

It's just an old pine tree—but it's also one of the world's most useful and interesting trees.



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IT TAKES only one to spoil things for all the others, as countless mums have been heard to say, and in the case of pines, the superbrat is *Pinus contorta*, which has clearly felt so "at home" in the central North Island that it has become a serious pest.

On the other hand, *Pinus radiata* is the basis of the country's lucrative timber export industry; pine extracts have disinfectant, deodorant and healing properties, and the pine kernels are great eating.

For his early work in establishing much of Wellington's green spaces and in particular his work with *P radiata*, botanist James Hector has a pinetum named in his honour at the Wellington Botanic Gardens and a ramble through here in the right company is a revelation.

Garden guide Phil Tomlinson reckons the first industrial use of trees could go back as far as Noah, when he caulked the ark, inside and out, with pitch that, along with turpentine and tar, is extracted from pine resin.

"From about the 12th century when you had European exploration of the New World, sailing ships used vast quantities of naval stores. They could carry a few spare spars, they could carry the masts, they could carry the cordage and they could carry the canvas, but the things they couldn't carry enough of were tar, pitch and turps," Phil says.

In North America, places with safe water and food supplies were useful but places such as Boston and New York, which originally had great pine plantations to provide naval stores, became key cities

In the pinetum, Hector's memorial faces through a frame of *Pinus pinea* trunks to the Hutt Valley.

Of the 30 species of pine used to harvest nuts, Phil says *P pinea* is the important one because its use as food goes back thousands of years. "There have been caves found in the Mediterranean with piles of the shells of *P pinea* at the entrances. These have been radiocarbon dated to 80,000 years ago," he says.

Pinus torreyana, the torrey pine, also in the pinetum, has the largest pine nuts of all, protected by a very tough shell, which Phil says he regularly warns visitors not to try opening with their teeth.

"The other thing which is interesting

Pines and needles



The perfect Christmas tree - a sub-species of the European black pine, *Pinus nigra*, in the Botanic Gardens pinetum.

about pinea is that when the Europeans first went exploring it was found along all the very old trade routes. For a while, no one could figure out where it came from because it was so widespread but they finally discovered that it was not on the trade routes of the Iberian Peninsula and from that deduced that this was where it originated," Phil says.

Pinus jeffreyi, from California, packs a surprise for the unwary — if they live long enough. During the American Civil War, soldiers extracted the resin of a similar-looking pine to make turpentine and when



***Pinus muqo* with a cone that's about one year old.**



A new cone starting on *Pinus muqo*



***Pinus jeffreyi* is famous for its exploding resin.**

that was not available they turned, in ignorance, to *P jeffreyi*. "The problem was that when they started heating it up to extract the turpentine, it blew up on the soldiers, killing some," Phil says.

"Just a bit after this, internal combustion engines were coming in and one of the problems with the early petrols was there was no way of measuring the quality of it, so you got strong, you got weak and you didn't know what was

going on. Scientists discovered that an extract from *P. jeffreyi* could be used as a reference point for measuring the strength of petrol. You know it as the octane rating. I presume that these days they use a new process," Phil says.

Luckily, the little *P. jeffreyi* tree looks, and is, perfectly harmless in its pinetum home and we pass on to a giant with a more gentle use. *P. halepensis* towers up by the path, its huge single trunk covered in a beautiful chunky bark that has a sweet smell. Extracts from this pine were used by the ancient Egyptians to mummify their dead. But these days scientists are studying it for use in food, Pharmaceuticals and cosmetics.

At the other extreme, two tiny *Pinus mugo* standing guard by a flight of steps have dense needle cover on short branches rising from curved multiple trunks. Also known as the Swiss mountain pine, it's a lovely choice for home gardens, but in the Pyrenees it's used to stabilise shingle and avalanche slopes and the wood is turned into wooden shoes.

The asymmetrical cones form while the previous season's are still on the branches, the sun-warmed resin on the new tips is at nose level and delightful. It may not have the most exciting job but it has a user-friendly air.