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PARKS AND WILDLIFE SERVICE NORTHERN TERRITORY

Junior Ranger Review

Issue 1 2007

On the BRINK

Central Rock-rat

PLANT profile

Black Wattle

Creature FEATURE

Pig Peril

Northern Territory Government

Creature Feature

Pig Peril

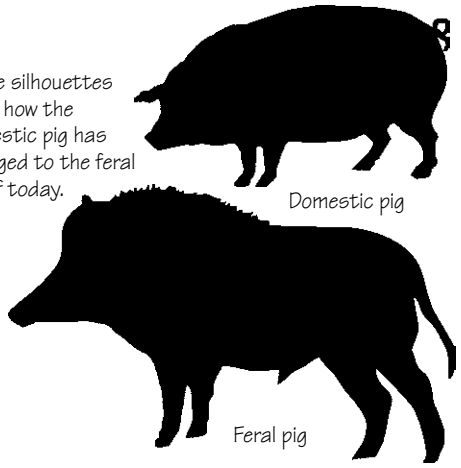
Amongst the Northern Territory's most unwanted guests are feral pigs. They are a very successful animal as they are able to survive almost anywhere, as long as there is a bit of water.

Introduced by us – they came . . .

Pigs, *sus scrofa*, were introduced to Australia as a food source by early European settlers during the 1800's. The first pigs came from Europe and Asia, after being collected on the way to Australia. These original visitors soon became wild 'feral' animals after either escaping from captivity or being deliberately released by European settlers as they spread across Australia.

Can you think of any other feral animals? Most of them were introduced by us!

These silhouettes show how the domestic pig has changed to the feral pig of today.



Domestic pig

Feral pig

G'day from Graham

Welcome to our first edition for 2007.

At the end of 2006 we farewelled Ranger Bill, so I'd like to introduce myself, Graham Phelps, Executive Director of Parks. This is my second stint with the Parks & Wildlife Service, my previous role being the manager of the Alice Springs Desert Park. I look forward to working with our team of Rangers to look after our NT National Parks and Reserves and hope that you enjoy reading the Junior Ranger Reviews as much as my family does. They are a useful reference tool in finding out a little about our plants and animals and more importantly they are a lot of fun.

I hope this is a great year for everybody and one where you discover more about our Parks and the environment of the Territory.

See you out in the Bush!

Graham

. . . they saw . . . they conquered.

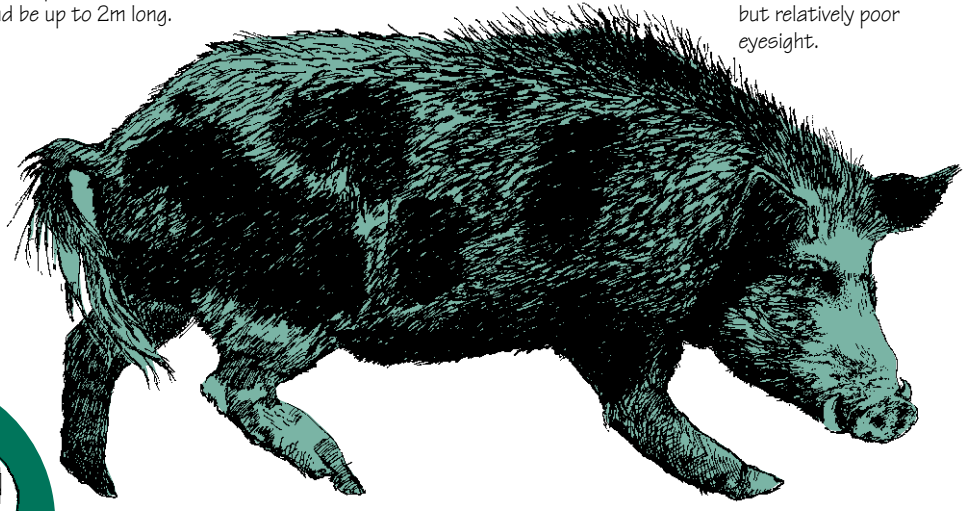
Australian feral pigs look different to domestic pigs. They have adapted to their new environment by reverting back to the appearance of the Wild Boar of Europe. Hence they now have a deeper-set brow, larger tusks and darker hairier skin (usually black, but may be blotchy black, brown and cream). They are also much bigger and stronger than their tame domestic cousins. The male 'boar' has become especially big and strong which is handy for fighting and impressing the female 'sows'.

Piggy profile

Male feral pigs can weigh up to 180kg and be up to 2m long.

When frightened, their hair stands on end forming a mane, a bit like a lion's.

They have large ears and excellent hearing but relatively poor eyesight.



They are surprisingly fast runners when it comes to avoiding danger.

Feral pigs have an amazing sense of smell and can detect edible grubs and plant root tubers up to half a metre below ground. Their nose is used for digging, smelling and fighting.

Piglets galore!

Feral pigs can multiply rapidly. Before they are one year old they can mate and can have babies (called 'litters') up to four times a year. These litters generally consist of 6 piglets, but not all survive. Even though their mums are very protective, many piglets get lost, starve or are eaten by predators such as dingoes and wild dogs. The surviving piglets stay with mum until the next group are born. The poor old males leave home at about 18 months old and spend their life alone, only joining groups to mate.

Did You Know?

Despite the diseases that feral pigs can potentially carry and pass onto livestock, many are now being shot and shipped off overseas, to places like Germany, to end up on people's dinner plates!

Persistent, pesky pigs

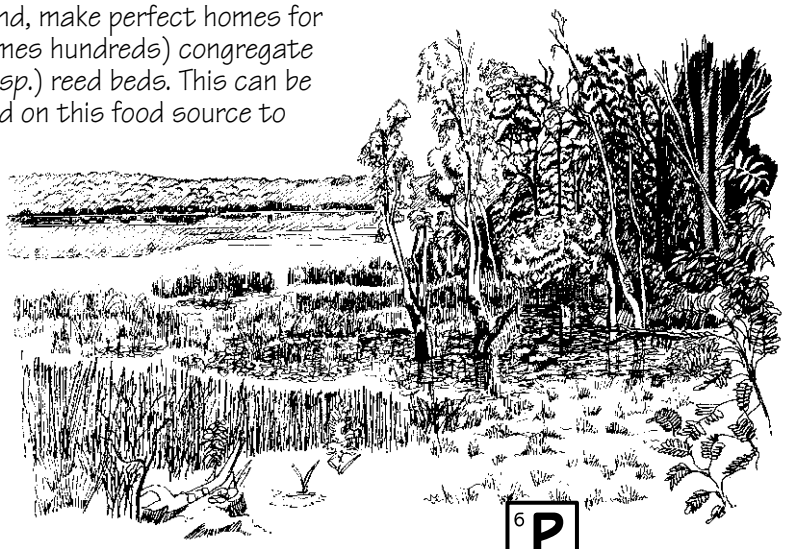
Feral pigs are most likely here to stay, for they are difficult to remove. They are very wary animals, making them hard to find in the bush. Trapping, poisoning and aerial shooting have had some success. But, a good strong fence around delicate habitats (like rainforest patches) is the best defence that Rangers in National Parks can use.

Pigs by name, pigs by nature

Wetland habitats, such as the floodplains of the Top End, make perfect homes for feral pigs. Late in the dry season large groups (sometimes hundreds) congregate to dig up vast patches of Water Chestnut (*Eleocharis sp.*) reed beds. This can be devastating to Magpie Geese populations which depend on this food source to survive.

Feral pigs delight in shallow fresh water, where they can keep cool and wallow in the mud for protection from biting insects and parasites. As the floodplains dry out the damage caused by pigs becomes much worse in the dry cracked mud around the waters edge.

Feral pigs are **omnivores**, meaning they will eat just about anything that they can find: grasses, leaves, fruits, roots and tubers, agricultural crops, insects, crayfish, frogs, snakes, the eggs of turtles and ground-nesting birds, and small young mammals. They even attack sick or injured livestock and they don't mind dining on rotting animal carcasses as well- yuck!!

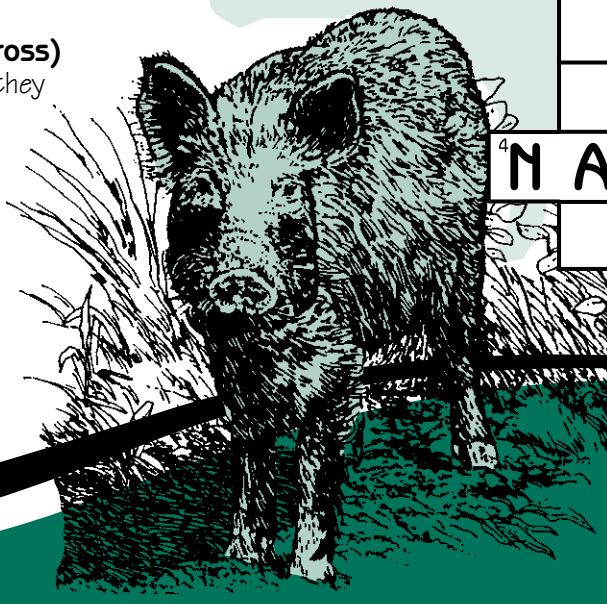


Typical Top End wetland

Piggy pests

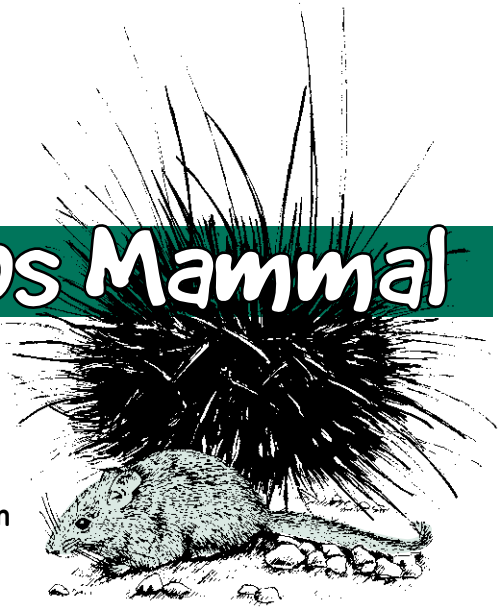
Like many feral animals, feral pigs are destructive to both the natural environment as well as to farming areas. By filling in the missing words you can work out what problems they cause.

A Feral pig's keen sense of **(5 across)** allows them to eat most things they like in a particular area, often wiping out certain **(6 down)** species. They **(2 down)** weeds, cause soil **(1 across)** through their digging and wallowing activity, and can potentially carry **(3 down)** that can harm native wildlife and domestic farm animals. They also compete directly with a lot of **(4 across)** wildlife by eating the same foods.



On the Brink

West Macs Marvellous Mammal

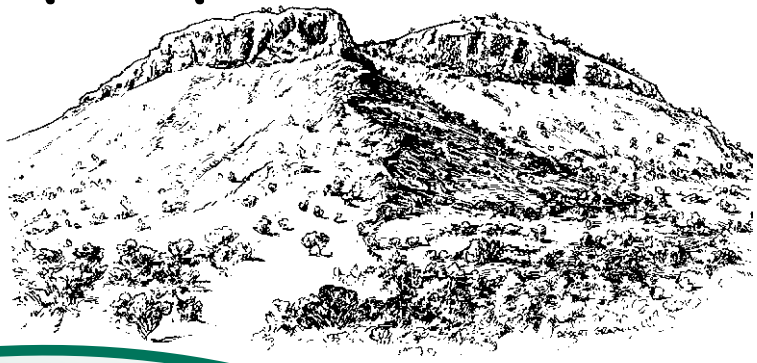


The Central Rock-rat, *Zyzomys pedunculatus*, is an extremely rare rodent! Scientists searched for the Rock-rat everywhere, and for over half a century it was even thought to be extinct. Then, in 1997, out of the blue it was rediscovered near Ormiston Gorge in the West MacDonnell National Park. For 55 years this small mammal had not been seen, then it was found, but now it looks like it has disappeared again!

our Threatened Desert Rat

The Central Rock-rat is listed as a threatened species. Their population at Ormiston Gorge is monitored so that we can learn about their lifecycle and needs. This will help us protect them into the future.

We are not really sure what threatens the Central Rock-rat but we suspect that the introduction of large grazing animals, like horses or cattle, introduced predators and changes in fire may have played a role. However, they were probably never very common.



Ormiston Gorge Area

Guide to the Rock-rat

Their fur is long, thick and sharply pointed at the tip. They are yellowish-brown on top and cream coloured underneath.

An adult rat can grow to 14cm long with a tail also 14cm long - this makes it quite a large rat.

The long thick tail has tufts of hair at the end. They store fat supplies in the base of the tail to survive on when food is harder to find.

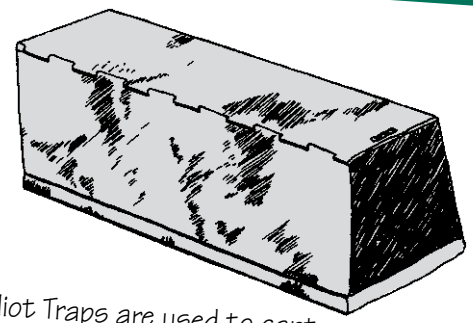
Their large black eyes are used for finding their way around at night. It also allows them to avoid predators.

They have a very 'Roman nose' profile - meaning that from side-on they seem to have a very large humped nose like Roman soldiers did!

Home amongst the Spinifex

When scientists were trying to find the rock-rat they were faced with a very difficult question - where would a Rock-rat choose to live? There was very little information about where the rat had first been caught. Scientists thought that perhaps large rocky gorges in the West MacDonnell Ranges would be the best place to start looking. Unfortunately they found no rats at all. When the rat was eventually rediscovered, it was found living half way up a mountain slope with lots of Spinifex grasses and only a few scattered large rocks. Spinifex seems to be very important for the rat - it offers protection from predators and covers the entrance to their holes.

Science Snippet



Elliot Traps are used to capture small mammals. The traps are boxes with a hinged entrance door. A ball of rolled oats and peanut butter is placed in the back of the trap to encourage the animals to enter. As the animal enters the trap it steps on a plate that closes the door behind it.

The 'Boom and Bust' cycle

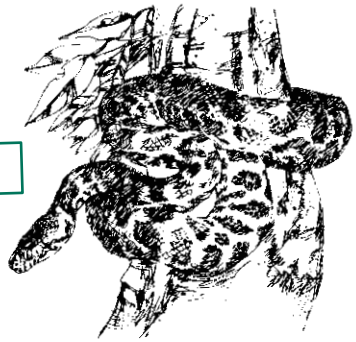
The Rock-rat feeds on the seeds of small plants and grasses. During drought these plants become more scarce and Rock-rat numbers drop dramatically. After good summer rains their numbers recover, almost to the point where they become common! Many small animals in Central Australia go through this regular 'boom and bust' cycle. This happened in the year 2000 when Rangers at Ormiston Gorge began catching them in high numbers all over the place. By 2002 the country went into a drought and the Rock-rat once again disappeared. It now hasn't been seen for the past four years! We think it is still around but in very low numbers and this makes it hard to find them. Regular Rock-rat surveys are conducted at Ormiston Gorge and hopefully the animal will appear again soon.

An occasional Meal

The Central Rock-rat may be eaten by quite a few animals that live in Central Australia. Some of these animals are introduced 'feral' animals. All the animals below would find the Central Rock-rat a tasty meal. Can you fill in the missing letters to name them? Tick the boxes to identify the ones which are feral animals.

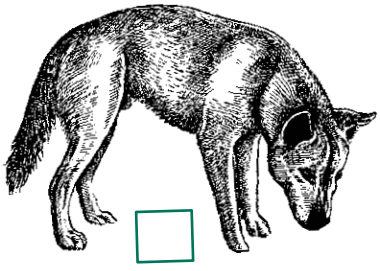
☐ F_ _

☐ W _ _ _ _-_ _ _ _ _ _ _



☐ _ a g _ _

☐ P _ _ _ _ _



☐ _ _ _ g _

☐ P _ _ _ _ _ _ _

☐ _ _ t

Urban Encounter

Intriguing ibises

What bird is glossy, white and straw-necked? None really, but each describes the common name of Australia's three Ibis species. Ibises are strange looking waterbirds that are found all over Australia. They are getting a bit of a bad rap as scavengers and nuisances, but as you'll see, they are pretty amazing birds.

Found all over

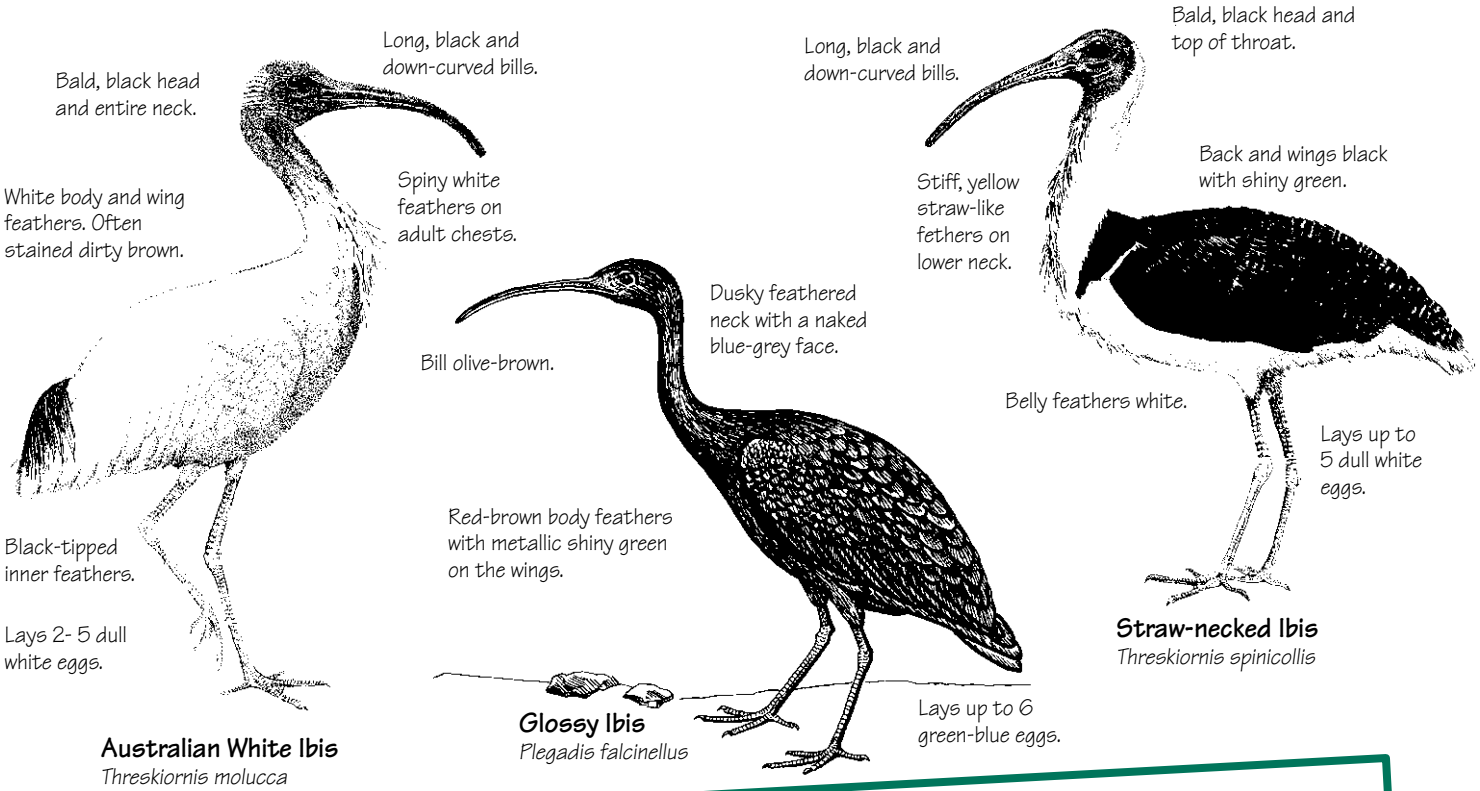
Ibises like warm places. The Australian White and Straw-necked Ibises are common and widespread in northern and eastern Australia. The Glossy Ibis is most common in northern Australia. They occur in all but the driest habitats, but simply love marshy wetlands and tidal mud flats. Many also live in urban parks and gardens and supplement their diet by feeding on rubbish. In fact there are so many that these birds are now considered a nuisance in some communities.

What's on the Menu?

Ibises obtain their food in and around shallow water, catching small fish, frogs, crustaceans, insects, and other invertebrates. They also probe for insects, crabs, and worms in mud and soil. A particular favourite are mussels, which are opened by hammering them on a hard surface to reveal the soft body inside. Sometimes, they will feed on the eggs of reptiles or other birds. Feeding in the water is done mainly using their sensitive bills to 'feel' for food.

What's the difference?

Recognise ibises yet? Check out these pictures to help you identify them.



Ibises in-flight

Ibises extend their necks forward when flying. Their wing beats alternate with periods of gliding and when flying in flocks they alternate from one form of flight to the other at about the same time. It looks like synchronised flying! Look for flocks forming distinctive V-shaped patterns.

Caring and sharing parents

Ibises build their nests on low plants like rushes and shrubs, often alongside other waterbirds. They are a simple platform of reeds, rushes and sticks, usually on top of water. Their colonies may be huge, numbering many thousands.

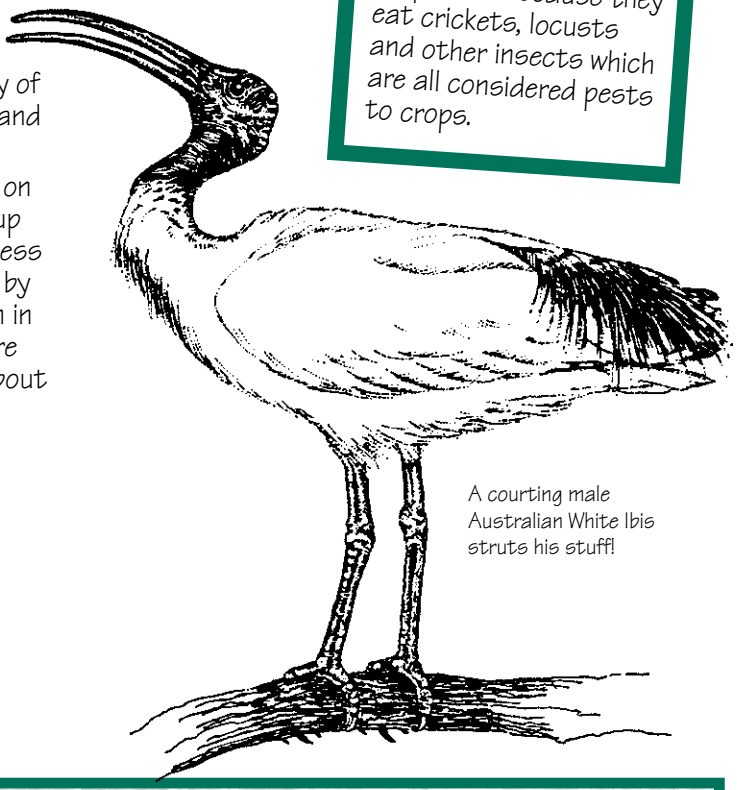
During **courtship** (like dating) males first choose a good place to advertise themselves to females, such as a branch in a tree. Here they really show off, pointing their bills in the air, bowing, and making other strange movements. They make noisy popping sounds by snapping their bills open and shut, and will sometimes pick up a twig and shake it. They are really aggressive towards other males.

When a female lands nearby, the male may give her the cold shoulder, but if he accepts her, they join together in a display of preening and bowing. After mating, the male gathers sticks and branches which he gives to the female to build their nest.

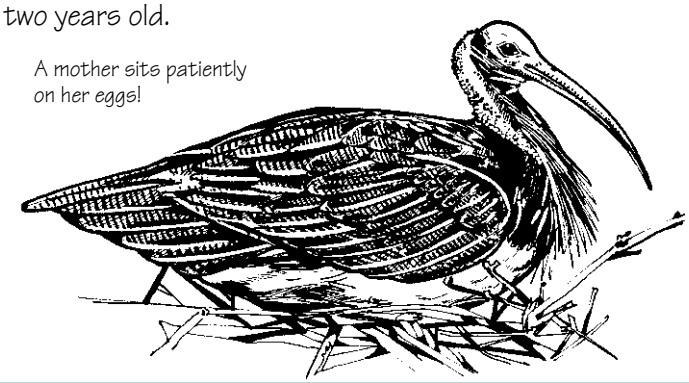
Mum lays her clutch of eggs and both will take turns sitting on them (called 'incubation') for about a month. She may have up to three clutches a year. The chicks are born naked and helpless so both parents care for and feed their noisy babies, mostly by vomiting up their catch (called 'regurgitation'). Chicks remain in the nest for up to two months while they learn to fly. They are then on their own and won't breed themselves till they are about two years old.

Did You Know?

Ibises are sometimes known as the 'Farmers friend'. They are welcomed onto farming properties because they eat crickets, locusts and other insects which are all considered pests to crops.



A courting male Australian White Ibis struts his stuff!



A mother sits patiently on her eggs!

Ancient Egypt and Ibises!!

Ancient Egyptians worshipped a god who looked like an Ibis. He was known as the god of the moon, magic and writing and like all gods he had many names. Find his most common name by using the grid to decode the clues.

	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

5■ 3▲ 5★ 5■ 3▲

This is one way that this god's name was written,

Usually, this god looks human with the head of an Ibis but sometimes he looks like a complete Ibis. These are a couple of pictures. They are symbolic, for the Egyptians did not really believe that these gods actually looked like humans with animal heads.

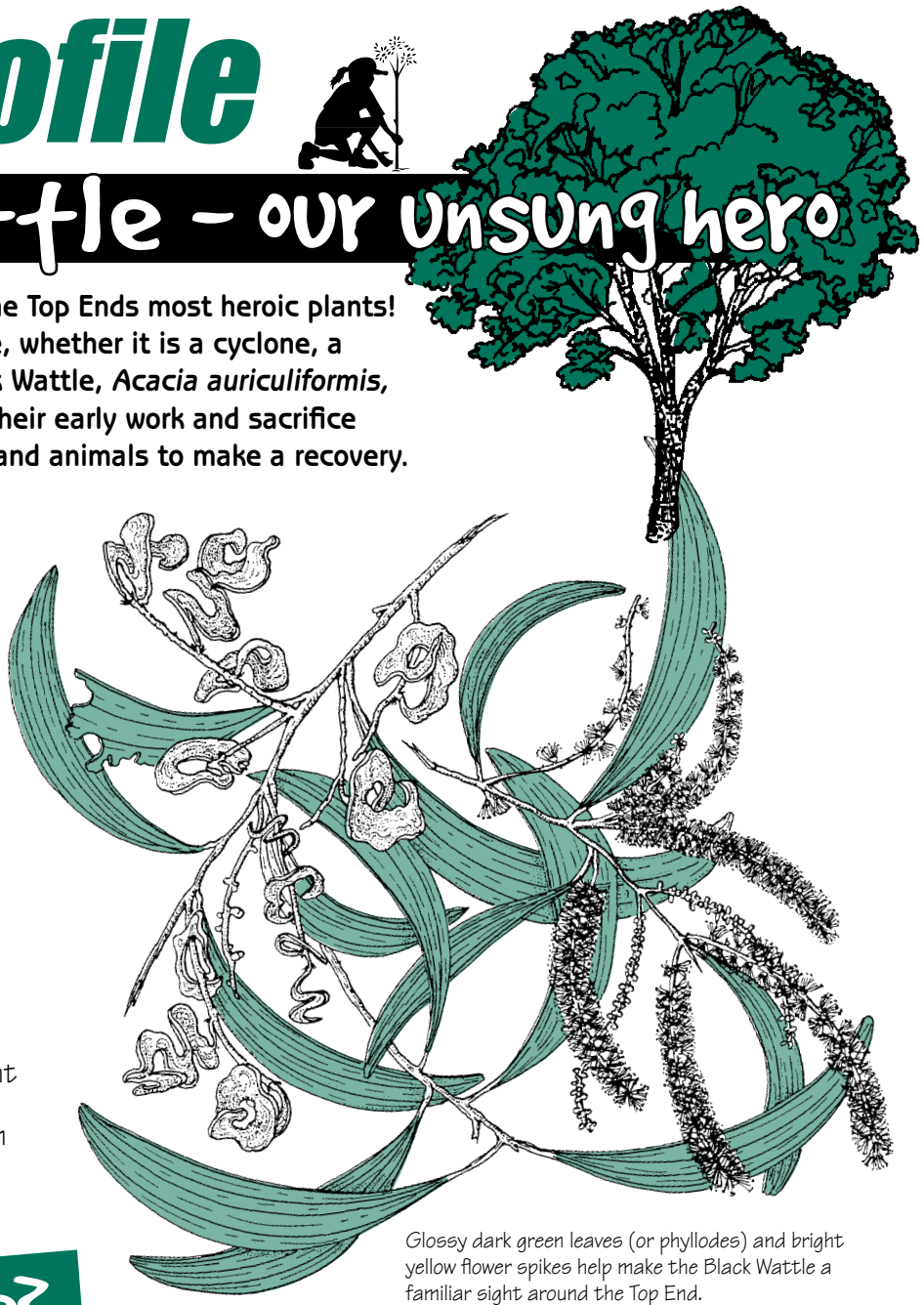
Can you spot the ibis? Use the grid to decode what Scientists call this written picture language.

3▲ 4▲ 5● 3■ 5★ 2▲ 2★ 5♦ 1■ 3▲ 4■

Plant Profile

Black Wattle – our unsung hero

It's time we sung the praises of one of the Top Ends most heroic plants! Whenever the bush suffers a catastrophe, whether it is a cyclone, a devastating fire, or a bulldozer, the Black Wattle, *Acacia auriculiformis*, is one of the first plants to come back. Their early work and sacrifice paves the way for the rest of the plants and animals to make a recovery.



Glossy dark green leaves (or phyllodes) and bright yellow flower spikes help make the Black Wattle a familiar sight around the Top End.

Pioneers of the plant world

Scientists call plants that are the first to regrow in a disturbed area, **pioneer species**. Black Wattle seeds are very tough and can survive fires, floods, droughts, and even bulldozers. They can grow in extremely degraded (even poisonous) soils. The built-in 'fertiliser factories' in their roots absorb nitrogen (an important element of fertiliser) from the air, thus improving the soil for itself and other plants.

They are extremely fast growing. They can grow up to 2 metres a year and reach a height of 30 metres. Their roots are quick to hold loose sand or soil together to protect it from erosion. They also provide shade for other shade loving trees to grow underneath them.

What's in a name?

The common name, Black Wattle refers to the rough, black bark found on big old trees. The smooth green bark on young trees gets darker and rougher as it gets older.

The species name, *auriculiformis* comes from the Latin words *auricula*, meaning 'ear', and *forma*, meaning 'shaped'. When you look at the seed pod, you can see why the trees other nickname is Earpod Wattle. Have a look for them around August to October.

The ear-shaped seed pod of the Black Wattle

Goodbye old timers

There is a price these pioneer species pay for living so fast; they die young. Black Wattles live for about 30 to 40 years. This isn't long for a big tree, but in this time they will have created conditions that will allow other species to takeover. And don't worry; they will have produced thousands of seeds that are just waiting for the next environmental disturbance.

One such disturbance occurred in Darwin on Christmas Eve, 1974 when Cyclone Tracy flattened the place. The good old Black Wattle was one of the first plants to sprout again, and they helped hold together many plant communities. People also planted them everywhere to help green up the city. But that was over 30 years ago, and now you can see many of these big old pioneers dying. Take a look around places like Holmes Jungle Nature Park and you'll see most of the really big old Black Wattles that grew after Cyclone Tracy are dead or dying and the monsoon forest species that grew up under them are now taking back over.

More uses than you can poke a Black Wattle stick at!

Aboriginal people use Black Wattle to:

- make a pain relief rub
- make axe handles, spear heads and spear throwers
- crush the seeds to use as a fish poison
- crush the pods as soap

And in the Tiwi Islands:

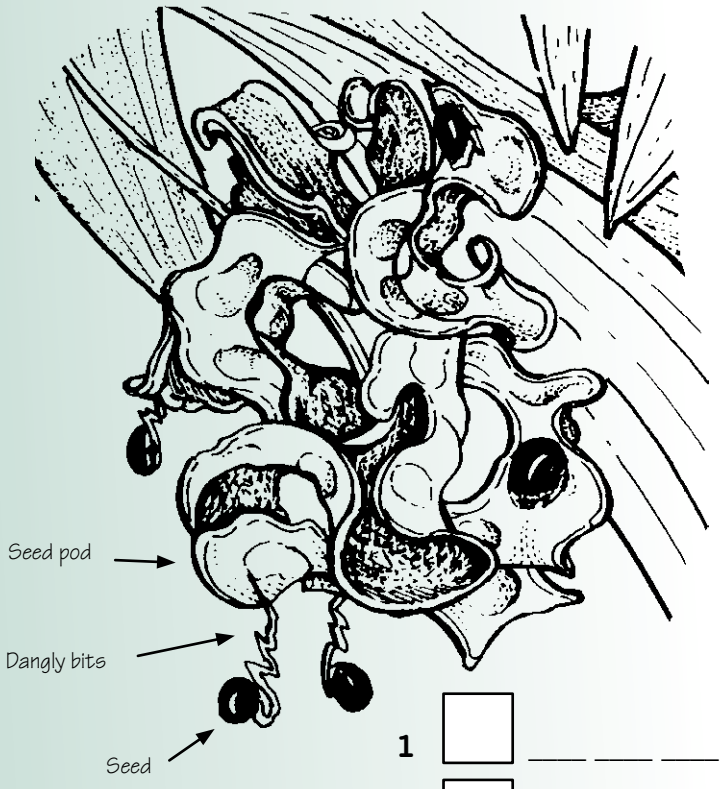
- dugout canoes are made from the trunk
- and they also use the flowering period to indicate that turtles are ready to hunt, and that the local Tern's eggs (a sea bird) are ready to collect

Black Wattles are planted in parts of Africa and the Asia - Pacific regions for:

- firewood
- fixing up degraded land
- making wood chip for paper pulp
- use as fast growing shade trees
- making farm tools and furniture

Yummy dangly bits!

Ripe Black Wattle seeds hang out of the seed pod attached by a fleshy yellowy-orange dangly bit. Birds and ants love to eat this dangly bit and in doing so spread the seed all over the country side. Complete this quiz and the name of this dangly bit will be revealed in the boxes. All of the answers have been mentioned in this article. Good luck!



1. The Latin word for shaped.
2. Holmes _ _ _ _ _ _ Nature Park.
3. The name for plants that are the first to grow in disturbed areas.
4. Crushed Black Wattle seeds can be used to poison what?
5. The name of the cyclone that destroyed Darwin on December 25, 1974.
6. The colour of bark on an old *Acacia auriculiformis*.
7. The hard timber from Black Wattles can be used to make handles for what wood cutting tool?

1 ☐ ___ ___ ___ ___

2 ___ ☐ ___ ___ ___ ___

3 P ___ ___ ☐ ___ ___ ___ ___

4 ___ ☐ ___ ___

5 ___ ___ ___ ☐ ___

6 ___ ☐ ___ ___ ___

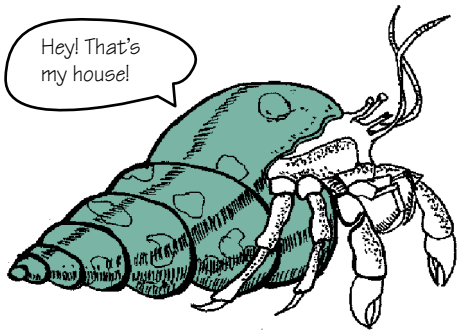
7 ___ ___ ☐

Discovering Outdoors

Shell Shocked!

Most of us who have visited a beach have at some time or other picked up a shell and been filled with wonder and amazement. Well, why not get out there and have a good look? Our Top End beaches have an astonishing variety of shells when you look a little more closely. So go on, get shell shocked!

Points to remember before you start!



- Cone shells may still have the living creature inside. They have poisonous 'harpoons' that can shoot out and actually kill people, so look, but don't touch!!
- Be extra careful of other deadly creatures, like stone fish and blue-ringed octopus, especially in rock pools.
- You can't keep shells from Parks or Reserves like Casuarina Coastal Reserve.
- In other areas, don't take every shell you find. Leave some for others!
- Hermit crabs may be living in some of these shells. Don't steal their house!
- Have fun!

Attack of the killer snails!

Snails may not sound very scary, but some of them, like the murex and sand snail are ferocious meat eaters! So imagine you are a poor little screw snail, grazing away, minding your own business. Suddenly, you see a big spiny murex bearing down on you. You try to run, but you can only travel at a, er... snails pace! You pull into your shell for protection, but now the murex is on top of you! You hear your shell sizzling as the murex pours acid on you to soften up your shell. Next is the deafening sound of something drilling into your shell. The hollow drill busts through your shell, and next thing you know, the murex is sucking you out like a mollusc slurpee! (Check the shells you find for these tell tale, 1-2 mm drill holes).

The straw-like drill that many of these killer snails use to attack and devour their victims is actually part of their mouth. Complete this puzzle and place the 6 leftover letters in the spaces provided to reveal its special name.

Abalone	Cone	Loss	Screw
Baler	Cowrie	Mitre	Some
Clam	File	Mussel	Telescope
Cockle	Helmet	Oysters	Tomb
Conch	Limpet	Scallop	Turban

What makes a shell?

The animals that make these shells are soft bodied creatures called **molluscs**. They make the shell to provide a home that protects them from predators and the elements. The shells you find on the beach have generally been washed up and will be empty. The two main types you will find are **gastropod** shells and **bivalve** shells. Gastropods are the snail-like creatures, while bivalves consist of two shells hinged together (think of a clam).

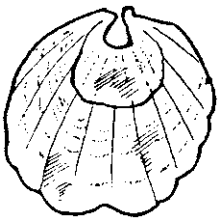
M	F	A	E	C	O	N	C	H	W
I	I	T	B	L	O	R	A	E	D
T	L	E	C	A	K	W	R	U	L
R	E	L	A	B	L	C	R	A	S
E	A	E	M	O	S	O	O	I	R
M	U	S	S	E	L	T	N	C	E
E	S	C	A	L	L	O	P	E	T
N	S	O	H	E	L	M	E	T	S
O	O	P	T	U	R	B	A	N	Y
C	L	E	L	I	M	P	E	T	O

___ ___ ___ ___ ___ ___

What to do

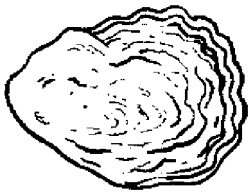
Photocopy this page to act as your field guide. An example of many of the types of shell you can expect to find are shown. The exact size and colour can vary greatly, but members of each group will have the same basic shell shape. Tick the box of those that you find. Happy hunting!

Bivalves

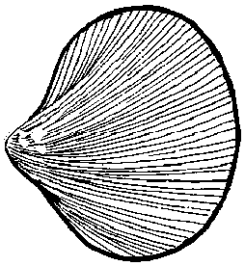


☐ Jingle shell

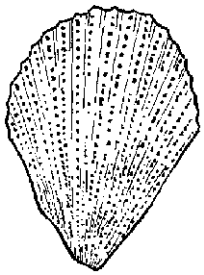
☐ Mussel



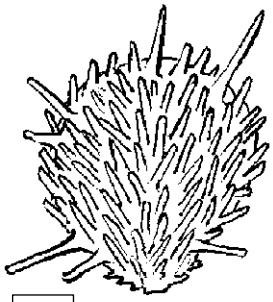
☐ Oyster



☐ Cockle

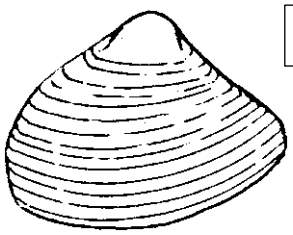


☐ File shell

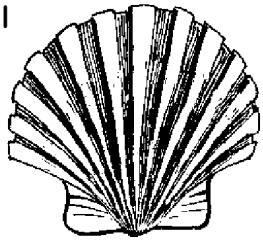


☐ Spiny oyster

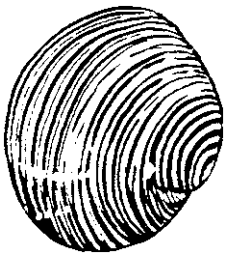
☐ Razor shell



☐ Trough shell



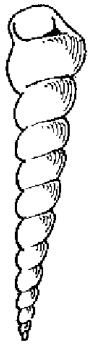
☐ Scallop



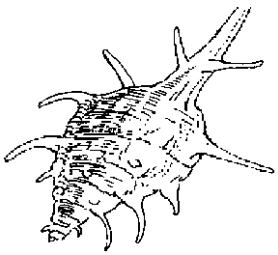
☐ Venus clam

Gastropods

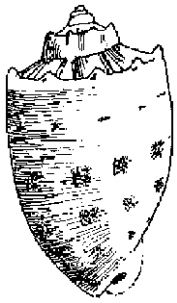
☐ Cone.
Beware of the deadly sting from live individuals.



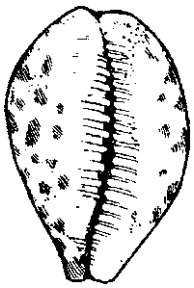
☐ Screw



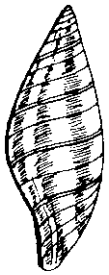
☐ Murex



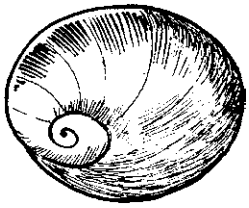
☐ Baler



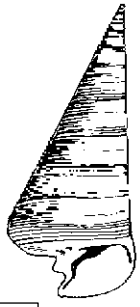
☐ Cowrie



☐ Mitre

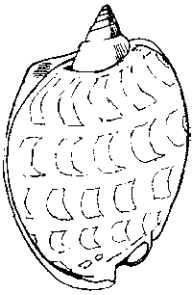


☐ Sand snail

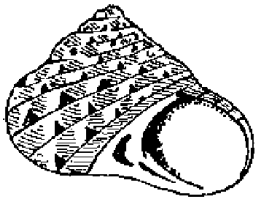


☐ Telescope

☐ Conch



☐ Helmet

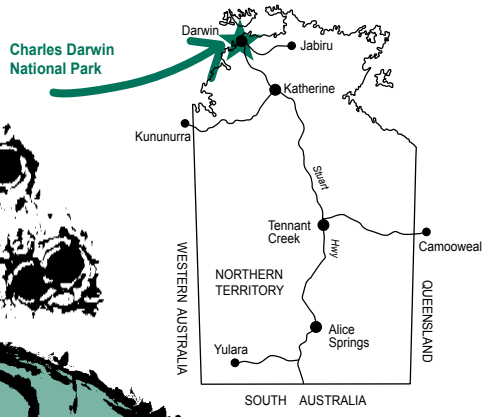


☐ Turban

Discover a Territory Park

Charles Darwin National Park

Charles Darwin National Park is a hidden treasure...right in the middle of Darwin. The Park lies on Frances Bay in Port Darwin, only a few minutes drive from the city centre. It was named after the famous scientist best known for his Theory of Evolution.



A fascinating history

Although the Park only opened in 1998, the land has history. There are lots of big shell middens (piles of shellfish that have been eaten and discarded) throughout the Park which show us that Aboriginal people have used the land for thousands of years. Today, the Larrakia people still speak for this land.

The area was part of a network of World War II military sites found around Darwin. The Park's most obvious features are buildings that look like bunkers. These are actually ammunition 'Armco' storage shelters which were built in 1944. They stored all kinds of things from bombs to bullets.

WWII ammunition 'Armco' storage shelter. If you look closely some have bullet holes in their doors.

Getting there

The Park is easy to find. Look for the signs along Tiger Brennan Drive in Winnellie, between Darwin and Palmerston (about 5.5 km from the city). Turn south through the gates. The Park is only open between 7 am and 7 pm. Sorry - no camping.

What to see and do

Visit the free WWII Display to get an overview of Darwin's role in the Pacific War. Bring your own picnic or have a BBQ lunch, relax and make use of the shade shelters. Make sure you check out the lookout platform in the picnic area - there are wonderful views of the harbour and the best views of Darwin City you'll ever see. If you are keen, have a go at walking or cycling along the vast network of tracks that were developed in the war years. Please remember that vehicle access is restricted to the main entry and exit road.

Puzzle Answers

Creature Feature:
Across: 1. erosion, 2. native, 3. smell. Down: 2. spread, 3. diseases, 6. plant.

Urban Encounter:
Thoth, Hieroglyphs.

On the Brink:
Wedge-tailed Eagle, Perentie, Dingo, fox, cat, python. Feral animals - fox & cat.

Plant Profile:
1. Forma, 2. Jungle, 3. Pioneers, 4. Fish, 5. Tracy, 6. Black, 7. Axe = FUNICLE

Discovering Outdoors:
Radula.

Not so friendly visitors

When you visit, beware of biting insects. They are part of the coastal web of life. Midges are the main culprit. They are tiny two-winged flies that breed in the intertidal zone and can be really annoying in the Park around sunrise and sunset. Wear protective clothing and apply insect repellent to avoid being bitten. Be especially careful when their numbers are highest around the full moons between August and October.

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