



THE FAGUS

Tassie's "living fossil" turns a shade of autumn red

Have you ever seen the fagus? It's Australia's only native winter deciduous tree, and is found only in small pockets in the highlands of Tasmania.

You may already know that deciduous trees are those which lose their leaves every year in response to the seasons.

Leaves have an important job.

Leaves use sunlight to turn the water, carbon dioxide and other minerals they absorb into food for trees.

This is called photosynthesis.

Deciduous trees are usually found in temperate areas around the world, where winters are cold.

Cold temperatures cause water to expand, which would damage the thin leaves of deciduous trees, and prevent them from doing their job of photosynthesis.

Therefore, rather than holding on to thousands of useless leaves, deciduous trees drop them.

But not before the trees extract the nutrients out of the leaves to help survive winter.

Trees do this by breaking down pigments in leaves, starting with the green chlorophyll, the key pigment involved in photosynthesis.

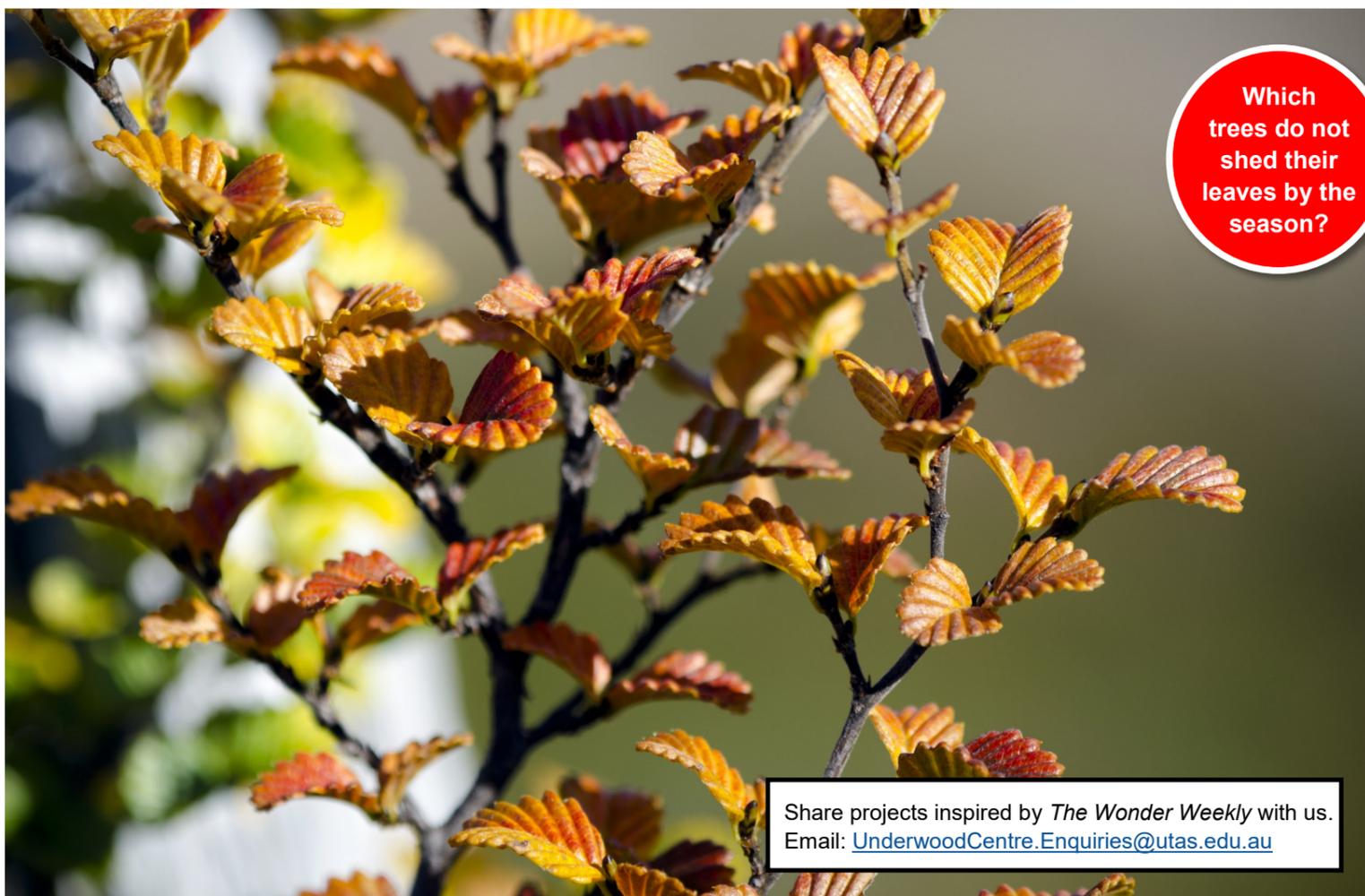
Once the green goes, the leaf colour is determined by the remaining pigments.

This is why leaves change colour to the beautiful shades of gold, red and orange we are now seeing in autumn around Tasmania.

During winter, deciduous trees enter a stage of dormancy.

Without leaves they can't make food, so much like animals which go into hibernation, they sleep through winter.

In spring, they start to grow leaves again.



Which trees do not shed their leaves by the season?

Share projects inspired by *The Wonder Weekly* with us. Email: UnderwoodCentre.Enquiries@utas.edu.au

ON THE TURN: A fagus tree in Tasmania's highlands changing in colour from yellow to a rusty red.

Picture: iStock/ Redzaal

Create an autumn wonderland for hours of fun play

Autumn is a time when there is lots of tree litter on the ground.

Your challenge is to collect leaves, twigs, bark, pine cones, and anything else that looks interesting, that has been discarded from trees.

Organise them in a box, an old wooden draw is ideal, to create an imaginary world.

You can add some toys of your own if you like.

You might have some toy figures, human or animal, which you can add.

Dinosaurs would be awesome.

Let your imagination run wild.

Children's University Tasmania members can earn stamps in their passports for this challenge, at the discretion of their school coordinator.

Deciduous trees are also good recyclers.

The nutrients from the decaying fallen leaves on the ground surrounding the tree are absorbed by the roots to help grow the next crop of leaves.

There are also deciduous trees in tropical places,

and they lose their leaves in the dry season to conserve water.

Australia has few native deciduous trees and the fagus, *Nothofagus gunnii*, is the only one that loses its leaves in preparation for the cold season.

It is believed to have been in Tasmania for 40 million years.

It is the last living Australian species of a group of plants that once covered the wet forests of the ancient

continent of Gondwana, when land masses such as Australia, Antarctica and South America were joined.

During autumn, lots of people head into Tasmania's National Parks to witness "the turning of the fagus".

This is when the leaves of the fagus transition from bright green to yellow, to a brilliant red colour, or even orange and pink.

If you have visited Mount Field or the Cradle Mountain-Lake St Clair National Park recently, and taken photos of the fagus, we would love it if you shared them with us.

The fagus is the common name for the tree, but it is more accurate to call it deciduous beech.

