

# NATURE NOTES

Illustration of a THREE  
FRUITED RED IRONBARK:  
by S. Kelly in "Eucalypts  
Vol. II, pub. Thos. Nelson



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# EDITORIAL

Hello there, This month's Nature Notes is a special issue to start you thinking about trees. Sometimes we take the trees around us for granted and don't stop to think what a drab and lifeless world it would be without them.

Do you have a favorite tree? Perhaps it is one you can climb up, to hide far away from the world in its leafy green branches. Perhaps it is a beautiful pink blossom tree you pass on your way to school in the spring. Or perhaps your favorite is, like mine, a Liquid Amber when the leaves turn their brilliant reds, golds and browns in the autumn.

Trees are truly amazing. While reading about them for this issue, I came across so many interesting 'snippets' I did not have room to include. For instance, can you guess how old the oldest living tree is? See the back page for an answer that will astound you. Trees are in the news quite often these days. Whether or not an area should be logged is a common argument. Some people argue for it, some against. What sort of things do you think they would say? What do you think? Maybe I could leave you with the task of finding out more about trees and what is happening when they 'hit the headlines'. Cheerio for now,

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Debra Brydon



# THE MYSTERY OF DIEBACK



PHOTO: Thanks to "HABITAT", Vol. 9, No. 1

It was the bee keepers who first noticed that something was wrong. About ten years ago, their bees began producing less and less honey. Something was happening to the flowering gums that the bees visited for their pollen.

The bee keepers of the New England area in New South Wales had discovered the beginning of a tree disease known as Eucalyptus Dieback. For some unknown reason, the eucalypts (or gum trees) in their area were dying. Farmers and townspeople became worried at the sight of thousands of lifeless tree skeletons where there used to be strong, healthy trees.

A public meeting was held at Armidale recently and thousands of dollars have been raised to find out why Eucalyptus Dieback is happening.

Until they find out for sure, scientists can only make guesses. Some blame the mistletoe, a plant that lives on and feeds off the bark of gum trees. Others blame the leaf eating Christmas beetle. Some blame sheep and cattle for squashing down the ground, stopping water soaking down to the tree's roots. Still others blame drought or fertilizers, while some say it is a mixture of all these things. Let's hope, anyway, that the people of New England are not left without a tree in sight. What a dreadful thought!

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HUMANS AREN'T THE ONLY ATHLETES....WHAT ABOUT THE

# TREE OLYMPICS?

BY D. Brydon

## A GOLD MEDAL WRESTLER: THE STRANGLING FIG

You don't need to go to Montreal or Moscow to see this gold medal winner of the tree world. In the tropical rain forests of Northern Queensland, the struggle to survive is desperate. In the human olympics, people compete for their countries to win gold, silver or bronze medals. In the rainforest, the competition is more a matter of life and death, with hundreds of different plants and animals competing for space, food and light. One of the most successful competitors is the Strangling Fig. The fruit of this tree is eaten by birds and flying foxes. The seeds are then dropped high in the crown of another different tree. There they germinate (begin to grow), finding their water and food in the little bowls formed when the branches jut out from the tree trunk. As it grows larger, the small fig sends out its string-like roots to the forest floor below. Once the roots reach the leaf



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Photos on this page are from "TREE WONDERS OF AUSTRALIA" by A.E. Brooks

litter, the extra food makes the fig go wild. More and more roots grow. They become thicker and thicker until they cover the trunk of the unlucky 'host' tree. Finally, the 'host' tree dies and the fig remains as one of the largest trees in the rainforest.

## THE GOLD MEDAL UNDERWATER EXPERT: THE MANGROVE

Mangroves are partly covered by the sea most of the time. The area they live in is usually muddy and marshy. This makes it hard for the mangrove roots to get enough of the air they need through the thick mud. So to help them get enough air, the roots send up breathing tubes: these are the spikes you see in the picture.



## THE SILVER MEDAL THE UNDERWATER EXPERT: THE RIVER RED GUM

In some parts of Australia it may not rain for several years. Then all of a sudden, in the space of a few hours, the rain will teem down so hard that the rivers flood. They may stay flooded for one day or maybe two or three months. The River Red Gum is quite at home in 5 or 6 feet of water, sometimes even more. The trunk has a remarkable habit of sending out roots into the flood waters. These roots become useless when the flood finishes. River Red Gum wood is valued by builders because it does not rot easily if buried in the ground. This makes it ideal for the stumps of houses.

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## Island koalas tune in to life



Koala mums living on Phillip Island have a problem. Unlike the old woman who lived in a shoe, they don't have enough children. Koalas living in other parts of Australia usually have around nine babies. The koalas on Phillip Island are lucky if they have one or two babies. To stop koalas dying out altogether

on Phillip Island, scientists have rushed to the rescue. Mr. Stephen Brown, a vet from Queensland University, is one man working to save the koalas. He believes that the koalas' problem is caused by the sort of gum leaves they eat. Many years ago, both the koalas and the gum trees were brought specially to Phillip Island. Mr. Brown is almost sure that these gum trees were the wrong sort for the koalas. So that he can find out for sure, radio collars are being fitted to all female koalas. These collars will tell him where the mums go and what they are eating. Maybe

PHOTO: Thanks to "The Sun", 18/2/81, page 3

in the years to come, visitors to Phillip Island will rest in the shade of different (and more carefully chosen) gum trees.

## By gum, it's on the move



UP, up and away! The salvaged remains of the Korman flats gum is on the move to its new home a few hundred yards away.

Highett nurseryman Mr Geoff Echberg has successfully saved the tree he planted more than 30 years ago.

Country Roads Board workers agreed to loan equipment and manpower to Mr Echberg after a storm of protest at the tree's impending doom.

The pruned stump took eight hours to remove and relocate at the corner of Marriage Rd. and Melosa Avenue.

Maybe some of you might feel that Mr. Echberg is going just a bit too far but those of you who have a favorite tree will understand. Trees have always been an important part of our surroundings. People can easily become fond of their trees and think of them as having a special part in their lives. For example, the King Charles II Oak tree in England is now protected by a metal spike fence. This is its reward for saving the life of one of England's kings when he hid in it after losing a battle. Oak Apple day in England celebrates the day when the king finally returned to throne in 1660, 9 years later.

Article: Thanks to "Sandringham & Brighton Advertiser"  
11th. February, 1981



# Where would we be without trees?

There are a thousand and one reasons why humans need and have needed trees. Look around you. Find at least twenty uses to which we have put wood.



As far as we know, only the planet Earth has trees. What two 'tree ingredients' does our planet have that Mars or Saturn do not?

What happens if we fall out?

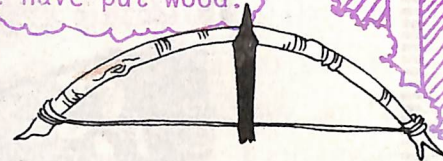


The first canoe was built out of a hollowed log...then paddles and oars.

How do trees help to keep our air fresh?



The first wheels were probably round tree stumps. Only much later (only 5 or 6 thousand years ago!) did wheels with spokes appear on the scene.



People's earliest tools were made of stone. When they learned to use wood, the hunters could kill animals that were further away.



Fire is often said to be the first great invention. How did trees help in the human discovery of fire?

The most famous medicine that comes from a tree is quinine. This comes from the cichona tree of Sth. America and until the 1940's, was the only drug for treating malaria. What is malaria?



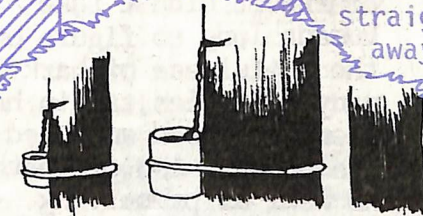
Thank goodness for the cacao tree!



BY D. BRYDON  
DRAWINGS: WILMA PROHASKY



The Indians of South America obtained curare, an arrow poison, from a tree. The poisoned dart paralysed, then killed almost straight away.



The rubber tree is tapped for its milky, white latex (sap). Can you think of at least 4 things you use that are made from rubber?

The bark of the sapodilla tree of Central America is slashed for its chicle: the main ingredient of chewing gum.



Why should trees be grateful to those of you who don't waste paper?

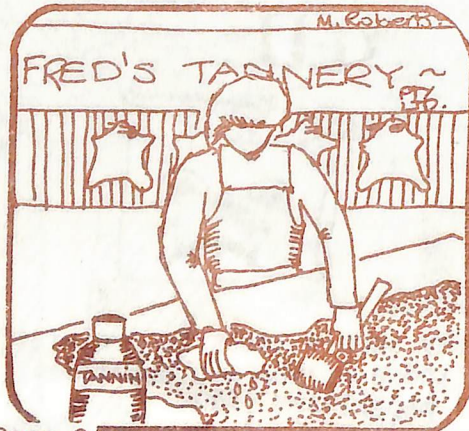


# THIS 'N THAT

by D. Brydon

## STOP THAT ROT!

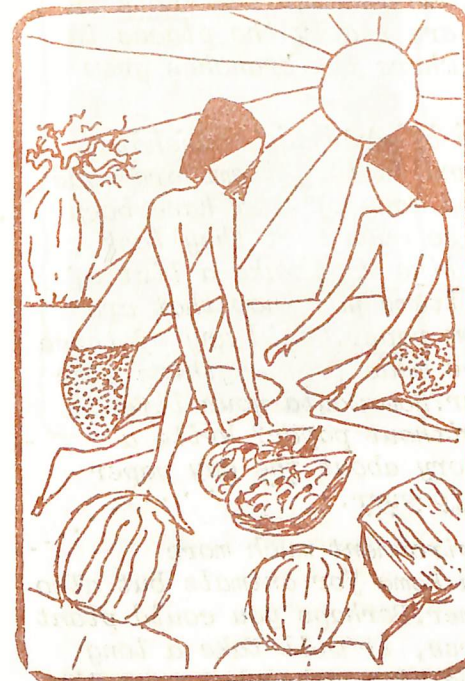
Although the sapwood (or the main inside part) of a tree is the most important part for loggers, the bark has its uses, too. This is because bark is used as the tree's rubbish dump. As a tree grows, wastes called tannins collect in the bark where they can do no harm. Once in the bark, the tannins help to preserve the tree. by 'stopping the rot' Of course, it didn't take humans long to figure out the usefulness of bark. For many centuries, tannin has been extracted and used in the preparation of leather. As well as preserving animal skins, tannin makes them more supple (and so much more comfortable to wear). The process, by the way, is known as tanning-its not hard to guess where the word 'tan' comes from, is it?



## A PRISON OR A PUB?

One of Australia's most unusual trees is the baobab. Found only in the northern area of Western Australia and in the Northern Territory, it is sometimes known as the 'bottle tree'. It's not hard to see why. The baobab's swollen trunk is full of water to help it through the many hot months without rain. Thirsty aborigines and birds must often have been grateful for a drink of baobab water. In fact, whole tribes may even have been grateful, for one baobab alone can produce up to 360 litres of water! What a pity the luckless Burke and Wills didn't find (or maybe didn't know about) the tree that would have saved their lives.

A huge baobab tree near the town of Wyndham once helped to protect the people of the area from dangerous criminals. While travelling with a suspect through bush country, the police often kept their prisoner securely inside the tree hollow for the night. What the police (and probably the prisoner) didn't know was that the baobab trunk, if cut, oozed out a white gum. This was mixed, by the aboriginals, with other ingredients to make a strong alcohol-like drink. And to cap off the drink with a meal, the clever fellows would then sit down and polish off the baobab seed pods-pulp and seeds included!



## WHEN IS A GUM NOT A GUM?

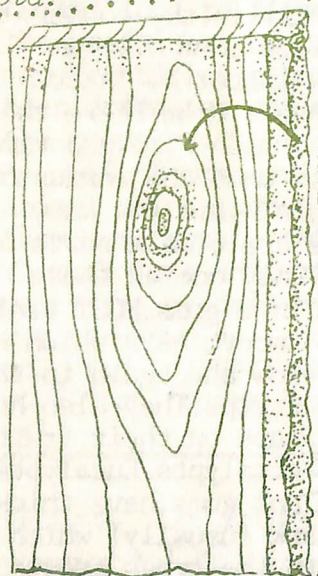
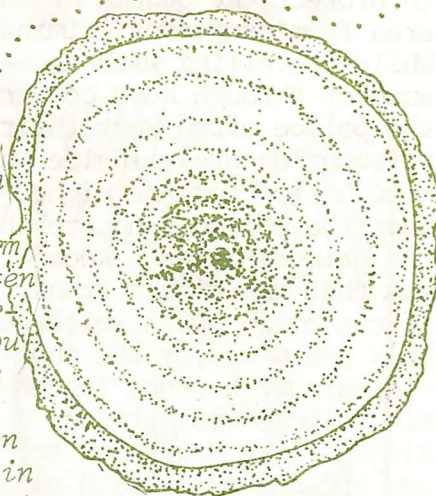
If you're confused by this title, don't worry. You'll be joining hundreds of Australians who are already confused about gum trees (even if they don't know it). When the botanist Joseph Banks visited Botany Bay in 1770 with Captain Cook, he noticed trees with a treacle-like gum oozing from them. These trees were eucalypts but Governor Phillip, the country's leader called them all gum trees in a letter he later wrote to Banks. From there the mistake was made time and time again. So to undo the confusion, let me explain. Did you know that there are 6 main sorts of eucalypts? Only one of these sorts are true gums. MOST real gums have smooth bark which sheds off every now and again in thin flakes or strips. They also have different caps on their fruit to the other eucalypts. Eucalypts which are not gums have thicker, rougher bark (usually) which splits with the tree's growth and does not peel off. See if you can find a true gum and a 'confused' gum in your neighborhood.

# ABOUT TREES



# Things to find out or do about TREES

In the spring, a tree grows quickly and produces light colored wood. During the summer, when the wood grows more slowly, the wood is darker. The dark areas form rings. Find a 'slice' of tree. Often 'slices' are used in people's gardens as stepping stones. Maybe you could find a tree stump. Count the number of rings to find out how many summers old the tree was when it was cut down. The tree 'slice' in the picture on the right shows that the tree it comes from was nine years old.



Look at some wooden floorboards, some wooden wall panelling or any wooden furniture. Can you see the knots in it? Knots are really the places in the trunk where the branches grew out from.

Hundreds of everyday household, school and factory items are made from wood. Many of them have been changed so much that they look nothing like wood. Make a list of all the items you know that are made from paper. Could any of these things be made from anything else but paper? How would your life change without paper? Write a short story about the day paper ran out forever.

Plant a tree! Trees make our environment much more beautiful and provide not only a home for animals but also shade for hot people in the summer. Perhaps you could plant an acorn in a small pot. Of course, it will take a long time for a shoot to appear (maybe 12 months) but once the baby oak is eventually replanted into the ground it will beautify the area for maybe thousands of years. Just imagine your great, great grandchildren visiting and sitting under the tree you planted as an acorn!

## How to Identify Eucalypts

Although there are over 500 different types of eucalypts in Australia, don't be afraid to make a guess at what sort of eucalypt a tree might be/ even though it might be difficult to find out its exact name. IRONBARKS are a 'family' of eucalypts which have deeply furrowed bark which is almost a blackish color (hence the name ironbark).



The bark of the STRINGYBARK 'family' (on the right) can be easily pulled off in long stringy strips. The color of the bark can be anything from grey to red-brown.



The bark of the BOX 'family' of eucalypts is described as flaky or scaly (see the picture on the left).



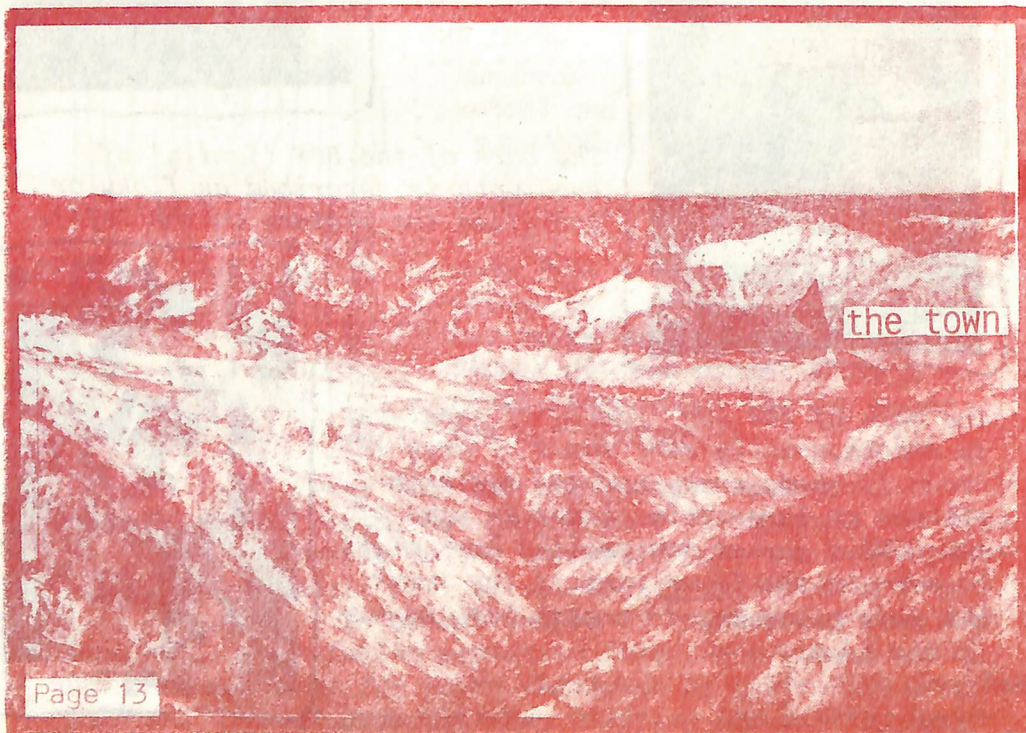
The bark of the GUM 'family' of eucalypts is smooth, usually some shade of grey or cream. It sheds every now and again in ribbons or large thin flakes. In some of the GUMS, a darker non-peeling bark might be seen on the lower part of the trunk but this gives way to smooth bark higher up the tree.



# A Town Without Trees

If an astronaut landed by mistake on the hills around Queenstown in Tasmania, he could be excused for thinking that he had landed back on the moon. This is because these hills are bare—the greenery that used to clothe them is gone. Only dirt is left and even that is blowing or running off the slopes because there are no plants to hold it down.

What happened to the Queenstown hills? Well, it all began when a fellow called Cornelius Lynch found good gold in a creek about seven kilometres from Mt. Lyell (the main hill outside Queenstown). Seven years later, the Mt. Lyell Gold Mining Co. was formed. For ten years, the miners worked away on the Mt. Lyell ore but didn't bother about the thousands of tonnes of copper that were mixed in with it. Someone must have woken up to the value of copper because in 1893 the Mt. Lyell Mining and Railway Company was formed to mine it.



In the years between 1896 and 1923, eleven furnaces worked hard smelting all the copper. To fill these furnaces, hundreds of wood cutters were given jobs. Around 3 million tonnes of timber were cut from the nearby hills and fed to the flames. This was the 'beginning of the end' for the trees. It would have been

alright if new trees could have grown up to replace the old ones but the sulphur fumes from the copper smelters killed all the young plant growth. It wasn't too good for the lungs of some of the Queenstown people, either.



After a few years of this, the poisonous sulphur had 'soaked' into the soil of the hills and into the dead stumps. When bad bushfires raged through Queenstown for a few years in a row, plant life was almost finished off. Then rain, the rain that usually brings new life and new growth to the bush, finished the trees off altogether. Because the soil didn't have any plants growing on it to hold it onto the hill, most of the good 'plant growing' soil was washed downhill into the Queen River.

Today, Queenstown is still a town without trees. Even though the copper smelters don't need wood to keep the furnaces burning any more, the damage done by the miners sixty years ago cannot be easily undone. Even though some plant life is slowly creeping back to some parts of the hills, the bad bushfire of early this year (1981) will have killed some of this off again.

Trees are the home of hundreds of small animals like insects and spiders. Find a rotting log. Gently turn it over, wearing a pair of gardening gloves for safety. How many different sorts of animals live on, under and inside the log?



A BRISTLECONE PINE IN NEVADA, U.S.A., IS BELIEVED TO  
BE 4,900 YEARS OLD!

# Desert or Forest?



Have you ever spent a Saturday or Sunday afternoon watching the old movies on television? Some of the more exciting ones are about adventures in the desert-usually the Sahara Desert in Africa. Lawrence of Arabia is an old favorite many people would know. Anyway, somewhere in the story somebody manages to get stranded without water in the hot desert dunes. As they gasp along looking for an oasis, I always think that someone should remind them that if it weren't for people's actions the desert would not be there in the first place.

Rock carvings and paintings done by people thousands of years ago show that the Sahara Desert used to be a forest area, with plenty of rivers and lakes. There was plenty to eat and drink for the herds of giraffe and elephant that lived there. People began to give up wandering around, hunting animals and collecting berries and other things for their food. Families stayed in the one spot-growing their own crops and keeping animals. After a while, the families became good at this and grew more food than they needed. This meant that not everyone was needed for the growing of food. The 'spare' people went to the cities and towns to do other jobs. The cities grew larger and larger. When they ran out of food, the city people sent their powerful armies to the Sahara to get more. So they could feed themselves, as well as the city people, the Sahara people began to graze too many animals on the land, meaning that a lot of the new plant growth was killed off. They also began growing the same crop year after year in the same spot. This made the soil grow 'weaker' and 'weaker.' Eventually, all the plant food in it was used up. Young plants were 'starved to death' as the Sahara Forest slowly became the Sahara Desert.