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PARKS AND WILDLIFE COMMISSION NORTHERN TERRITORY

Junior Ranger Review

ISSUE 3, 2002

On the Brink

A rare palm *Ptychosperma bleeseri*

Creature Feature

Central Pebble-mound Mouse

Plant Profile

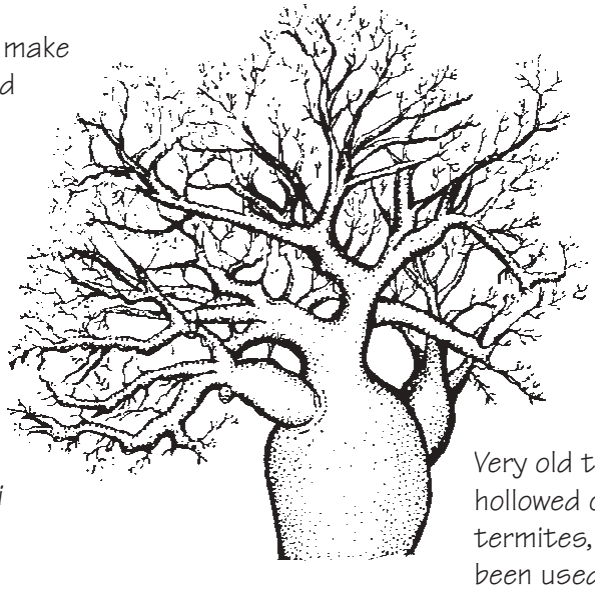
Baobab, *Adansonia gregorii*

The Baobab (or Boab) is one of Australia's most distinctive trees. Their amazing swollen trunks are a common sight in Gregory National Park, southwest of Katherine.

Spectacular scenery and numerous permanent waterholes make Gregory National Park an exciting place to visit. It is named after **Augustus Charles Gregory** who explored this region in 1855 and 1856.

The aim of his expedition was to trace the Victoria River inland to its source. There was speculation that it might be a very long river, like the Mississippi or the Amazon, and lead to a vast inland sea in the centre of the continent.

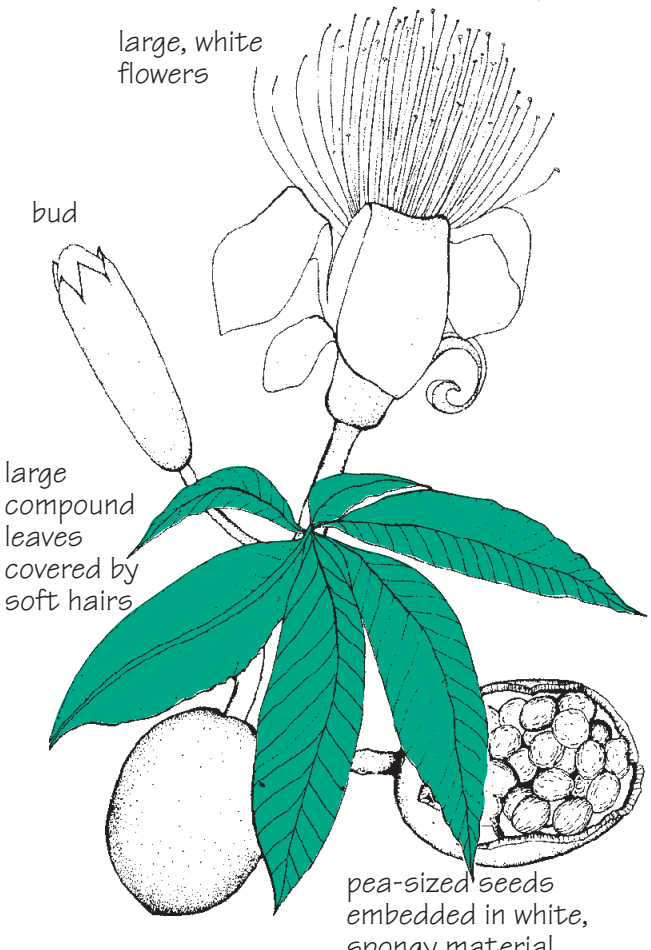
The North Australian Exploring Expedition included the botanist **Dr Ferdinand von Mueller**. Dr von Mueller named the Boabs of the Victoria River district *Adansonia gregorii* in honour of Gregory.



Very old trees, hollowed out by termites, have been used as houses and jails.

Boabs are large trees of open plains and rocky ridges. At the base of the branches are peculiar depressions. Aboriginal people drink the water that collects here during the wet season.

The trees lose all their leaves in the dry season but produce a new lot just before the wet.



The Boabs of Africa

Adansonia digitata is a common tree of eastern Africa and Madagascar, where they live for an amazing length of time. Some are believed to be over 5 000 years old.

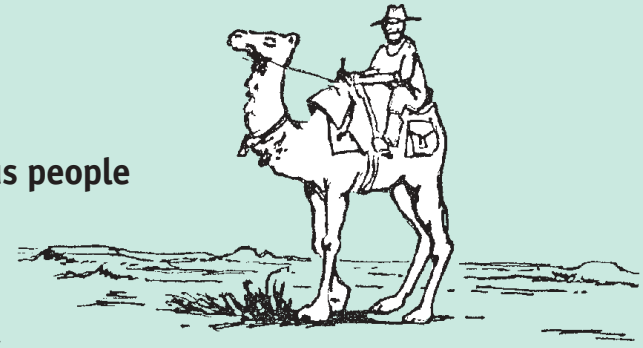
In times of drought, they are often the only trees that survive. This is because the light, fleshy wood has lots of hollow chambers which can store thousands of litres of water.

The Africans make a refreshing, acid drink from the fruit, and the seeds are almost overflowing with medicinal oil. No wonder the trees were worshipped!

Boabs flower in October. The large white flowers have 5 fleshy petals and many long stamens. They ferment and smell like rotten meat if bruised.

The large fruits are very hairy when they first develop. Inside are many seeds, the size of peas, embedded in white, spongy material. Aboriginal people eat all of this.

Territory Explorers



Can you complete the names of these 9 famous people to reveal a message about Boab trees?

Matthew Fl _ _ _ _ _ _

Ernest Gi _ _ _

John Mc_ _ _ _ _ _

Ludwig Le _ _ _ _ _ _ _ _

George Go _ _ _ _

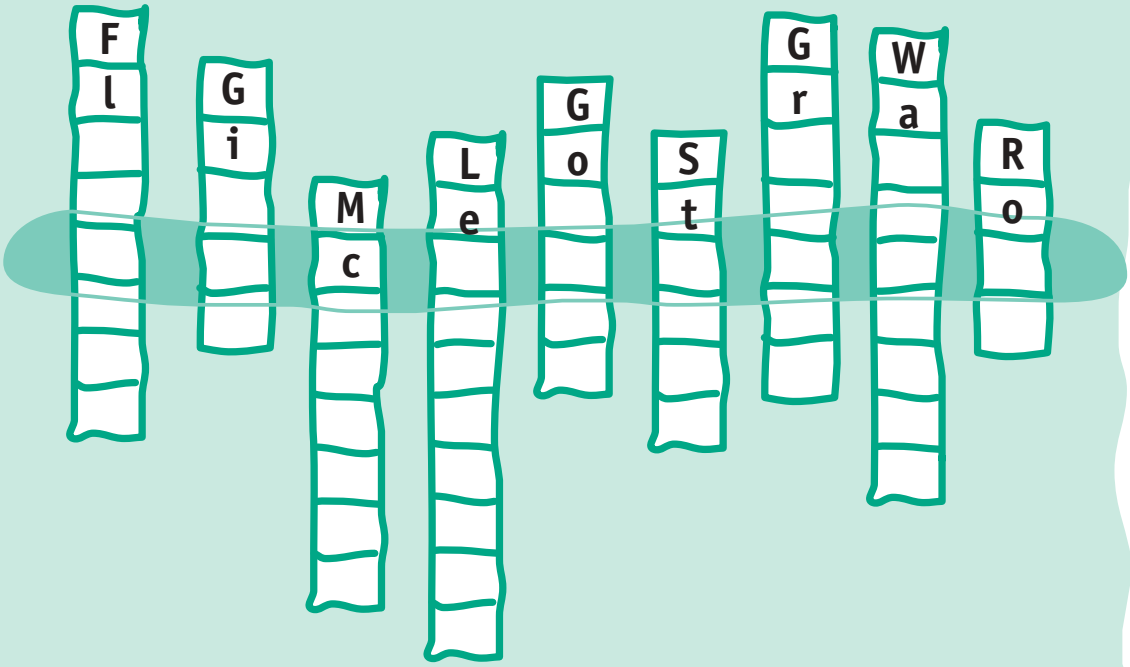
John McDouall St _ _ _ _

Augustus Charles Gr _ _ _ _ _

Peter Egerton Wa _ _ _ _ _ _ _

John Ro _ _

Boab Trees are



What's my name?

Can you unjumble the common names of two more edible plants from the Victoria River district?

d r e h u b s p l e a p

It grows with eucalypt trees and produces red fruit late in the dry season. Its scientific name is *Syzygium suborbiculare.*

n e g e r l u m p

It belongs to the same family as the Mango. Its scientific name is *Buchanania obovata.*

Black Rats: Furry, Four-legged Settlers

The tail is longer than the body.

Most Australians give Captain James Cook the credit for discovering Australia. However, he and his crew weren't the first European visitors to our shores.

In 1606, a very small Dutch ship called the ***Duyfken*** set sail from Indonesia. (*Duyfken* means *little dove*.) It travelled along the south coast of New Guinea and crossed the Torres Strait to northern Australia, without the captain realising this. He then sailed the boat down the west coast of Cape York into the Gulf of Carpentaria, believing he was still in New Guinea.

Distibution of the Black Rat *Rattus rattus*

The *Duyfken*'s captain, **Willem Janszoon**, and his twenty crew should be called the 'discoverers of Australia.'

182 years later, the British sent convicts to settle the country. The eleven ships that landed in January 1788 also carried European rats and mice. These creatures disembarked with the convicts and set up home in Australia. Wherever the people went, they tagged along.

The **Black Rat** *Rattus rattus* is a sleek animal with a very long tail and big, thin ears. Its name is a misnomer because truly black individuals are rare. Most of them are grey-brown in colour.

This rat has made a success of life in its new land and is now found in all the major coastal towns and cities, as well as farms and forests. It is a good climber, often setting up home in the roofs of houses and warehouses.

Bubonic Plague

Black Rats have a bad reputations as a pest and disease carrier. In the Middle Ages, millions of people were killed in Europe during outbreaks of bubonic plague.

In 1349, for example, the plague struck England, wiping out one third of the population. It struck again in 1665.

Symptoms included a high fever, difficulty breathing and large swellings, called buboes, in the armpits, neck and groin.

Bubonic plague was also called the ***black death*** because the victim's skin would turn a deep purple in their last hours.

Decode the following puzzle to reveal the role that rats played in outbreaks of the plague.

16 5 15 16 12 5 | 3 1 21 7 8 20 | 20 8 5

4 9 19 5 1 19 5 | 6 18 15 13

9 14 6 5 3 20 5 4 | 6 12 5 1 19

3 1 18 18 9 5 4 | 2 25 | 18 1 20 19

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	

Did you know...

Rats and mice are rodents. The word means 'gnawer'.

A rodent has one large pair of incisor teeth in its top jaw and another pair in the bottom jaw. These tough teeth continue to grow throughout the animal's lifetime.

More than half of all the world's mammals are rodents.

The Black Rat originated in the Middle East. It travelled to Europe in the thirteenth century with the Crusaders when they returned home.

Female rats can produce 6 litters a year. Pregnancy lasts only 21 or 22 days.

Can you find these 25 rat words?
Remember, they may run in any direction. Up, down, backwards, diagonally etc.

CITY
DISEASE
EAR
EAT
FUR
GNAW
INCISOR
MELOMYS
NOCTURNAL
PAW
PLAGUE
PSEUDOMYS
ROCK RAT
RODENT
SCAT
SEWER
SHIP
SLEEP
SLUM
TAIL
TEATS
TEETH
TRAP
TREE RAT
WATER RAT

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

Nice Aussie rats

Did you know that Australia has more than 20 species of native rats. The bad habits of the imported rats have given our local ones a bad name. Most Aussie rats are appealing, gentle creatures that never enter people's homes.

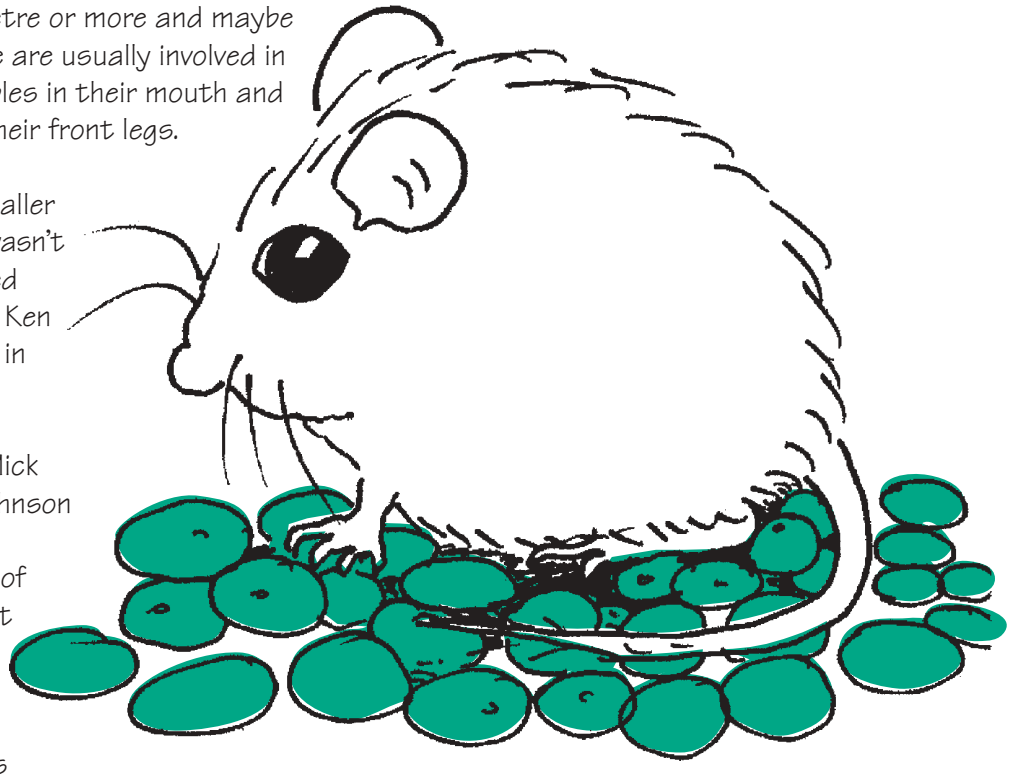
The **Pale Field-rat** *Rattus tunneyi* lives in grassland near creeks along the coast of northern Australia. It is a plump creature with attractive yellow-brown fur, bulging eyes and a tail that is shorter than its body.

Distibution of the Pale Field-rat *Rattus tunneyi*

Central Pebble-mound Mouse

Piles of small stones, in the Davenport and Murchison Ranges southeast of Tennant Creek, mark the homes of the rare Central Pebble-mound Mouse.

A mound often covers a square metre or more and maybe a foot or so high. A number of mice are usually involved in its construction, carrying the pebbles in their mouth and shuffling them into position with their front legs.



This amazing creature, which is smaller than the introduced House Mouse, wasn't discovered until 1983. It was named *Pseudomys johnsoni* in honour of Dr Ken Johnson, head of Wildlife Research in Central Australia for many years.

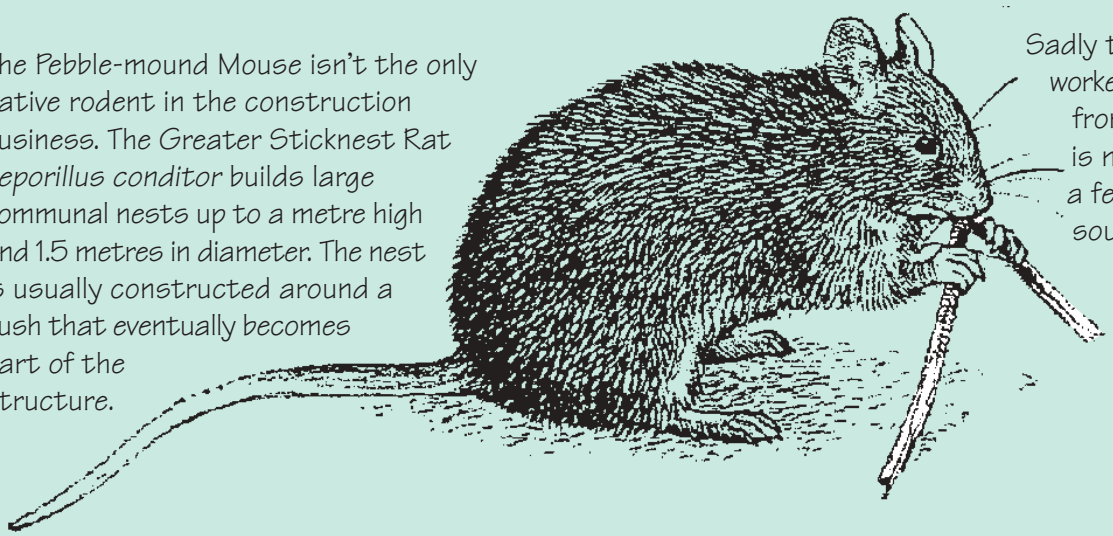
One of the mice was collected by Mick Hewett who was working with Dr Johnson and other researchers conducting surveys of the plants and animals of the region. They believed that it might be a new species. This was later confirmed by the WA Museum.

The Pebble-mound Mouse makes its home on stony ridges, slopes and plains. The country is quite harsh, with spinifex grass and grevilleas being the main vegetation.

A number of these mice nest together. Scientists are not sure why but it may be a way of increasing burrow humidity in their dry environment.

Another Rare Builder

The Pebble-mound Mouse isn't the only native rodent in the construction business. The Greater Sticknest Rat *Leporillus conditor* builds large communal nests up to a metre high and 1.5 metres in diameter. The nest is usually constructed around a bush that eventually becomes part of the structure.



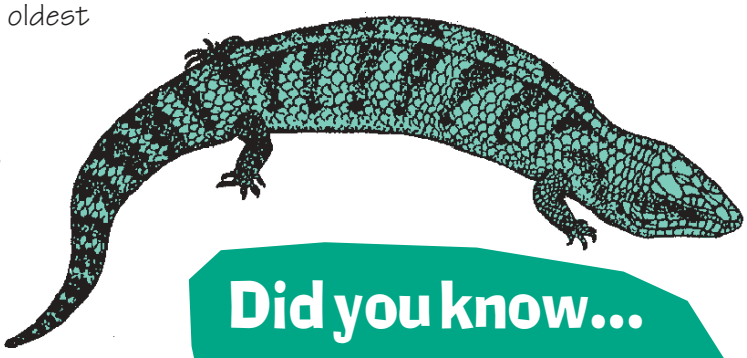
Sadly this diligent little worker has disappeared from the Territory. It is now restricted to a few islands off the southern coast.

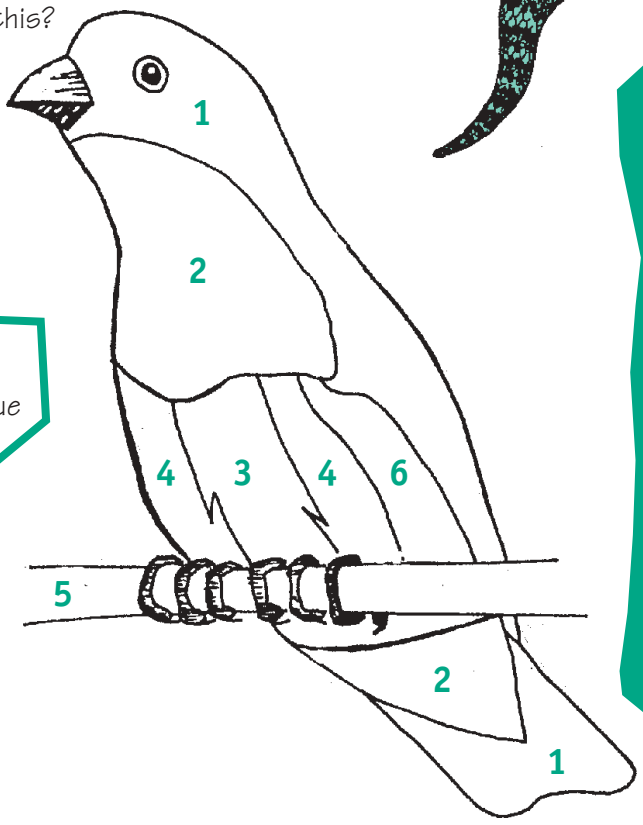
Nature Quiz

How many of these questions can you answer?
You'll find the answers on page 11 but don't peek!

1. What kind of animal is a Spangled Grunter?
2. Wattle Day is celebrated each year on
   a) 1 August.
   b) 1 September.
   c) 1 October.
3. Witchetty Bush *Acacia kempeana* is named in honour of A.H Kempe who came to Central Australia in 1877. Kempe was a
   a) pioneering cattleman.
   b) an explorer.
   c) a missionary.
4. Which Australian frog did Joseph Banks collect during his voyage with Captain Cook in 1770 and take back to England?
5. Which Australian bird occurs on the wrappers of Arnott's biscuits?
6. How high is Uluru?
   a) 148 metres
   b) 348 metres
   c) 548 metres

7. Which NT mammal holds the world record for the shortest pregnancy?
   a) Fawn Antechinus
   b) Spinifex Hopping-mouse
   c) Northern Brown Bandicoot
8. Fossils of a creature called *Arandaspis prionotolepsis* were discovered near Alice Springs in 1959. It lived 480 million years ago and is one of the world's oldest
   a) dinosaurs.
   b) fish.
   c) birds.
9. How many eggs does a Blue-tongue Lizard lay?
10. What bird is this?





Colour me

1 = very dark blue
2 = red
3 = black
4 = white
5 = brown
6 = grey

Did you know...

Insects have as many as 4 000 individual muscles. Humans have less than 500.

The bacteria that causes bubonic plague also kills the flea that carries it.

Soldier termites can't feed themselves. The workers have to feed them.

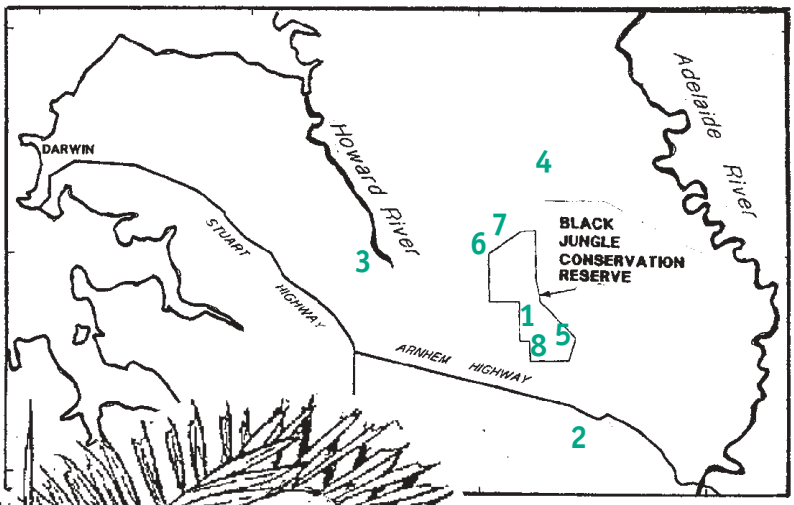
Unlike most insects, female earwigs watch over their eggs until they hatch and then protect the young babies.

A Rare Palm

***Ptychosperma bleeseri* is a slender palm which grows in a few patches of rainforest east of Darwin. Fires and feral animals pose a serious threat to its survival.**

Ptychosperma bleeseri is named after a former postmaster of Darwin, F.A.K Bleeser. He was a keen plant collector who sent a sample of the palm to the Berlin Herbarium in 1925 to be identified. He found it growing on Koolpinyah Station.

Today the palm only survives in 8 patches of rainforest on the floodplains between the Howard and Adelaide rivers.



Ferals and fire threaten the palms.

The palms are in danger because feral animals, weeds and wildfires have invaded and degraded their rainforest habitat.

Buffalo numbers have been reduced significantly in the last 20 years but feral pigs are still a problem. They churn up the soil, trample vegetation and eat young plants.

Weeds and wildfires also pose problems for the palms. The spread of grasses and other weeds into the rainforest increases the chance of destructive bushfires sweeping through in the dry season.

Protecting the Palms

Ptychosperma bleeseri is now protected under the *Territory Parks and Wildlife Conservation Act of 2000*. It is against the law to damage the palms or remove them from their natural habitat.

Management plans have been put in place to control feral animals, weeds and fires in the Black Jungle Conservation Reserve and other parts of the Adelaide River floodplains.

Steps have also been taken to make sure farming and other developments don't interfere with the flow of groundwater from natural springs and creeks to the rainforests.

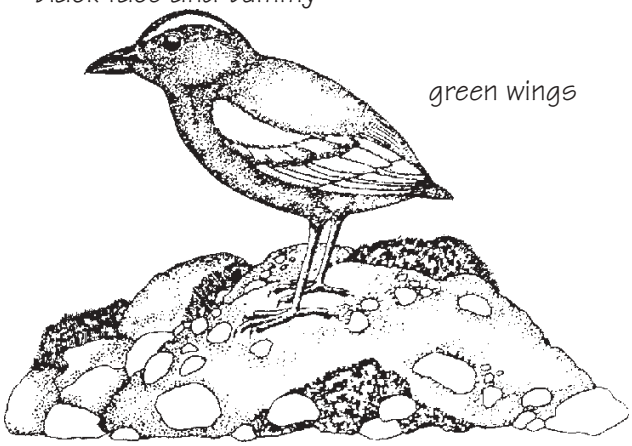
A Humid Haven

A rainforest's dense canopy of leaves shades the forest floor like an umbrella. A number of animals enjoy this humid haven.

Can you decode the names of these birds of the rainforest? Replace each letter with the one that comes before it in the alphabet.

black face and tummy

green wings

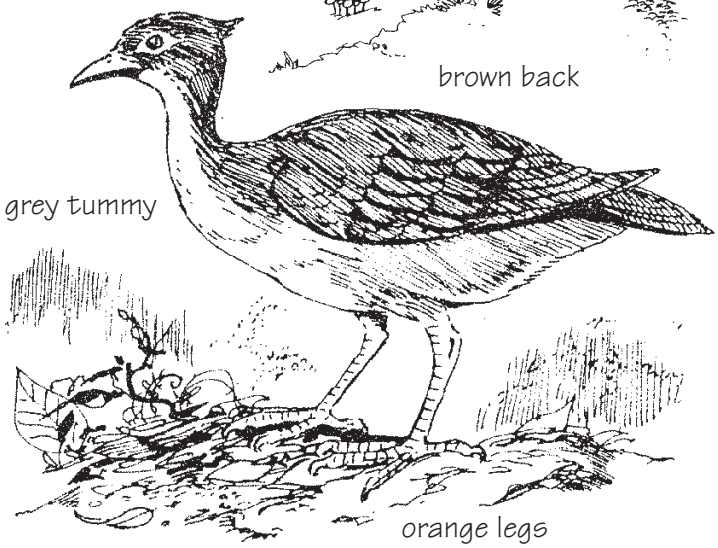


S b j o c p x

Q j u u b

brown back

grey tummy



orange legs

P s b o h f – g p p u f e

T d s v c g p x m

What's my name?

I am pure white, except for the ends of my wings and tail. I spend part of the year in New Guinea, fly to northern Australia in August and stay until March.

I lay an egg soon after I arrive here. My husband take turns sitting on the egg and feeding the baby once it hatches.

We like to eat palm fruits, especially the red ones on the Carpentaria Palm *Carpentaria acuminata*.

Q j f e

J n q f s j b m-

q j h f p o

Turn your watch into a compass

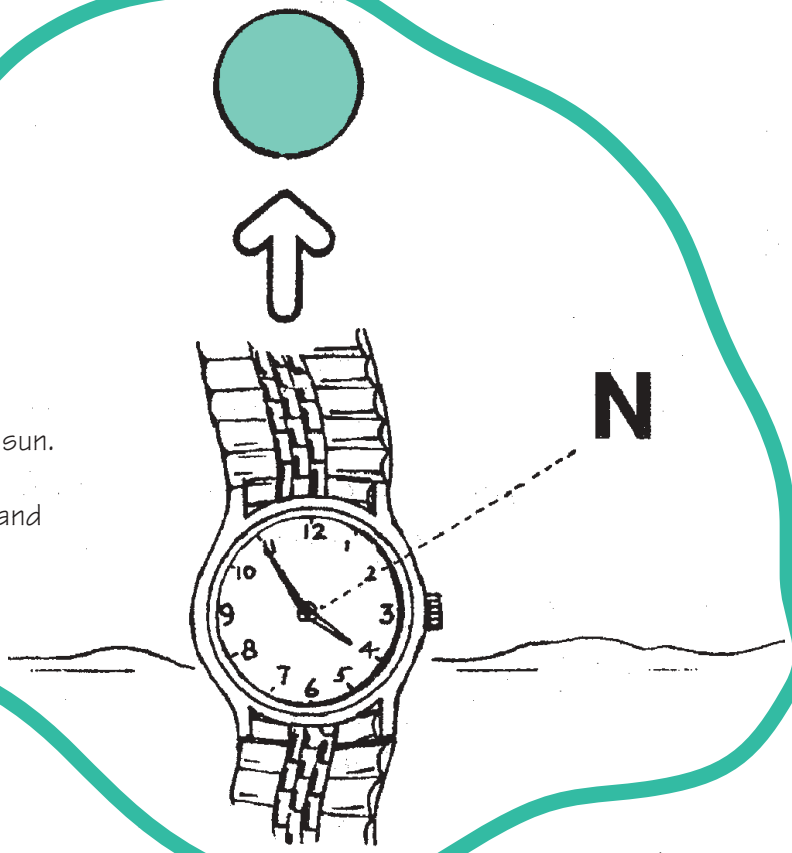
You can use a watch (with hour hands) to tell you which direction is north. If you've only got a digital watch, simply draw a clock face on a piece of paper, add the hands showing the correct time, and you're in business.

Most Australians live south of the Tropic of Capricorn. You drive across this imaginary line on the Stuart Highway 25 kilometres north of Alice Springs.

When you're south of the Tropic of Capricorn, the sun is always in the northern half of the sky in the middle of the day.

TO FIND NORTH WHEN YOU'RE SOUTH OF THE SUN

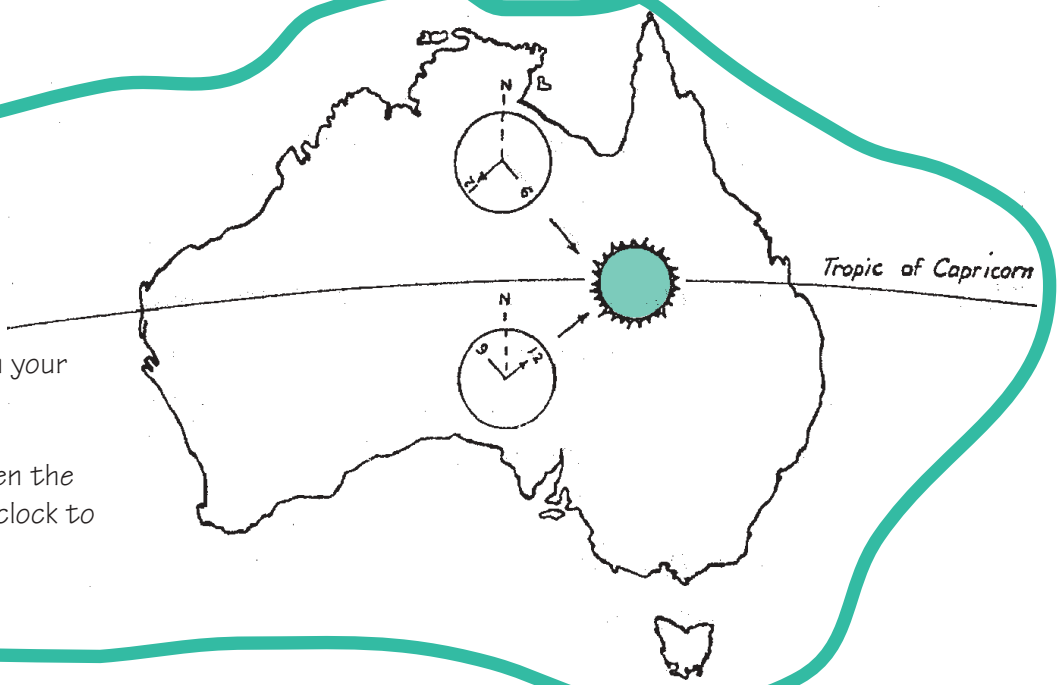
1. Point the **12 o'clock** on your watch at the sun.
2. Bisect the angle between the hour hand and the 12 o'clock to give you **NORTH**.

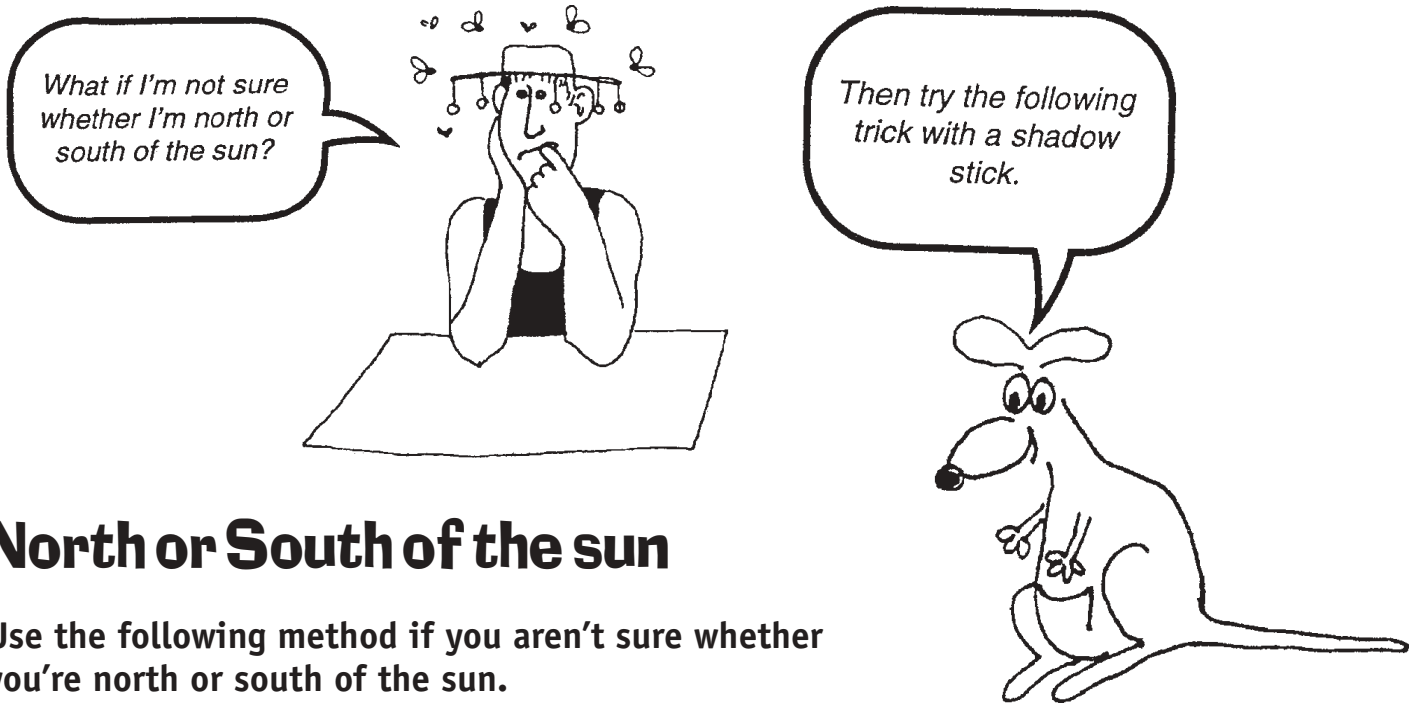


But if you're in the tropics in the wet season (October-May). You may be north of the sun. You'll then need to use a different method.

WHEN YOU'RE NORTH OF THE SUN.

1. Point the **hour hand** on your watch at the sun.
2. Bisect the angle between the hour hand and the 12 o'clock to give you **SOUTH**.

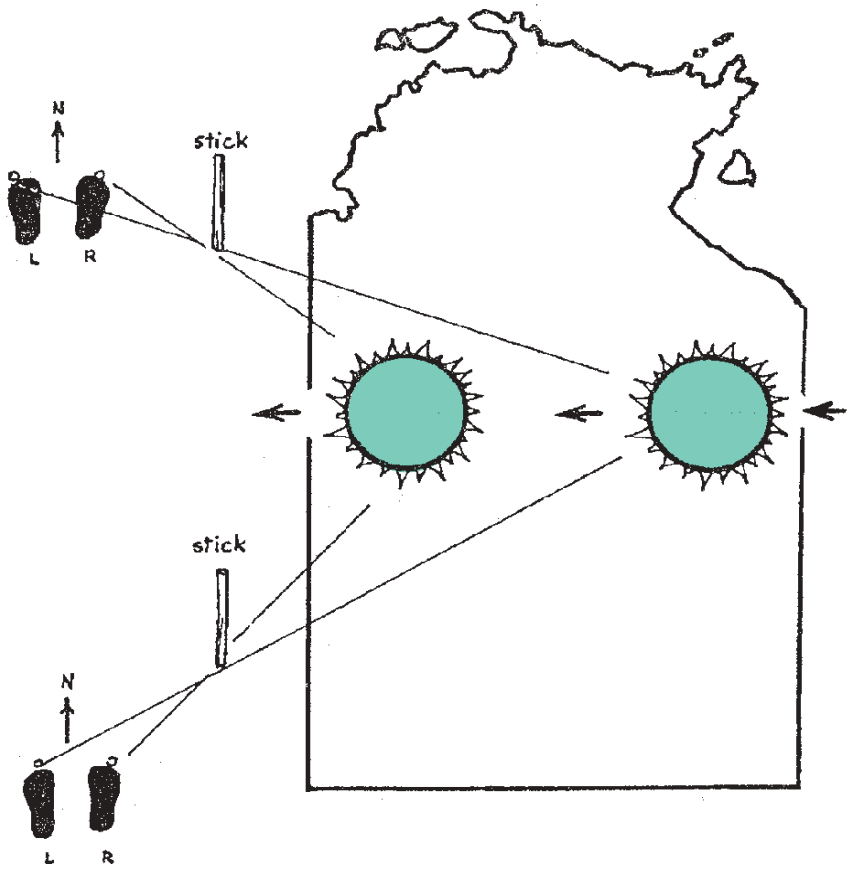




North or South of the sun

Use the following method if you aren't sure whether you're north or south of the sun.

1. Place a stick vertically in the ground.
2. Mark the end of its shadow with a small stone.
3. The shadow will change as the sun moves. After 20 minutes mark the end of the new shadow with another stone.
4. Stand with the tip of your left foot on the first stone and the tip of your right foot on the second stone.



PUZZLE ANSWERS

Plant Profile (page 3)
Flinders, Giles, McKinlay, Leichhardt, Goyder, Stuart, Gregory, Warburton, Ross.
Boab Trees are deciduous.
Red Bush Apple
Green Plum

Urban Encounters (page 4)
People caught the disease from infected fleas carried by rats.

Nature Quiz (page 7)
1. fish
2. b)
3. c)
4. Green Tree Frog
5. Rosella
6. b)
7. c)
8. b)
9. None. It is viviparous.
10. Mistletoebird

On the Brink (page 9)
Rainbow Pitta
Orange-footed Scrubfowl
Pied Imperial-Pigeon

Around the traps

G'day from Ranger Bill

Welcome to the third issue of the Junior Ranger Review for 2002. It is terrific to see so many young Territorians being involved in learning about and the protection of our natural environment through the Junior Ranger Program. But if you are not within the Junior Ranger age of 9 – 14 years there are a number of ways that you can also become involved with the Parks & Wildlife section of the Department of Infrastructure, Planning & Environment.

Parks & Wildlife has a number of active Friends Groups and a Volunteers Program, which provides a great opportunity for the community to become involved in and informed about current activities.

The Friends of George Brown Darwin Botanic Gardens meet regularly throughout the year with presentations, workshops, field trips and working bees. The Alice Springs Desert Park also has a number of volunteers who assist in the operation of the park from administration to fund raising to collecting seeds or tending to animals. Further opportunities for involvement exist through the Volunteers Program, where you can choose which area of Parks & Wildlife you would like to assist in.

If you're interested in getting involved you can contact 8999 4555 for further information.

A big thank you to all the Junior Rangers who dropped in and supported the Parks & Wildlife show displays throughout June and July, great to see you there. The displays in Alice Springs, Tennant Creek, Katherine and Darwin proved very popular once again.

Keep an eye out for the new Parks & Wildlife website that will be launched in September. Visit the "For the Kids" section and let us know what you think.

Darwin

Since our last issue, Junior Rangers have been very busy. Working activities around the mid-year holiday break wasn't easy, but we still managed to have some enjoyable sessions.

During June, the 9-11 year old Junior Rangers explored Wetland habitats. We learnt about Frogwatch and how everyone can become involved – particularly in reporting the movement of the Cane Toads north. Activities were also held in the coastal wetlands (mangroves) at Casuarina, and the freshwater wetlands at Fogg Dam. Both teeming with life.

July saw Junior Rangers learning about the roles of staff within Parks & Wildlife. Visits to the Palmerston Herbarium were popular and our guide for the day, Dale Dickson, had us enthralled. The 'mothball smelling' freezer proved a huge hit. Discovering the role of a Ranger proved popular, with the day spent designing our own National Parks. And we wrapped up the month with a visit to Window on the Wetlands Visitor Centre to discover the wide range of jobs that staff may encounter every day. The visitor centre staff would like to say a big thank you to all the Junior Rangers and parents who came along and helped mark out the Heritage path – the distance we covered was great.

The 12-14 year old Junior Rangers have been busy exploring Top End flora and fauna over the last couple of months. Visits to Holmes Jungle and Charles Darwin saw some hard trekking through the bush discovering the good and the bad of the plant world. And during August we visited Howard Springs for a night-walk, to encounter its nocturnal residents. This group is now planning toward their end-of-year camp.

Hope to see you all out on activities soon.

Ranger Vanda & Ranger Dean.

Alice Springs

Alice Springs and Tennant Creek Junior Rangers are in full swing and well into their second Coming Events Brochure for the year.

Alice Springs Junior Rangers have been involved in the 'Great Marsupial Night Stalk'. This is a great way to help scientists collect information and have a bit of fun by counting the marsupials and feral pests in your area. Junior Rangers held a spotlight walk along Trigg Hill/Cemetery Walk at the Alice Springs Telegraph Station and recorded the details of every animal they saw.

This year Junior Rangers observed the vulnerable Black-footed Rock-wallaby, and Euro, as well as feral animals like cats and rabbits. The information collected will contribute to the Threatened Species Network Rock-wallaby monitoring project.

If you would like to be involved in a 'Great Marsupial Night Stalk' in your area check out the Perth Zoo's website to get more information: .

Recently, Tennant Creek Junior Rangers visited the Kargaru Nursery. We were shown the workings of the nursery, learning how to grow local native plants, and sampled some of the hydroponic food crops being grown there.

After having a little nibble at the hydroponics, the Junior Rangers got their hands dirty potting up some tiny grasses and larger acacia seedlings, which will eventually be planted at the new Warramungu Cultural Interpretive Centre.

Central Australian Junior Rangers have heaps more exciting activities happening before the end of the year so keep your eyes on 'Around the traps' to see what we've been up to.

See you out in the bush!

Ranger Emily

Katherine

The Katherine Junior Rangers are about to complete three months of non-stop action. June, July and August were covered as one of the Jawoyn seasons, called Malapbar. Junior Rangers found out what made the Malapbar season different from the four other Jawoyn seasons. We learnt about the changes that occur to the bush environment and it's ecology during the drying out period of this season. The main seasonal plant indicator species were discussed in activities; they included the Darwin Woolly-butt tree and it's seasonal flowering period, and the Kapok tree that also flowers at the start of the Malapbar season. Junior Rangers also had their binoculars focusing on our semi-migratory birds that return after 'the Wet' finishes at the end of the Bangarrang season. Red-tailed Black Cockatoos and the return of the kites and hawks were some of the wildlife that Junior Rangers covered during bird watching activities.

More bush ecology was revealed when we found out about plant habitats and their 'middle story' growth and how it acts as a key pin support for much of our wildlife. Evolutionary adaptation was covered and Junior Rangers were lucky enough to study the survival rate of an extremely long-term survivor, a species of Cycad.

So, yes the Katherine Junior Rangers have been busy. As well as these activities the Junior Rangers helped prepare their own stall for the show and then helped to staff it.

Now we have the Katherine Flying Fox Festival Street parade to look forward to, where we will be showing off the seasonal indicators and bush tucker plants as giant flowers and fruit. Then, just before everything gets really hot during the next season of Jungalk, when our bush environment becomes very dry and the first rains occur, Junior Rangers will be busy once again finding out how the Jawoyn bush environment has five seasons, not just two.

See you all there.

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Contributions are welcome and should be sent to:

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

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