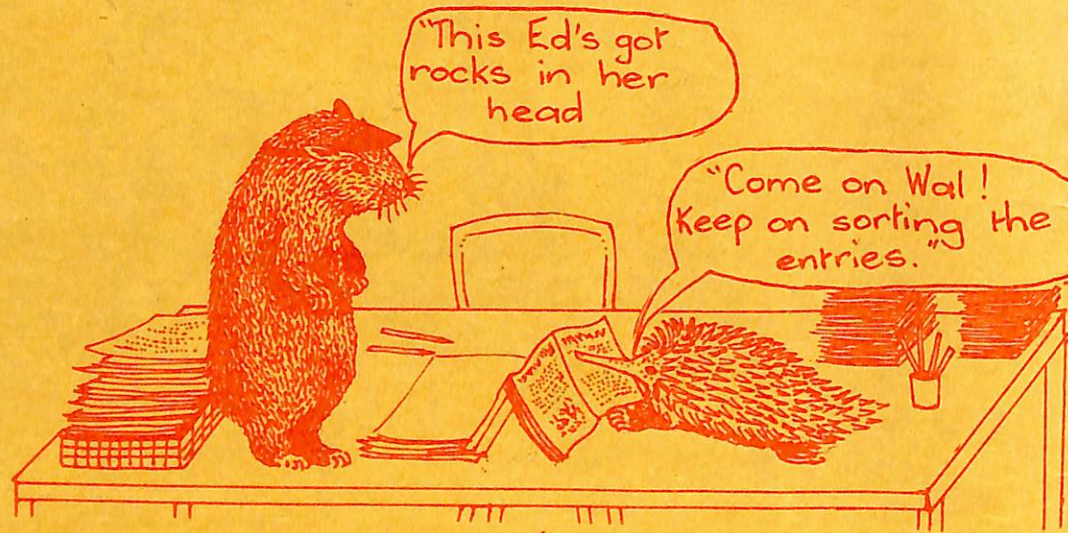


NATURE NOTES



VOL. 21 NO. 3, MAY 1984

EDITORIAL



Dear Readers,

I think Wally and Ernie are trying to remind us that the closing date for the colouring competition is almost here. Don't forget to send in your entries soon!

As for the rocks in my head, I think they are right. This month's issue of Nature Notes is mostly about things to do with rocks - like gold, creatures that live near rocks and even cartoons about rocks. I hope you enjoy reading about them as much as we enjoyed putting it all together.

I'm off for a breath of fresh air to clear my head.

Happy Reading,

Rosalie Collie

Editor.



Around the OLGAS

The Olgas are in the Uluru (Ayers Rock - Mount Olga) National Park which covers an area of 126,132 hectares. The park is situated within the arid zone of the Northern Territory. The area is one of sandy plains and sand dunes interspersed with mulga woodland.

Rainfall is erratic. Sometimes it fails to rain for a number of years. The average rainfall is about 200mm per annum. All plants and animals have had to adapt to life in this desert country. Most of them show wonderful ability to exist without free water.

The Mount Olga group consists of over thirty domes. The highest dome is Mount Olga which is 546 metres above ground level and 1078 metres above sea level. Most domes in the group have extremely steep walls, and narrow gorges and valleys separate adjacent domes.

FORMATION

Mount Olga and the surrounding group of domes were formed from Mount Currie conglomerate. This conglomerate contains pebble and boulders of granite, gneiss and volcanic rock set in a matrix of metamorphosed sandstone containing epidote.

Check the Meanings

Conglomerate - composed of pebbles or hard rock substances bound together by softer material such as limy sandstone or felspar.

Granite - a common igneous rock. It was formed by the solidification of molten magma at a great depth below the earth's surface.

Gneiss - a rock in which the minerals are separated into bands. It occurs abundantly amongst all ancient rocks, and it is sometimes hard to distinguish from granite.

Epidote - a greenish mineral!

TURN TO PAGE 14

There are many rocks and rocky formations that have been named. The Olgas were named after Queen Olga of Spain. Find out about, The Nerve Test, the Three Sisters, the Devil's Marbles, and the Organ Pipes. Perhaps you could think of a name for the rock I'm holding



GOLD!

Gold is one of the precious metals found in the earth's crust which has always been a symbol of power and riches. It never changes colour - tarnish - and cannot be dissolved by strong acids. Usually gold is found in veins of quartz, sometimes with another yellow metal called pyrite (pie-right). "New chums" on the goldfields often mistake it for gold. Don't be fooled by "fool's gold".

When the quartz is exposed on the earth's surface and gradually worn away in fine grains, specks of gold are carried away too. Gold prospectors (like Wally) pan for gold. They fill an iron dish with sand and water, and swirl it around gently, gradually washing away the sand. The gold is much heavier and sinks to the bottom.

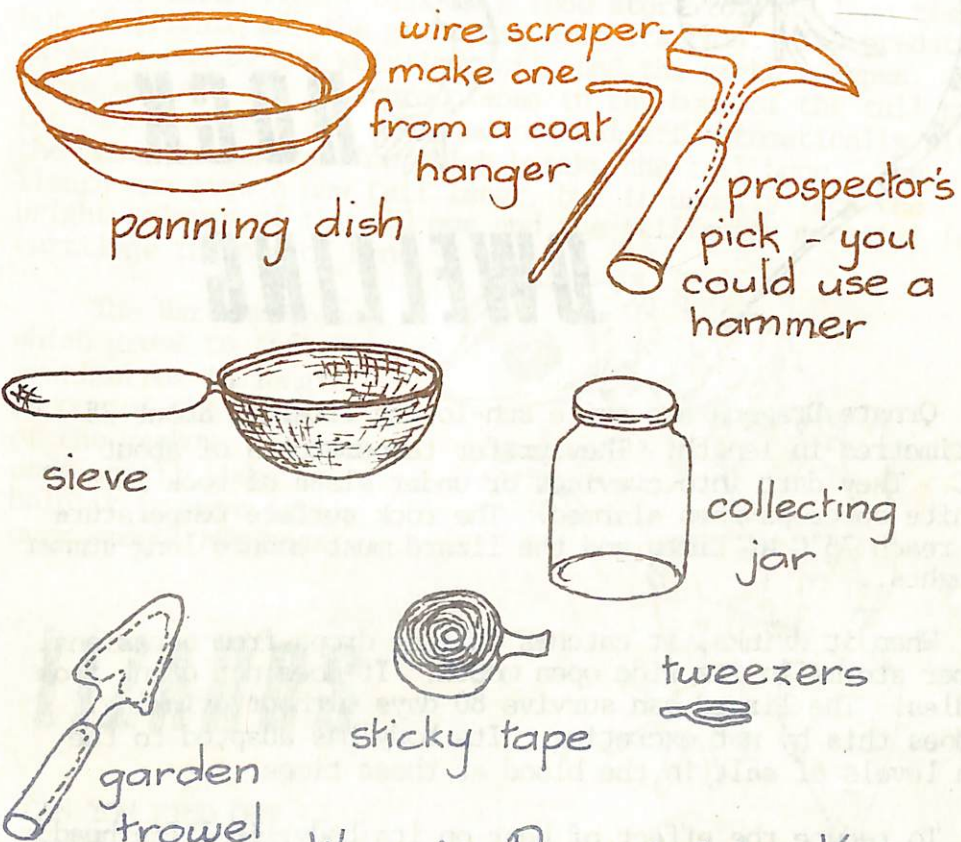
Wally hopes one day to find a big quartz reef containing huge nuggets of gold. Probably there are many rich goldfields lying hundreds of metres below the present surface of the Earth, but finding them is the problem!

* We all know gold is used in jewellery, but can you find five other ways gold is used?

* Find out the names of some famous Australian gold nuggets. (Use the Reference books in your Library).



GOLD!



WALLY'S PROSPECTING KIT

GOLDEN WORDS What could these strange words have to do with gold? Gutter, Mullock heap, Puddling tub, Washdirt, Bottoms, Tailings, Cradle, Battery, Shaft, Deep lead. Digger, Sluicing, Traps, Windlass, Panning, Winze.



ROCK DWELLING

Ornate Dragons are agile sun-loving lizards, about 25 centimetres in length. They prefer temperatures of about 37°C. They dart into crevices or under slabs of rock in granite outcrops when alarmed. The rock surface temperature may reach 75°C at times and the lizard must endure long summer droughts.

When it drinks, it catches falling drops from occasional summer storms in its wide open mouth. It does not drink from puddles. The lizard can survive 80 days without drinking. It does this by not excreting. Its body has adapted to the high levels of salt in the blood at these times.

To reduce the effect of heat on its body, it lifts head, chest and forelimbs into a vertical position and holds the tail curved upward. Because of this strange method of moving, it is sometimes known as the 'bicycle lizard'.

In winter, the Ornate Dragon only emerges when the temperature is above 20°C and the wind drops. It then presses its front to the warm rock surface to help the body temperature rise.



Barking Geckos shelter in rock crevices by day and hunt at night. This may be because they prefer temperatures around 27°C. Their bodies are brownish-black with yellow cross bands. If you disturb one it will stand stiffly, jump at you and bark like a dog.

The thick fleshy tail is a food store for the lean times, but if frightened, the gecko can drop its tail. The predator is attracted by the whirling tail, and the gecko escapes. There are special fracture planes in the bone of the tail and the blood vessels are designed to seal off automatically with the muscular contraction which breaks the tail bone. The lizard can grow a new tail later, but it usually lacks the bright colours of the old one and the stiffening material is cartilage instead of bone.

The Barking Gecko, which grows to fifteen centimetres in length, is one of the largest of the geckos. It has pads on all limbs to help it to move easily over smooth surfaces.



LIZARDS

CAN YOU FIND OUT :-

What other creatures live in rocky places, and how have they adapted to their harsh environment?

Here's a hint - Lots of these creatures live in buildings.

Many thanks to our artists this month. Wilma Prohasky for the front and back covers, and Carol Measures for the "Ant-ics" cartoon.



Ant-ics

LOOKS' LIKE WE ARE UNDER INVESTIGATION AGAIN ARNOLD! OUT OF OUR 3,500 SPECIES THEY SHOULD FIND SOMETHING TO WRITE ABOUT EH?



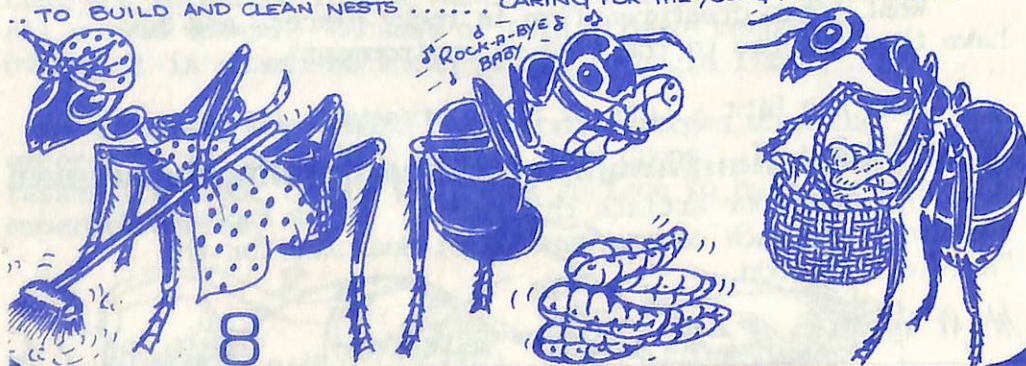
ONE SPECIES OF ANT IS THE TAILOR ANT, WHICH "SEWS" LEAVES TOGETHER USING SILKEN "THREAD" FROM THE ANT LARVAE.



OTHER COMMON SPECIES ARE.....



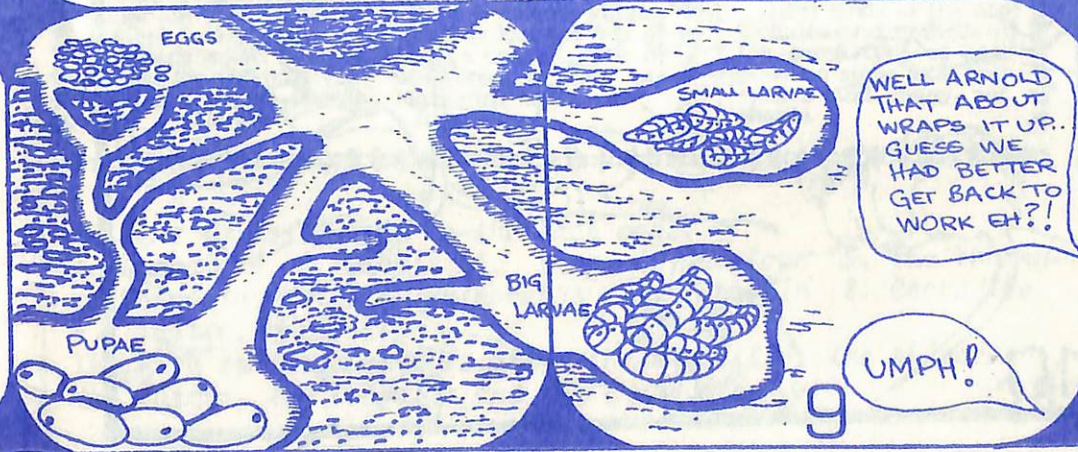
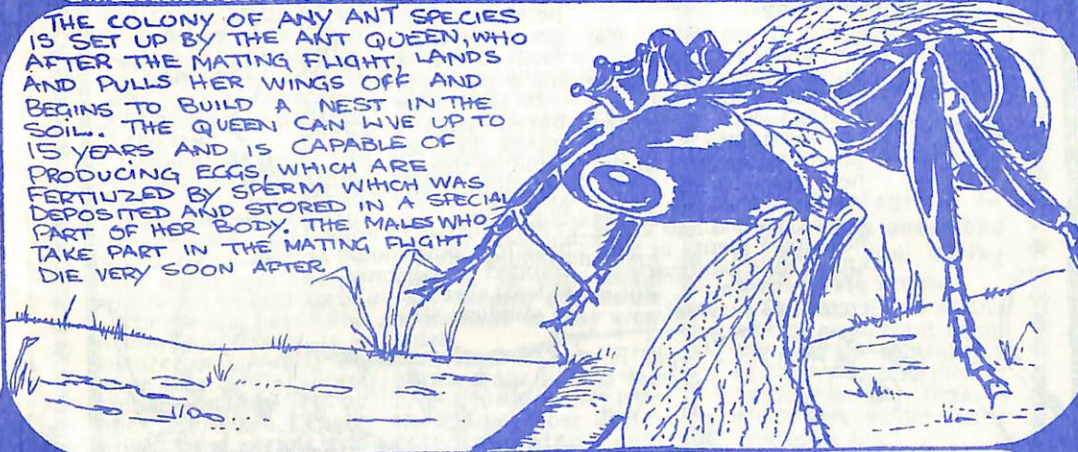
EVERY COLONY HAS A SET ORDER. SOME ANTS ARE BORN TO BE WORKERS... THESE ARE FEMALES WHO ARE UNABLE TO REPRODUCE. THEIR JOB IS..... TO BUILD AND CLEAN NESTS CARING FOR THE YOUNG LOOKING FOR FOOD.



A SECOND GROUP IS THE SOLDIER ANT, HIS MAIN JOB IS TO PROTECT THE NEST FROM PREDATORS AND ALSO HELP WORKER ANTS. THE SIZE OF THE SOLDIER ANT IS A FORMIDABLE ONE.... ITS' LARGE HEAD AND MANDIBLES ARE A READY DEFENCE TO ANY INTRUDER.....



THE COLONY OF ANY ANT SPECIES IS SET UP BY THE ANT QUEEN, WHO AFTER THE MATING FLIGHT, LANDS AND PULLS HER WINGS OFF AND BEGINS TO BUILD A NEST IN THE SOIL. THE QUEEN CAN LIVE UP TO 15 YEARS AND IS CAPABLE OF PRODUCING EGGS, WHICH ARE FERTILIZED BY SPERM WHICH WAS DEPOSITED AND STORED IN A SPECIAL PART OF HER BODY. THE MALES WHO TAKE PART IN THE MATING FLIGHT DIE VERY SOON AFTER.



NATURE in

Warning on mice

Householders in the country should start thinking about clearing away anything that is likely to shelter mice around their homes, sheds and out-buildings.

Mr Bruce Muir, the Department of Agriculture's extension director at Ballarat, said recently CSIRO had indicated the possibility of a mice plague some time in the next year.

He said that the record wheat harvest had given field mice plenty of food and a mild summer had given them a good chance of survival.

"If we have a mild winter, the situation could be ideal for a mice plague," Mr Muir said.

He said that the mice would look for shelter in buildings when winter drew on.

All spilt grain should be cleaned up and any grain, garbage or other food sources should be made mouse proof.

It should be remembered that a young mouse can get into a building through a crack 10 millimetres wide, Mr Muir said.

Any mice in or around buildings now should be trapped or poisoned, to at least slow the build up of numbers there.

"Help!
Someone
call
Mighty
Mouse."

the NEWS

Tough move on dingoes

KEEPING and breeding dingoes will be controlled in Victoria under new laws.

Conservation, Forests and Lands Minister, Mr Rod Mackenzie, said many hundreds of dingoes were being kept as pets, many in the metropolitan area, in defiance of the law.

Regulations under the Vermin and Noxious Weeds Act would still outlaw buying and selling dingoes, but they would be allowed to be kept under very strictly controlled conditions.

They would have to be neutered and kept in a secure compound. No more than two neutered animals could be kept by one household. There would be a permit system for special authorised breeders, but breeding could only be done for scientific research and for use in

authorised zoos or other establishments.

"Dingoes are not a domestic species. They are essentially wild animals. Individuals can be tamed, but the species does not have a history of domestication. As a result, even tamed individuals can become savage and unmanageable as they grow older."

Many people who kept dingoes as pets found they become impossible to manage as they grew older.

"They either ring asking if the animal can be put down, or they turn the animal loose in forested country. This leaves a savage animal that has lost the fear of man, a characteristic of bush-bred dingoes," Mr Mackenzie said.

"Thanks to
"The Weekly Times",
14.3.84 for these
articles."



Old egg

Archeologists in China have unearthed a bird's egg dating back 4500 years.

The egg, found at the site of an ancient dwelling near the central city of Zhen, was described as "well-preserved, oval in shape and smaller than a chicken's egg."

Other finds at the dig included broken shells of the same type of egg, polished stone axes and spades and many pot shards.

Answers to the puzzle on the back page:

1. Armadillo 2. Rabbit 3. Frog 4. Antelope 5. The Thorny or Mountain Devil 6. Rhinoceros 7. Pangolin 8. Crocodile 9. Turtle.

The five armoured animals are - the armadillo, the rhinoceros, the turtle, the pangolin and the crocodile.



PENGUIN on Macquarie

Little Wendy Wombat has spent another wonderful month on the island, never short of things to see or do, the wildlife continues to captivate her and the 18 scientists and tradesmen there. She tells us that the Macquarie Island Station is the oldest of Australia's 4 permanent stations in the vast area of the south. The other 3 are Casey, Davis and Mawson, on the mainland of Antarctica. Do you know why the other 3 places were named after Casey, Davis and Mawson?

Wendy loves the penguins. She says that there are 8 different kinds there. The Kings, Chinstraps, Gentoos, Royals, Rockhoppers and Adelies. The Snares Crested and Erect-crested penguins are rarely seen on the island.

Penguins have a comical appearance while waddling across the landscape, like a conference of pint sized executives in dinner jackets gathered tightly together!

The King and Gentoo penguins live on Macquarie Island all the year, while the others spend winter at sea.

One day Wendy walked along the beach down around the coastline and saw some Royal Penguin rookeries in the hillside about 70 metres above sea level. They come up and down the gully each time they want to enter the sea. Wendy thinks they must be the fittest penguins on the island, because it's a 1-o-n-g steep walk!

Wendy thinks there are about 2,000,000 Royal Penguins on the island. Try and imagine the noise they make with 50,000 penguins chattering and snapping at their neighbours, crowded



Adelie Penguins



* Find out what the word rookeries means.

PANDEMONIUM.. Island

together on one rookery alone. Wendy was overwhelmed by the thousands of penguins and the ear splitting sounds. I think Wally had better send her some ear-muffs don't you?

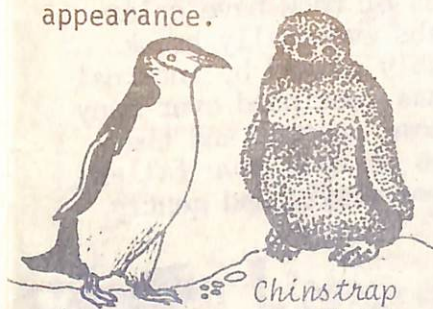
Penguins cannot fly, having flippers rather than wings. They remain close to the sea to obtain their food.

The Royal is a crested penguin. With a crest of yellow feathers on their heads. Wendy says they look untidy with what appears to be a thatch of uncombed hair! Perhaps we'll send her a strong comb too!

Adelie penguins grow to about 50cm tall, weighing approx. 6kg. They have white circles around their eyes and have an alert, cheeky appearance.



Royal Penguins



Chinstrap
Penguin and Chick

Penguin chicks have a covering of thick down to keep them warm. The fluffy brown down is later replaced by fine feathers, as a result Wendy could see that the chicks looked larger than their parents! Just imagine that!

Chicks huddle together in "creches" of 20 to 30 for warmth and protection from predators. Do you know what that word means? Several adults mind them.

By the way, Wendy says that she lives in a building called Hasselburgh House (not an igloo), nicknamed the "hen" house. It was named after a Sydney sealing captain Frederick Hasselburgh who discovered the island in 1810. They named the island after the then governor of New South Wales, Lachlan Macquarie.

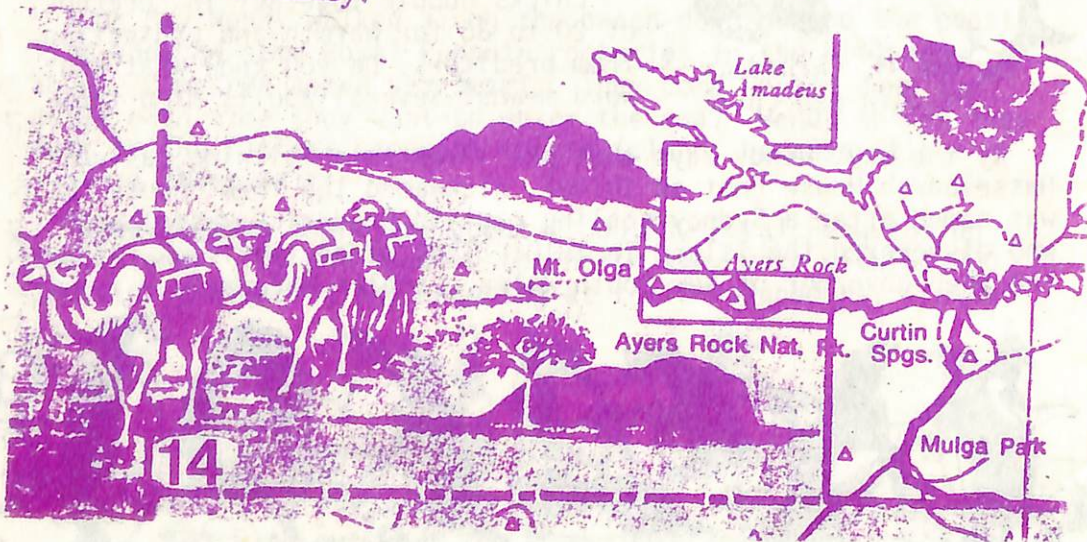


by Wilma Prohasky



During the Cambrian Period 500 to 600 million years ago part of Central Australia was under the sea. Sediment boulders hardened into conglomerate. About 450 million years ago the rocks were folded and uplifted above the sea. Over hundreds of millions of years enormous quantities of rock have been eroded away from the area and much of Central Australia has been worn down to a plain. Some of the harder rocks have resisted erosion and now stand out as hills and mountains rising above the plain. The Olgas are typical inselbergs or island mountains, that rise very abruptly from the plain, like an island from the sea.

The type of erosion that has occurred at the Olgas is a form of "off - loading". Great slabs of rock have split away from the main domes. These slabs eventually break down to boulder size. This is probably caused by internal pressure. As the "off - loading" has continued over many years the sides of the domes have become steeper and the tops more rounded. Many of the slabs of rock have fallen straight to the ground, but others move slowly and gently towards the valley.



CARTOONS

from Paul



ARMOURED ANIMALS



Here are the names of the nine animals above. Can you match the names to the animals correctly?

ARMADILLO RABBIT RHINOCEROS TURTLE FROG ANTELOPE
THE THORNY OR MOUNTAIN DEVIL PANGOLIN CROCODILE

When you've done that, perhaps you could find the five animals in the group that have armour-plating. ANSWERS p.11