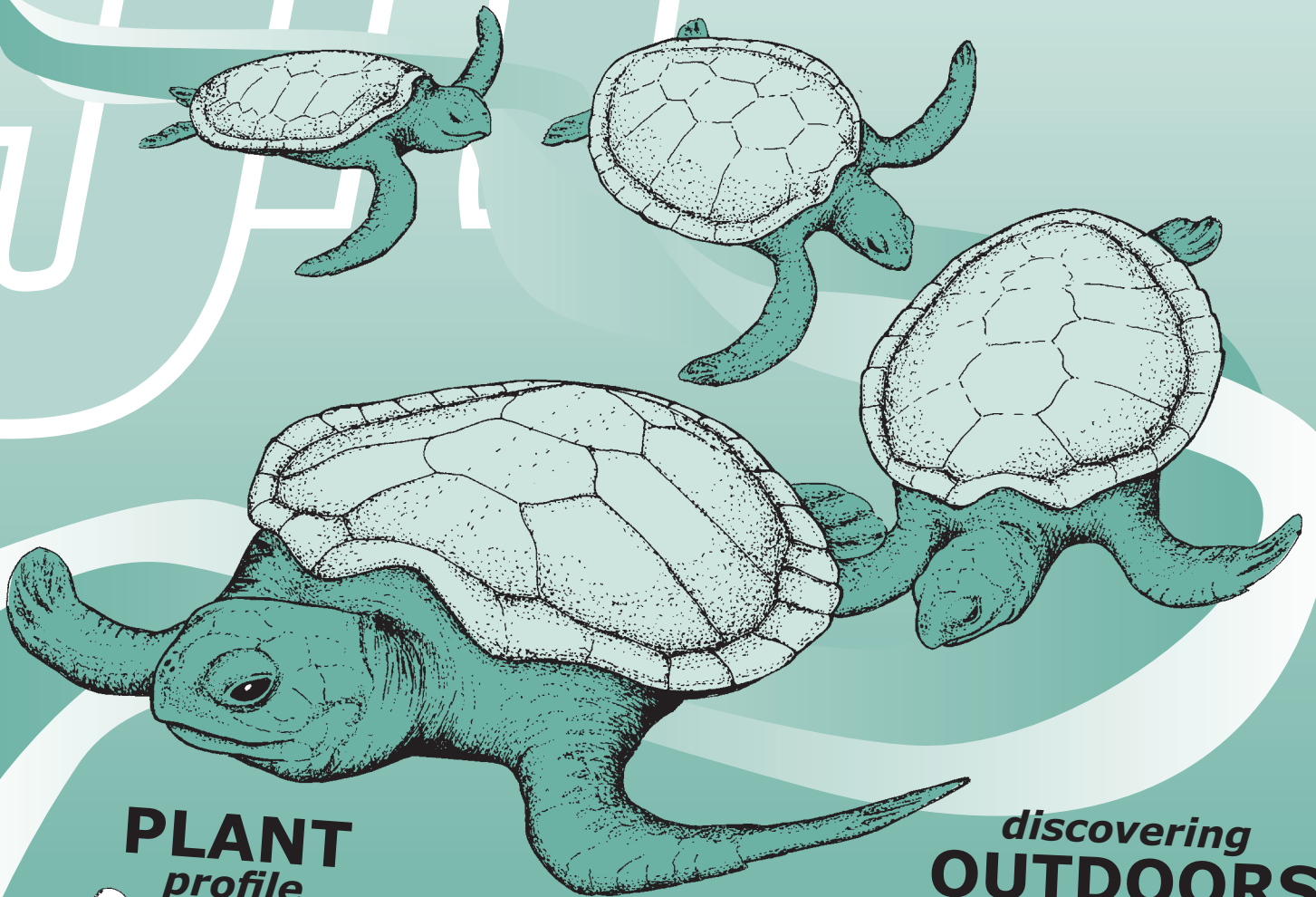




Junior Ranger

Review

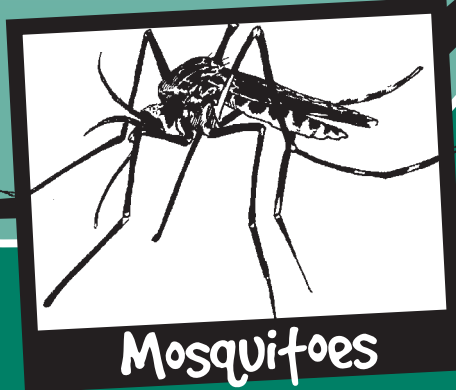
Issue 2 2006



PLANT
profile

URBAN
encounter

discovering
OUTDOORS



Creature Feature

Extraordinary Echidna

The Short-beaked Echidna *Tachyglossus aculeatus* is a spiky little character familiar to most Australians. In the Northern Territory they can be found in all kinds of bushland, from the tropical woodlands of the Top End to the Simpson Desert in central Australia.

one of a kind

If you see an Echidna, you can't possibly confuse it for anything else! What is really obvious about it are the sharp spines on the back and sides and the small head with a long, tough beak-like snout. The long pointy spines are used for protection. When threatened they will roll into a prickly ball. There is a little bit of hard fur in between the spines and soft fur on their tummies.

The Echidna and Platypus are the only mammals that lay eggs. Scientists call them **Monotremes**, which means 'with one hole'. This refers to the single opening (called 'cloaca') used for pooing, peeing and having babies.

Can you think of any other animals that have a **cloaca**?

What about birds or reptiles!

G'day From Ranger Bill

What an interesting few months it has been in the Top End since our last Review. First Katherine was again flooded after record rains, then the biggest cyclone recorded in the Territory, Cyclone Monica threatened Darwin - but thankfully missed us all together. The rains that followed Cyclone Monica made sure our wet season was a bumper, and even extended as far south as Tennant Creek and Alice Springs. These events are natural features of our Top End environment, but these certainly were extreme cases! It is amazing to think about how our bush can be exposed to and then recover from such great disturbances.

Well, the dragonflies have arrived and with them comes the start of the dry in the Top End. Soon the palls of black smoke on the horizon will signal the presence of another part of our landscape, fire! And after good summer rains in the Centre, the fire danger will also be high in the desert country. So remember to take care when you are out and about in the bush these holidays.

See you out there!

Ranger Bill

They are about half a metre long and weigh up to 7 kilos.



Dirty poo!!!

Echidnas love to eat ants and termites, but also earthworms, beetles and other insects. This is why people sometimes call them 'anteaters' but they are no relation to South American anteaters.

When an Echidna smells food it uses its strong front claws to dig into the soil and break into

termite mounds to feed. It will poke its long sticky tongue inside and pull its dinner out. They eat a lot of dirt in this process. This forms the bulk of their distinctive tube-like poo (about the size and shape of your 'pinky' finger).

If you look closely at a poo you may see what looks like shiny little pieces of glass. These are the leftover bits of ants and insects.



Did you know?

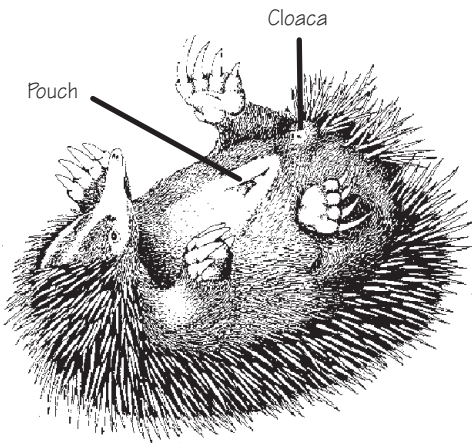
The larger Long-beaked Echidna *Zaglossus bartoni* of New Guinea is the only other Echidna in the world.



Echidna express

Echidnas like to live alone, but if another visits their turf they won't fight, for they are very neighbourly. However during the mating season (May - September) you may happen upon an unusual sight...an Echidna train!

Well it is actually a part of the mating process. The female gives off a strong stinky smell to attract lots of potential mates (up to 10). The males that find her will all line up after her, following her every move, sometimes for days. Now you may see the boys fight, bumping and pushing head-to-head, and all to impress a girl!



Puggles and prickles

The female Echidna curls up and lays a soft-shelled egg which is kept warm in a fold of tummy skin a little like a pouch. The bald pink baby hatches out ten days later. It is tiny, about the size of a jellybean. A baby Echidna is called a 'puggle.'

It is carried in the pouch, suckling from a special milk producing pore. Of course no mum would carry a prickly baby so after a couple of months, once the spines grow, out it goes into a burrow. Mum leaves her baby here only returning every couple of days to feed it. At around 7 months old the baby is on its own.

Prickly Puzzle

The two part Latin scientific name (genus & species) given to every living thing is unique to that plant or animal. It usually refers to some features or parts of the organism or may be named after the person who first discovered it. The scientific name for the Echidna *Tachyglossus aculeatus* (genus) *aculeatus* (species) describes some of the features of this animal. Use the code to work out what each word part or word means.

Tachy 1▲ 1● 4■ 5■

glossus 5■ 5★ 4★ 2▲ 1◆ 5●

aculeatus 4■ 1■ 4▲ 4★ 5◆

	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

Tongue Fact file

An Echidna tongue.....

- can extend a whopping 18cm beyond the end of the snout.
- can flick in and out at about 100 times per minute (try this with your own tongue.... could you do it?)
- tip can bend into a U shape so it can get into all the nooks and crannies of ant and termite nests.

On the Brink



Sea Turtles

Crush, the surfer Green Turtle and his son Squirt are two of the coolest characters from the movie, *Finding Nemo*. Did you know that you can find the Green Turtle, as well as five of the world's other six sea turtles off the NT coastline? Unfortunately, they are all classified as threatened by the Australian Government. They all lead similar life styles and face similar threats, so let's take a look at them and find out how we can help.

Sea Turtles at a glance

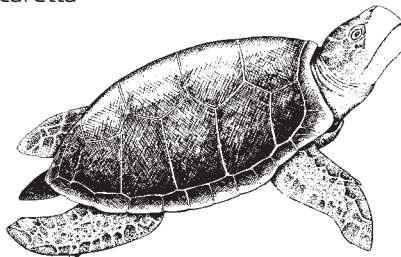
Sea turtles are air-breathing reptiles that only come ashore to lay their eggs. These are laid in a sandy beach nest and typically take about seven weeks to hatch. They grow very slowly, and won't breed until they are 30 to 50 years old. When they're ready the female travels back to the beach that she was born on (which could now be up to 3000 km away!) and lays her 60-150 roughly ping-pong ball sized eggs.

Meet the locals

Loggerhead Turtle, *Caretta caretta*

Shell: 1 m long.

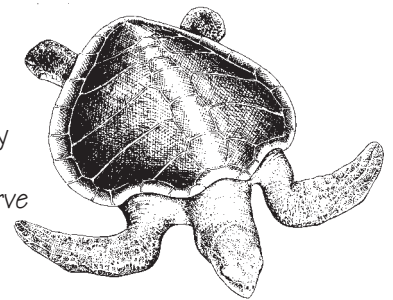
They don't seem to breed in the NT, but are occasionally spotted feeding here. They eat shellfish, crabs, sea urchins and jellyfish. The name Loggerhead refers to their big, boof head.



Olive Ridley Turtle, *Lepidochelys olivacea*

Shell: 0.7 m long.

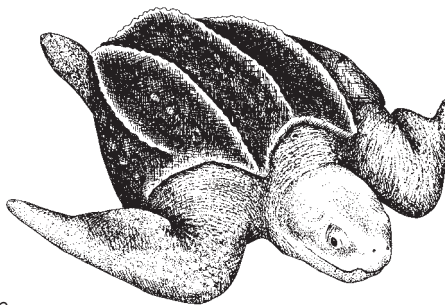
Most of Australia's Olive Ridelys breed in the NT. You can even occasionally find them nesting in Casuarina Coastal Reserve in Darwin. They eat sea snails, crabs and starfish.



Leatherback Turtle, *Dermochelys coriacea*

Shell: 1.6 m long.

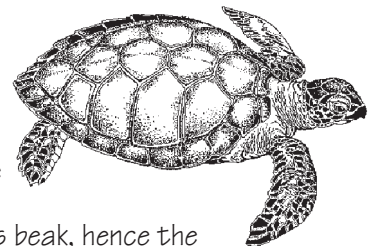
As the name suggests, their shell is leathery, not covered in scales. They occasionally breed on a few Arnhem Land beaches and islands. They spend most of their time out in the really deep ocean, well away from the shore, where they mostly eat jellyfish.



Hawksbill Turtle, *Eretmochelys imbricata*

Shell: 0.8 m long.

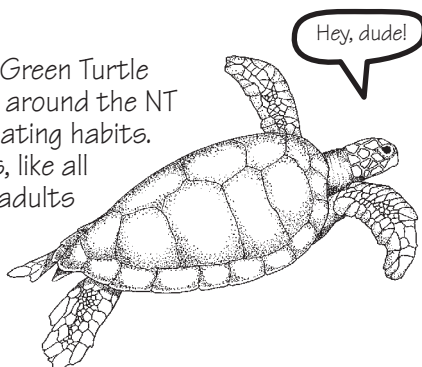
Mainly breed on islands off the NT coast, but they'll occasionally lay on the mainland. Their mouth looks a bit like a Hawk's beak, hence the common name. They eat mainly sponges, seagrasses, algae, soft corals and shellfish.



Green Turtle, *Chelonia mydas*

Shell: 1 m long.

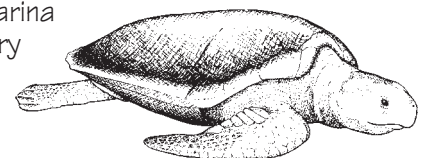
There are many important Green Turtle feeding and nesting sights around the NT coast. They have unusual eating habits. The young are meat-eaters, like all other sea turtles, but the adults become vegetarians eating seaweed and seagrasses.



Flatback Turtle, *Nator depressus*

Shell: 0.9 m long.

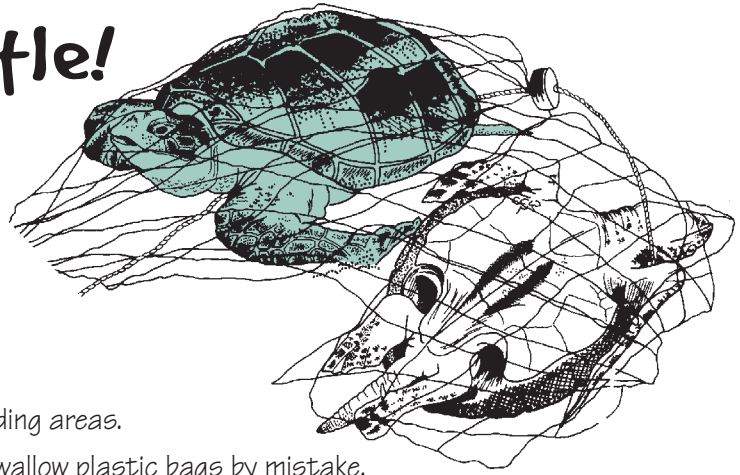
These guys occur almost entirely in Australian waters. They are probably the most common nesting turtle in the NT, laying many nests in Casuarina Coastal Reserve every dry season. They eat soft coral, jellyfish and sea cucumbers.



It's tough being a turtle!

Sea turtles are threatened all around the world. These threats include:

- People hunting them for eggs, meat, and their shell.
- Accidental capture in fish or prawn trawling nets.
- Getting tangled in abandoned nets (called 'Ghost Nets').
- Feral pigs and dogs raiding nests to eat the eggs.
- Coastal development and pollution ruining breeding and feeding areas.
- Choking on rubbish. Many species love to eat jellyfish, but swallow plastic bags by mistake.



But the good news is...

Around the world, people are working hard to protect sea turtles. Some examples are:

- An invention called a Turtle Exclusion Device allows turtles to escape trawling nets before they drown.
- Some local indigenous ranger groups patrol beaches rescuing turtles that are washed up in 'Ghost Nets'. Parks and Wildlife regularly control feral pigs and dogs around important turtle nesting beaches.

You can help by...

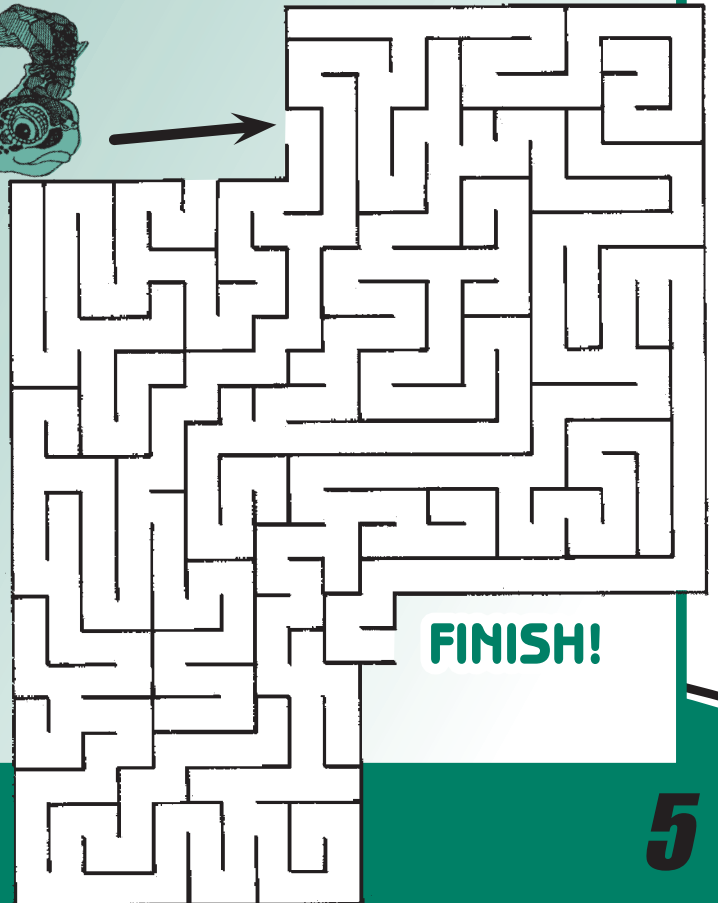
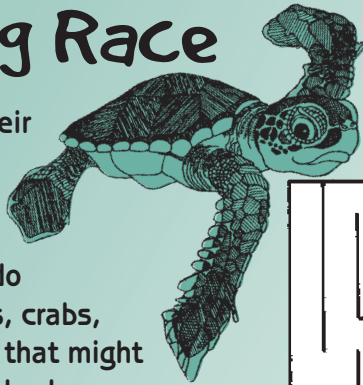
- Being careful not to discard rubbish, fishing line or nets that might entangle or choke turtles.
- Keeping off the sand dunes where turtles nest.
- Not disturbing nesting turtles. They are easily scared off by torches, camera flashes and loud noises.
- Attending a turtle release on Casuarina Beach. Phone 8999 4555 for bookings and details.

Science snippet

Sea turtles are able to drink salt water. Special glands in their eyes expel the salt, making it look as though they are crying.

The A-Mazing Race

When baby turtles hatch out of their nest up at the edge of the sand dunes, they must make a short but dangerous journey across the beach to the water. They usually do this at night to try and avoid birds, crabs, dogs, goannas, and anything else that might want to eat them. This is hard work when you are only about 7 centimetres long and built for swimming, not running! Help this little dude in his quest to safely make it to the water.



Did you know?

There are various volunteer groups around the world dedicated to helping sea turtles. Jump on the internet and check them out. Here are two examples.

<http://www.aims.gov.au/ipstcg/>

<http://www.cccturtle.org/>

Urban Encounter

Mosquitoes

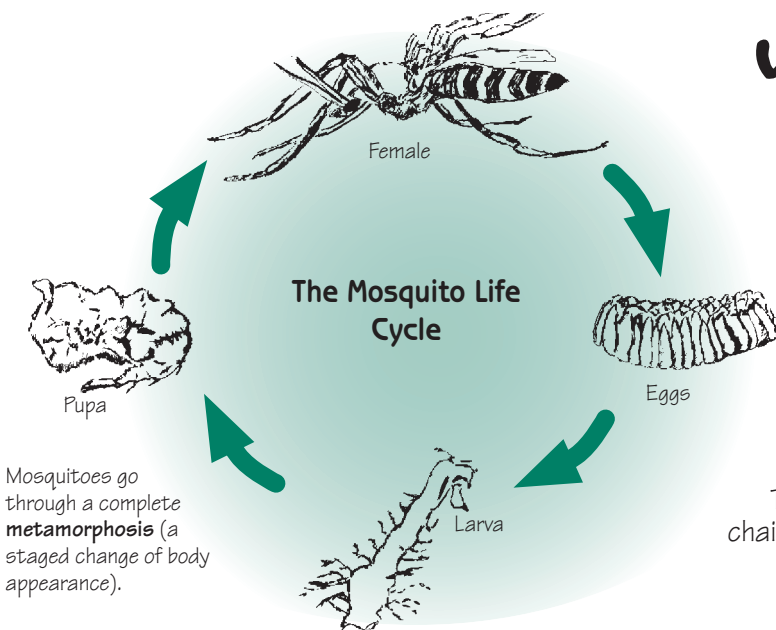
It's quite amazing to think that a tiny buzzing insect, the mosquito or mottie, has such a bad reputation. There is, however, a good side to the mosquito. They are a very important part of nature, being an essential link in the food chain for many species.



Plague Mossies

After rains and or high tides there always seems to be a plague of the bloodsuckers, why? If water is ponding (standing still) in your garden or in the bush near you, then mosquitoes will probably breed in it. Mosquitoes need water to lay their eggs in. The **larvae** (called wrigglers because they wriggle) and **pupae** (called tumblers because they roll or tumble) stages of their life cycle also live in water. The Top End of the Northern Territory has lots of surface water, the largest of which are the floodplains. Floodplains and their swamps are the biggest breeding areas for mosquitoes.

But wait, there's more. There are also species of mosquitoes that breed in brackish, salty water. This means that mangrove and saltwater marsh areas are populated with mosquitoes as well.



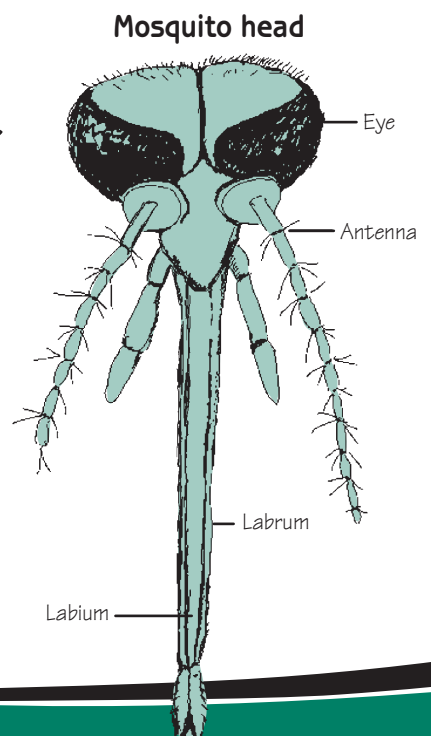
What's good about Mossies

Mosquitoes breed very quickly and number in their millions during the wet season when the water is warm. They become a reliable food source for small, insect-eating animals. Animals that dine on mosquitoes include small fish (ie. Rainbow fish), frogs, geckoes, dragonflies and bats. These animals are then in turn part of a larger food chain, as they become food for predators such as snakes, owls, hawks and quolls. The tiny mosquito is therefore an important link in the chain.

It is blood that they are after

It is the female mosquito that does the biting, as the male lacks the blood sucking and biting mouth parts. The female mosquito only needs blood in order supply her with enough protein for egg production. Usually, both male and female mosquitoes get their food from flower nectar and plant sap.

Mosquitoes have ingenious mouth parts. They're able to drill into flesh without being detected. After cutting a neat hole they send the straw-like **labium** down inside the **labrum** (tongue) and start pumping. During this process they fill the area with 'anticoagulants' which stops the blood from clotting and makes it easy to suck it up and store it while it is digested!

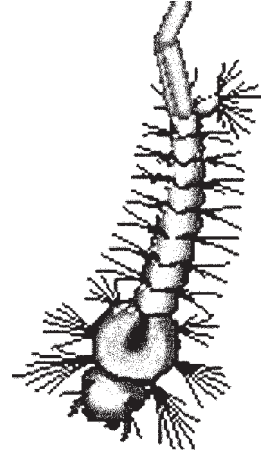


They can make people sick

Mosquitoes are disease carriers (vectors). The disease is kept alive in their saliva. It is picked up from an animal (host) when the mosquito sucks their blood. They then carry it to another animal which in turn becomes infected. The animal then becomes a new **host** (carrier of the disease).

Diseases carried by mosquitoes are amongst the worst in the world. Malaria is the disease that has affected the highest number of people in our history; 17 million people are infected with the malarial parasite each year world wide. Fortunately for us malaria is not currently present in Australia.

The diseases that mosquitoes spread while drinking blood are also part of nature. They provide a form of population control which primarily affects mammal species.



Did you know?

- Mosquito is a Spanish word which means "little fly". Before then mosquitoes were called "biting fleas".
- Mosquitoes have been found in amber (fossilised tree sap or resin). They have been preserved so well that scientists have been able to obtain DNA samples from them. Some fossils date back to when dinosaurs roamed the earth.

Puzzling Facts

The best way to avoid getting sick from mosquitoes is to avoid getting bitten (its actually the only way). Fill in the missing word by using the coded alphabet box and discover ways of avoiding the mossier bite.

	1	2	3	4	5
A	A	B	C	D	E
B	F	G	H	I	J
C	K	L	M	N	O
D	P	Q	R	S	T
E	U	V	W	X	Y

Mosquitoes need E3 A1 D5 A5 D3 to breed in. To avoid having mosquitoes breeding around

your house you need to empty out containers holding unwanted water, but you can leave the dog's water and the fish pond. Things like old car D5 E5 D3 A5 D4 , bowls, A3 A1 C4 D4 ,

bottles, even old dinghies and canoes, and pot plant water bases are perfect for mosquito wrigglers to live in. House roof gutters and D4 E3 B4 C3 C3 B4 C4 B2 water

should be either emptied or kept clean. All house windows should have B1 C2 E5 wire on the

outside. On camping trips you should sleep inside a D5 A5 C4 D5 or a mosquito net. In the bush you should wear long sleeved D4 B3 B4 D3 D5 D4 and trousers. Any exposed skin

should be sprayed with an insect repellent containing DEET. Mosquitoes are a

C4 A1 D5 E1 D3 A1 C2 part of our wetland ecosystems helping support B1 B4 D4 B3

and other animal populations.

Plant Profile



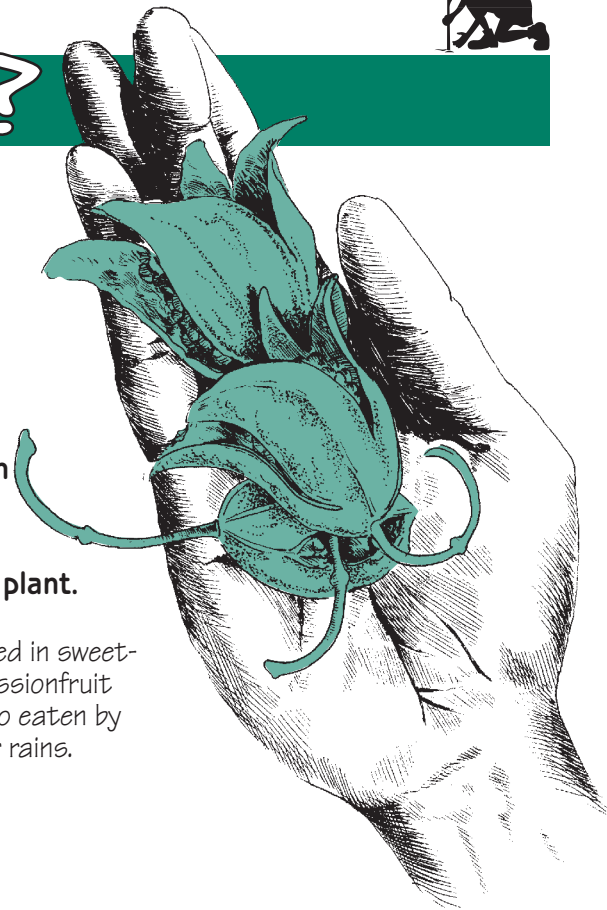
What's the Caper?

When is a passionfruit
not a passionfruit?

When it's a Caper Bush!

The Caper Bush of Central Australia *Capparis spinosa*, is also known as the Wild Passionfruit. But it is not a passionfruit at all; it is a member of the caper family. In fact, the capers you can buy in a jar for cooking are the flower buds of the Mediterranean variety of this plant.

When fully ripe, the fruit of the Caper Bush split open to show seeds covered in sweet-tasting yellow flesh. This might be where it gets the common name Wild Passionfruit from. Ants and birds are usually the first to feed on the ripe fruit. It is also eaten by Desert Aboriginal people, especially when it is large and juicy after summer rains.



Caper Bush grows big delicate cream flowers, each with four petals and lots of long stamens spraying out from the middle.

Fruits of Passion?

The flowers of the Caper Bush are very sweet smelling, probably to attract insects. Unlike most plants, they open up at sunset, and only last a day or two before they close and fall off.

Once the flowers have finished, their bases start to develop into oval-shaped ribbed fruits. In fact you can hardly see the fruit because they're green and well camouflaged amongst the leaves until they start to ripen, when they quickly turn yellow.

The ripening fruit stalk straightens, pushing the fruit up to display them above the leaves.

Spinosa means spiny!

Be warned about this bush. It grows as a messy spreading shrub and each leathery leaf has two sharp spines at its base and these have a nasty hook at the tip.



A Love-Hate Relationship

The Caper Bush has a strange relationship with the Caper White Butterfly. This striking white butterfly (with a wingspan of about 6cm) lays its orange eggs on the leaves of the Caper Bush. The hungry caterpillars hatch out and munch their way through the leaves, often completely stripping the plant. Adult caterpillars grow to about 3cm long, are dark brown tinged with green, and are decorated with white dots and raised yellow spots. A fringe of long white hairs runs along each side of the body. So steer clear as they may irritate you. After gorging themselves for about 3 weeks, each caterpillar forms a cocoon along the tips of the bare branches.

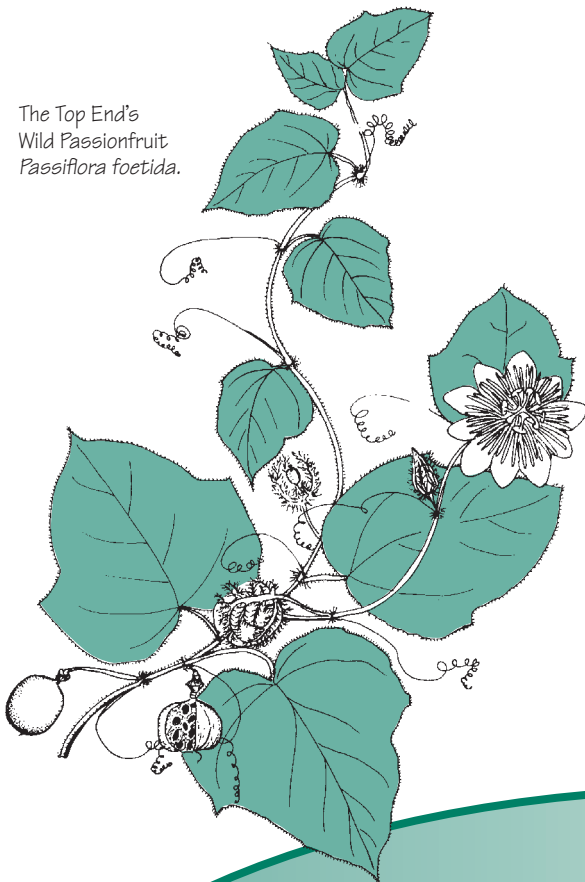
From all these cocoons the Caper White Butterflies can hatch out on the bush within a day or so of each other, so the bush can end up being surrounded in a cloud of white butterflies!

Luckily after being robbed of all its leaves, the Caper Bush can quickly recover, growing new leaves to keep it alive.

In autumn you can see these leafless branches covered in hundreds of tiny brown cocoons. Covering the bare branches they can look just like dry brown versions of the leaves they have eaten.



The Top End's Wild Passionfruit *Passiflora foetida*.



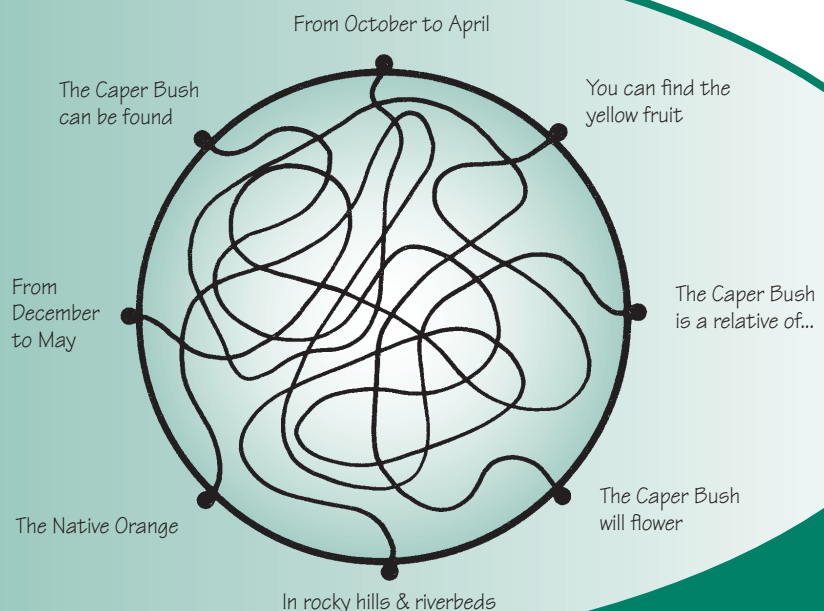
Another Wild Passionfruit

In the Top End you can find another plant known as Wild Passionfruit. However unlike the Caper Bush, this one is a close relative of the cultivated passionfruit some of us eat. The Top End Wild Passionfruit is a fast growing sprawling climber that grabs onto other plants, often smothering them. This plant is native to South America and was introduced into North Australia, where it has spread rapidly, becoming a pest.

The vine grows fruit about as big as a grape. These fruits have a thin yellow skin when they're ripe and have a leathery texture.

The ripe pulp is edible but it only tastes a little like the cultivated passionfruit. Aboriginal people eat the pulp and seeds inside the ripe fruit, but green unripe fruit are poisonous and can make you sick - so don't ever eat them!

Follow this tangling passionfruit vine to find out more Caper Bush facts!



Discovering Outdoors

Let's try Birdwatching

Birdwatching is fun! It gives you the ability to identify wild birds in their homes (natural habitat), using what they look like, the sounds they make, as well as the way they behave. You don't have to be an expert so give it a go right now in your own backyard. Most of the birds you are likely to see will be common species, and there won't be too many species to confuse you. If you want to see more, why not take a trip out bush.

What should I be looking for?

When watching birds here are some things you should look for:

Colour - Have a look at the colour of the bird. What colour are their feathers, eyes or legs? Try to remember where the colours are on the birds bodies, such as around it's eyes, it's beak, on top of the head etc.

Size - This might be hard without getting up close with a tape measure, but take a good guess!

Flight - Think about the way the birds move. Do they fly near the ground or high in the air? Do they flap their wings rapidly or do they glide and soar?

Behaviour - What is the bird doing? What is it eating?

Straight flight wings beating



Gliding



Birds can move in the air in different ways. A good way to record this is by doing a simple drawing.

Hovering



Swoopy flight



You should try to choose and remember 2 or 3 things about each bird you see. You can write it down in a note book to refer to next time. Or if you get really keen and buy a bird book, you can tick them off as you see them.

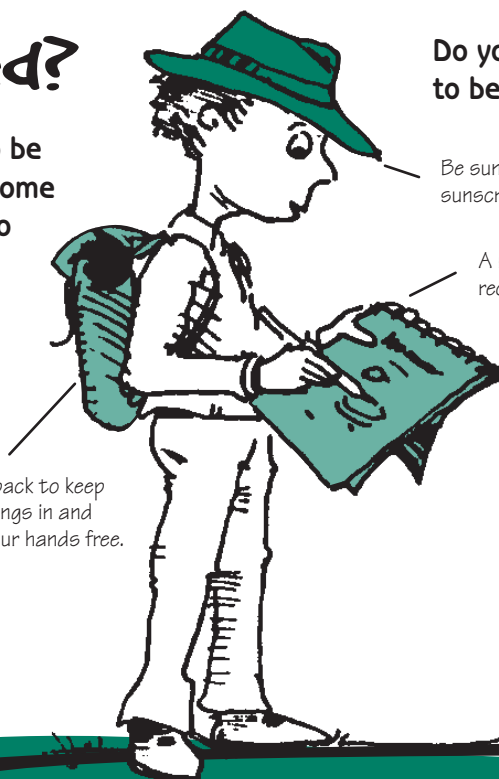
What do I need?

No special equipment is needed to be a birdwatcher. However as you become more interested, you might want to get a pair of binoculars and a field guide to help with identification.

Binoculars are a useful item for birdwatchers, but they can cost a lot so first borrow a pair and spend some time testing and trying them out before you buy.

You can even have a go at making some yourself.

A backpack to keep your things in and leave your hands free.



Do you have what it takes to be a Birdwatcher?

Be sun smart, wear a shady hat, sunscreen and drink lots of water.

A notebook & pencil to record bird information.

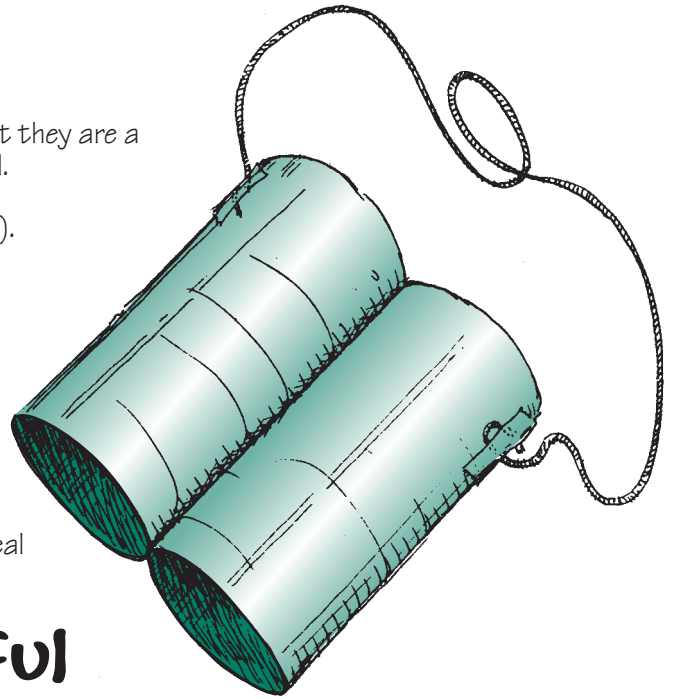
Did you know?

Birds are most active in the early morning, so that is the best time to spot them.

Homemade Binoculars

Homemade Binoculars are definitely not as good as real ones, but they are a good way of helping you to learn how to focus your sight on a bird.

1. Get two cardboard tubes of equal length (toilet rolls are ideal).
2. Paint them if you like; most binoculars are black or silver.
3. Join the tubes together side by side with glue or sticky tape.
4. Attach a string to the sides with sticky tape or a staple to use as a strap.
5. Try them out. It is best to look for the bird without your binoculars at first. Once you have seen one, lock it into your sight and move the binoculars into your line of vision without moving your head. Practice doing this and you'll be ready for real ones in no time.



Tips for successful birdwatching:



Be quiet - good bird watchers listen for the sounds that birds make, and they don't want to scare them away so talk in a quiet voice.

Stay still - birds are scared by fast movements, so try to stay still. If you move around, do it slowly.

Look carefully - birds are all around, so look up, look down and look carefully at trees and shrubs, especially those with fruit or blossoms.

Be a Bird Detective - keep your eyes open for bird clues like, nests, dropped feathers, droppings on the ground and damaged fruit or flowers.

Test your Observation Skills out by taking the Birdwatching Wordfind Challenge

Find each of the following words

BACKPACK
BACKYARD
BEHAVIOUR
BINOCULAR
COLOUR
DROPPINGS
FEATHERS
FIELD GUIDE
FLIGHT
HOBBY

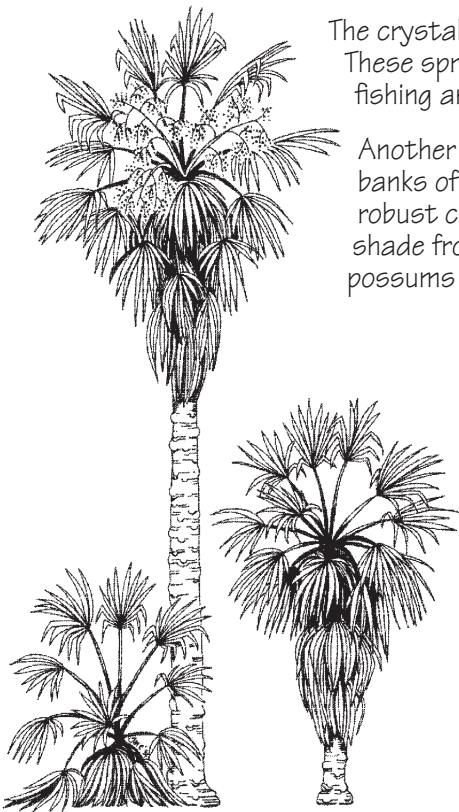
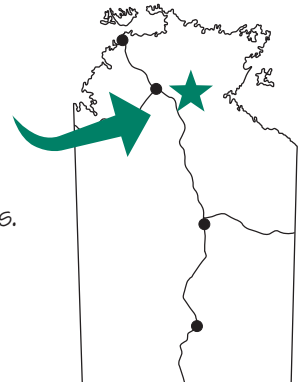
IDENTIFY
MORNING
NEST
NOTEBOOK
OBSERVATION
PRACTICE
QUIET
SIZE
SOUND
STILL

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

Discover a Territory Park

Elsley National Park

Elsley National Park includes land that was originally a working cattle station, 'Elsley Station'. Reminders of the cattle station days are now a part of the many exciting things to see and do in this Park, along with the crystal clear thermal pools, walking tracks and beautiful stands of palms.



Livistona rigida

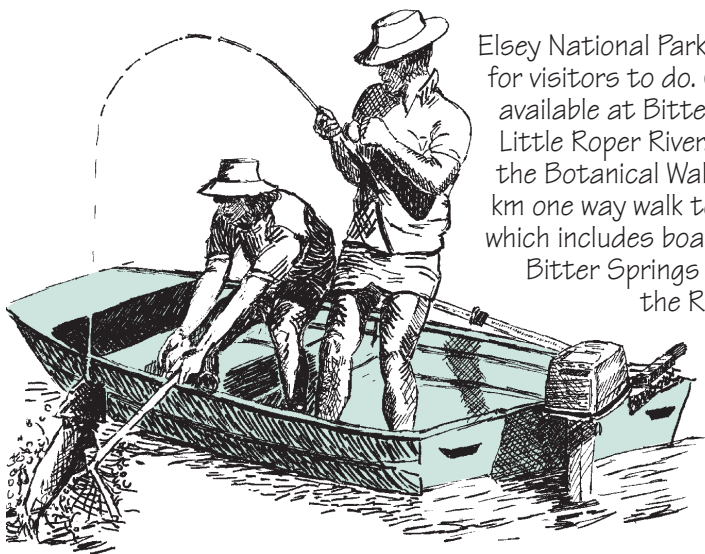
The crystal clear thermal pools are fed from deep underground springs. These springs feed the Little Roper River, which is a great place for fishing and boating.

Another great feature is the dense palm forests which line the banks of the waterways. The palm *Livistona rigida*, is a stately, robust cabbage palm, with large fan like fronds. The dense shade from these offers shelter for many bird species, possums and flying foxes.

Where is it?

There are two roads off the Stuart Highway into Elsley National Park. Bitter Springs can be accessed directly from Mataranka township. Homestead Road, 1.5 km south of Mataranka township, gets you to the Thermal Pool. John Hauser Drive turns off the Homestead Road, 4 km in from the Stuart Highway. This road will take you to all the other highlights including the main campground.

What can I do there?



Elsley National Park offers lots of fun things for visitors to do. Great snorkelling and swimming is available at Bitter Springs, the Thermal Pool and at certain points on the Little Roper River. Great walking tracks are scattered throughout the Park; the Botanical Walk offers a 1.5 km loop and from 12 mile yards you can do a 4 km one way walk to Mataranka Falls on the Roper River. An attractive loop walk, which includes board walks and viewing platforms takes you right around the Bitter Springs water way. Boating, canoeing and fishing is also available on the Roper River. A boat ramp is located at the 12 Mile Yards, at the end of John Hauser Drive. Canoe hire is also available.

Visitors to the Park should note that a crocodile management program is in place and all signs should be carefully checked to ensure an area is safe for swimming and canoeing.

Puzzle Answers

Creature Feature:

Fast, tongue, spiny.

Plant Profile:

The Caper Bush will flower - from October to April.
You can find the yellow fruit - from December to May.
The Caper Bush can be found - in rocky hills and riverbeds.

The Caper Bush is a relative of - the Native Orange.

Urban Encounter:

Water, tyres, cans, swimming pool, fly, tent, shirts, natural, fish.

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