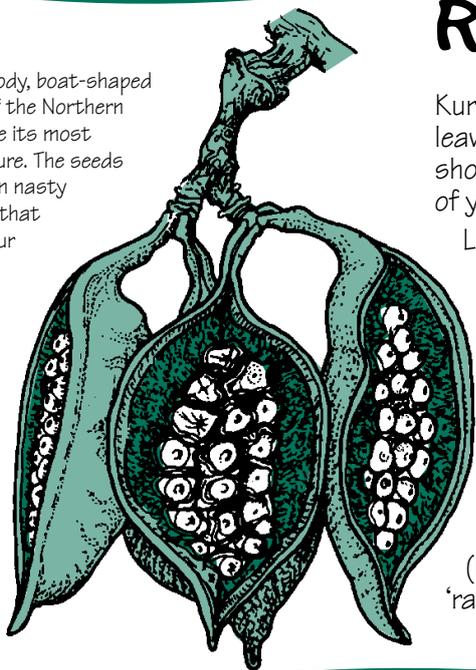
As the common name suggests, Northern Kurrajongs grow right across the north of Australia. You normally find them in woodlands and open forests.

### Familiar cousins

People from Central Australia might know the Desert Kurrajong, *Brachychiton gregorii*. Its large, bright glossy leaves can look out of place in the desert. The east coast has another common Kurrajong, *B. populneus*. Queensland has the famous Bottle Tree, *B. rupestris*, and the stunning Illawarra Flame Tree, *B. acerifolius*.

People now grow these wonderful Aussie trees all over the world. Don't be surprised to see Northern Kurrajongs growing in places like Africa or the Americas!

The dark, woody, boat-shaped seed pods of the Northern Kurrajong are its most obvious feature. The seeds are covered in nasty prickly hairs that stick into your skin. Beware, they can cause eye damage too!



### Rainforest refugees

Kurrajongs have a long history in Australia. They have left fossils of their leaves that are about 50 million years old. Other fossils found with them show that they grew in rainforests. This fossil record shows that millions of years ago, rainforests covered most of Australia.

Life became tough for rainforest plants as Australia became hotter and dryer (like it is today). Many simply became extinct. Some withdrew to the remaining small pockets of rainforest in the tropics. A few have found moist refuges in which they can still survive. The Red Cabbage Palms of Central Australia's Finke Gorge National Park (or Palm Valley) are a perfect example. Others, like the kurrajongs, managed to adapt.

Kurrajongs can drop some or all of their leaves during the dry season. This saves water being lost through the leaves. They may also store water in a taproot (like the Northern Kurrajong), or in their trunk (like the Bottle Tree). However, the big shiny leaves that many of these 'rainforest refugees' still have are a reminder of their origins.



The flowers of the Northern Kurrajong are hairy and greenish-yellow on the outside, and spotted red-brown on the inside. The leaves are dark green.

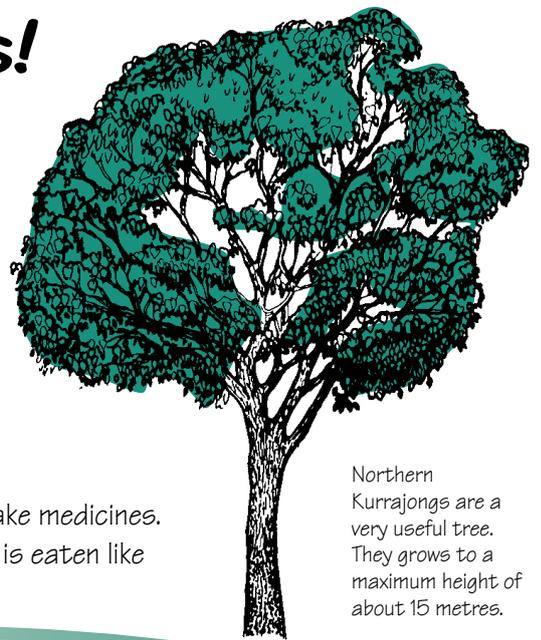
## Did You Know?

The common name 'kurrajong', used for many species of *Brachychiton*, comes from the Dharuk Aboriginal people of the Sydney region. Their word, **garrujung** actually refers to fishing line, which they made from kurrajong fibre.

## Diversus Uses!

Not only do Northern Kurrajongs have diverse leaves, they also have a diverse range of Aboriginal uses!

- Seeds eaten raw or roasted after removing the nasty hairs.
- Taproots of young plants eaten raw or cooked.
- Firesticks, spears and carvings made from the wood.
- String made from the bark.
- Leaves, bark and sap used to make medicines.
- When dried, the clear, sweet sap is eaten like a lolly.



Northern Kurrajongs are a very useful tree. They grow to a maximum height of about 15 metres.

## coffee, anyone?



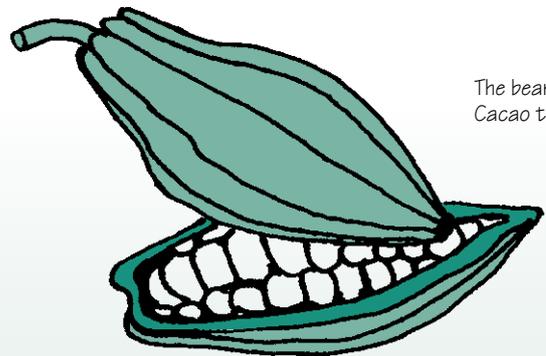
Early European settlers used roasted kurrajong seeds as a coffee substitute. Coffee contains a substance called caffeine. It wakes you up and gives you a 'buzz'. Northern Kurrajong seeds actually contain slightly more caffeine than coffee beans! So if you are out bushwalking and you feel a bit tired, make yourself a Kurrajong cappuccino; you'll soon be off and running! (Note, only try bushtucker if you are with an expert, as it is potentially dangerous).

## A stimulating family

It's not surprising that kurrajongs have the stimulant caffeine in them. They belong to the plant family Sterculiaceae. Many plants in this family produce caffeine. For example, Kola Nut trees have been used to make caffeinated cola drinks.

However, the Cacao bean trees are probably the most famous family members. Their strange looking beans may only produce a small amount of caffeine, but they are the main ingredient of one of the world's most delicious foods. Complete this quiz and its name will be revealed in the boxes.

1. Kurrajong seeds have been used as a substitute for what?
2. Kurrajong seeds are covered with prickly what?
3. Impression of a plant or animal left in rock.
4. Finke Gorge National Park is found in \_\_\_\_\_ Australia.
5. The common name of *Brachychiton rupestris* is the what Tree?
6. The Latin word, folium means what?
7. The dried part of the Northern Kurrajong that can be eaten like a lolly.
8. The bark of the Northern Kurrajong can be used to make what?
9. The colour of kurrajong leaves.



The bean of the Cacao tree.

1	<input type="text"/>	_____	E
2	<input type="text"/>	_____	
3	<input type="text"/>	_____	L
4	<input type="text"/>	_____	L
5	<input type="text"/>	_____	
6	<input type="text"/>	_____	F
7	<input type="text"/>	_____	
8	<input type="text"/>	_____	G
9	<input type="text"/>	_____	

# Discovering Outdoors

## Catching Creepy Crawlies

Invertebrates are animals without a backbone. Of the Earth's estimated 15-30 million animal species, at least 90% are invertebrates! Here is a cool creepy crawly catcher that you can make to help you get a closer look at them.

### Pooper plan

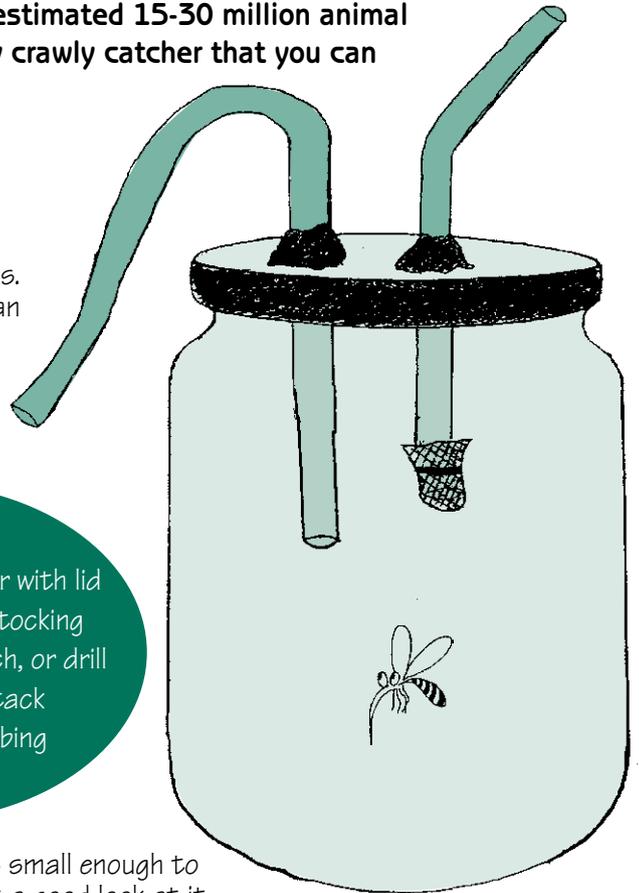
A pooper is a device for catching very small creepy crawlies without hurting them. It acts like a tiny vacuum that is powered by your lungs. It will allow you to suck your little creatures into the jar where you can get a good look at them.

#### What to do

1. Get an adult to help you make two holes in the lid of the jar with either the hammer and a hole punch, or a drill. They need to be big enough to fit the tubing.
2. Cut two pieces of tubing as shown. Use a rubber band to secure the gauze to the end of one piece.
3. Use the plasticine or blu tack to make airtight seals where the tubing goes through the lid.
4. To catch your creepy crawly, place the tube with the filter on it in your mouth, point the other tube at your critter, and suck. As long as it is small enough to fit into the tube, it will be sucked into the jar. Now you can get a good look at it, before gently releasing it.

#### You will need:

- Medium sized glass jar with lid
- Gauze mesh, like a stocking
- Hammer and hole punch, or drill
  - Plasticine or blu tack
  - Flexible plastic tubing
  - Rubber band.



### Classifying Creepy Crawlies

Scientists divide all the world's invertebrates up into smaller groups based on similar body plans. The largest and best-known group is the insects. Basically, anything with six legs and one pair of antennae is an insect.

The next group that usually comes to mind is the arachnids. They have eight legs and no antennae. These, of course, are your spiders, ticks, mites and scorpions.

Once you have caught your creepy crawly, have a good look at the ID sheet on the next page. If you have an insect, see if you can identify it to the next, more specific group. Scientists call this grouping, the Order. Don't be put off by the big scientific names. You will probably already be familiar with many of them. This ID sheet only has some of the more common Orders. For a more complete picture, check out one of these great web sites.

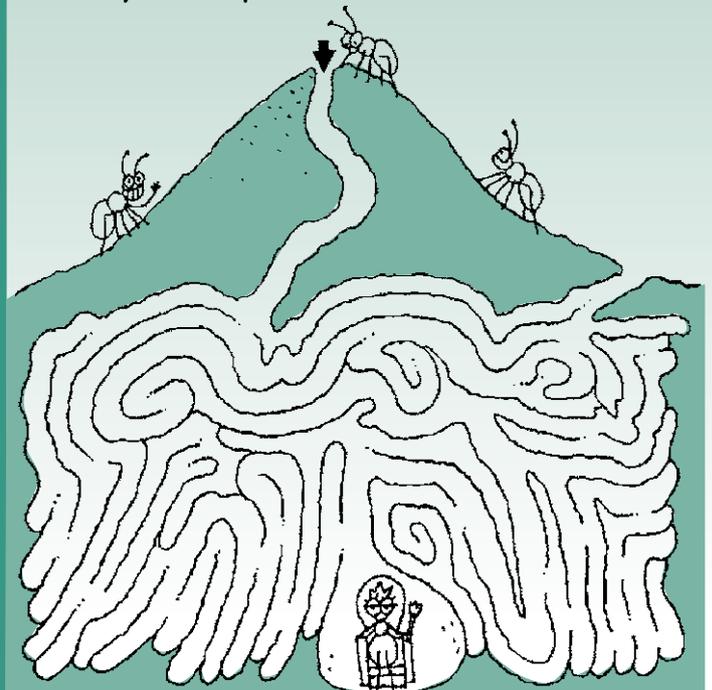
[www.bugwise.net.au/guide](http://www.bugwise.net.au/guide)

[www.ento.csiro.au/education/index.html](http://www.ento.csiro.au/education/index.html)

Good luck!

### Help a Hymenopteran

Help this worker ant (Order Hymenoptera) find her way to the queen ant.



# Investigating insects

Any creepy crawlly with six legs, and one pair of antennae is an insect. See if you can place them in the next, more specific grouping, called the Order. Here are the most common ones.

Happy hunting!

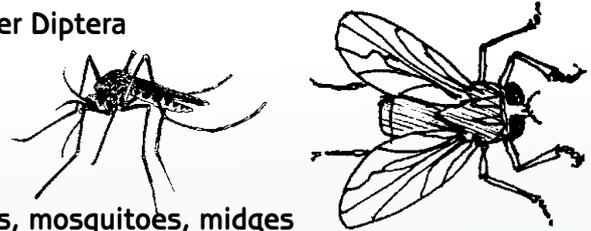
## Order Hemiptera



### True Bugs (Cicadas, stink bugs, lerps, aphids)

Mouthparts tubular, made for sucking. Wings, when present, overlap at rest, at least at the tips.

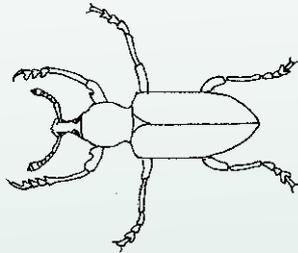
## Order Diptera



### Flies, mosquitoes, midges

You might be lucky to catch one with a pooter, but they'll no doubt 'bug' you while you're out using it! Forewings are the visible ones, hindwings tiny, stunted (like a tiny club).

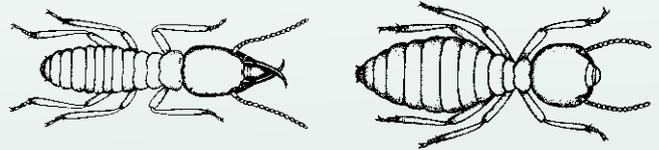
## Order Coleoptera



### Beetles, weevils

Hard wing cases that meet neatly in the middle. Chewing mouthparts.

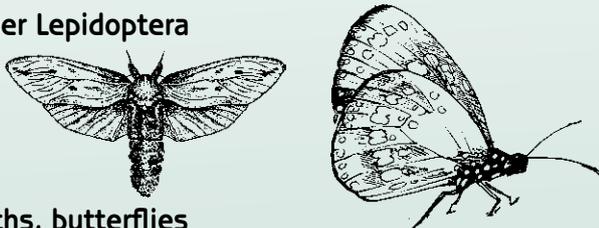
## Order Isoptera



### Termites

No skinny 'waist' like a true ant. Live in colonies.

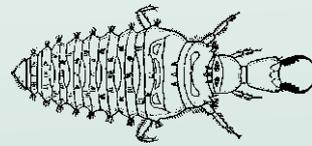
## Order Lepidoptera



### Moths, butterflies

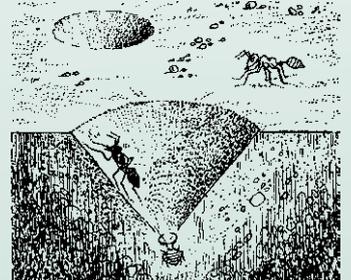
Moths have fore and hindwings hooked together, butterflies don't. Moths rest with wings open, butterflies close theirs.

## Order Neuroptera

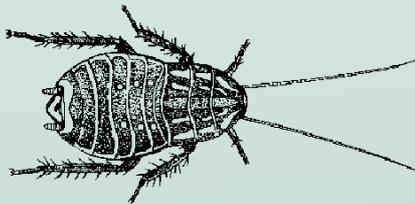


### Ant-lions, lacewings

Try sucking an Ant-lion out of its distinctive sandy cone-shaped pit.



## Order Blattodea



### Cockroaches

Flattened scavengers, long antennae. Hundreds of native species as well as the feral ones in your house!

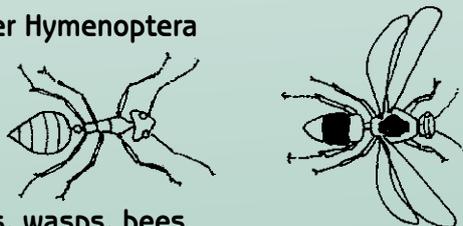
## Order Orthoptera



### Grasshoppers, crickets, katydids

They all have big back legs for jumping. You can't have an Orthoptera without the HOP!

## Order Hymenoptera



### Ants, wasps, bees

Many have a sting in their tail, so be careful! Two pairs of wings when present. Usually live in colonies (beehives, ant nests). A distinctive constricted skinny 'waist' (this is hard to see on a bee).

## Order Mantodea



### Praying mantids

Stilt legged predators, large eyes, forelegs modified for grabbing prey.

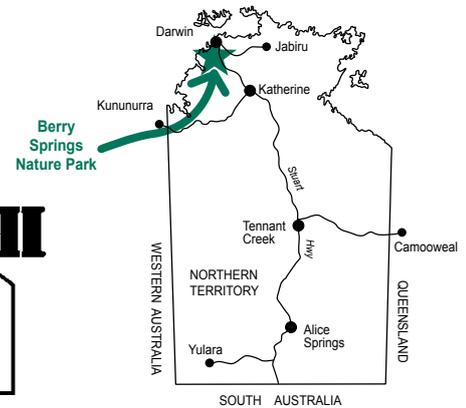
# Discover a Territory Park

## Berry Springs Nature Park

Berry Springs Nature Park protects a large part of Berry Creek. This creek starts from a number of springs, and reaches all the way to Darwin Harbour. Chances are that if you are from Darwin you may have already visited this park. However, if you are visiting for the first time, this is one destination that is on the 'must see' list.

### A place for a little r'n'r

During World War II, Berry Springs was part of a rest and recreation camp set up by the armed forces for the 100 000 personnel based in the area. A number of huts and a weir were built during this time. You can still see their remains around the main pool.



### What to see and do

The Park provides a great area close to Darwin for having fun. It also provides a refreshing swimming spot after a day at the Territory Wildlife Park. There are steps into the water for easy access.

Bring your mask and snorkel to look at the underwater world in the cool clear waters of the shady pools. But take care and observe the safety signs. If you swim with goggles you will see many small native fish and other aquatic life that live in there.

Why not make a day of it and have a picnic. There are lots of shady grassed areas with tables and barbecues. Wood is provided. Break out the cricket set or toss a frisbee.

After lunch why not go for a walk along the Monsoon Rainforest and Woodlands Walk - a lovely loop walking track takes you through two of the Top End's habitats. It starts from the picnic area. Take binoculars if you are keen on bird watching.

### Puzzle Answers

#### Urban Encounter:

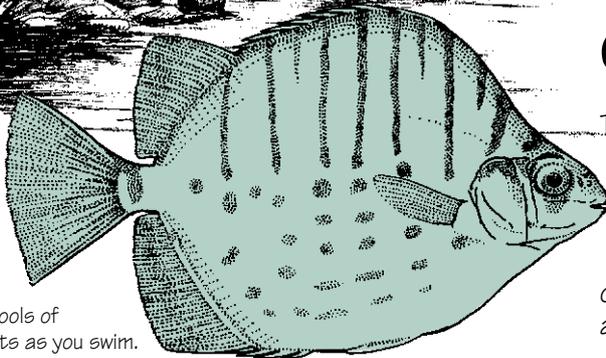
Cryptic

#### Plant Profile:

Coffee, hairs, fossil, central, bottle, leaf, sap, string, green - Chocolate.

#### On the Brink:

*Egernia slateri*



Look for schools of Striped Scats as you swim.

### Getting there

The Park is located about 47 km south of Darwin. Turn west off the Stuart highway onto the Cox Peninsula Road. Follow for around 10 km.

The Park is open from 8.00 am to 6.30 pm daily. Group functions require a permit. The pools may be temporarily closed in the wet season (October - April) when conditions are considered unsafe.

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