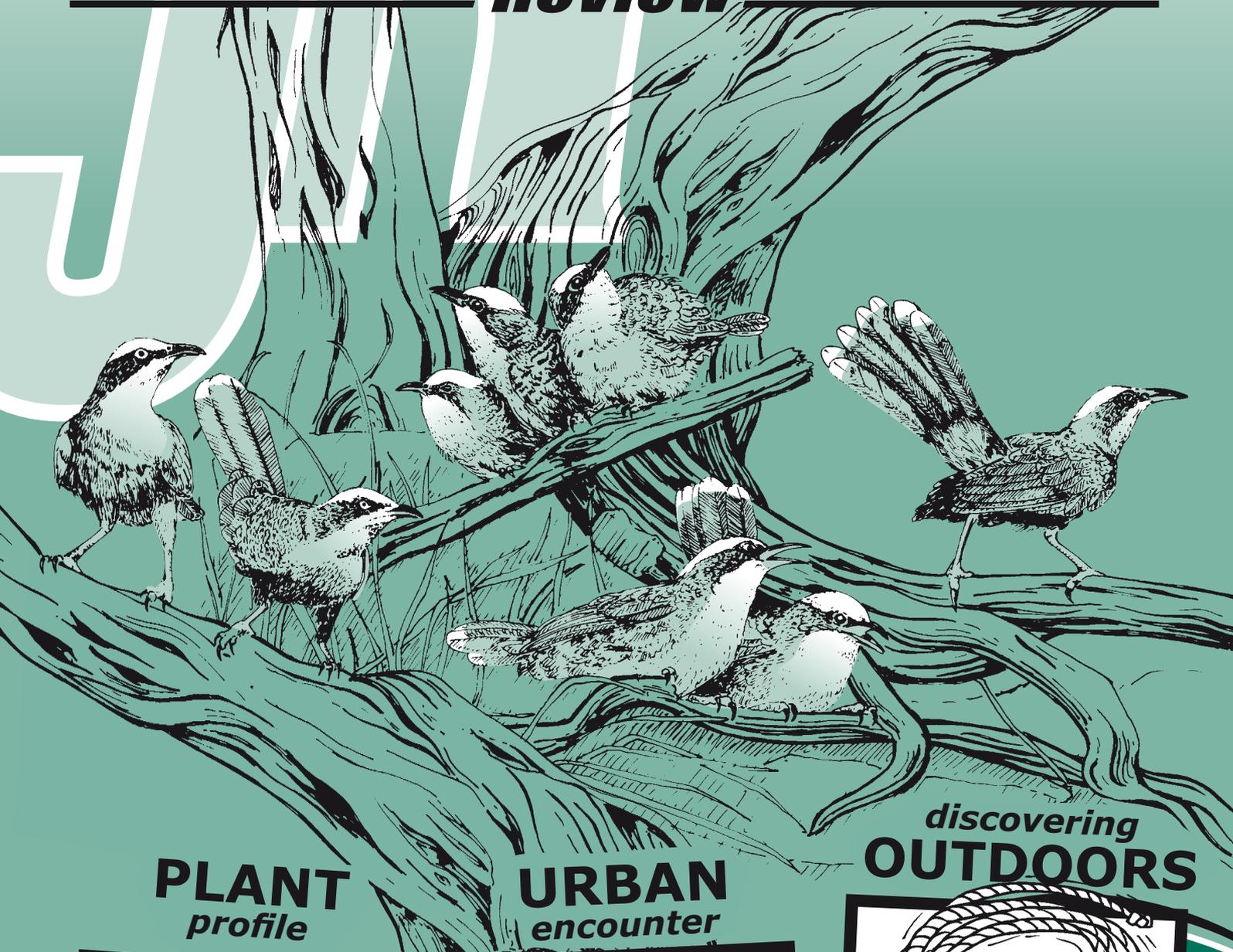




Junior Ranger

Review

Issue 3 2006



PLANT
profile

URBAN
encounter

discovering
OUTDOORS



Leichhardt Tree



Bandicoot



Lots of Top Knots

Creature Feature

The Happy Family Bird

Just imagine spending every minute of every day travelling the countryside with your entire family.

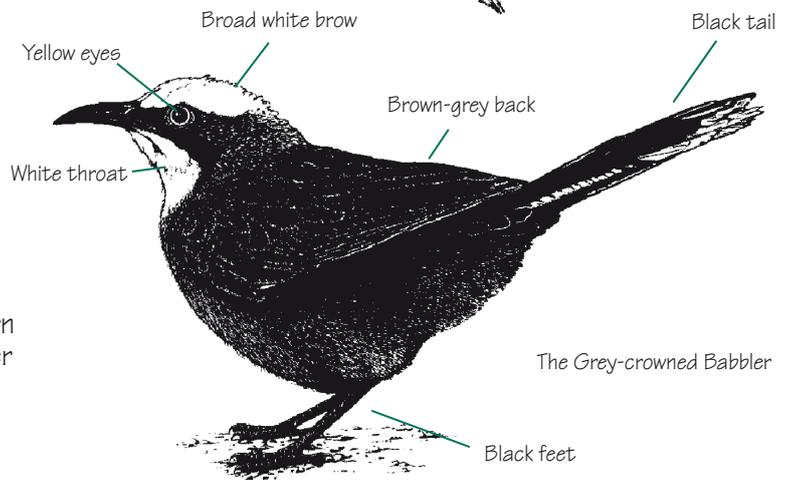
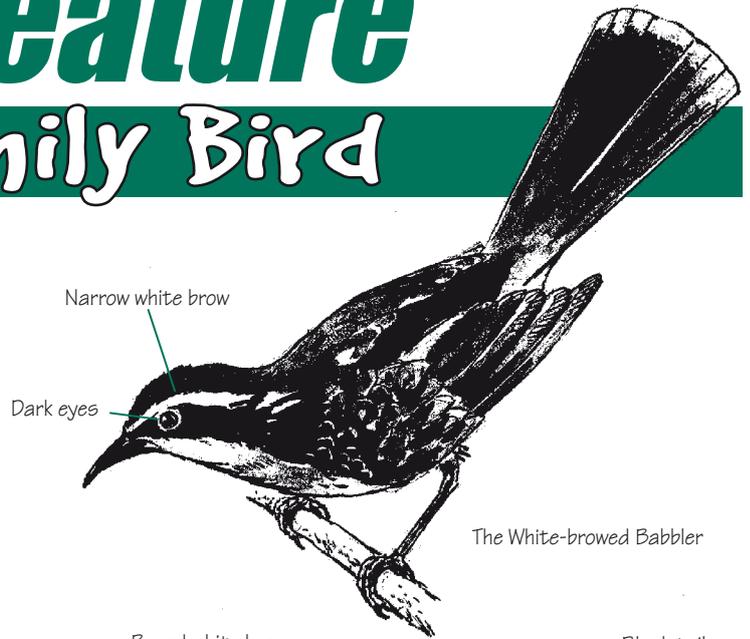
The Grey-crowned Babbler *Pomatostomus temporalis* does! It travels around as an extended family so often it's called the 'Happy Family Bird'!

You will often spot these curious birds as they hop through the undergrowth calling constantly to one another and hunting for insects.

Spot the difference

The Grey-crowned Babbler has a close relative that looks quite similar - the White-browed Babbler - here are some ways to tell them apart.

- The White-browed Babbler is only found in southern Central Australia whilst the Grey-crowned Babbler is found throughout the Northern Territory.
- The Grey-crowned Babbler is bigger (about 250 mm), noisy and hangs around people a lot; whilst the White-browed are smaller (200 mm), pretty much confined to Mulga *Acacia aneura* trees and are generally shy.



Common here, threatened elsewhere...

The Grey-crowned Babbler is common throughout the NT as well as QLD and parts of WA. Unfortunately it is quite rare in NSW and Victoria where it is threatened by land clearing and the removal of woodland debris. It is now extinct from South Australia where it was once common.

Breeding occurs between July and February when two or three eggs are laid in a separate nest. Only mothers sit on the eggs. Once the eggs hatch mum and her babies are fed by all the members of the family group.

They live in several large, dome-shaped nests about the size of a football. You can often spot these nests because they'll usually be right out at the end of the branches of Eucalyptus trees.

G'day from Ranger Bill

What a busy couple of months since the last Review! First of all, I'd like to congratulate all staff involved in the Parks and Wildlife Service show displays across the Territory. A great job was done by everyone, and each display received awards from the show organisers. We thank everyone, especially all the Junior Rangers, for visiting our exhibits and contributing to their success; great to see you there.

Another unfortunate death from a crocodile attack occurred in the Top End last month. People living in and visiting the Top End and Katherine regions must remember to assume that any body of fresh or salty water may contain large and potentially dangerous Saltwater Crocodiles. Only swim in areas that have signs saying that it is safe to do so, and stay well clear of the water in any other area.

So stay safe, and we'll see you out in the bush!

Ranger Bill

Noisy, nosey Babblers!

Grey-crowned Babblers are very noisy - as well as being quite nosy! They will often be seen closely inspecting the bark on trees and fallen logs - anywhere a juicy insect can be found.

Learn the Babbler Language!

These birds use a range of calls to communicate different messages.

'Ya-Hoo' - This is what you may hear as you pass by these birds, but it's actually two different birds calling to each other. The female bird says 'ya' and the male answers with a 'hoo'. The 'Ya-Hoo' duet is often repeated rapidly and can be used to let other babblers know that this is their territory.

'Chuck' - This call is made by all the babblers in the group. As the group travels around and feeds on the ground it's often hard to keep in touch. This call allows them to keep in close contact with each other as they move through thick bushlands with their eyes on the ground!

'Put-yair Put-yair' - This is an alarm call to let all the babblers in the group know that there is danger about. The danger may be a bird of prey flying overhead or just you walking by. All the birds will repeat the call so it may get quite noisy.

A Family Affair

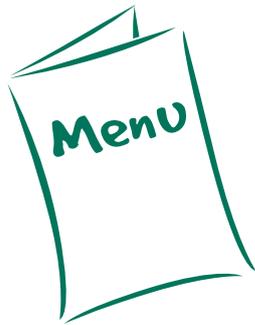
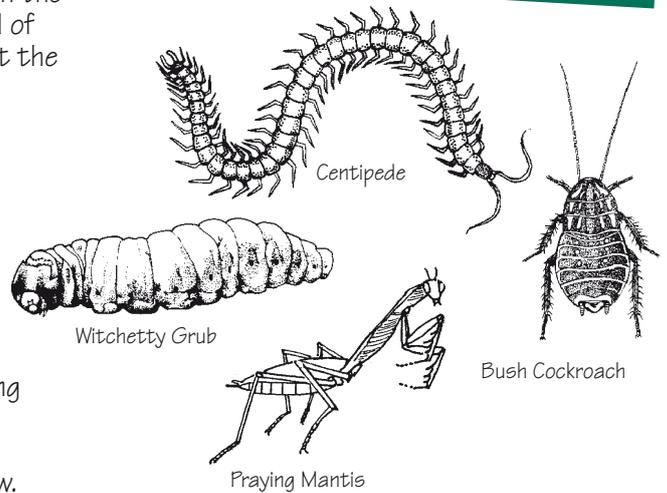
The Grey-crowned Babblers are one of many species of Australian birds that are **'co-operative breeders'**. This means that the breeding pair will often have an extended family to help out with all the family tasks! Other co-operative breeding birds in Australia include many species of Honeyeaters, Treecreepers, the Apostlebird and the Blue-winged Kookaburra.



The Rainbow Bee-eater - another co-operative breeder.

What's on the Menu tonight?

Their favourite foods are a whole range of different insects. They will often be seen travelling through woodlands closely inspecting the bark of trees and leaf litter. They love to attack leaf litter, throwing leaves all over the place when they suspect a grub is hiding below.



Spot the Babbler!

Babblers are hard to spot without their constant calls. Have a look at this woodland habitat and see how many babblers you can find. Remember that there's usually up to 15 birds in a group. Why not colour in the picture as well - it may help you spot them!



On the Brink



Sirens of the Sea



Looking more like a large seal or walrus that you would expect to see in the cold waters of southern Australia, the Dugong seems to be out of place in the tropical waters of the Northern Territory. Yet it has made shallow tropical coastal seas its home. This weird animal is actually an ancient form of elephant and as such it is the only Australian marine mammal that feeds mostly on plants (herbivore).

Marine Cattle?

Dugongs, *Dugong dugon* are also known as 'sea cows' because they graze on sea grass just like cattle graze grass on land. As they feed, whole plants are uprooted and a telltale-feeding trail is left. They also like to live in herds, which old male 'bull' dugongs keep together by making strange whistling sounds.

Dugongs breathe by surfacing, opening their nostrils quickly to suck in the air before closing them as they dive underwater. They usually breathe every minute or so but one was once recorded as staying submerged for over eight minutes!

These creatures mostly live in sheltered waters, grazing on sea grass in shallow, coastal mudflats. There are plenty of these vast mudflats in different locations in the north of Australia, including the Northern Territory.

Dugongs might appear lazy, moving at a slow 10 km per hour, but they are actually conserving energy and can move rapidly, doubling their speed, if threatened. Most of their day is spent feeding. Their main diet is various types of sea grasses; however snails and shellfish living on the seagrass may be eaten in the process. They will also feed on algae.

Dugong in Detail

They can grow really big, up to three metres long and weigh up to 400 kilograms. Part of the reason they weigh so much is because their skeleton is made up of dense, solid bones. These help to keep them on the bottom during feeding.

Their skin and trunk-like snout have bristles (hair) on them to help them sense things like food.

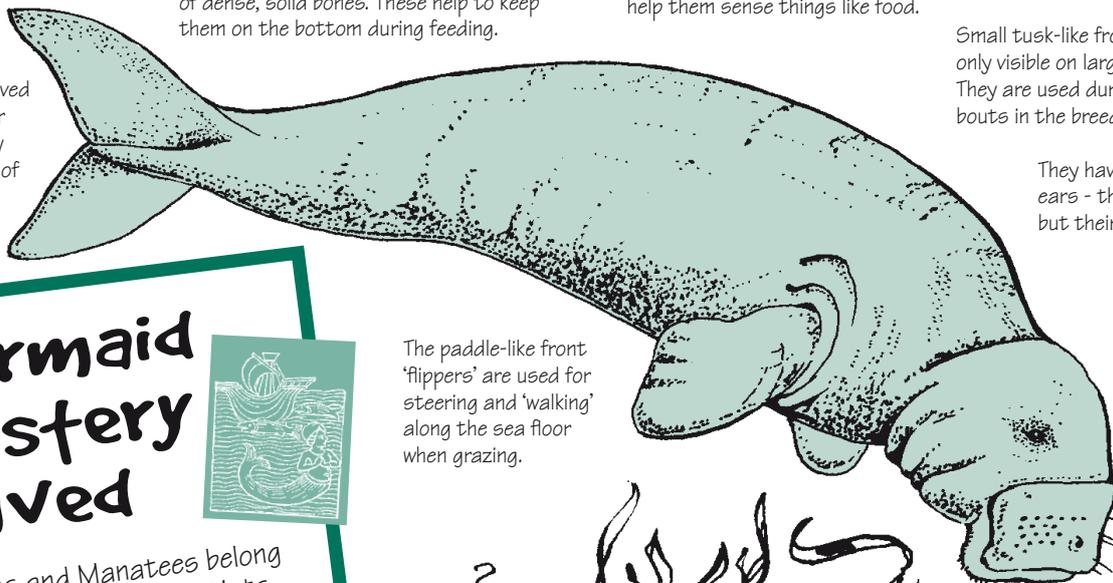
Small tusk-like front teeth are only visible on large adult males. They are used during fighting bouts in the breeding season.

They have small eyes and ears - they can't see very well but their hearing is good.

Their nostrils are on the front of their head so they can breathe on the surface.

They have a big broad upper lip to grab seagrasses and work them into their mouth.

The Whale-like tail, with flat triangle-shaped flukes, is moved up and down in order to propel them. They can hit a top speed of about 22km/h when necessary.



The paddle-like front 'flippers' are used for steering and 'walking' along the sea floor when grazing.

Mermaid Mystery Solved

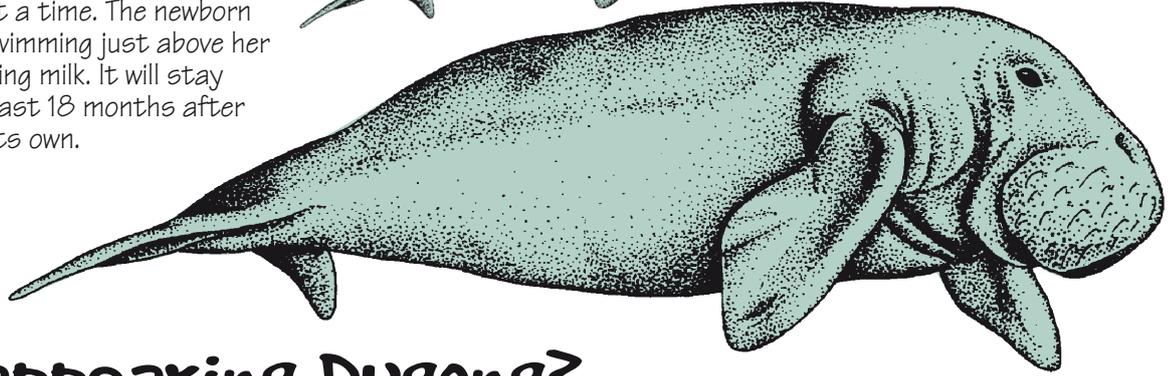


Dugongs and Manatees belong to a group (Order) Scientists call Sirenians. In the past sailors may have mistaken Dugongs for 'mermaids' due to their shape. Another name for mermaids is 'sirens' and this is where the term comes from.

Dugongs can live for a long time, maybe up to 70 years old, but they are slow breeders. Females cannot have babies until they are at least nine years old. They have a long pregnancy (13 - 15 months) and give birth to only one calf at a time. The newborn stays close to mum, swimming just above her back except when drinking milk. It will stay close this way for at least 18 months after which it heads out on its own.



Mother Dugong and her back riding calf.



The Disappearing Dugong?

Worldwide Dugongs are considered as vulnerable to extinction but luckily for us here in Australia we have fairly stable numbers, particularly around the north coast of Australia. In fact Australia now has the world's largest remaining populations of Dugongs. The good news is that Dugongs are fully protected in Australian waters.

However we still do not know enough. Scientists need more information about human impacts on the Dugong. What we do know is that their favourite habitats are being affected. Many are killed after being caught in nets or are hurt or killed after being struck by boat propellers. Pollution also causes some deaths, mostly from discarded fishing nets and plastic bags. Dugongs drown quickly once tangled in nets and they choke on rubbish such as plastic bags.

We also know that in some areas of the NT Aboriginal people continue to hunt Dugongs for food, but there are no studies to suggest that this has had a major effect.

To top off their losses the Dugong is part of the food chain. Their natural predators are sharks and crocodiles. Their tough hides offer some protection from attack but they are slow swimmers.

Dugong Relatives

Another marine mammal exists overseas that is quite similar to the Dugong. It also eats sea grass, but can live in fresh water and on different aquatic plants. Use this grid to decode its name and that of another extinct Dugong relative that disappeared in the 1700's.

1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I

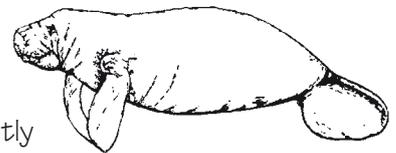
10	11	12	13	14	15	16	17	18
J	K	L	M	N	O	P	Q	R

19	20	21	22	23	24	25	26
S	T	U	V	W	X	Y	Z

13	1	14	1	20	5	5

have three different species.

They are the Florida, Antillean and the West African. These animals feed on a slightly broader variety of marine plants including mangroves. The Florida species can live in fresh water as well as the sea.



19	20	5	12	12	5	18	19

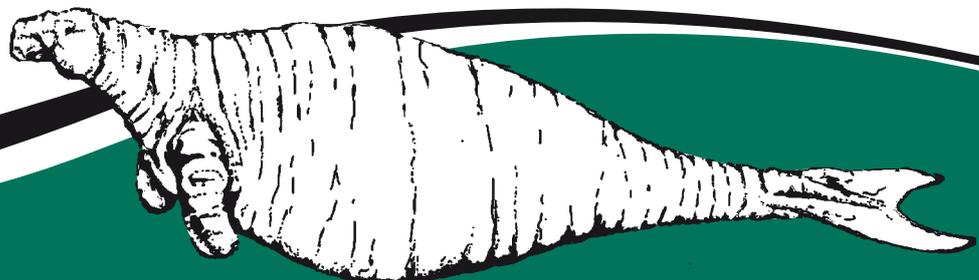
19	5	1

3	15	23

The

19	20	5	12	12	5	18	19

 grew to 9 metres long and fed mostly on kelp. Their large size helped them stay warm in the freezing waters of the Bering Sea (between Alaska and Siberia) where they lived. They were discovered in 1741 and unfortunately 27 years later they had all vanished due to over hunting.



Urban Encounter



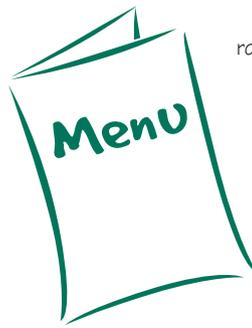
Backyard Bandicoots

Northern Brown Bandicoots, *Isodon macrourus* are tough little critters. While most of their bandicoot cousins (which include the bilbies) have struggled to survive since European settlement, these guys have managed to live and thrive amongst us.

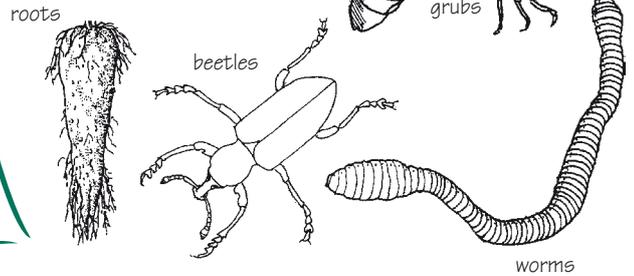
Built for working

Bandicoots are muscly little diggers. Sharp claws on the front paws are used to dig for underground roots, grubs, insects, and juicy worms. A keen sense of smell and hearing means that they can locate these buried treasures very accurately. They dig a cone shaped hole and use their long pointy snout to pluck out the tasty morsels. Like many other marsupials, they have a pouch, but it opens backwards so it doesn't fill with dirt when they dig

These shy creatures generally spend their time alone. But the boys are very territorial, and will fight another bandicoot to protect their turf. An already short tail will sometimes get bitten off by an opponent, and fights to the death can happen. Territories are marked with a smelly scent gland behind their ears.



Bandicoot bushtucker.
They're not fussy eaters!



Impressing the girls!

The main reason the boys fight so ferociously for a territory is because the winner gets all the surrounding girls to himself! Mating season is the only time you'll see bandicoots together. After following and harassing a female to mate, the dad leaves mum to raise the kids on her own.

Little Aussie breeders!

One of the reasons that Northern Brown Bandicoots are so common is their amazing ability to reproduce. They hold the world record for the shortest pregnancy of any mammal; an amazing 12 ½ days! Compare this to 19 days for a house mouse, 30 for a rabbit, or 280 for us!

Like all marsupials, the 2-4 babies are tiny (about 1 cm long), blind and hairless, but they grow incredibly quickly. Mums milk is super concentrated and plentiful, and the babies are big enough to eat solids after about 2 months. By 3-4 months, they can have their own babies, and they can do this 3 or 4 times in a good year.

Northern Brown Bandicoots have short dark fur on top and a pale, almost white underbelly.



Home sweet home

Northern Brown Bandicoots occur right across Northern Australia and down the east coast to Sydney. They can still be found in and around the major towns and cities, and you may even have them in your yard or local park. During the day they snooze in a shallow hole covered in sticks, grass, and maybe some dirt for extra waterproofing. At night they come out to feed and patrol their territory. Look for their cone shaped holes in your lawn or garden where they have dug up some food. You might even see them close to your house as they seek out your food scraps or unguarded dog food!

Northern Brown Bandicoots are about the size of a rabbit and have a great burst of speed for fleeing danger.



Did you Know?

The word 'bandicoot' is actually the name of a large rat that lives in India and Sri Lanka. The explorer George Bass gave our little Aussies the same name in 1799. He thought they were the same 'bandicoots' that he'd recently seen in India. Although we now know that they are no relation, the common name stuck!

Bandicoot belly buttons

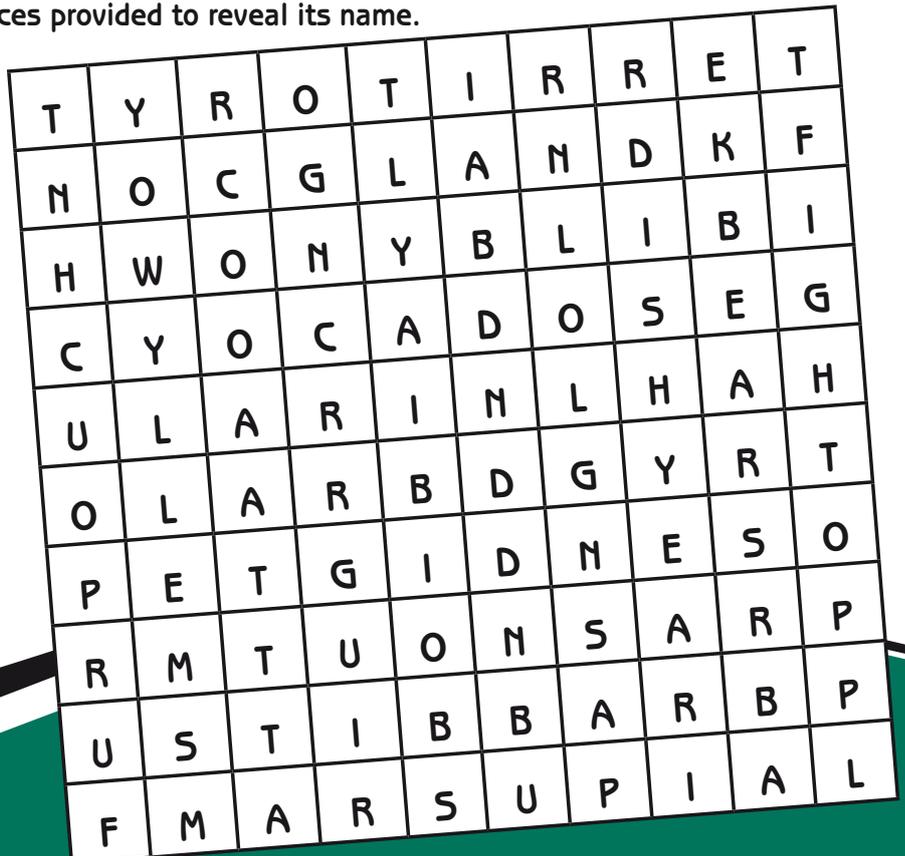
Marsupials, such as bandicoots, give birth to extremely small and undeveloped babies. They are blind, bald, have no hind legs and are no bigger than a jelly bean. They generally finish their development in a pouch. This is very different to the Placental mammals (like us). Placental babies are born as fully developed mini versions of their parents.

However, bandicoot babies share a feature with us 'placentals' that only one other marsupial does. It's an umbilical cord, and it's what gives us our belly buttons!

Complete this puzzle to find out what other marsupial is born with an umbilical cord.

Place the 5 leftover letters in the spaces provided to reveal its name.

- | | |
|-----------|-----------|
| Bandicoot | Marsupial |
| Bilby | Pouch |
| Brown | Pregnancy |
| Dig | Rabbit |
| Dirt | Shy |
| Ears | Smelly |
| Fight | Snout |
| Fur | Territory |
| Gland | Top |



Plant Profile

The Explorer's Tree

The Leichhardt Tree, *Nauclea orientalis*, grows across the Top End. It is common in monsoon vine forests, especially those with permanent freshwater. It is also sometimes called *Cheesewood*, and confusingly, *Leichhardt Pine*, although it is really not a pine at all.

The Bold and the Beautiful

It is a large tree which is shaped a lot like an upside down cone. Its branches spread out horizontally, almost in layers. These hold plenty of large, glossy green heart-shaped leaves that provide lots of shade. If there is a shortage of water, especially with the onset of the dry season, this tree may drop its leaves (called *deciduous*).

When you are out and about in the Top End keep an eye out for this splendid tree in Parks like Howard and Berry Springs Nature Parks.



Up to 25 m tall.

Stylish Flowers

The flowers are round and in fact are made up of hundreds of flowers clustered together. They are yellow in the middle with white 'sticking out bits' called styles, making them look like small spiky balls. Lots of birds that love nectar (*nectarivores*), such as honeyeaters, and insects love to hang around when the flowers are out from September to December. They are attracted by the lovely smell of the flowers.

Flowers 4cm across.



Fruit 5cm across.

Take a close look and you will see obvious yellow veins on the leaves.



White-throated Honeyeater, *Meliphreptus albogularis*.

Useful foo!

The Leichhardt Tree has many Aboriginal 'bushtucker' uses. It has a rough cream to grey coloured bark. Touch it. It feels like it has split open? This is called a *fissured bark*. It may be chipped off the trunk and used as a fish poison. Actually it is placed in small pools of water and will stun any fish nearby making them easy to catch. The bark is also the source of a bright yellow dye used for colouring things. Traditionally, the trunks of larger trees can be used to make dugout canoes and paddles. The timber floats and is soft, making it easy to carve.

Golf Anyone?

The fruit are golf-ball like and are often produced in large quantities. Each fruit ball is actually lots of single fruits joined together. Aboriginal people eat them raw when they ripen to a yellowish to brown colour and are soft to touch.

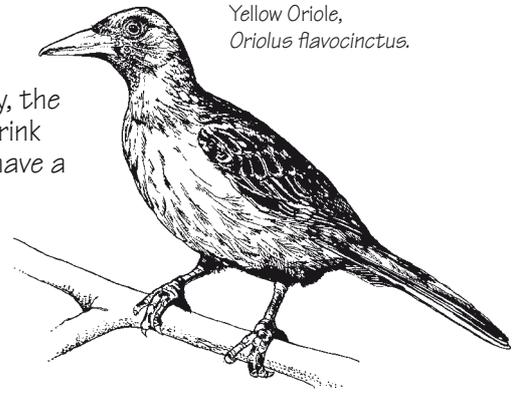




Black flying Fox,
Pteropus alecto.

However don't eat them yourself, unless you really know what you are doing. They taste yuck (slightly bitter) when not ready to eat! Traditionally, the fruit mashed together with water can also make a drink (medicine) to be taken to make you feel better if you have a cough, cold, diarrhoea or stomach pain.

From February to May when the fruit are out and plentiful you are likely to see fruit eating animals (frugivores) like Yellow Orioles or Flying Foxes dining out on this feast.



Yellow Oriole,
Oriolus flavocinctus.

Why Leichardt Tree? The Story of Lost Ludwig

The Leichardt Tree is named after the German explorer Ludwig Leichhardt. He and his nine companions were the first white people to visit Kakadu. They travelled overland from Queensland. They struggled for many days to cross the rugged Arnhem Land plateau. Eventually, in 1845, after 15 months and 5 000km, they reached their final destination of Port Essington (near Darwin).

Leichardt was just as famous for how he died. On a later expedition (1948), that set



out from Moreton Bay (near Brisbane) bound for Perth, Leichhardt and his team just disappeared without a trace. There are many theories as to what happened to them. They may simply have died of thirst, or of starvation because of the poor and limited supplies they took. Some believe that the group mutinied and killed Leichardt before they were later killed by Aborigines, or that they may have been caught by sudden floods or bushfires. Many others have tried to solve this mystery but to this day no one knows what happened to him.

During Leichardt's expedition they named lots of things, like rivers and mountains. Since then many other things have been named in honour of this explorer. Use the grid to work out the name of a cool, strikingly colourful insect from the Katherine region that shares a common name (to decode each letter find the row where the shape row meets the number row - you can use the scientific name below the picture to see if you got it right).

	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

2★ 5● 4▲ 3● 3▲ 3▲ 1● 3■ 4● 5■ , 4■

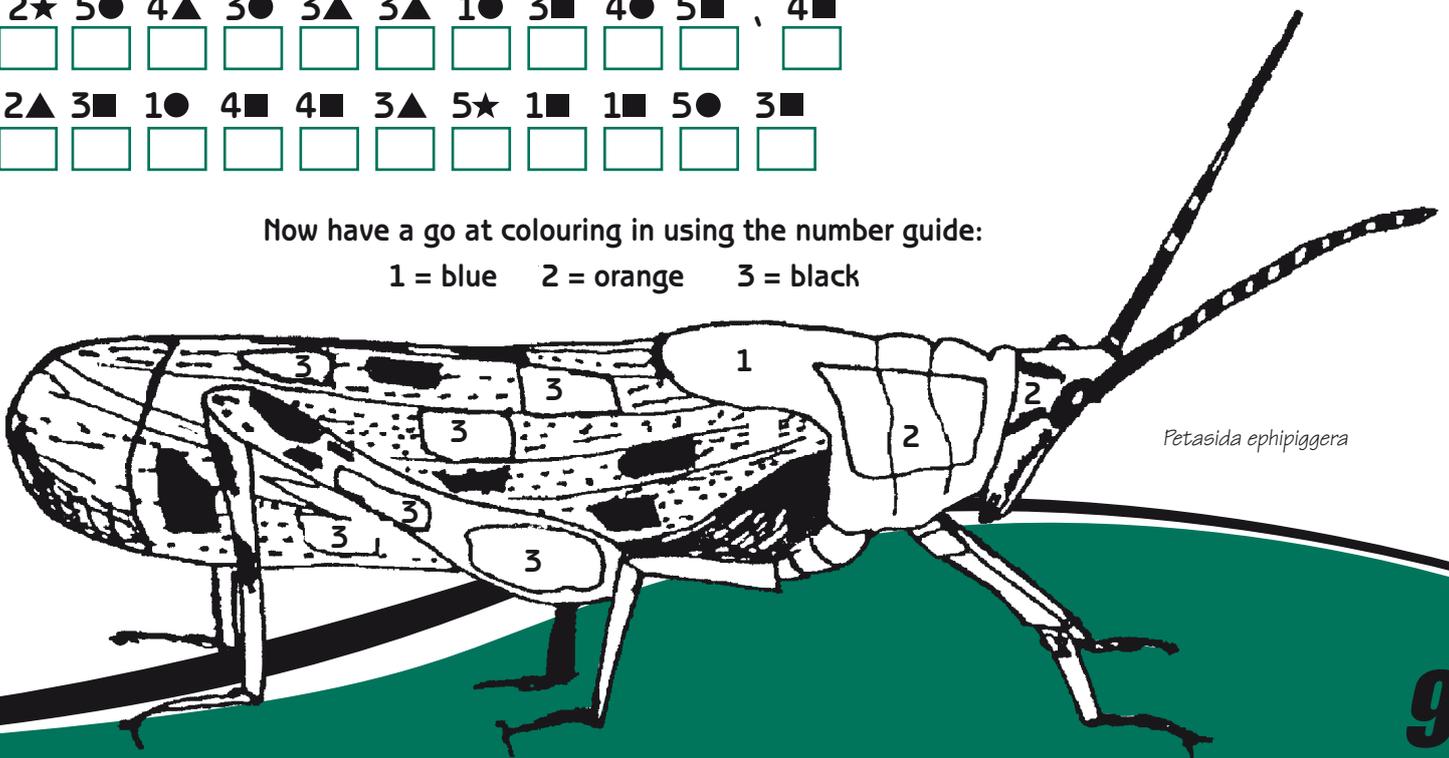
□ □ □ □ □ □ □ □ □ □ □ □

2▲ 3■ 1● 4■ 4■ 3▲ 5★ 1■ 1■ 5● 3■

□ □ □ □ □ □ □ □ □ □ □ □

Now have a go at colouring in using the number guide:

1 = blue 2 = orange 3 = black



Petasida ephippigera

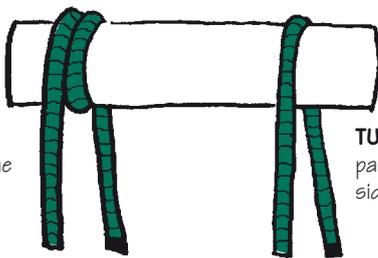
Discovering Outdoors

Lots of Top Knots



A knot is a fastening made by tying together pieces of string, cord, or rope. They are especially important for climbers and sailors; but everyone needs to tie a knot now and then. Think of your shoe laces or going fishing. There are lots of knots such as **stoppers**, **binders** and **hitches** and each is used for different purposes. Let's work through a few simple ones, the pictures should help!

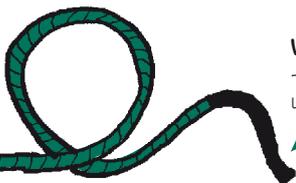
To tie knots you will first need to understand a few words used to describe parts of a rope and a knot. These terms will help you recognise which part of a rope is being used at a particular part of tying a knot. So grab yourself a piece of rope about 2m long and have a go!



ROUND TURN - the rope forms one and a half circles around an object.

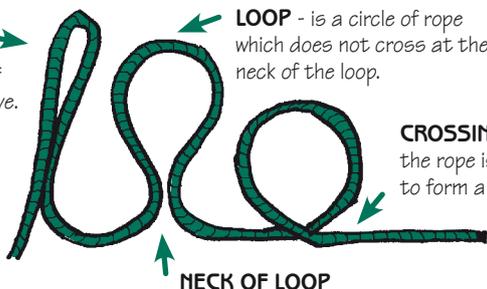
TURN - the rope is passed around one side of an object.

STANDING PART - is the part of the rope not being used.



WORKING (or running) END - is the part of the rope being used actively in tying the knot.

BIGHT - is a rope folded back on itself to form a short curve.



LOOP - is a circle of rope which does not cross at the neck of the loop.

CROSSING TURN - the rope is crossed to form a full circle.

NECK OF LOOP

The World of Knots

When you are feeling confident you can try the more difficult bends (to join two ropes) and loops (such as the bowline). Use this excellent book about knots to help:

DK Handbook of Knots (Expanded version) by Des Pawson (2004).

Also check out these cool websites. Some have drawings and the last one has cool animated knots to help you:

www.realknots.com/

www.korpegard.nu/knot/index.php

www.folsoms.net/knots/

Did you know?

An Overhand Knot with many turns through a crossing turn is known as a Blood Knot. These were used at the end of the lashes of a 'cat-o'-nine-tails', a whip used for punishment. You may have seen one in a pirate movie!



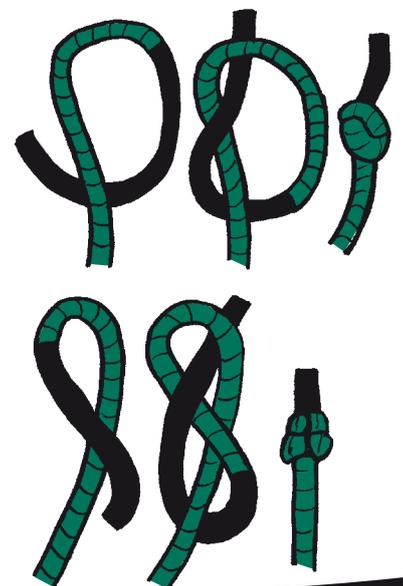
Stoppers or End Knots

The **Overhand Knot** or **Thumbknot** is the simplest knot of all. It is commonly used to temporarily 'stop' the end of a rope from fraying, to add weight when throwing or to prevent a lifeline rope from slipping through hands. So it belongs to a group of knots called **Stoppers** or **End Knots**.

Here's how to tie it: form a crossing turn by taking the working end (black) behind the standing part; then place the working end in front and through the crossing turn and pull tight.

The **Figure Eight** is another useful 'stop' knot to temporarily bulk out the end of a rope or cord. The finished knot looks like its name. It is better than using an Overhand Knot, because it does not jam so easily.

Here's how to tie it: make a crossing turn by placing working end (black) over standing part; then take the working end first behind, then to the front of the knot; pass it through the crossing turn and pull tight.



Binding Knots

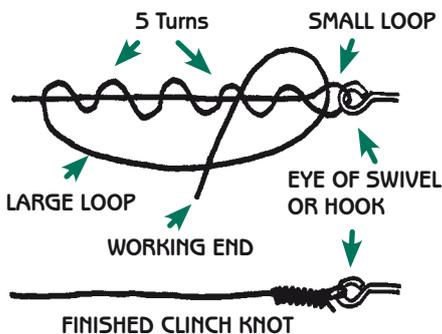
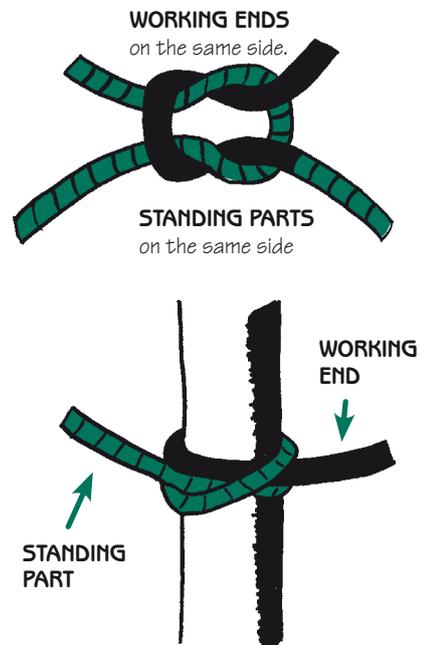
The **Reef Knot** or **Square Knot** is very easy to learn but dangerous if not used properly. It should only be used as a binding knot, that is to tie on an object. It is not a long term or secure knot. **It must never be used to join two ropes.**

Here's how to tie it: holding one end of the rope in each hand, pass the left rope over the right, and tuck under; then pass the same rope, now in the right hand, over the left rope, and tuck under. Finally pull tight. Use this little ditty to help you remember, "Left over Right and Under, Right over Left and Under."

Another beauty of this knot is that it can easily be loosened. Just grab one loose end, pull it back over the knot in the opposite direction.

Used to attach a rope to a pole, the **Clove Hitch** provides a quick and secure knot. It rarely jams, and can in fact come undone if the pole turns. With practice, this can be easily tied with one hand!

Here's how to tie it: pass a rope around a pole to form a turn and cross the working end over the standing part; now repeat the turn but tuck the working end underneath the second turn and pull both ends to tighten.



Fishing Hitches

The **Clinch Knot** is one of the quickest and easiest knots for tying fishing line to a hook. To make the turns fit tightly and snugly moisten the line first (spit is good!).

Here's how to tie it: pass the working end of the line through the eye of the hook, or swivel; double back; make at least five turns around the standing part of the line; pass the working end of the line through the first small loop, above the eye, and then through the large loop; finally pull the knot into shape and trim if necessary.

Knotwords

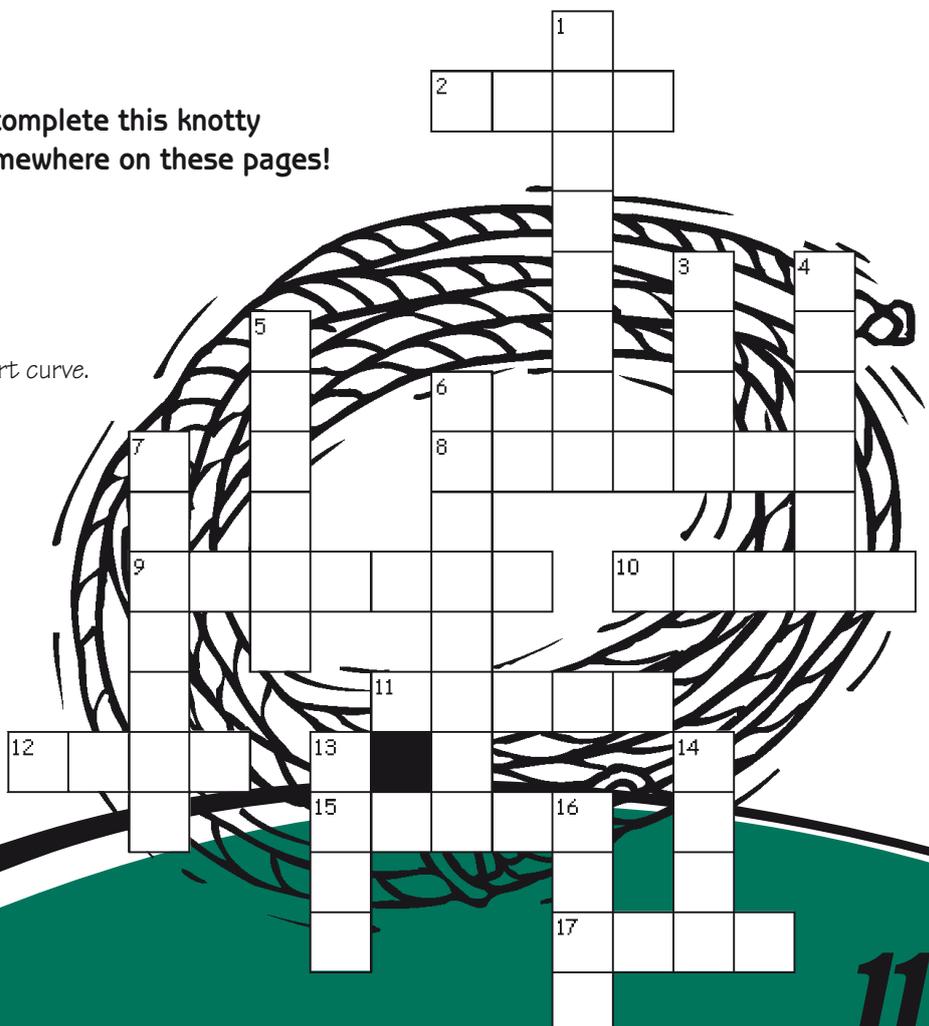
Use your new found Knot knowledge to complete this knotty crossword! You'll find all the answers somewhere on these pages!

Across

2. The standing.....of a rope.
8. When you pull the knot together.
9. The end of a rope.
10. A rope folded back on itself to form a short curve.
11. Useful to tie on an object.
12. To join two ropes.
15. A nice figure knot.
17. Rhymes with Pope.

Down

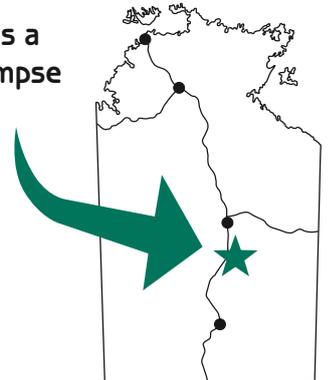
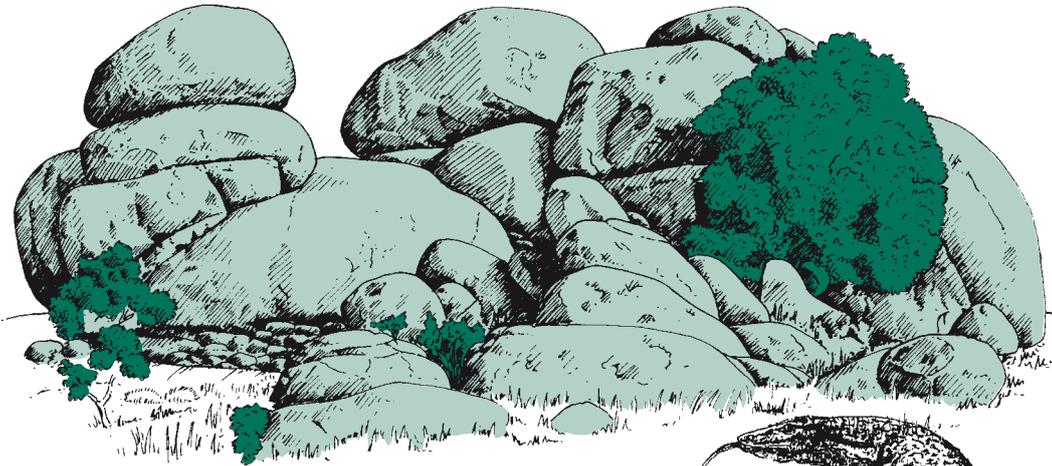
1. A rope over itself forming a full circle.
3. A useful rope art.
4. For catching fish knot, rhyming with inch.
5. A good looking..... eight knot.
6. Not sitting, the part of a rope.
7. A useful loop knot (rhymes with towline).
13. A knot and a place made of coral.
14. A circle of rope not crossing.
16. A rope passes around one side of an object.



Discover a Territory Park

Devils Marbles

The Devils Marbles Conservation Reserve or Karlwe Karlwe (the Warrumungu name) is a collection of gigantic rounded granite boulders. The Reserve provides a stunning glimpse of a diverse range of plants and animals that thrive in this 'nutrient rich' habitat.



History and location

The Devils Marbles extend on both sides of the Stuart Highway and are 393 km north of Alice Springs and 100 km south of Tennant Creek.

The majority of the Reserve is recognised to be of great cultural importance to the Warrumungu, Kaytetye and Alyawarre Aboriginal people. Many stories and traditions from these groups are centred on the marbles.

What to do and see

The Devils Marbles campground is set in some of the most spectacular country in the Northern Territory. Located amongst the granite boulders, it provides a welcome break for travellers along the Stuart Highway.



Sand Goanna, *Varanus gouldii*

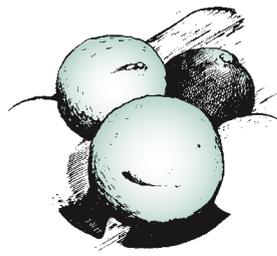
There is a short self guided walk (15 minute return) from the carpark on the western side of the Reserve with signs explaining the formation of the 'marbles'.

As you walk around keep your eyes open for the large Sand Goanna (*Varanus gouldii*) often seen amongst the huge clumps of Spinifex that grow amongst the boulders.

The Rock Fig (*Ficus brachypoda*) is very common throughout the Reserve and because the region does not experience frosts, the figs produce thousands upon thousands of small fruit. These figs attract many species of birds to the reserve so be sure to carry a pair of binoculars whilst walking!



The common Rock Fig from Central Australia.



The red/yellow fruit attract large numbers of birds.

Puzzle Answers

Urban Encounter: Koala

Creature Feature: There are ten birds in total - 3 in the tree on the left and 1 at its base. 3 in the tree on the right and 1 at the base and finally, 2 flying in opposite directions in the middle of the creek.

On the Brink:

Manatee. Stellers Sea Cow.

Plant Profile:

Leichhardt's Grasshopper.

Discovering Outdoors:

Across:

2. part, 8. tighten, 9. working, 10. bight, 11. hitch, 12. bend, 15. eight, 17. rope.

Down:

1. crossing, 3. knot, 4. clinch, 5. figure, 6. standing, 7. Bowline, 13. reef, 14. loop, 16. turn.

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