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Junior Ranger

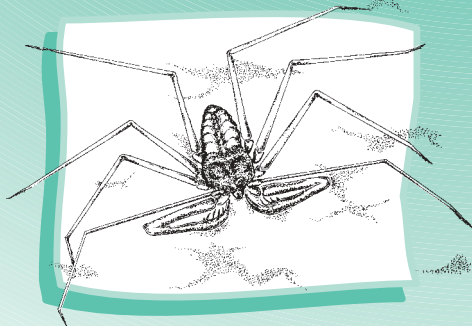
Review

ISSUE 1, 2003



On the Brink

Oenpelli
Whip
Scorpion



Urban Encounters

Ta Ta Lizards





Bowerbirds

Male Bowerbirds build elaborate bachelor pads called bowers, to attract a mate. They're also great hoarders.

The bowers are tunnel-shaped and made from grass and sticks.

The birds often build the bowers underneath a large shrub so that animals like kangaroos don't trample them.

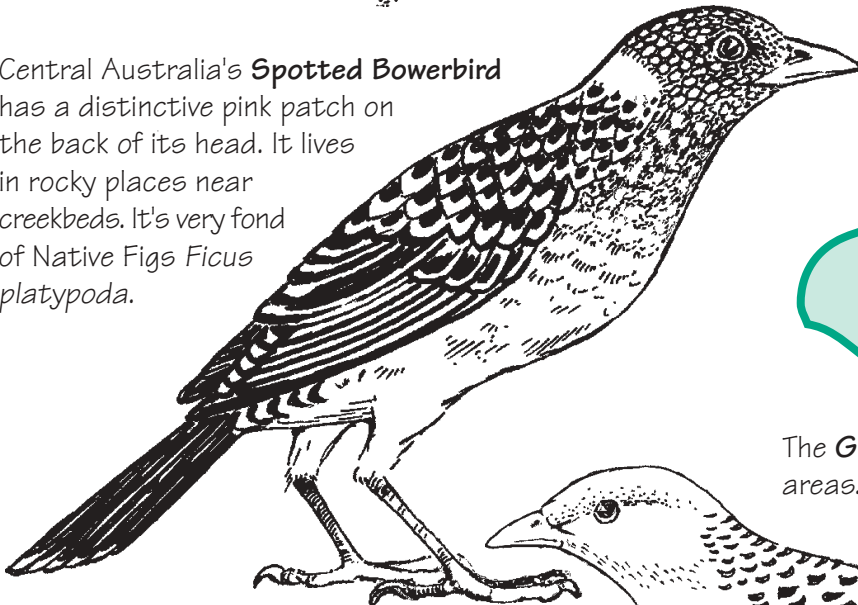
The female doesn't lay her eggs in the bower. The birds mate there but she flies off afterwards and builds a frail, saucer-shaped nest somewhere else.



The male doesn't help her hatch the eggs or raise the chicks.

The males leave the bowers after the breeding season and form small flocks for a while, moving around in search of food. However, they will return to the bowers in the lead-up to the next season and renovate them.

Central Australia's **Spotted Bowerbird** has a distinctive pink patch on the back of its head. It lives in rocky places near creekbeds. It's very fond of Native Figs *Ficus platyphoda*.



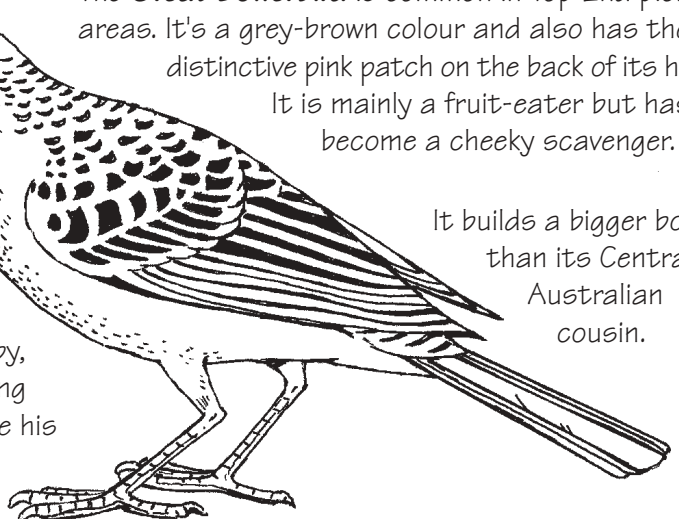
Great mimics

Bowerbirds' usual call is a harsh hissing or grating sound but they are also great mimics. They may imitate the calls of cats, other birds, chainsaws and motor vehicles.

The **Great Bowerbird** is common in Top End picnic areas. It's a grey-brown colour and also has the distinctive pink patch on the back of its head. It is mainly a fruit-eater but has become a cheeky scavenger.

The male goes to great lengths to get the attention of a female. When there's one nearby, he will circle the bower with a peculiar strutting walk, run and jump with his wings raised, ruffle his feathers and cock his tail.

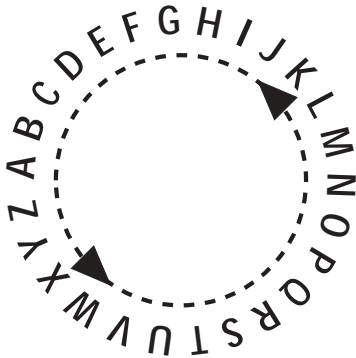
It builds a bigger bower than its Central Australian cousin.





Male bowerbirds collect all sorts of things. They take them to their bower and lay them on the floor. However, they're quite fussy and only go for certain colours.

What they collect.



Turn each letter into the one that comes before it in the alphabet.


t	u	p	o	f	t	t	i	f	m	m	t
h	m	b	t	t	c	p	o	f	t		
					and						

What colour?

The Satin Bowerbird from eastern Australia collects blue objects but our Territory bowerbirds prefer a different colour.

To reveal this colour, work out what letters are missing from the following words.

- t _ i g _ a t e r b o _ e r _ o o d l a n d
- c _ e e k y _ o p p i n g t _ i c k c o u r t s _ i p
- s t _ c k s p _ c n _ c r _ v e r f r a _ l
- _ u n n e l m a _ e f r u i _ a _ _ r a c _
- f _ m a l _ _ g g s g o r g _ n _ s t

They like  things. However, they also collect shiny things and small green fruits.

Did you know....

You'll never see flowers on a fig!

The Spotted Bowerbird loves these fruits.

The flowers are inside here.

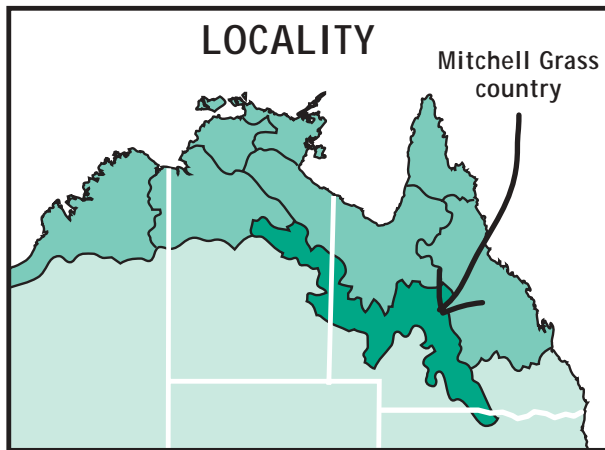


Rock Fig
Ficus platypoda

Mitchell Grass

The Tennant Creek area had record rainfall in February and 2003 promises to be a boom year on the Barkly Tableland. As the Mitchell Grass grows tall, the numbers of native rats, dunnarts and planigales will multiply.

11 % of Australia is Mitchell Grass country: mostly treeless, flat plains with dark, cracking, clay soils. This is one of the most distinctive environments of northern Australia.



The Mitchell Grass stretches from northern NSW, through Queensland to the Barkly Tableland in the mid-north of the Territory. It covers about 300 000 square kilometres of country.

Barley Mitchell Grass *Astrebla pectinata* is the dominant species on the Barkly Tableland.



Mitchell grass is named after the explorer Thomas Mitchell.



The tussocks of Barley Mitchell Grass are nearly a metre tall. It is a perennial grass and individual tussocks may live for 30 years.

The leaves are a deep green colour with thin hairs (3 or 4 mm long) growing on their upper surface.

Its long roots enable it to obtain moisture from deep down in the soil.



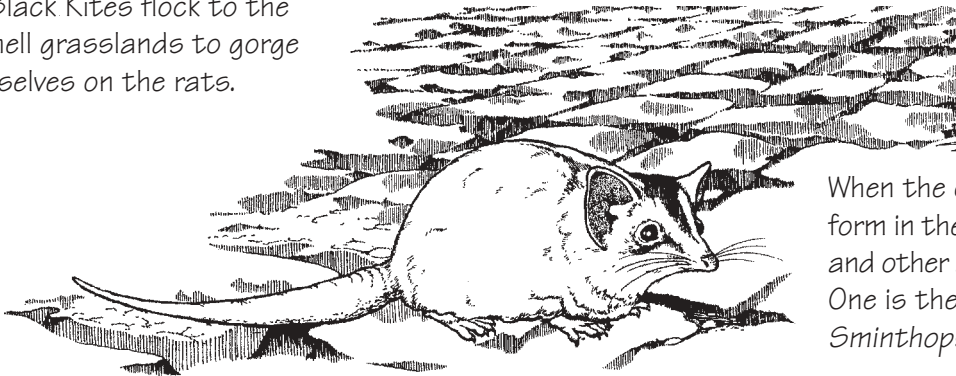
Animals of the Mitchell Grass Country

Some of the region's animals have extraordinary boom-bust population cycles. One of these is the Long-haired Rat. Normally there aren't big numbers of rats but some years they occur in plague proportions.

The Long-haired Rat *Rattus villosissimus* is a dinki-di, true-blue Aussie rat. Populations increase rapidly in good seasons when there is an abundance of grass seeds and green shoots.



Then large numbers of Letter-winged Kites and Black Kites flock to the Mitchell grasslands to gorge themselves on the rats.



When the country dries out, deep cracks form in the black soil plains. Many insects and other animals shelter in these cracks. One is the Stripe-faced Dunnart *Sminthopsis macroura*.

Australia's smallest marsupial lives on the Barkly Tableland. This tiny animal has a flattened head which enables it to get into narrow spaces and catch insects. Can you work out it's name?

Clue: 1 = P 23 26 25 18 5 12 20 23 16 15 1 23 12 25 20 18 12 23 16

2 = Q

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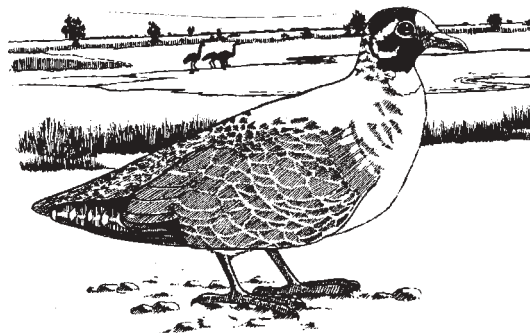
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3 = R

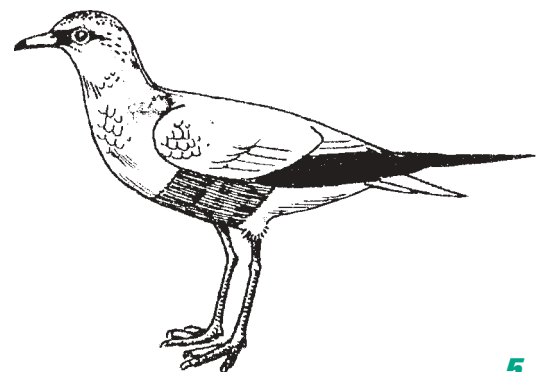
If it is not careful, it may end up being dinner for one of the many Brown Snakes that live in Mitchell grass country.



This bird is so common on the plains that it has been called the Barkly Seagull. It's also known as the Suicide Bird because of its habit of flying out of the grass in front of your vehicle.

1 3 12 5 20 25 14 26 23 16

--	--	--	--	--	--	--	--	--	--	--	--



The Barkly Tableland is the stronghold of this pigeon. It is occasionally seen in large numbers at Connell's Lagoon.

17 23 26 14 22 13 3 26 25 11 16 8 20 25 18

--	--	--	--	--

--	--	--	--	--	--	--	--	--	--	--	--



Oenpelli Whip Scorpion

The rare Oenpelli Whip Scorpion lives in humid caves in western Arnhem Land. Only about a dozen of them have been collected since they were first discovered in 1992.

Whip scorpions are bizarre creatures of the night that look like flattened spiders. They're very fast movers, scurrying sideways through the leaf litter or under the bark of trees in tropical regions. A few, like the Oenpelli Whip Scorpion *Charon oenpelli*, live in caves.

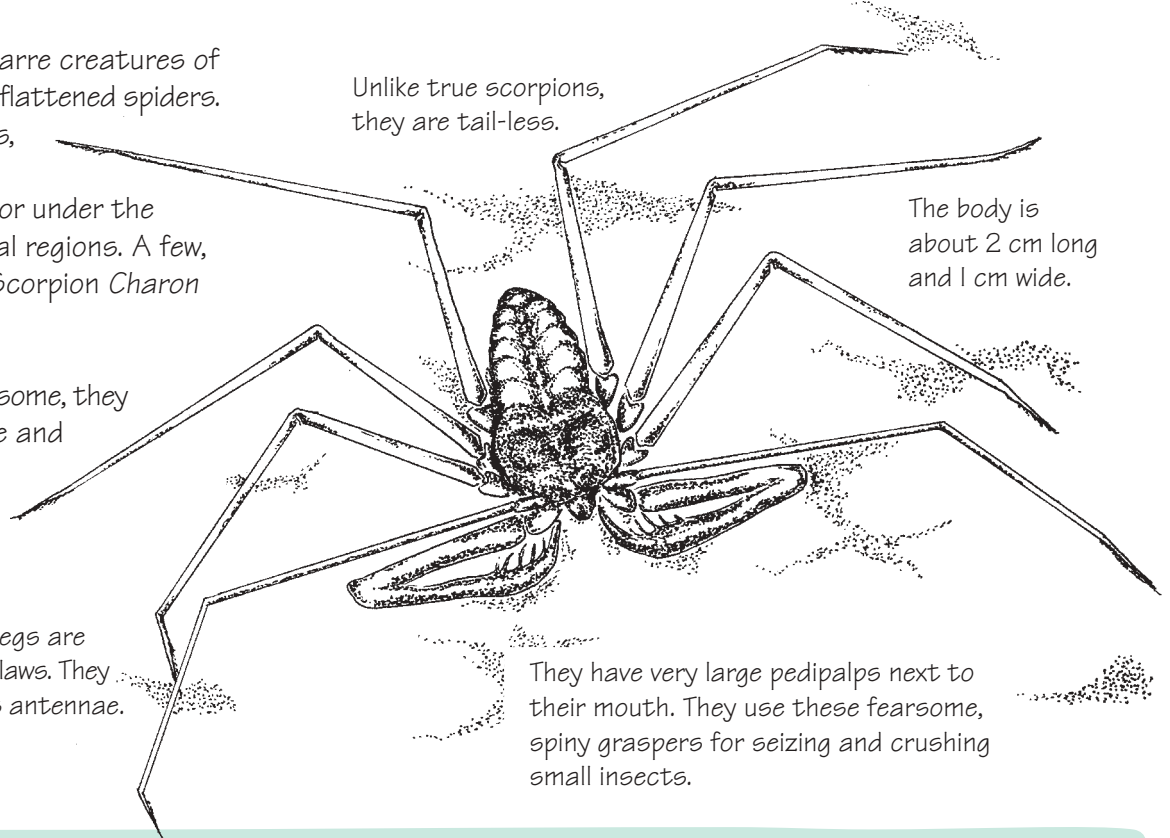
Although they look fearsome, they are harmless to people and don't bite or sting.

Their first pair of legs are very long and lack claws. They act like an insect's antennae.

Unlike true scorpions, they are tail-less.

The body is about 2 cm long and 1 cm wide.

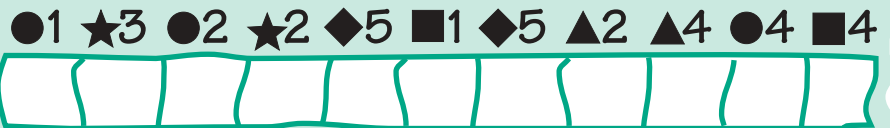
They have very large pedipalps next to their mouth. They use these fearsome, spiny graspers for seizing and crushing small insects.



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

Use this coding grid to reveal the technical name for whip scorpions.



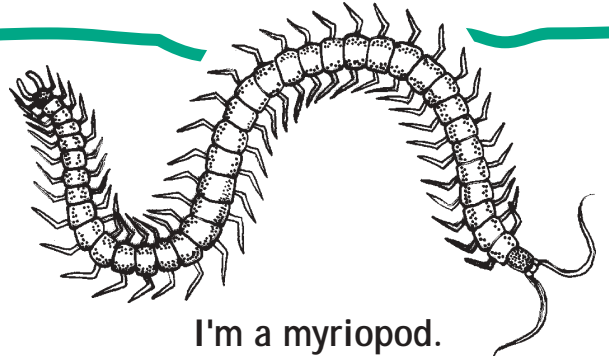
Are these creatures endangered?

They have only been found in a couple of caves but it is difficult to decide their conservation status. As a cave-dwelling species, they probably have always had a very restricted distribution and there is no evidence that their future survival is under threat.

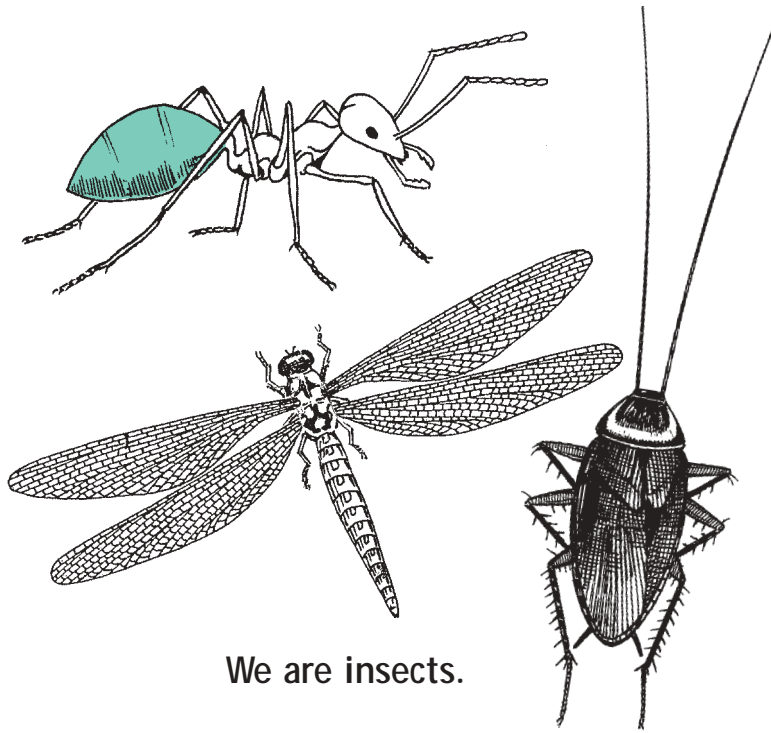
More study is needed because we don't have a lot of information about them at the moment.

Whip scorpions have been successfully bred in captivity overseas. So it may be possible to establish a breeding colony at the Territory Wildlife Park if their caves at Oenpelli are ever threatened. In the meantime it is important that we preserve the caves in their natural state.

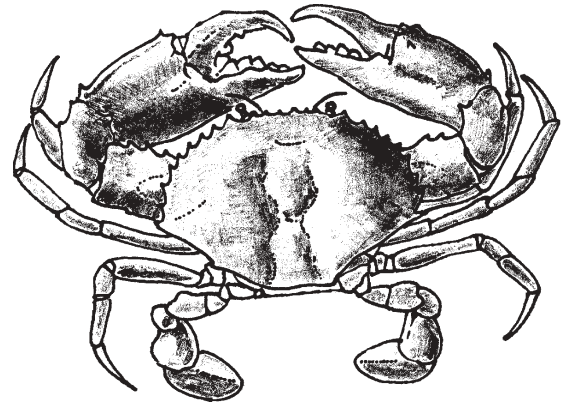
Types of Invertebrates



I'm a myriopod.
(Myriopod means many legs.)



We are insects.



I'm a crustacean.
I've got 10 legs.

What about 8-legged animals such as whip scorpions?

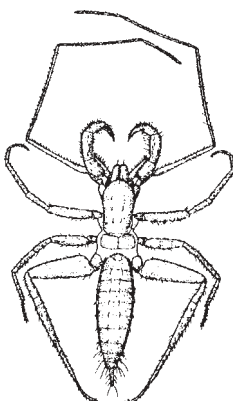
Find these 27 creatures in the grid. The 8 letters leftover will spell out the answer.

- AMBLYPYGID
- AMPHIPOD
- ANT
- BEE
- BUG
- CENTIPEDE
- COCKROACH
- CRAB
- CRICKET
- EARWIG
- FLY
- INSECT
- ISOPOD
- KATYDID
- LICE
- MITE
- MOLLUSC
- MYGALOMORPH
- NIT
- SCHIZOMID
- SCORPION
- SLATER
- SLUG
- SPIDER
- TARANTULA
- TICK
- WASP

A whip scorpion is an _____.

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

Schizomids are relatives of whip scorpions. Do you know what an isopod is? What about a mygalomorph?

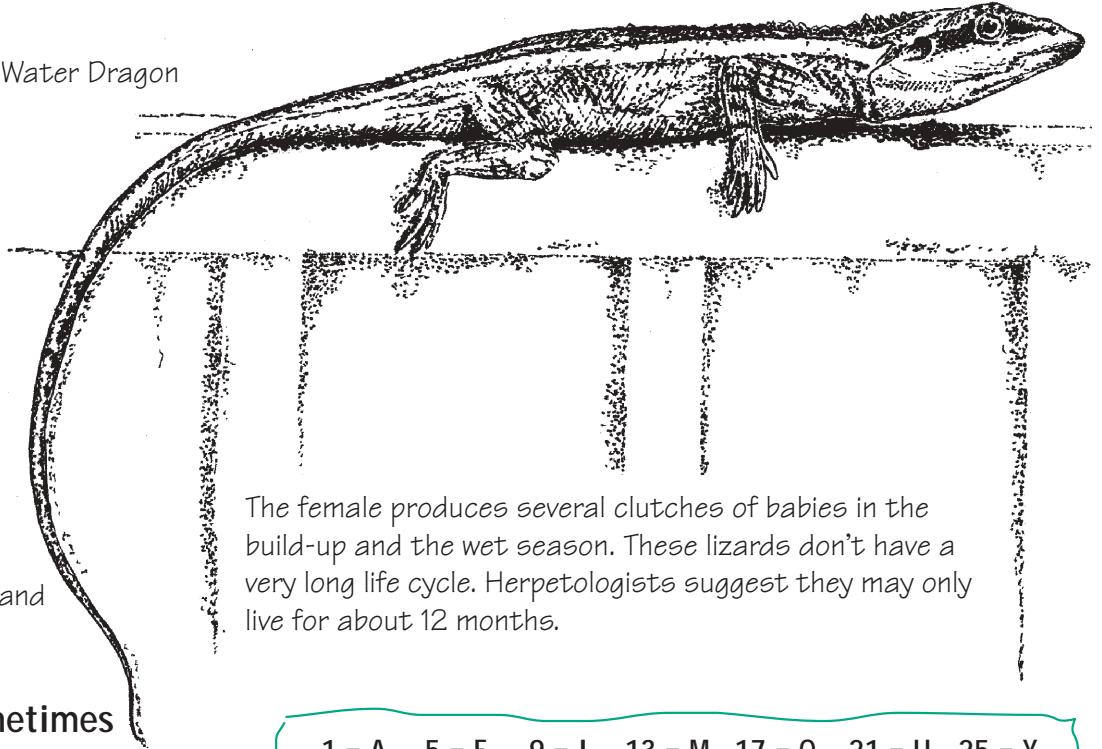




Ta Ta Lizards

Ever noticed how friendly some lizards are? Waving to us as they sit in the sun or move about the garden.

You may spot the Northern Water Dragon *Lophognathus temporalis* in Top End parks, especially in the wet season when reptiles are more active. In the wild, it is usually associated with paperbark swamps, lagoons and creeks. But it's quite comfortable in well-watered parklands. It spends time on the ground, gobbling up insects and the occasional tasty skink, and retreats to the trees when it needs to climb and hide.



The female produces several clutches of babies in the build-up and the wet season. These lizards don't have a very long life cycle. Herpetologists suggest they may only live for about 12 months.

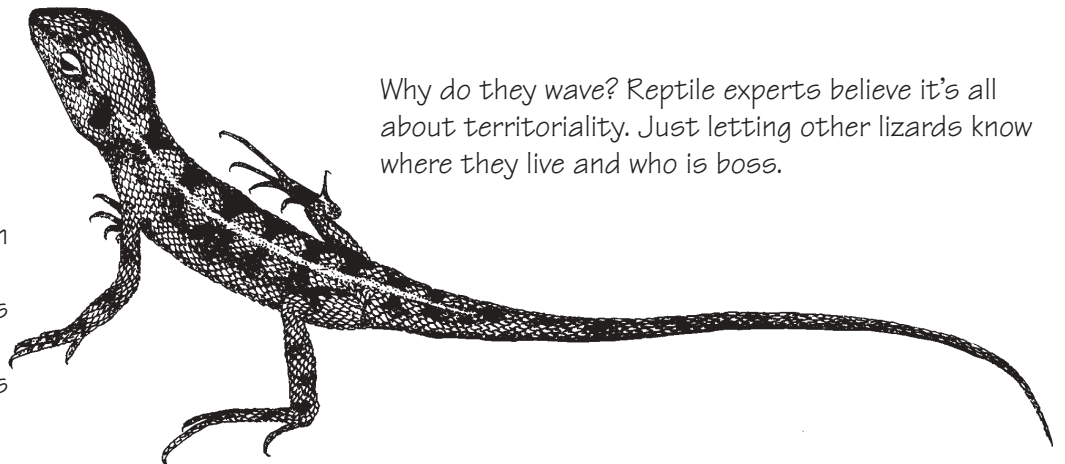
Water Dragons are sometimes called *ta ta lizards*.

Decode these 16 words to learn more about their unusual behaviour.

1 = A	5 = E	9 = I	13 = M	17 = Q	21 = U	25 = Y
2 = B	6 = F	10 = J	14 = N	18 = R	22 = V	26 = Z
3 = C	7 = G	11 = K	15 = O	19 = S	23 = W	
4 = D	8 = H	12 = L	16 = P	20 = T	24 = X	

20 8 5	12 9 26 1 18 4	4 1 19 8 5 19	1 12 15 14 7	20 8 5	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
7 18 15 21 14 4	19 20 15 16 19	19 21 4 4 5 14 12 25	1 14 4		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
23 1 22 5 19	15 14 5	1 18 13	1 19	9 6	19 1 25 9 14 7
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7 15 15 4 2 25 5					
<input type="text"/>					

The Two-lined Dragon *Diporiphora bilineata* is a smaller lizard which is common in Darwin gardens with lots of mulch and leaf litter. It spends the day hunting insects. At night it sleeps on the branches of trees and shrubs.

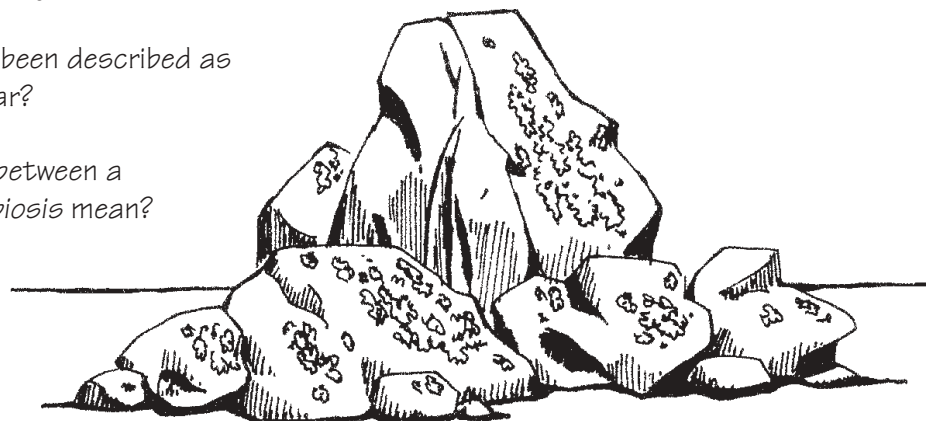
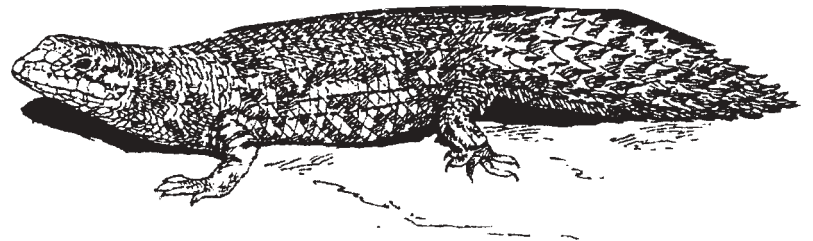
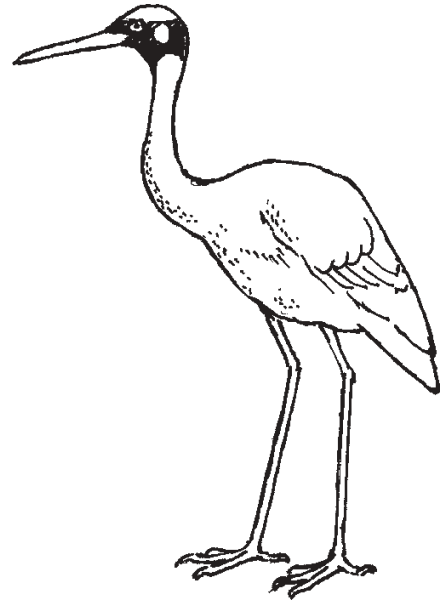


Why do they wave? Reptile experts believe it's all about territoriality. Just letting other lizards know where they live and who is boss.



This is the first issue of the *Junior Ranger Review* for 2003. How much can you remember from last year's issues? (You'll find the answers on page 11.)

1. The hollow trunks of which tree, growing in the Victoria River district, were sometimes used as houses and gaols?
2. Big W, Flourey Baker and Greengrocer are all types of
 - a) beetles.
 - b) cicadas.
 - c) specialty shops.
3. Brolgas perform elaborate dances on the floodplains of the Top End
 - a) from February to April.
 - b) in the dry season.
 - c) in October and November.
4. *Ptychosperma bleeseri* is a rare Northern Territory
 - a) marsupial.
 - b) palm.
 - c) bird.
5. Which Central Australian skink has a spiny tail, making it difficult for its enemies to dislodge it from crevices and logs?
 - a) Great Desert Skink.
 - b) Spiny Mulga Skink
 - c) Gidgee Skink.
6. The forceful strike of which large insect has inspired a style of Kung Fu?
7. Where should you look on a Top End beach to find a Ghost Crab?
 - a) close to the water's edge.
 - b) above the high tide mark.
 - c) on rocks.
8. The rare Central Pebble-mound Mouse builds a home from small stones in the
 - a) Davenport and Murchison Ranges southeast of Tennant Creek.
 - b) MacDonnell Ranges west of Alice Springs.
 - c) Petermann Ranges southwest of Ayers Rock.
9. Which very rare nocturnal bird has been described as looking like an overweight budgerigar?
10. Lichen is an example of symbiosis between a fungus and algae. What does symbiosis mean?





Build a Solar Oven

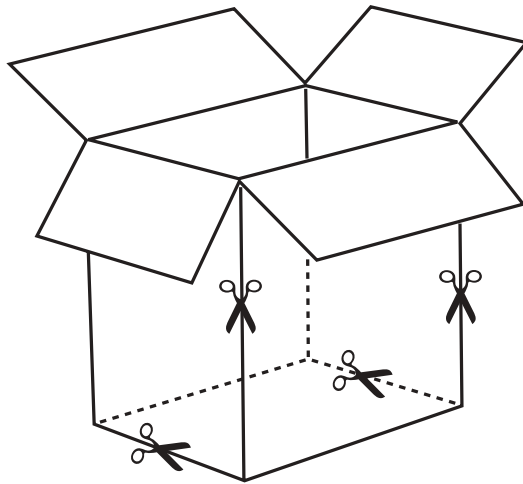
Dead wood provides food and shelter for a range of animals and plants. It also helps to stabilize topsoil and prevent it from being washed or blown away.

Many people collect firewood from the bush. It is becoming scarce in some areas in the Northern Territory. Using solar energy is a way of saving wood and helping maintain a healthier environment.

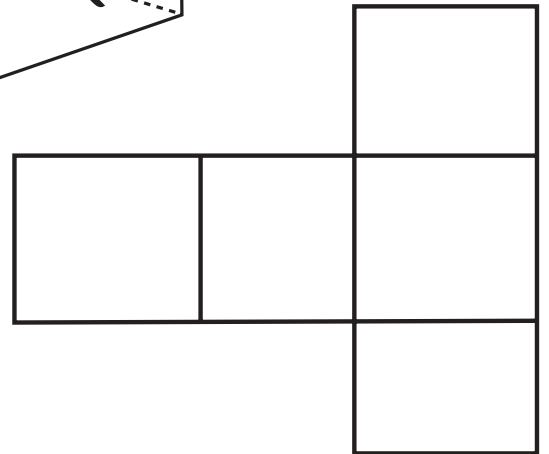
Here are some plans for making your very own solar panel oven, just for fun. Enjoy a sunny meal!

What you need:

- cardboard box
- scissors or craft knife
- aluminium foil
- glue
- oven bag
- tin or old pot
- black paint
- egg

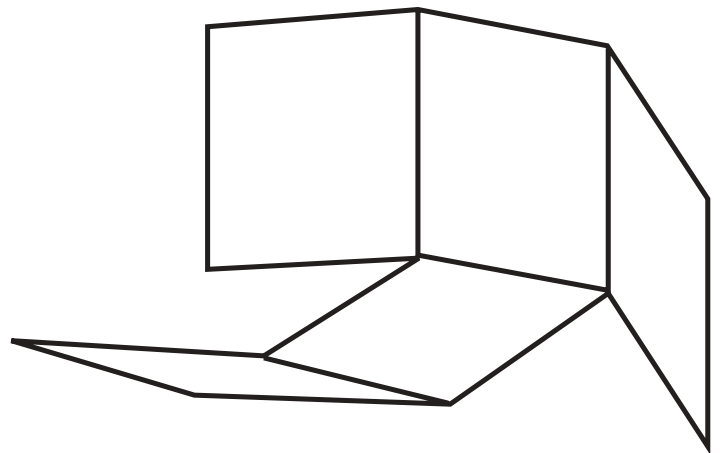


Step 1: Choose a cardboard box that is taller than it is wide. Cut the flaps off the box. Then cut the 2 front upright seams and the 2 side base seams of the box so that it opens out flat.



Step 2: You should now have a 'T' shaped piece of cardboard. Identify the part that was the bottom of the original box. This might need to be reinforced with an extra piece of cardboard if it is thin.

Step 3: Now you need to cover the 'T' with aluminium foil. The side you are covering was the inside of the original box.



Step 4: Place the panel you reinforced earlier flat on the ground in full sun. This will be the 'hotplate' of your oven. Fold the three panels that make the top of the 'T' up and hold them upright with rocks or bricks. The last panel needs to be angled about 30 degrees, so place an object like a rock under it.

Step 5: Get an old pot or a tin and paint the outside black. This is what you will do your cooking in. Place it inside an oven bag and on the 'hot plate' of the oven.

You can cook almost anything in your solar oven. Try an egg first. Place the egg in the oven bag. There is no need to use the tin or cover it with water. Close the oven bag and let the sun do the rest. It may take up to an hour.

Check out www.solarcooking.org/recipes/, for recipe ideas and other tips about cooking with your solar oven.

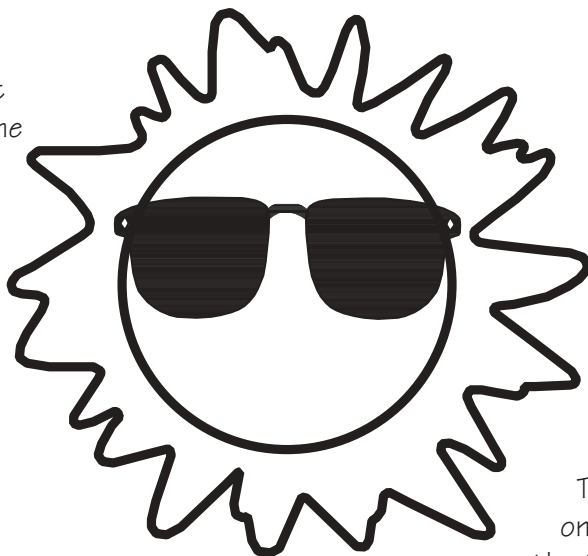


The plans for making the solar panel oven are copyright free from Solar Cookers International, a non-profit organisation which promotes solar cooking to reduce poverty in developing countries. If you would like more information about solar cooking the Centre for Appropriate Technology can help with this. Contact Trish Morrow on (08) 8951 4337.

Did you know...

It takes 8 minutes for the Sun's energy to travel to Earth.

It would take about 5 weeks to reach the Sun by space shuttle.



The Sun loses roughly 4 million tonnes of its mass every second. However, scientists still expect it to keep shining for another 5 billion years.

The Sun is so massive that over a million Earths would fit inside it.

The temperature on the surface of the Sun is 6 000 ° but it's probably about 14 000 000 ° in the centre.

PUZZLE ANSWERS

Creature Feature

(page 3)
stones, shells, glass and bones.
They like white things.

Plant Profile (page 5)

Long-tailed Planigale
Flock Bronzewing
Pratincole

On the Brink

(pages 6 and 7)
amblypygids
arachnid

Urban Encounters

(page 8)
The lizard dashes along the ground, stops suddenly and waves one arm as if saying goodbye.

Nature Quiz (page 9)

1. Baobab
2. (b)
3. (c)
4. (b)
5. (c)
6. praying mantis
7. (b)
8. (a)
9. Night Parrot
10. A relationship in which two things live together and both benefit from the arrangement.

Around the traps



G'day from Ranger Bill

Welcome to another big year of the Junior Ranger Review. I'm sure you will thoroughly enjoy the wide range of topics that we have planned for this year. Remember to hold on to your copies, as they can prove very helpful when those projects come along at school.

A special big hello to all the Junior Rangers returning for another year and to all our new members, I'm sure you will enjoy the exciting range of programs being offered throughout the Territory.

We would like to invite everyone from our Junior Ranger members to those who receive the Review interstate and overseas to send in information on wildlife you encounter so we can share this information through the Review.

Remember the Review is also available on our new website. If you prefer to download your copy, just head to www.nt.gov.au/ipe/pwcnt

The new Parks & Wildlife website contains a wide range of information, from how to visit the parks to what Northern Territory wildlife is considered endangered. Take time to have a browse.

Darwin

Welcome to Junior Rangers in the Darwin region for another exciting year of activities and discovery. We hope you all enjoyed the break over Christmas and are keen to explore Top End environments in 2003.

The wet season has been a good one this year in the Top End and our wetlands and rivers have been pushed to flooding point. Although this is great for boosting water supplies for the long dry season ahead, it can often lead to the destruction of nests of some of the creatures which live on the floodplains, like saltwater crocodiles and magpie geese. But that is part of the cycle of life in natural environments.

After enjoying several months of monsoonal rains you will notice that they are beginning to ease and we will soon be returning to the drier months of the year. The tall green spear grass will begin to yellow and as the strong dry season winds (knock-em down winds) arrive in late April / May the grass will be flattened to reveal the woodland understorey of small plants. These grasses then provide the fuel for the dry season fires, which are often necessary to encourage some seeds to germinate.

So take the time to look around you and observe the major changes that are happening as we move from one season to another.

Looking forward to seeing you all soon.

Ranger Vanda & Ranger Dean.

Alice Springs

G'Day to all Junior Rangers!

Happy New Year to all Junior Ranger members and families and welcome back to the Junior Ranger Program. Hopefully you've been noticing the changes in our bushland, since I saw you last. As the weather is cooling off and after the rain we have had there are a lot of things happening in the bush and it is a great time to get out and take a look.

Bloodwoods and Ironwoods are in bloom. The Ironwoods are covered with pale yellow balls of blossom. Bloodwoods have more spectacular flowers that are rich in nectar and a great attraction to honeyeaters, bees and other insects.

A regular feature of this time of year is the many new, white silk bags which appear in the

upper branches of trees and shrubs. Don't touch them! They contain lots of stinging hairs that irritate the skin. These bags are the daytime hiding place of processionary caterpillars (or itchy grubs.) When they emerge they travel along head to tail in long processions.

Over the first few months of the program, Junior Rangers will be going back in time at the Alice Springs Telegraph Station, discovering the night sky and celebrating World Environment Day - just to name a few.

I am looking forward to catching up with all the Alice Springs and Tennant Creek Junior Ranger members and their Parents soon.

See you out in the bush!

Ranger Emily.

Katherine

Hello from Ranger Andrew,

Welcome any new members that may be joining the program and to those that are continuing welcome back to another year of Junior Rangers.

The Junior Ranger program will be starting in April, straight after Ranger Andrew returns from a nice long holiday that he has been enjoying.

This year's theme will be a return to the amazing Captain Planet. The four super hero's that combine to form Captain Planet when things get tough, which are water, wind, earth and fire, will be our theme topics for 2003.

Captain Planet is about saving the world environment and ultimately the world from being destroyed by selfish people. Junior Rangers will be finding out how each of the super hero elements has an important role to

play in the environment and that all of them together are able to support life. Our first topic will be water because it ties in with the wet season and the rains that we have been having. This means frog watch, fishing, water watch, and looking at the various life found around billabongs, streams, rivers, and waterfall sites. This is the time of the year that all wildlife is active so we will be finding out what is out there during the day and at night.

Contact Ranger Andrew for joining details. Information brochures and the coming events program are sent to all schools in Katherine so check these out to see if you are interested in coming along. There is always something for everyone. Let's go and find out about the environment.

See you all soon

Ranger Andrew

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