

Even by Gymnosperm standards, the Podocarpaceae are a very ancient family, appearing first in the Jurassic period, about 190 to 135 million years ago. Fossil records show that some species growing today are little changed from their ancestors which grew in the forests of Gondwana, the ancient continent of which our country was once a part. Until recently, New Zealand was a rain-forest ark for such ancient species, its isolation sparing them from the challenges of invasive species which so profoundly altered other ecosystems of Gondwanan origin.

So while flowering plants like tawa and taraire, beech and broadleaf mingle with rimu, totara and matai, it is still the ancient podocarps that lord it over the native forests of New Zealand. Podocarps are our icons, and the pillars of the cathedrals that are our native forests.

— Ann Graeme



PS Miro and matai fruits don't fit the seed-on-a-foot design. So these species have recently been put into a new genus, Prumnopitys, but still within the family Podocarpaceae.



ANN GRAEME is national co-ordinator of the Kiwi Conservation Club, the junior arm of Forest and Bird. She lives in Tauranga.

Flower power

Flowers are a reproductive device exclusive to the flowering plants or Angiosperms. Emerging later than the Gymnosperms, the Angiosperms and their flowers represent a giant stride in evolution, made possible by exploiting the contemporary expansion of insect species in a relationship which is of benefit to them both. Flowers attract insects, offering colourful petals and scent, and edible nectar and pollen. When the insect moves on it may accidentally carry with it grains of pollen which brush off and fertilise the next flower it visits. Insects are much more discriminating than the wind, handsomely repaying the flowering plant for its investment in petals and nectar, and helping make the Angiosperms the dominant plant group in the world today.

Just as cones evolved from a whorl of leaves, so too did the parts of a flower — sepals, petals, the male stamens and female pistils. Angiosperm means 'enclosed seed' and the angiosperms have their seeds enclosed in a leaf, modified and rolled into a tube. This becomes the juicy fruit surrounding the seeds, or the hard shell of the nuts we eat.

