PARKS AND WILDLIFE COMMISSION NORTHERN TERRITORY

Junior Ranger Review

July - August 1999

Make Your Own
Herbarium

On the Brink
The Purple-crowned Fairy-wren

Plant Profile
Buffle Grass

The Giant of the Desert

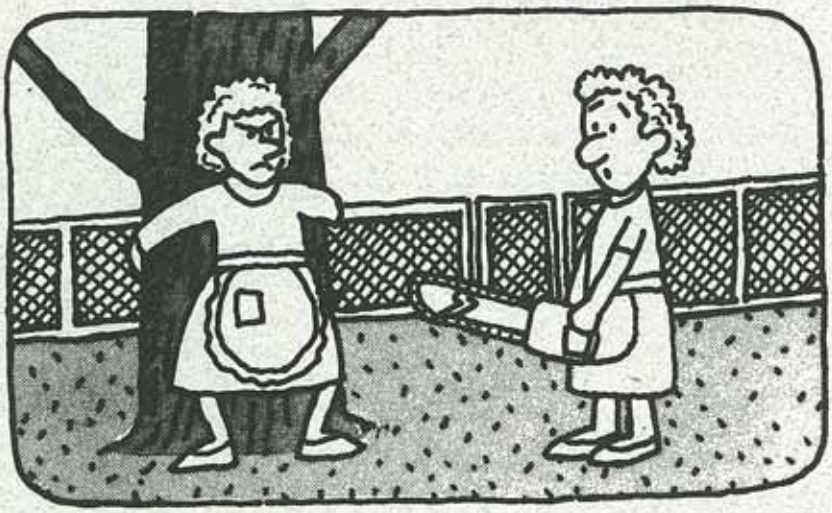
Creature Feature

National Tree Day

Over the past 200 years, Australia has lost half of its rainforest and a third of its other forests and woodlands. So Planet Ark decided to organise a National Tree Day for Sunday 25 July.

You and your family could consider planting a native tree in your backyard or local area.

You can find out more by visiting their internet site: www.planetark.org/trees/



Aussie Trees

Can you find the names of these 35 Australian Trees in this puzzle? Colour the boxes as you find each letter. You should have 10 letters left over which spell the name of an Aussie rainforest tree with edible, pink fruit.

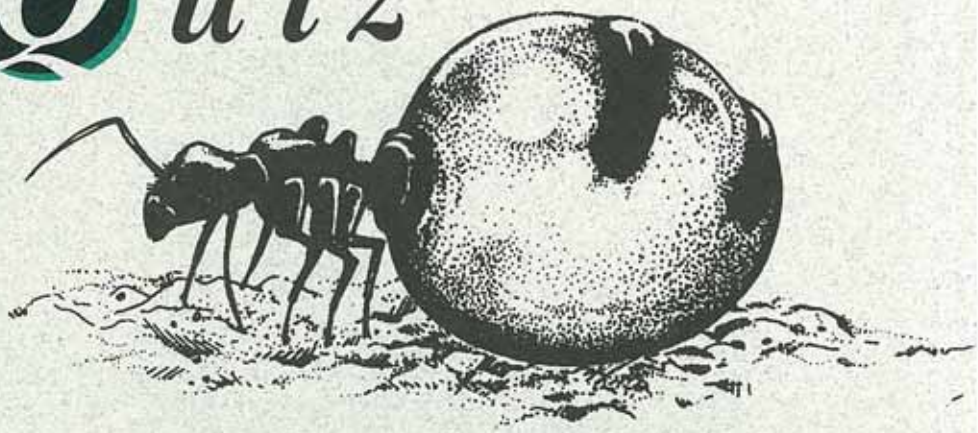
E	Q	U	A	N	D	O	N	G	W	B	N	B	J
V	S	U	N	A	D	N	A	P	O	A	R	A	A
O	B	A	N	Y	A	N	K	A	O	N	E	B	R
R	L	F	I	G	M	Y	A	L	L	K	F	O	R
G	M	A	L	L	E	E	O	M	L	S	E	A	A
N	I	U	C	N	A	R	R	A	Y	I	E	B	H
A	M	M	Y	P	A	P	E	R	B	A	R	K	S
M	E	U	C	A	L	Y	P	T	U	S	T	H	E
U	S	G	A	S	H	T	E	A	T	R	E	E	M
G	S	E	D	T	A	A	E	L	T	O	G	Y	I
W	M	U	L	R	K	G	B	Y	A	D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

Ash
Banksia
Banyan
Baobab
Blue Gum
Cycad
Eucalyptus
Fig
Gidgee
Golden Wattle
Hakea
Ilex
Jarrah
Kauri
Mallee
Mangrove
Messmate
Mulga
Myall
Myrtle
Oak
Palm
Pandanus
Paperbark
Peebeen
Quandong
Sheoak
Snow Gum
Tea Tree
Tree Fern
Tuart
Wilga
Woollybutt
Yarran
Yate

The 10 left over letters spell

Nature Quiz

How many of these questions about Australian trees can you answer. (You'll find the answers on page 11 of this edition of the Junior Ranger Review.)

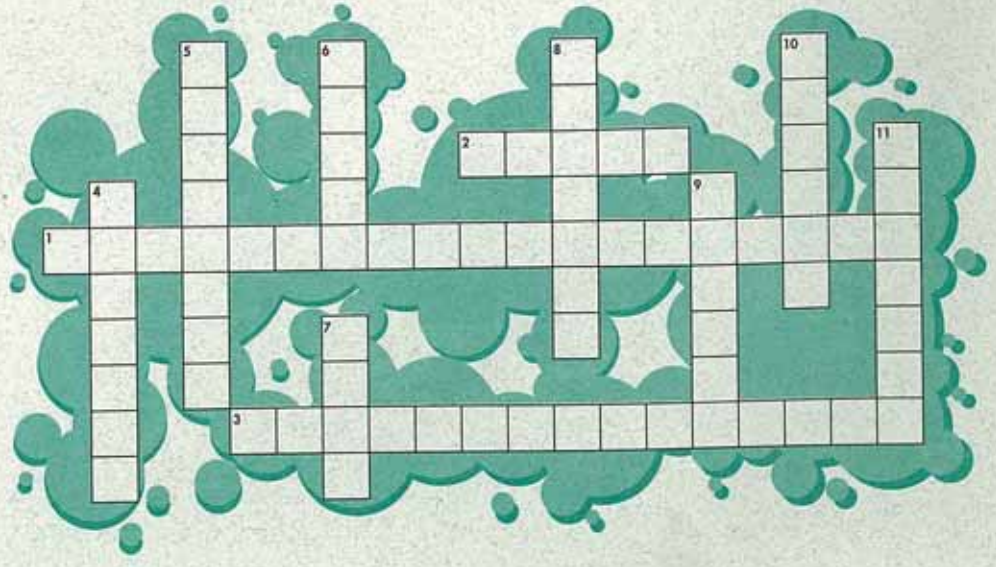


1. **River Red Gums grow in all states of Australia except:**
   a. Tasmania
   b. Victoria
   c. Western Australia
2. **The floral emblem of the city of Darwin is:**
   a. Bouganvillea
   b. Pandanus
   c. Red-flowering Kurrajong
3. **Aboriginal people dig honeyants from the roots of:**
   a. Desert Oak trees
   b. Mulga
   c. Honey Grevillea
4. **Australia's tallest trees are the:**
   a. Huon Pine of Tasmania
   b. Mountain Ash of Victoria
   c. Karri trees of West Australia
5. **The first Arbor Day was held on 10 April 1872 in:**
   a. Australia
   b. USA
   c. England
6. **The world's rainforests are being cleared at a rate equivalent to 200 suburban house blocks every:**
   a. minute
   b. hour
   c. day
7. **Grevilleas take their name from Charles Greville (1749-1809). Greville was:**
   a. Assistant to Sir Joseph Banks
   b. First Government Botanist in NSW
   c. A founder of the London Horticultural Society
8. **The Golden Wattle is Australia's floral emblem. It grows:**
   a. All over the country
   b. All down the east coast
   c. Only in the southeast of the continent
9. **How many species of eucalyptus trees are there in Australia?**
   a. About 100
   b. About 300
   c. About 700
10. **Myall, Yarran, Raspberry Jam Tree and Cooba are all types of:**
    a. Eucalyptus
    b. Acacia
    c. Banksia

Rare Australian Mammals

Can you find out the common names of these 11 rare mammals and complete the crossword?

1. *Phascogale calura*
2. *Macrotis lagotis*
3. *Isoodon auratus*
4. *Bettongia lesueur*
5. *Macroderma gigas*
6. *Dasyurus geoffroii*
7. *Lagorchestes hirsutus*
8. *Dasycercus cristicauda*
9. *Dasyuroides byrnei*
10. *Myrmecobius fasciatus*
11. *Mesembriomys macrurus*



Make Your Own Herbarium

Quite a lot of plants flower in the middle of the year. At Uluru the Dune Wattles have yellow blossoms and the Honey Grevilleas are in bloom.
On the rocky hills of Alice Springs the yellow Cassias brighten up a winters day.
In Tennant Creek the Snappy Gums and Silver Box flower.
Along Top End roadsides the Pink Everlastings and the Turkey Bush provide a show of pink.
Why not make your own pressed plant collection?

Collecting your plant specimens

You need to press your plants as soon as possible before they shrivel up.
Don't collect anything from a national park.
Try to get both flowers and fruit, as well as a small piece of stem with typical, healthy leaves.
Use a pair of secateurs rather than ripping bits off the plant.

Make Notes

Attach a label to the specimens with a number on the label (eg Specimen 1). Record details of the plant in a field notebook:

- the specimen number
- when you collected it
- where you collected it
- the plant's habitat
- a description of the plant
- colour of its flowers

Pressing your specimens

All you really need is lots of semi-absorbent paper and some heavy weights. Old telephone directories and bricks work well but aren't very convenient to cart through the bush.

Making a lightweight plant press

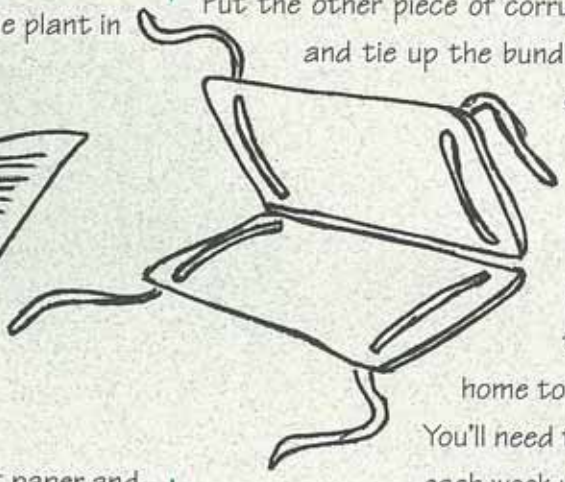
You can make a press from

- 2 sheets of corrugated cardboard 30cm x 45cm
- 2 pieces of book binding ribbon (or something similar)
- sheets of newspaper

Lay a sheet of corrugated cardboard on the ground and a sheet of folded newspaper on top. Lay your specimens on this sheet and then put another folded sheet over them.

Repeat the process until all your specimens are piled on top of each other.

Put the other piece of corrugated cardboard on top and tie up the bundle with the ribbon. Make sure its easy to undo so you can add more specimens when you need to.



Put some heavy books on the press when you get home to flatten the plants.

You'll need to change the newspaper each week until the plants are dry.

Then you can mount them on a sheet of white cardboard. Label the cardboard with the information in your field note book.

Cool Time

In the north the skies are filled with smoke as people burn the speargrass. Black Kites circle overhead looking for a barbecued lunch. In Central Australia the days are sunny but the nights are very cold.
Use this page to record what's happening in the bush and garden of your territory.

Nature Diary

Here's an opportunity to test out your Nature Diary that you set up last issue. Use this page to record what's happening around you.

Dingoes give birth in August.

The annual winter die off leaves many bony Bream dead on the banks of inland waterholes.

Eagles, Kites and Osprey have young ones in the nest.

Frilled-neck Lizards hide in Top End trees and are rarely seen.

Turtles are laying eggs on Top End beaches.

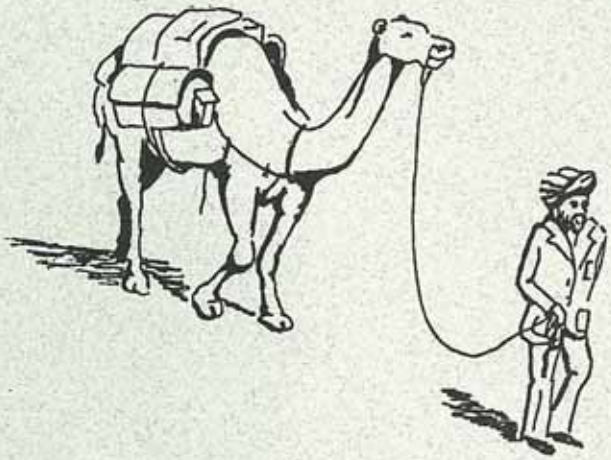
River Paperbarks along the Katherine River have a flush of new leaves.

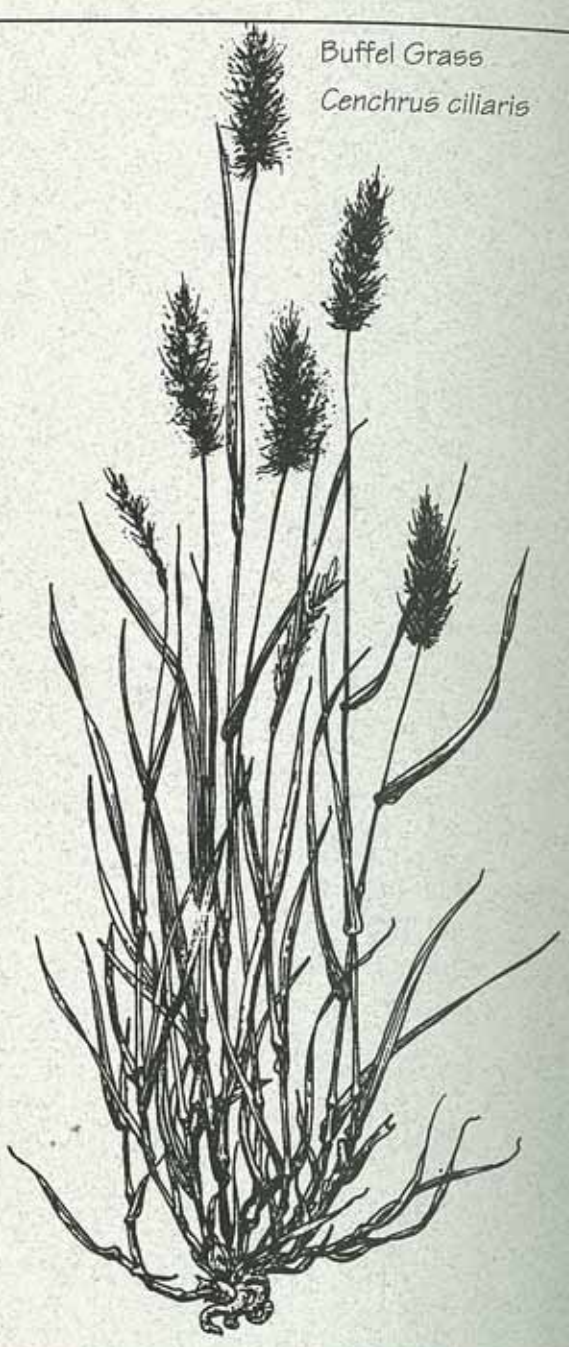
Red-tailed Black-cockatoos are munching and crunching the woody fruits of the Darwin Woollybutt.

Pratincoles are common on the Barkly Tableland.

Plant Profile

Buffel Grass.. at home among the Gum Trees





Buffel Grass
Cenchrus ciliaris

In 1860 three Afghan camel drivers and 24 camels were shipped to Australia to join the ill-fated Burke and Wills expedition.

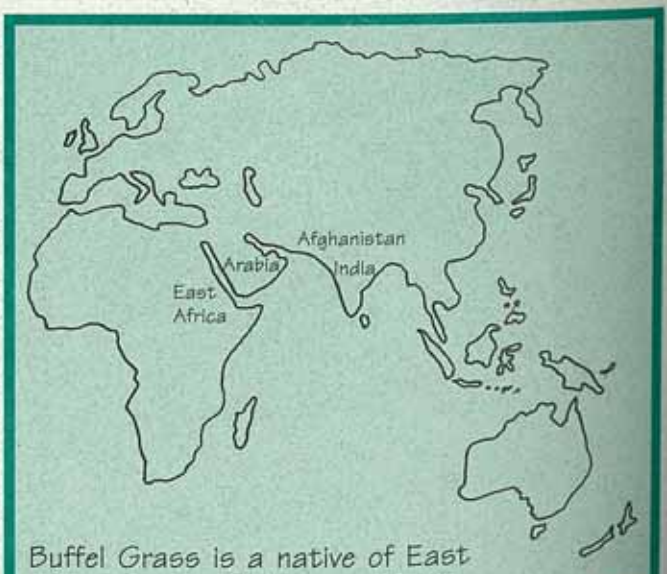
The explorers did not live to tell their tale. But the camels proved a great success in the harsh Australian outback.

Over the next 60 years camels and their Afghan drivers became a feature on the rough bush tracks that criss-crossed the dry country. In those days before motor vehicles, trains and aeroplanes they carted most of the supplies needed by far flung towns, cattle stations and mining camps. The padding in the camels' saddles included Buffel Grass from the Afghans' native land.

As the saddles wore out or were torn, some grass inevitably spilled. Rain falling on the red sands of the outback germinated the Buffel seeds.

The Buffel Grass that grew proved capable of surviving the severe droughts that are a feature of the Australian climate. When the rains came again, they responded quickly with a flush of fresh, green growth.

Cattlemen could see the value of this hardy, long-lived grass and sowed the seeds on their grazing lands. Today it is widespread in the pastoral country of northern Australia.



Buffel Grass is a native of East Africa, Arabia, Pakistan and India.

A famous soldier lends a helping hand

The General in charge of the ANZAC troops at Gallipoli was an Englishman who earned the respect of the soldiers under his command. After the 1914-1918 war ended, he returned to India, where he had been born, to command the British armies there.

When the West Australian Department of Agriculture decided to experiment with Buffel Grass on the cattle pastures of the north, it was the General who organised seed for them from Afghanistan.

Work out the following puzzle to reveal his name.

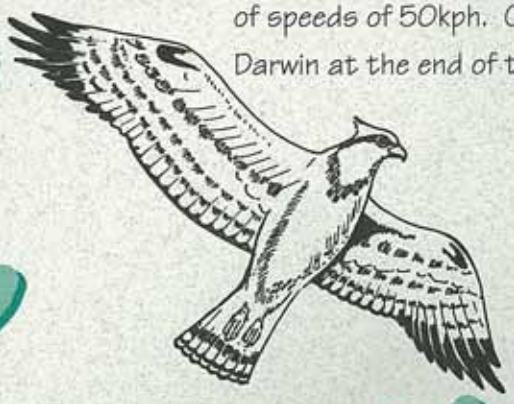
Buffel Grass... Friend or Foe?

Even though the initial introduction of Buffel Grass to Australia was accidental, it has proven very popular with Australian pastoralists. It is one of the most significant pasture grasses sown in northern Australia. It is also very important in preventing soil erosion.

However, it is an aggressive coloniser that has displaced native grasses. It has run rampant along riverbanks and floodplains. These are very important habitats in the dry country of inland Australia.

Clues

1. A distinctive tree of northern Australia.
2. Six legged arthropods.
3. Colour of a Mala's fur.
4. Smaller of the two moons of Mars.
5. A large, squat burrowing marsupial from south eastern Australia.
6. A large fishing hawk with white underparts but brown wings.
7. Scientific name for the Platypus.
8. An insect with four wings capable of speeds of 50kph. Common in Darwin at the end of the wet.



On The Brink

The Purple-crowned Fairy-wren

Ludwig Leichhardt (1813-1848) left his native Prussia to escape service in the German army. Only two years after arriving in Australia in 1842, he led one of the great journeys of Australian exploration.

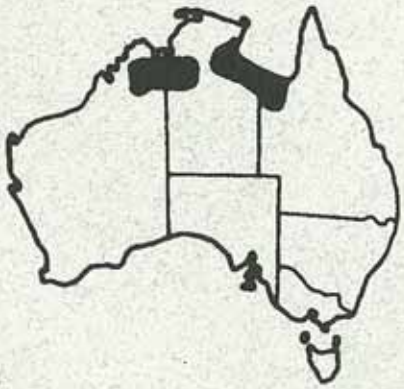
Leichhardt's party travelled overland from Brisbane to the Gulf of Carpentaria. From there they crossed Arnhem Land to Port Essington, on Cobourg Peninsula, where a settlement had been established in 1838. Leichhardt's party included ornithologist John Gilbert.

As they travelled through the Gulf country, they crossed a number of rivers and creeks lined with Pandanus trees and tall canegrass. In this vegetation, within 10 metres of the water's edge, lived a beautiful little Fairy-wren with unusual lilac colouring on its head.

Colour in the Purple-crowned Fairy-wren

Use this number code to colour this small, male.

1 = lilac (pinkish violet)
2 = black
3 = white
4 = creamy fawn
5 = brown
6 = blue

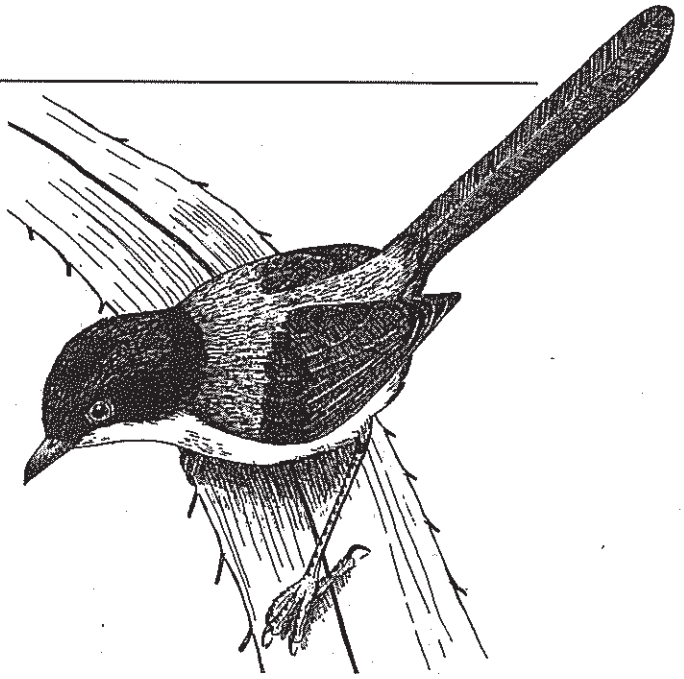


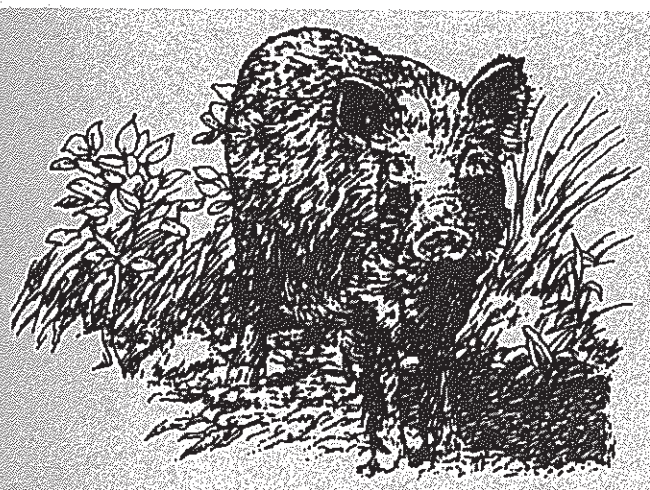
The birds never ventured far from the Pandanus trees along the water's edge. As well as providing nesting sites, these trees were important hunting grounds for the wrens. Pockets of flood debris and mud collect where the prickly Pandanus leaves branch out from the trunk. Lots of insects, worms and other small creatures live in this microhabitat and in the nearby canegrass.

A Future of Concern

The Purple-crowned Fairy-wren is no longer common along the rivers that Leichhardt's men explored. Grazing and trampling by cattle, buffalo and feral pigs have degraded the birds habitat. Animals drinking at the rivers will eat anything they find there, including the shoots and leaves sprouting from the base of the Pandanus.

The Canegrass that grows in the wet season gets eaten down to ground level in the dry, depriving the birds of shelter. While the Purple-crowned Fairy-wren is not yet on the endangered list, its future is of concern to ornithologists.



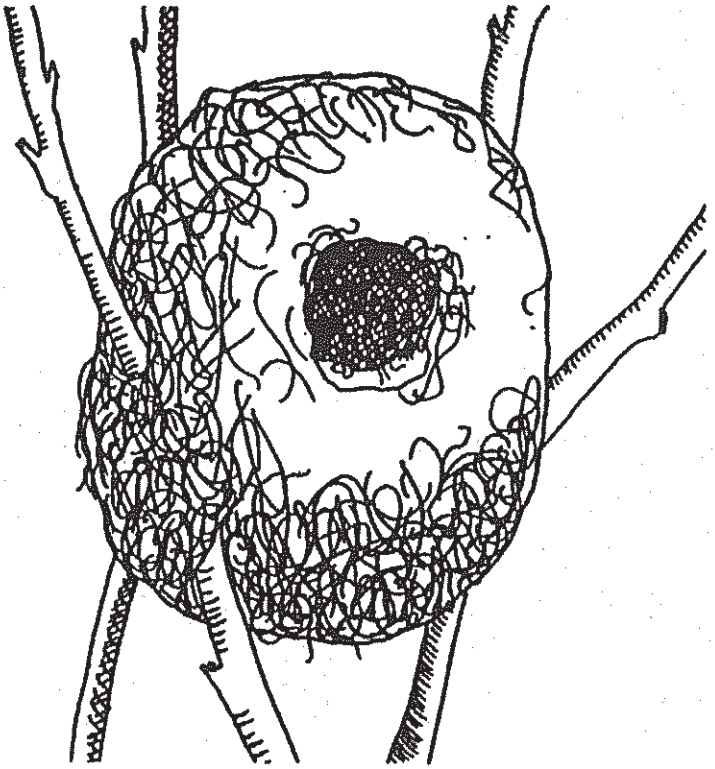


Feral Destruction

In the 1980's the national Brucellosis and Tuberculosis Eradication Campaign (BTEC) greatly reduced the numbers of feral buffalo in the Top End. But large numbers of pigs still run wild. Pigs destroy Pandanus and other riverside vegetation.

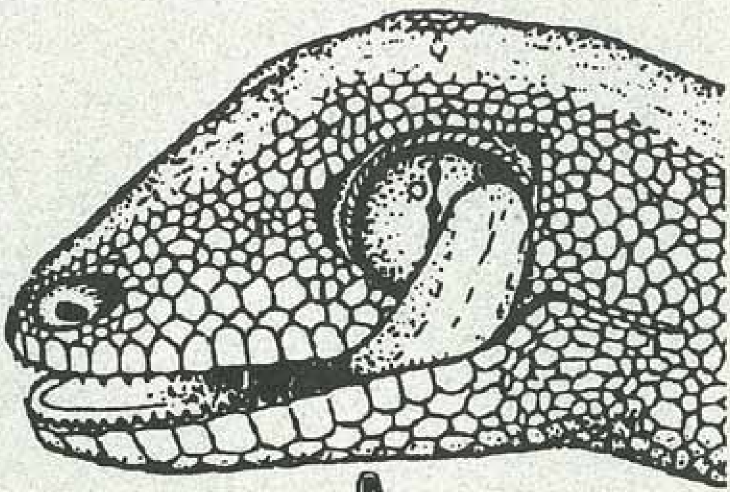
Fairy-wren Fact File

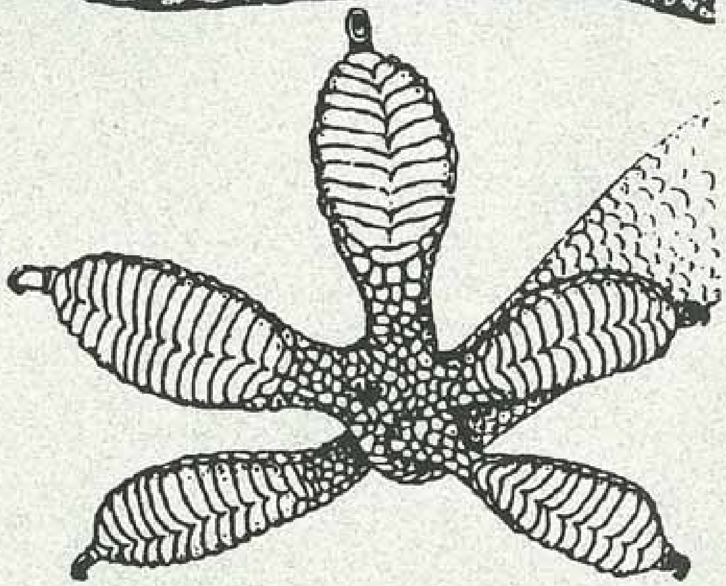
- Fairy-wrens are social, little creatures which live in family groups and keep to their own backyard.
- Males have beautiful plumage, usually with lots of blue. Females, immature birds and non-breeding males are duller and usually brown.
- The presence of several brown birds with just one male led to the belief that males have several wives. This is not the case! A family consists of a dominant male, his wife, young ones less than a year old and non-breeding adults of both sexes.
- Fairy-wrens eat insects, grubs and worms. Some also eat seeds.
- Their nests are round with a roof over the top and a side entrance.



Urban Encounters

Geckoes





Geckoes are a familiar sight in Territory homes. These amazing little creatures have no problem running up walls or across ceilings.

Australia has more than 60 different kinds of geckoes. *Hemidactylus frenatus* is the one that lives in Top End houses where its chuck-chuck-chuck call is a familiar sound. Its Centralian cousin *Gehyra purpurascens* is seen rather than heard.

Geckoes have no eyelids. They use their tongue like a windscreen wiper to clean away dust.

Geckoes stalk their prey like a cat. Their eyes can detect the slightest movement from a long way off. When a gecko spots a likely victim, it rushes to within a short distance of it, then, slowly, one foot at a time, the hunter closes in on its prey.

Finally, it lunges forward at lightning speed to grab the poor insect in its powerful jaws.

Contrary to popular belief, geckoes do not have suction pads on their feet. Instead, they have hundreds of tiny hooks, like velcro, on the soles of their feet. These grab onto microscopic cracks on the surface of walls, ceilings and windows.

Like other reptiles, geckoes have scales covering their body. However, their scales are neatly arranged edge to edge like bricks in a wall, rather than overlapping. This gives their skin a smooth feel.

A World Traveller

The Top End house gecko is not a native of northern Australia. It's a lizard that decided to see the world and stowed away on ships to get around. To find out where it started from:

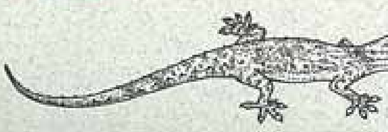
Step 1 Colour any box containing a H, J, K, Q, X or Z.

Step 2 Track through the letter maze starting from the arrow.

Step 3 String the letters together to reveal the answer.

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

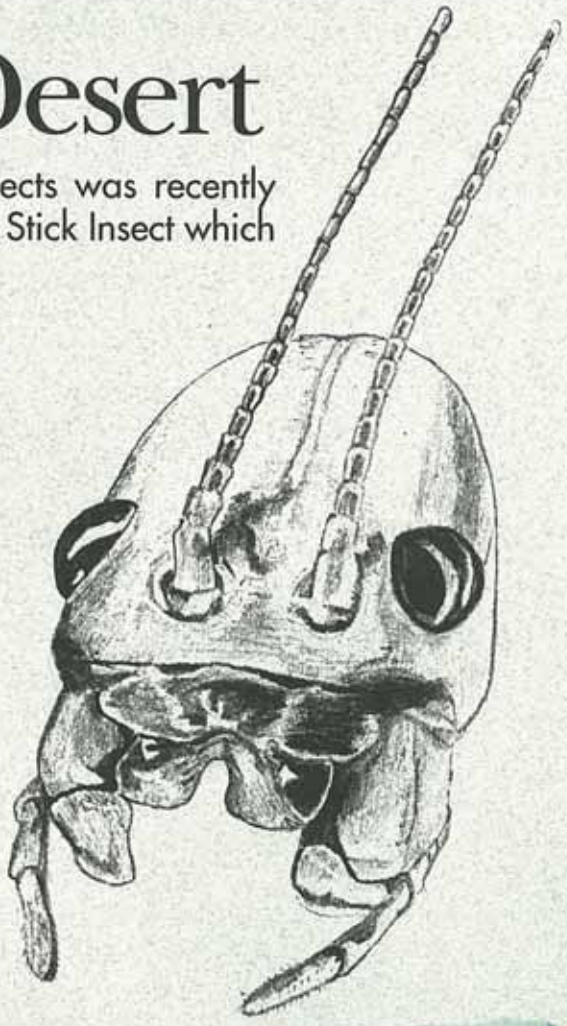
START



The Top End's house gecko has a distinctive series of small spines along the edges of its tail.

A Giant of the Desert

One of the world's longest and heaviest stick insects was recently discovered in Tennant Creek. It's the Desert Goliath Stick Insect which can grow up to 25cm long.



Stick insects are harmless plant eaters. People sometimes mistake them for praying mantis. But praying mantis are predators, most closely related to cockroaches. Grasshoppers are the stick insects nearest relative.

Stick insects are experts at camouflage. Their long, slender bodies and spindly legs make them almost impossible to detect when they are perched on a twig of the same colour. Their main enemies are birds such as Magpies, Butcherbirds and Kingfishers.

Stick insects spend extended periods on a single tree, moving only occasionally. The Desert Goliath eats Eucalypt and Wattle leaves.

The girls are larger than the blokes but don't fly. (The males fly around in search of females.) Stick insects are most active at night but you may spot one swaying on a branch in daytime. This is part of their camouflage. They want to look like sticks swaying in the breeze.

Desert Goliaths only live for about one year. Mature females lay an average of 4 eggs a day. The eggs may not hatch for two years. Some species of stick insects appear to have a shortage of males. The females can produce babies without needing to mate.

PUZZLE ANSWERS

Page 2: Lilly Filly **Page 3:** Rare Mammals 1. Red tailed Phascogale 2. Bilby 3. Golden Bandicoot 4. Bettong 5. Ghost Bat 6. Quoll 7. Mala 8. Mulgara 9. Kowari 10. Numbat 11. Tree Rat. **Page 7:** 1. Baobab 2. Insects 3. Rufous 4. Delmos 5. Wombat 6. Osprey 7. Ornithorhynchus 8. Dragon Fly. Famous Soldier: Birdwood **Page 10:** Gecko It is a native of Indonesia, Malaysia, New Guinea and a number of Pacific Islands.

Around The Traps

DARWIN

Junior Rangers spotted some terrific nocturnal fauna as part of the recent "Great Marsupial Nightstalk!" undertaken to contribute to data on marsupials for the Perth Zoo.

From snakes and frogs, to bats, stick insects and turtles, to herons and owls it wasn't until right at the end of one walk that we finally spotted one of the Top End's marsupials - a Northern Brushtail Possum!

At one of the sites a controlled burn had recently been undertaken which we believe contributed to the low numbers of marsupials seen on the night as little food and shelter was available due to the fire.

Anthea Step, one of our Junior Rangers has written a great story about her experience with fire. Read on to find out more .....

The Bush Grows Again!

Soon after the fire, the grass started growing again. It was a miracle because there was no rain yet.

Cycads which were waiting for fire to burn them got burnt and then they started growing new leaves after a few weeks. Then the Sandpalms started shooting new leaves too.

The fire burnt old grass, leaves and dead timber and logs. The grass, leaves and logs turned into ashes and became good fertiliser.

When the first rain came, the bush quickly grew green and thick. So the bush fire did do something good for plants and animals. The heat of the fire dried up the seed pods and opened them and the seeds provided food for birds.

Anthea Step, Junior Ranger

ALICE SPRINGS

We have had some great stories from some of the school children involved in the care of the new Goliath Stick Insect species. Many have been excited to find that their insects have moulted and are therefore well on their way to reaching that amazing size of 25cm! They have been keen to find out more about these species so we have included some information on stick insects inside this issue for everyone to find out a bit more about these amazing creatures!

KATHERINE

A group of adventurous Junior Rangers recently went on a historical re-enactment expedition camp-over. The expedition re-traced the footsteps of one of Australia's most famous explorers, Augustus Charles Gregory who explored the VRD region of the Northern Territory.

The Junior Rangers caught up with the expedition characters at the site of Gregory's ninth campsite. After a rough four wheel drive trip into the site, (flat tyres included) the Junior Rangers were entertained by some of the Territory's amazing bush folk that were picked for their bush skills and horse handling ability and possessed a wealth of humorous bush stories and lyrics.

The Junior Ranger Review is produced 4 times a year by the Parks and Wildlife Commission of the Northern Territory. This edition was written by Stuart Traynor and design and layout are by Big Picture Graphic Art. The cover was designed by Robbie Henderson. Illustrations in this edition are by Bob Whiteford, Christine Bruderlin, Adi Dunlop, Robbie Henderson, Adrian Salter and Emily Ward.

Contributions are welcome and should be sent to:

The Editor, Junior Ranger Review
PO Box 496
Palmerston NT 0831

G'day from Ranger Bill

We have a great story from one of our Junior Rangers on a very topical issue for the Top End: fire. Fires have been burning the bush in the Top End for tens of thousands of years. They are a common sight in the Dry Season where 50% or more of the savanna vegetation is usually burnt.

Having a range of patches of vegetation representing a variety of fire intensities, timing and frequencies is the best for maintaining overall plant diversity. This mosaic of vegetation will therefore contribute to a diversity of habitats.

Most land managers light fires during the early Dry Season when the ground vegetation is still moist. This controlled burning is done to reduce the fuel available to restrict the spread of higher intensity fires, which may occur later in the year.

Fires lit during the Wet Season help to burn off spear grass before it has the opportunity to build up in fuel load and potentially create higher intensity fires. It also helps to destroy any spear grass seed, which buries itself in the ground and is protected from Dry Season fires.

Unfortunately many fires are deliberately lit that can cause damage to property and parks and endanger human lives. The majority of people living in the Darwin hinterland live in a Fire Protection Zone and require Permits to light fires. At any time of the year it is important to check your local fire restrictions before burning off or using machinery which could potentially cause wildfires.

Fire is very much a part of the Top End environment and our challenge is to gain a better understanding of it and to manage it wisely.

Ranger Bill
Assistant Director Park Operations