

# A LIVING FOSSIL



1 A fossil is the remains or trace of an animal or plant from millions of years ago preserved as rock. So how could a tree, that is alive today, be described as a living fossil? It doesn't seem right, does it?

Well, as strange as it might sound, "living fossil" is a term that is used to describe a species of tree that lives today, but which everyone believed had been extinct for a very long time. That tree is now known as the "Wollemi pine",

even though it is not a member of the pine family. Its existence is one of the greatest botanical discoveries of our time.

2 The *Wollemi pine* is a plant from the *Jurassic* period. It was found in one isolated grove in Wollemi National Park in the Blue Mountains of New South Wales, Australia. This now secret location is less than 160 kilometres west of Sydney; Australia's largest city. It is believed to be the only location in the world where the Wollemi pine lives naturally.

3 The Wollemi pine was found by accident. David Noble, a ranger with the NSW National Parks and Wildlife Service, stumbled across the unusual trees in September 1994. He found the pines growing in a warm rainforest-type environment in a deep and fairly rugged canyon where the soil remained damp. Three groups of pines were discovered, all fairly close to each other.

The ranger didn't recognise the trees and couldn't work out what they were. He realised they should be investigated further, so he gathered specimens of the trees for identification.

4 This investigation revealed that they belonged to a family of trees that was 200 million years old. However, they were not the same as any other living species in the family. That is why the Wollemi pine began to be described as a "living fossil".

In fact, the existence of the Wollemi pine is so exciting that its discovery has been compared to finding a dinosaur alive on the planet today! Perhaps this is why the Wollemi pine is sometimes called the "Dinosaur Tree"?

5 The tree itself is quite unusual looking. It can grow to about forty metres in height and its trunk can grow up to one metre in diameter.

The bark of the Wollemi pine is dark brown and knobby and looks like bubbling chocolate. The bark is very different from the bark of other related species.

It doesn't have needles like real pine trees, instead it grows two types of leaves. The juvenile leaves are bright green. They grow

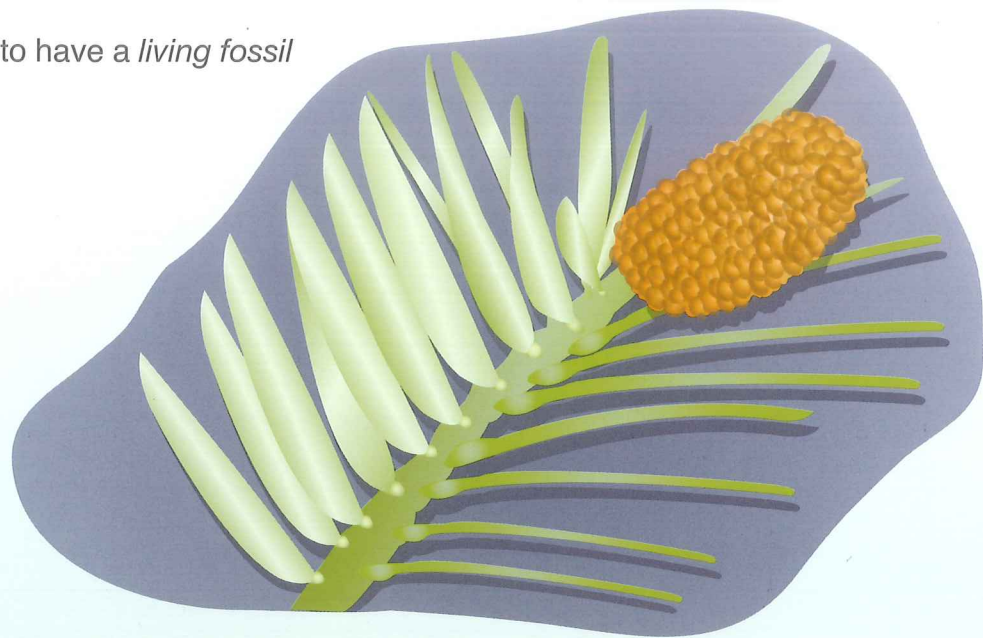
in low light under the forest canopy. The adult leaves are deeper green. They grow in much harsher conditions above the canopy.

The Wollemi pine has two types of branches. The first, more common type are branches that grow sideways from the trunk. These sprout leaves and, after a few years, will grow a pollen cone for reproduction before dying. Rarely, a second type of branch will grow, pushing upwards and eventually forming a new trunk from which more normal branches will grow.

6 It is extremely important to look after this incredible plant. In New South Wales, there is legislation that protects the Wollemi pine, namely the *Threatened Species Conservation Act (1995)*. There is also a "Memorandum of Understanding" between the NSW National Parks and Wildlife Service and the Royal Botanic Gardens & Domain Trust. This sets out shared management responsibilities in relation to the pine. In addition, the Wollemi National Park (the place where the pine was discovered) has been granted World Heritage listing. It is part of the Greater Blue Mountains World Heritage Area, providing added protection for this rare species.

7 A lot of research has gone into the Wollemi pine since its discovery. Scientists are now able to propagate or grow new plants using cuttings from trees growing in the wild. The Wollemi pine is an endangered species, but its reproduction will guarantee its survival for years to come. It can now be commercially grown and is available at plant nurseries and shops, ready for the home gardener to plant and enjoy in their own backyard.

How fantastic to be able to have a *living fossil* in your own garden!



## Questions

- 1 The Wollemi pine is
  - a a member of the pine family.
  - b a living fossil.
  - c extinct.
- 2 The area where the Wollemi pine was found
  - a is 160 km east of Sydney.
  - b has dry soil.
  - c is fairly rugged.
- 3 Why is the Wollemi pine sometimes called the "Dinosaur Tree"?
  - a It is only found in the one, secret location.
  - b It belongs to a family of pines from the Jurassic Period.
  - c Its' discovery was as exciting as finding a dinosaur alive today.
- 4 The juvenile leaves of the Wollemi pine
  - a grow above the forest canopy.
  - b are needle-like.
  - c are bright green.
- 5 What does the "Memorandum of Understanding" do?
  - a It sets out shared management responsibilities between two or more organisations.
  - b It protects the Wollemi pine from extinction.
  - c It lists the Wollemi pine as a World Heritage site.
- 6 The Wollemi pine is no longer in danger of becoming extinct because
  - a the area where it grows has been fenced.
  - b people are not chopping them down.
  - c they are now commercially grown.

## Vocabulary

Find words in the text that match the meanings below. The word is in the section shown in brackets.

- 7 Kept from being damaged or changed (1)
- 8 Studied further (3)
- 9 Young in age (5)
- 10 Investigative study (7)
- 11 Almost extinct (7)

## Alphabetical Order

The following words appear in the text. When placed in alphabetical order, which one would be **first**?

- 12 fossil, family, far, forest
- 13 canopy, conditions, canyon, couldn't
- 14 recognised, realised, revealed, related
- 15 greatest, grove, green, grows

## Back To The Text...

- 16 The purpose of this text is
  - a to recount.
  - b to inform.
- 17 What would be a good sub-heading for section 5?
  - a The Wollemi – What Does It Look Like?
  - b The Wollemi – Why Try to Save It?
- 18 Key words are important words that help you understand the main ideas. Which of the following is a key word in section 7?
  - a discovery
  - b propagate

## Think About This

- 19 The illustration on page 3 is described in section
  - a two.
  - b three.
  - c four.
  - d five.
- 20 The illustration on the front of the card likely shows leaves on
  - a a brown paper drawing.
  - b a set of stencilled prints.
  - c a rock containing fossilised Wollemi leaves.
- 21 In section 3 the word *rugged* is used as
  - a a noun.
  - b a verb.
  - c an adjective.
- 22 The word *fairly* in section 3 is best replaced by
  - a hugely.
  - b reasonably.
  - c extremely.
- 23 After reading the text which of the following statements is not true?
  - a The Wollemi pine is highly protected.
  - b The Wollemi pine has been heavily researched.
  - c The Wollemi pine was discovered in 1984.

## Challenge Option

Research: Dinosaurs are extinct. What are two other animals that are now extinct?

