



SEED BEARING PLANTS

Conifers

310 MYA – PRESENT

Conifers are cone-bearing seed plants. Some are the tallest trees in the world, like the coast redwood of west North America reaching a height of 115 m. Conifers include the oldest known trees like the

bristlecone pine of California – some individuals have been recorded as being around 4700 years old! Most conifers have a large central trunk with much smaller side-branches.

Domain	Eukaryota
Kingdom	Plantae
Phylum	Pinophyta
Class	Pinopsida

Fossil Record

Conifers first appear in the fossil record in rocks of late Carboniferous, but were a minor part of late Paleozoic flora. The Permian-Triassic extinction event 252 million years ago wiped out many of their competitors. Conifer forests then dominated most of the Mesozoic until the evolution of flowering plants. Flowering plants have pushed most conifers into high-latitudes and mountain environments.

Habitat and Lifestyle

Most conifers have male and female cones on the same plant. The male cone is usually smaller and produces pollen, while the female cones produce seeds when fertilised by the pollen.

The larger female cones are what you often see on the ground around pine trees. When the cone matures, the scales spread apart to release the seeds, which are usually dispersed by wind.



Wollemi pine at the National Arboretum Canberra. Image from Melanie Keen, Geoscience Australia.



Fossil of *Podozomites jurassica*, an ancestor of the Wollemi pine from the upper Jurassic. It comes from the Talbragar fossil fish bed, not far from Wollemi National Park. Image from Lynne Bean.

DID YOU KNOW



Would you believe that a 40 m tall tree could go undiscovered within 200 km of Australia's largest city? The Wollemi Pine was first discovered in Wollemi National Park in New South Wales, it is a relic from the age of the dinosaurs. The oldest known fossil of pollen like that from the Wollemi Pine is from the Cretaceous, and it was thought to have gone extinct about 2 million years ago.

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