

Junior Ranger

Review

Issue 3, 2000

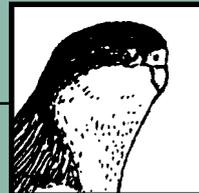
Backyard Wildlife



Creature Feature

Incredible Itjaritjari

On the Brink
Hooded Parrot



Creature Feature

Incredible Itjaritjari

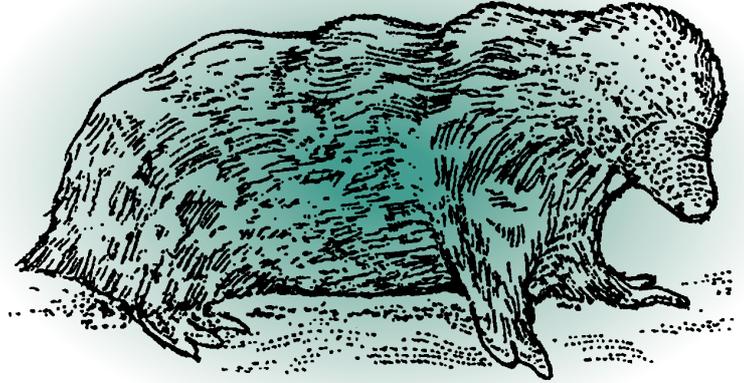
The mysterious marsupial mole lives in the dry sandy deserts of Central Australia. It is an important character in the Aboriginal stories of Ayers Rock where the people call it *Itjaritjari*.

Although not endangered, we know remarkably little about its way of life. The creature is hard to catch and has never been kept in captivity for very long.

It is quite a small creature: only 12 to 15cm long. One would easily fit into the palm of your hand.

It is blind and has no visible ears. Beautiful, long silky fur covers its body, except on its short, stubby tail. A horny shield protects its nose as it moves through the sand, about 20cm beneath the surface.

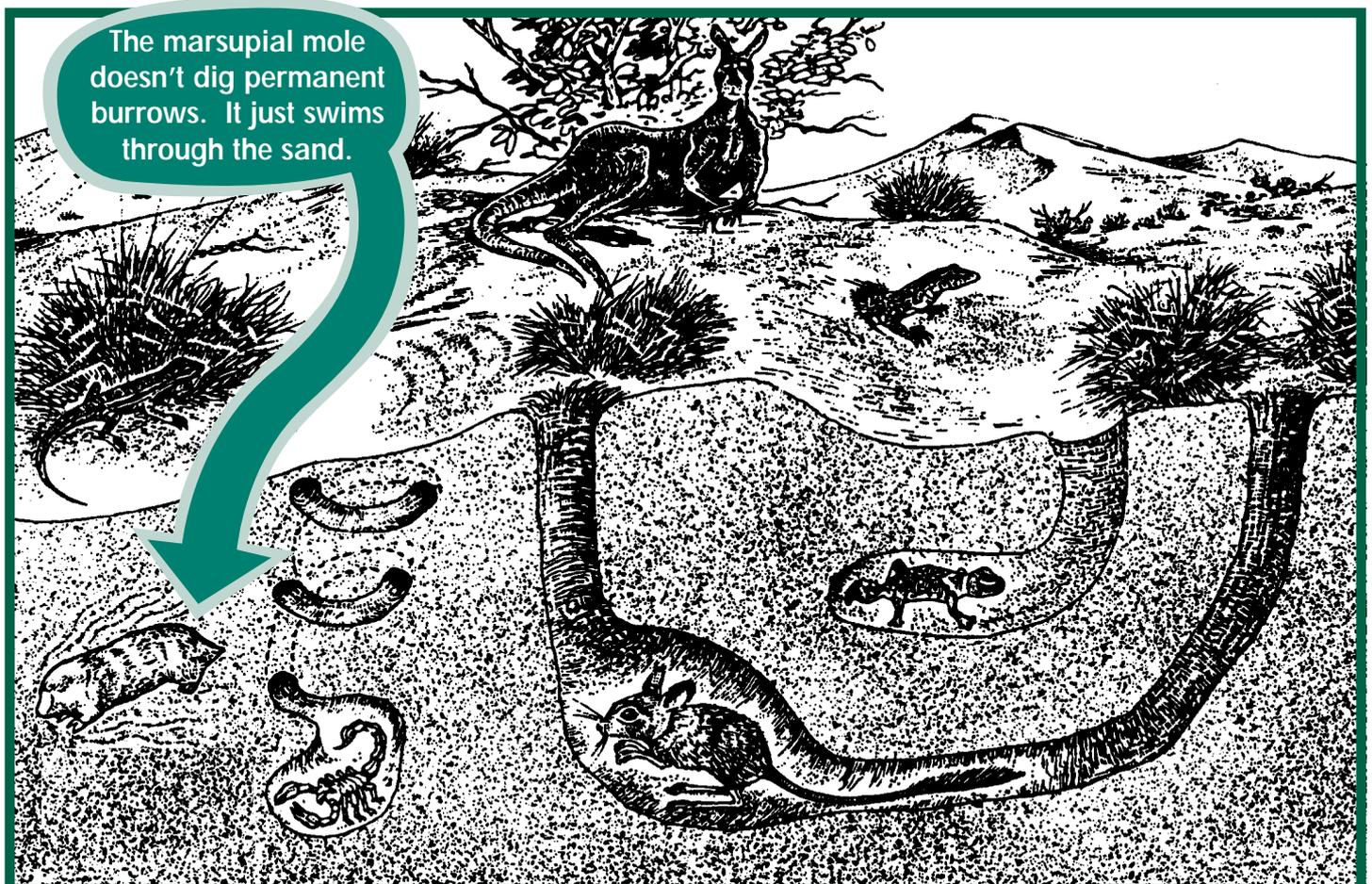
The claws on its front feet are enlarged and make effective spades. When digging, it moves them up and down in a chopping action, pushing the sand back with its hind feet. This amazing little creature then inches



along like a caterpillar, using a pad in front of its tail to lever itself forward.

After rain the animal may be spotted travelling on top of the sand. When it does this it leaves a very distinctive track: three parallel grooves in the sand, the deep centre one being made by the stubby tail.

Juicy beetle larvae are its favorite tucker, along with ant eggs and the occasional gecko.



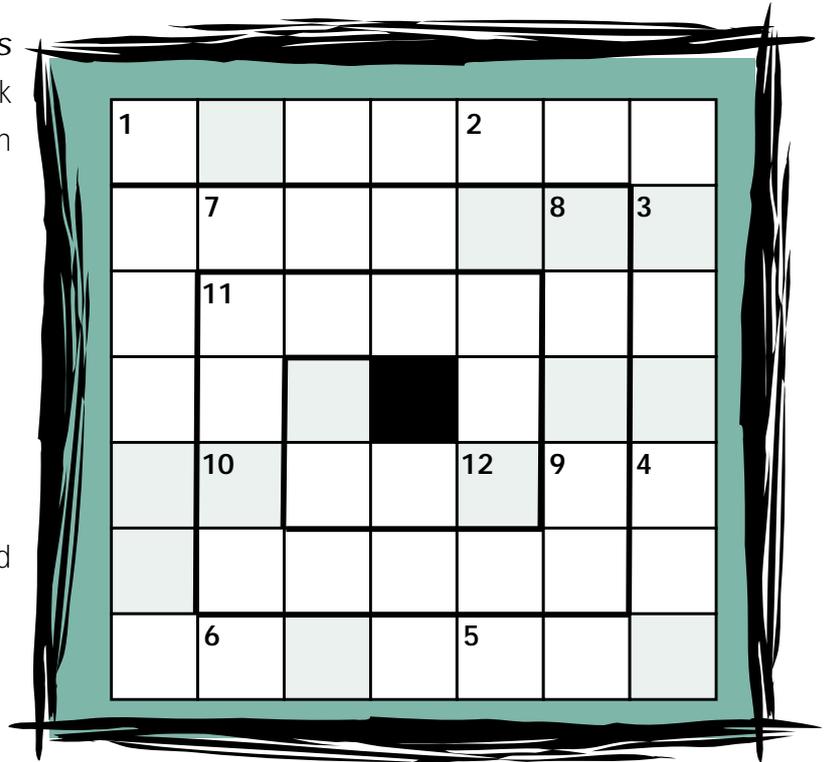
Creature Feature

Can You Say...

The Marsupial Mole's scientific name is *Notoryctes typhlops* which means 'blind southern digger'. Work out this puzzle to find out the correct pronunciation of *Notoryctes*.

Write the answers clockwise. The final letter of each answer is the first letter of the next. The shaded letters spell out the solution.

1. Legless reptile
2. Kangaroo of hilly country
3. Cereal (plural)
4. Group of birds to which the Jabiru belongs
5. Long-tailed cuckoo that migrates to the Top End from southeast Asia each wet season
6. Noisy bird with colourful plumage
7. Path followed by bushwalkers
8. Another name for a hawk
9. A monotreme
10. Small insects
11. Popular on Christmas Day
12. Tubers dug up by Aboriginal people



PRONUNCIATION

No Relation

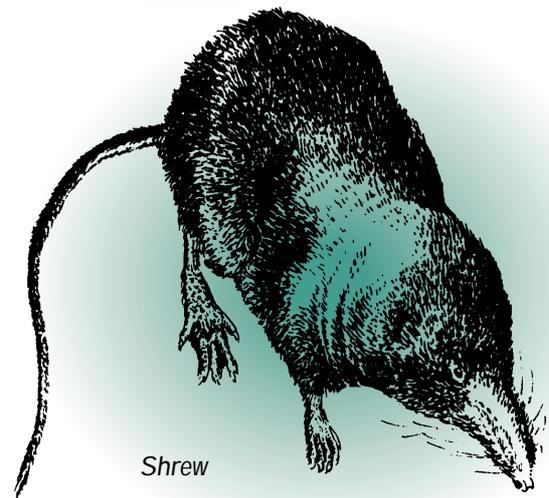
Australia's Marsupial Mole is no relation to the moles of Europe, America and Asia.

Northern hemisphere moles:

- are placental mammals, not marsupials
- are bigger
- have longer tails and darker fur
- have poor eyesight but are not blind

Unlike our moles, they excavate a permanent network of burrows. As they dig, they kick soil out of the burrow with their back legs and pile it up on the surface into 'mole hills'. The closest relatives of northern hemisphere moles are shrews. Shrews are small (mouse-sized) mammals with big noses. They hide during the day in a concealed nest on the ground, emerging at night to hunt earthworms, insects and mice.

There are no shrews in Australia

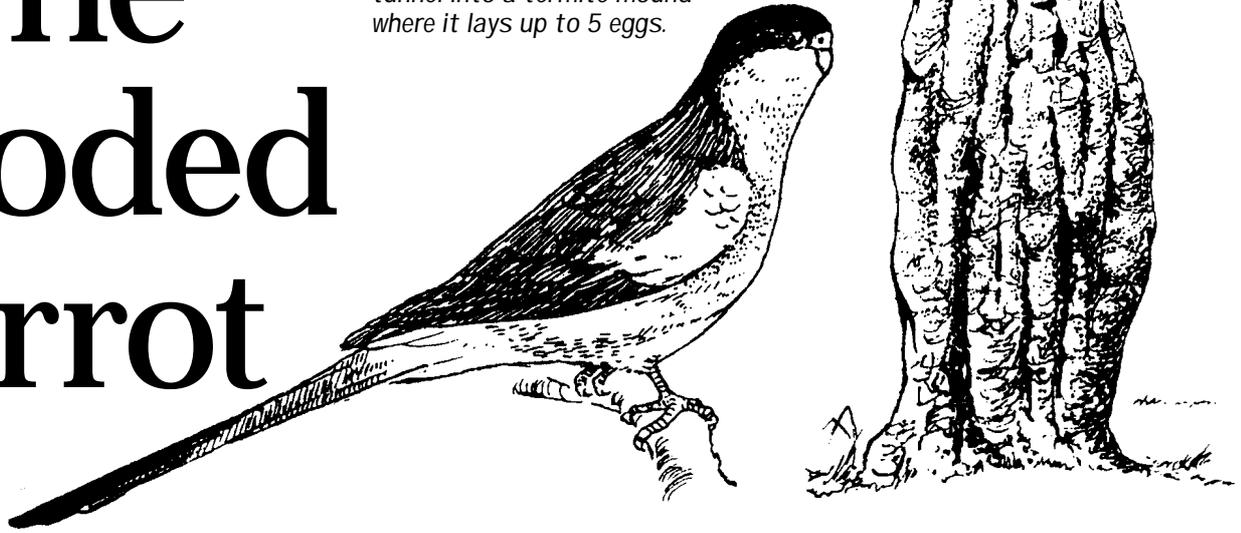


Shrew

On the Brink

The Hooded Parrot

In the breeding season, the Hooded Parrot digs a short tunnel into a termite mound where it lays up to 5 eggs.



The elegant Hooded Parrot (*Psephotus dissimilis*) has disappeared from many places where it once lived in inland parts of the Top End. It is now restricted to a few places in Nitmiluk and Kakadu National Park.

It is a bird of dry, rocky woodlands

and grasslands, with tall termite mounds, near rivers and creeks.

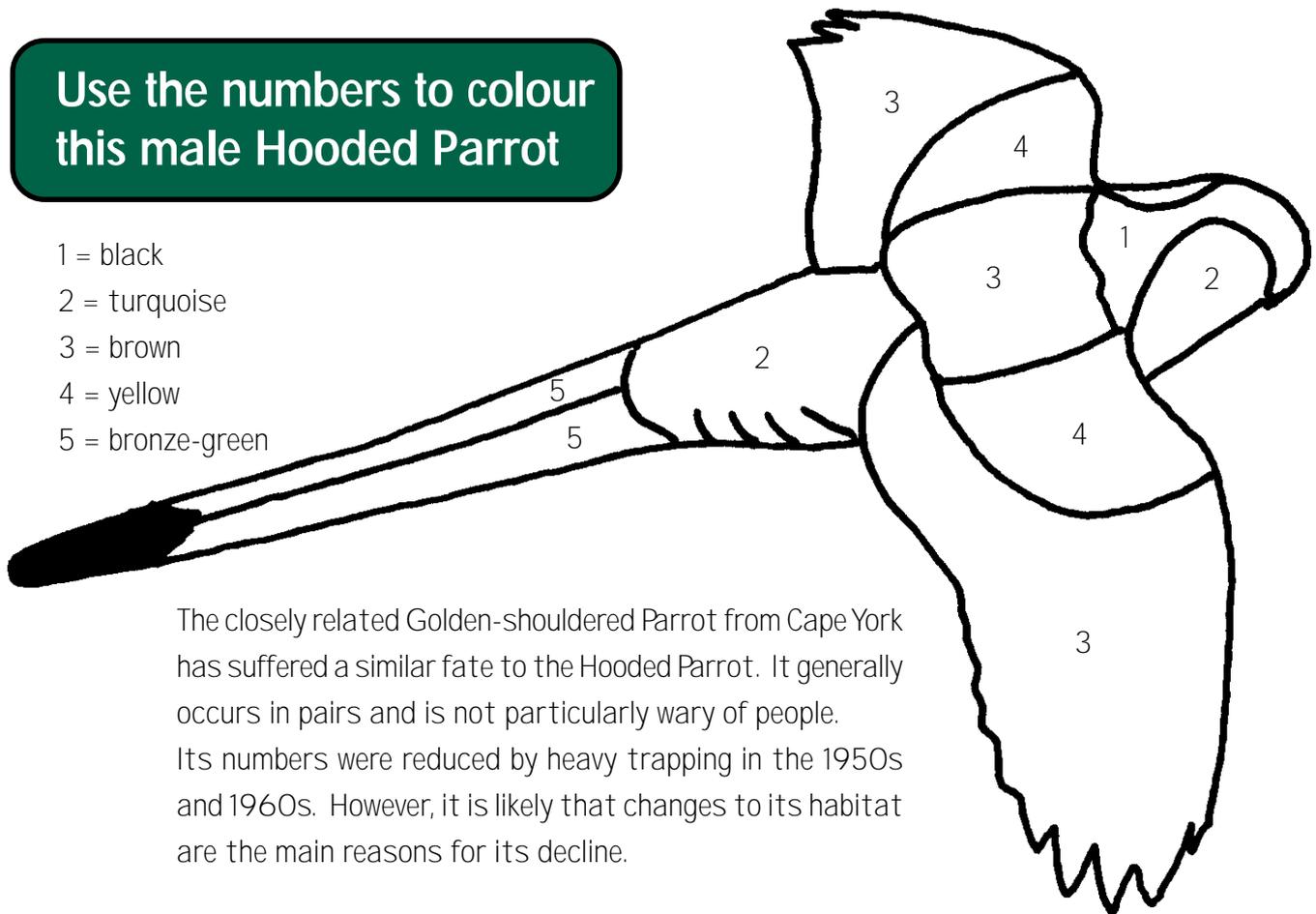
It spends much of its time on the ground, searching for seeds and berries.

In the middle of the day the bird heads towards water. It prefers shallow pools where it can easily walk out onto the sand and drink.

Illegal trapping and smuggling out of the country has affected bird numbers. However, it is likely that cattle grazing and too much dry season burning are the main reasons why it is now rare. These have reduced the ground cover and the parrot's food supply.

Use the numbers to colour this male Hooded Parrot

- 1 = black
- 2 = turquoise
- 3 = brown
- 4 = yellow
- 5 = bronze-green

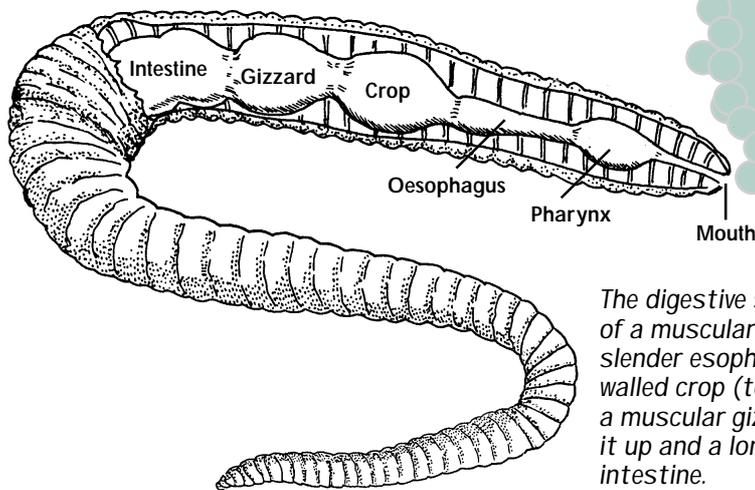


The closely related Golden-shouldered Parrot from Cape York has suffered a similar fate to the Hooded Parrot. It generally occurs in pairs and is not particularly wary of people. Its numbers were reduced by heavy trapping in the 1950s and 1960s. However, it is likely that changes to its habitat are the main reasons for its decline.

EarthWorms

Caretakers of the Soil

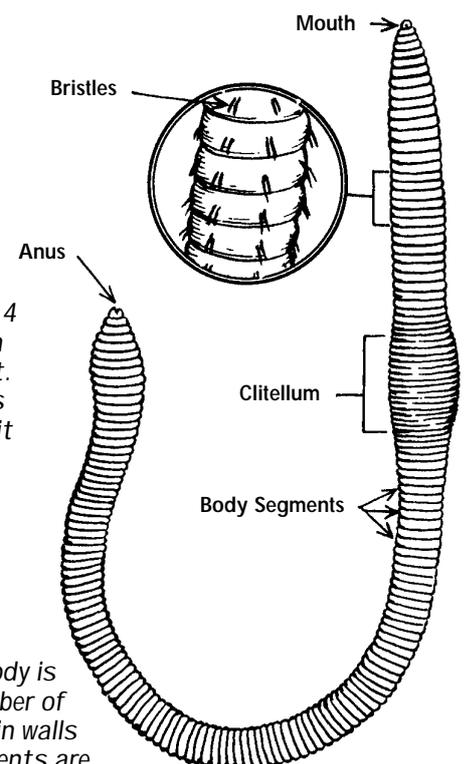
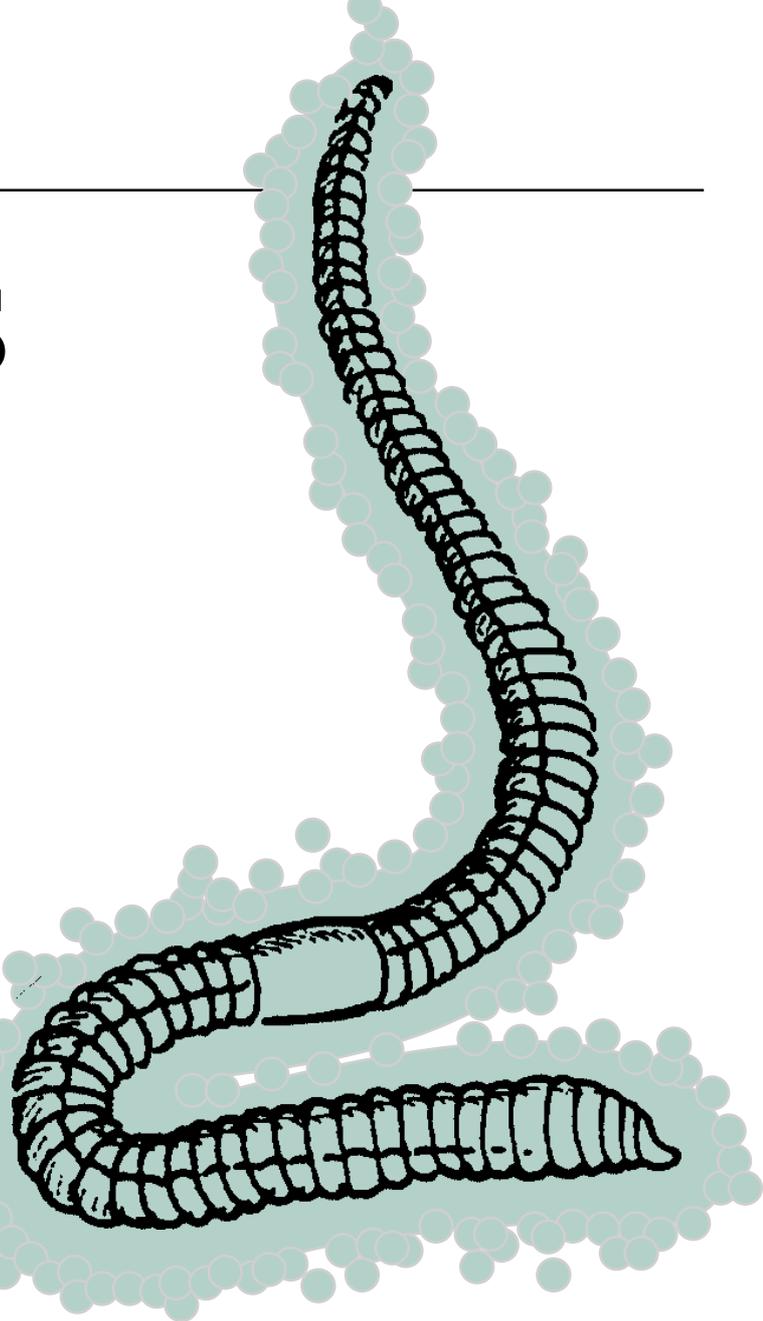
Earthworms actually eat their way through the soil. They swallow large amounts, digest the edible bits and expel the remains in the form of finely divided casts. They improve the soil in several ways. Their constant tunneling loosens and aerates the soil. This makes it easier for water to soak down to lower levels instead of running across the surface. They take dead leaves and other decaying, organic material down into the soil. They bring minerals from lower layers up towards the surface.



The digestive system consists of a muscular pharynx, a slender esophagus, a thin walled crop (to hold the food), a muscular gizzard for grinding it up and a long straight intestine.

Earthworms belong to a large family called annelids. The name comes from the Latin word annulus which means 'ring'. The annelid family contains more than 6500 species. *Lumbricus terrestris* is the scientific name for the common earthworm. Its body is made of approximately 150 segments. It can grow 25cm in length and live for up to 10 years.

Earthworms are hermaphrodites, each worm having both male and female reproductive organs. When two worms mate, they fertilize each other's eggs. Young earthworms are sexually mature at 12 months of age.



An earthworm has 4 pairs of bristles on each body segment. It uses the bristles to grip the soil as it moves along.

An earthworm's body is divided into a number of segments. The thin walls between the segments are called septa.

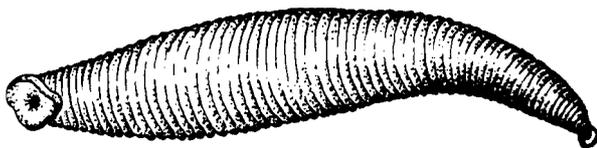
Nature Quiz

Wormwords

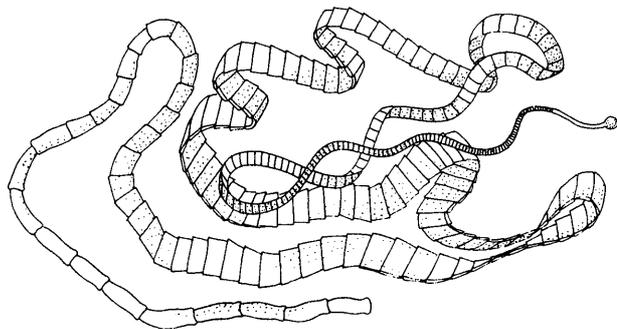
These hidden words go in all directions and some are written backwards. Colour the boxes as you find each letter.

- | | |
|---------------|-----------|
| Annelid | Leech |
| Anus | Log |
| Bait | Mucus |
| Bristle | Open |
| Burrow | Parasite |
| Cast | Planarian |
| Clitellum | Segments |
| Compost | Septa |
| Cool | Skin |
| Crop | Slimy |
| Cyst | Speck |
| Eat | Squirm |
| Egg | Swallow |
| Flatworm | Tapeworms |
| Gizzard | Wriggle |
| Hermaphrodite | |
| Invertebrate | |

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



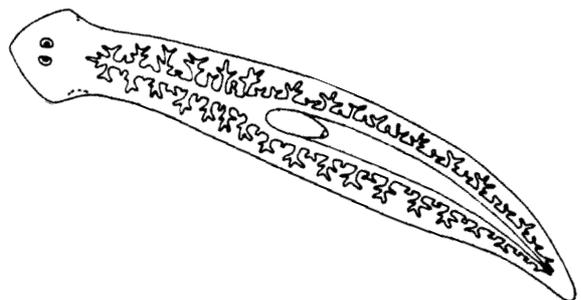
Leeches have a small sucker surrounding the mouth and a large sucker at the other end of their body.



Tapeworms are parasites that live in the intestines of large animals, including people. They don't have a mouth. They attach themselves to the intestinal wall and absorb partially digested food through their body surface.

You should have 9 letters left over. String them together to spell the name of a place in Victoria where there are native earthworms 3 metres long.

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



Planarians are tiny freshwater flatworms. They glide over rocks and submerged plants scavenging for food. The mouth is in the middle of their body.

Project Page

Backyard Farming with Composter Worms

You can breed your own prize worms and turn your food scraps into the choicest compost.

What you'll need

- 4 foam boxes from a fruit and veggie shop
- some scraps of shadecloth and hessian
- peat moss
- composter worms (from a plant nursery)

Making Your Worm Farm

1. Cut the bottoms out of 3 of your 4 foam boxes and line the inside of each with a layer of shadecloth.
2. Stack the boxes on top of each other and label them 1, 2, 3 and 4 with a permanent marker pen. Box 4 will be the one whose bottom was not cut out. It's there to catch liquids that trickle down from the 3 above it. You can tip its contents onto the garden (or into pot plants) from time to time.
3. Put a layer of hessian (or several sheets of newspaper) over the shadecloth in boxes 1, 2 and 3. Add damp peat moss to each of them to a depth of 8-10cm.
4. Next add your worms to the top box. They must be composter worms, not earthworms. You will need to purchase 250 grams of them (about 1,000 worms) from a nursery.
5. Cover the worms with another layer of wet hessian. Leave them for a day to settle in and then add a few handfuls of food scraps. You can feed your worms just about any vegetable matter (including grass cuttings and leaves). But don't put in meat or let the hessian dry out. Regulate how many food scraps you add so that you just keep ahead of the worms' eating rate.

When Box 1 is full...

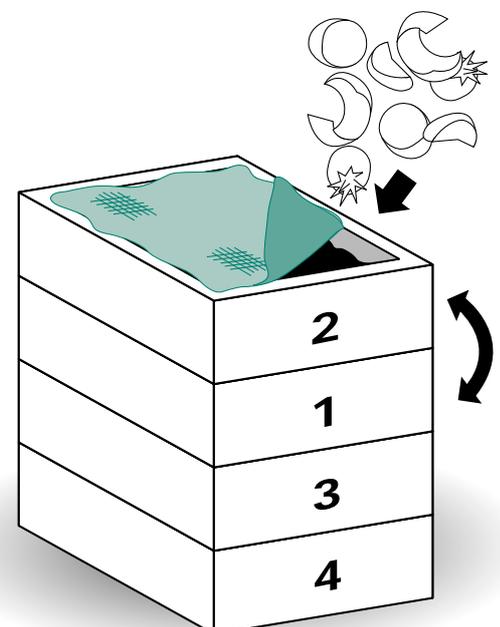
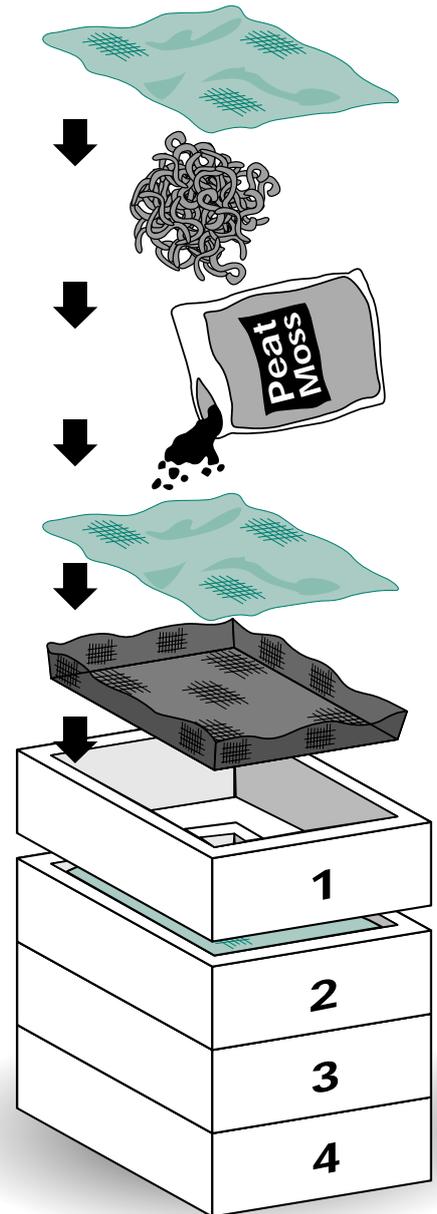
It will probably take a number of weeks before the box is full. When it is, swap it with box 2. The worms will work their way up into it, provided the shadecloth is touching the compost below.

When this second box is full...

Box 3 is then moved up to become the top box.

When this third box is full...

Empty the contents of the original box 1 into the garden (except for the shadecloth and hessian). It will now become the top box once more. Happy worm farming! Excess worms can be given to other people so they can start their own farms. (Composter worms don't survive very well in the garden, unless it is kept very moist and well stocked with decaying material.)



Try this quick quiz. The answers are on the second last page of this Junior Ranger Review. But don't peek first!

1. The earthworms common in Australia's gardens are;
(a) native
(b) introduced from overseas

2. True or False:
Earthworms have special organs for sight and hearing

3. True or False:
Female earthworms are bigger than males

4. True or False:
Baby earthworms hatch and grow inside a special cocoon in the soil

5. True or False:
An earthworm is an adult when the swelling around its body, (called the clitellum), is visible

6. If an earthworm loses its tail;
(a) it dies
(b) you get two worms
(c) it grows a new tail

7. Earthworms prefer soil that is;
(a) dry
(b) moist
(c) wet

8. Earthworms have;
(a) one heart, similar to humans
(b) three hearts
(c) five hearts

9. The bristles on an earthworm;
(a) are sense organs
(b) grip the soil as it moves
(c) are present on males only

10. What is vermiculture?

Earthworms



Did you know...

When planarian flatworms are cut in half, each piece grows back the end that is missing!

Worms vary in length from microscopic ones, less than 1mm long, to a marine ribbon worm that measures 30 metres!

American Indians and some Asian people have some extra bones in their skulls called wormian bones!

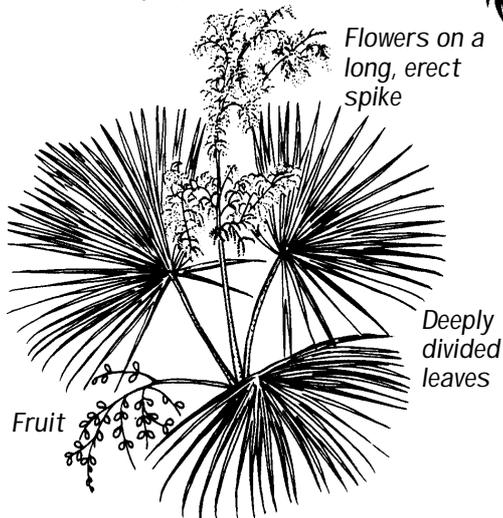
There is a city in Germany called Worms!

The skin irritation ringworm is caused by a fungus not a worm!

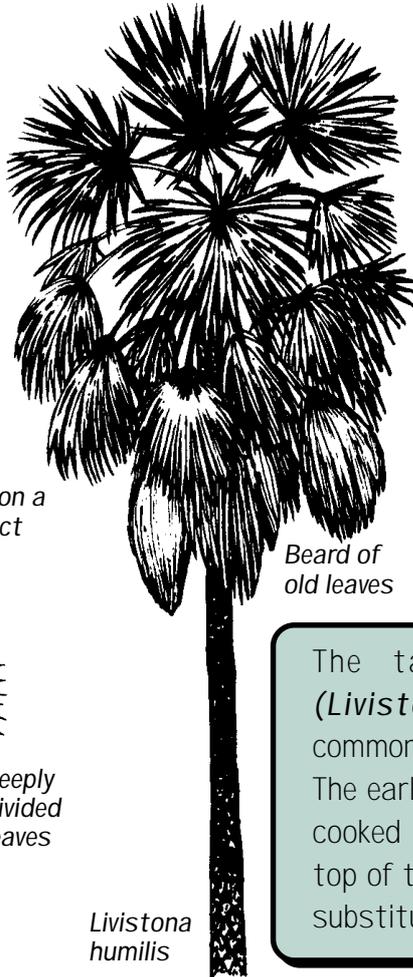
Green Scene

Livistonas

The small Sand Palm (*Livistona humilis*) is a common plant in the eucalypt woodlands of the Top End. It is easy to recognise with its slender trunk and dense 'beard' of dead leaves hanging from the crown. Small yellow flowers develop on long spikes from October to May. The small fruit change from green to black as they ripen.



Livistona humilis



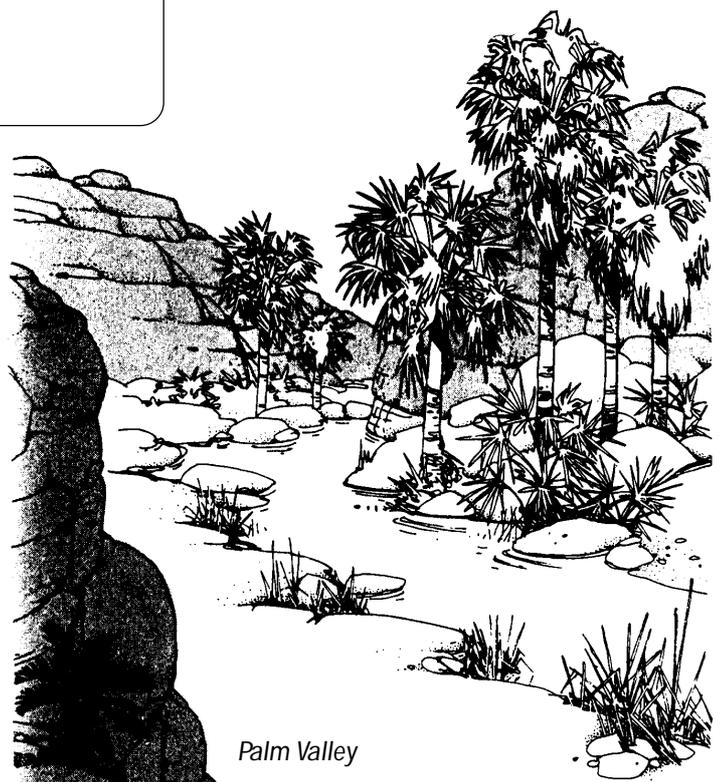
The tall Cabbage Tree (*Livistona australis*) is common in eastern Australia. The early settlers of Sydney cooked the shoots from the top of these tall palms as a substitute for cabbage.

The famous Scottish botanist Robert Brown made up the name *Livistona* in 1810 to honour his fellow countryman, Patrick Murray, Baron of Livingston. Murray had established the Edinburgh Botanic Gardens.

Palms are ancient plants which first appeared on Earth 85 million years ago. Gum trees are more recent. They didn't appear until 35 million years ago.

Palm Valley, 138km west of Alice Springs, is home to a species *Livistona mariae* found nowhere else in Australia. These tall, graceful palms grow by pools in a sandy creekbed: relics of a long gone age when Central Australia was much wetter than it is now.

Palm Valley was the first place in the NT to be reserved as a national park.



Around the Traps

Darwin

Big-headed ants, hopping toads, giant African snails and screw-worm flies... what do these have in common? They're all pests to the Top End and Australia in general and the Junior Rangers have been spending the month of August investigating some of these feral residents. Junior Rangers have spent time busily tracking ferals along paths set up with clues, identified feral animal hair and tracks, examined the impact of feral feet on the earth by comparing compacted earth with healthy earth and learnt how to be a "Top Watcher" through the Australian Quarantine and Inspection Service.

In September Junior Rangers explored threatened habitats and animals including mangroves, wetlands and turtles. They also

created some animal exhibits using rocks, branches, leaves, water and soil for threatened species after learning about exhibit design and went behind the scenes at the NT Museum to discover from the experts how the fossil record provides us with information on animal and plant species that have died out or declined. September 7th was Threatened Species Day so to raise awareness of this Junior Rangers participated in a family fun night answering questions from a giant quiz.

Our 12-14 Year Old Junior Rangers have also been busy learning how to care for injured and orphaned birds and mammals. They made some items to assist wildlife carers, including pouches for orphaned wallabies and possums, and nestboxes for birds.

G'day from Ranger Bill

Junior Rangers have spent the past two months concentrating on two areas that form a major focus of the Commission; feral animals and threatened species.

Up to 18 vertebrate species are believed to have become extinct in the Northern Territory in the last 200 years or so. With 15 of these being mammals from the Central Australian desert region this is a huge loss for Australian biodiversity. This means that Parks and Wildlife have a valuable role to play in conserving and protecting our natural environment. This may be through means such as the establishment of parks, reserves or sanctuaries, and through enforcement and awareness raising of the decline of species and ecological communities.

Some of the species that are currently threatened include;

In 1994/95 a population of about 50 Carpentaria rock-rats were discovered in the Gulf of Carpentaria. This was the largest known population of the species which are known only from four rocky rainforest gorges in the hinterland of this region. The Territory Wildlife Park is now involved in establishing a captive-breeding

colony with a view to translocating these animals back into the wild.

In Katherine the small populations of Gouldian finches have not been seen to increase over the last four years however research continues into the feeding behaviours of these birds in relation to early dry season burning.

Further south, central rock-rats, a species that was only rediscovered in 1996, continue to be monitored in a number of areas including Ormiston Gorge with a notable addition of two juveniles to this population. The Alice Springs Desert Park is playing a vital role in the breeding of this species with 10 young having been bred in captivity already.

Everyone can help to protect our native flora and fauna. You don't have to be involved in a threatened species program. Keep your cat in at night, plant native flora in your garden to provide natural homes and food for our native wildlife and report any sightings of feral animals in parks to rangers. Help us help the Territory's natural environment - it's certainly worth protecting!

Katherine

Katherine Junior Rangers have been putting their creativeness to the test by producing some fantastic art in the form of rocks, boulders and cliffs. These were made for the scenery in the Parks and Wildlife Show pavilion for the Katherine Show. This year's theme was "What Are Parks For?" and highlighted how they're important to everyone and that they are there for everybody to enjoy. From what was displayed Junior Rangers learned about three major topics which occur in Parks, these were; recreation, research and management. Junior Rangers also helped to educate other visitors to the Show about what was on display.

During August, Junior Rangers put on another display. This time they entered a float in the Katherine Flying Fox Festival. So it was back to paper mache and paint for a while.

Having finished the theme of "Wind" in August the theme for September and October is all about 'Earth'. The earth topic will cover everything earthy, such as our precious soils, to geology and geography, and Aboriginal rock art. Now that we have made some very good examples of rocks for the Katherine Show, Junior Rangers can look forward to some exciting excursions to look at some real rocks and how they and other earthy things play an important role in our environment.

Alice Springs

Junior Rangers have been continuing to look after Desert Goliath Stick insects to assist in the scientific study of them on behalf of the Alice Springs Desert Park. The stick insects are doing well and are growing rapidly. Adult males are abundant and females still have 1 - 2 moults to go. Keep up the good work with the record sheets, and don't forget that new sheets are available if needed just give Ranger Kym a call on 89 518242.

Everyone had a great time with the paper pulping and paper making, with some very artistic and imaginative paper designs being made - well done to all Junior Rangers.

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 drawn by Tracey Watson (12 yrs of age) a Junior Ranger with the Katherine Program. Illustrations in this edition are by Bob Whiteford, Adi Dunlop and Andrew Saunders.

**Contributions are welcome
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