

Appendix 1: (see page 31)

This page accompanied each tree, *Pennantia baylisiana*, sold at the Ellerslie Flower show, November 1998.

Project *Pennantia* Helping to conserve the world's rarest plant

Pennantia baylisiana has been listed as one of the world's rarest plants by the Guinness Book of Records. The single tree known in the wild grows on a scree slope on the northern face of Great Island in the Three Kings group off Cape Reinga. It was discovered only in December 1945, by Professor Geoff Baylis of the University of Otago. Initially it was mis-classified as a member of the Anacardiaceae (the cashew nut family), and named *Plectomirtha baylisiana* by Dr W. R. B. Oliver. Professor Baylis corrected this in 1977, after it was recognised that the plant belonged to the genus *Pennantia*, in the family Icacinaceae. Indeed it quite closely resembles *Pennantia endlicheri* known only from Norfolk Island. Other members of the genus are *Pennanria cunninghamii* from eastern Australia and kaikomako (*Pennantia corymbosa*) from mainland New Zealand.

However, the continued existence of *Pennantia baylisiana* in the wild is at risk, as the sole wild plant is a female. While it proved difficult to obtain cuttings from this tree, these were eventually established and a handful of these cuttings have been growing at various sites around the country since the early 1970's. The one growing at the Mt Albert Research Centre has been studied by Dr Ross Beever of Landcare Research. He noticed that pollination of the female flowers, using the apparently infertile pollen produced by the female flowers occasionally resulted in production of fruit. He suspects that a very small proportion of the 'infertile' pollen is able to germinate and fertilise the flower. These fruits usually failed to mature, but spraying the flower spike with a plant hormone helped them mature and ripen. Several seeds from such fruits were germinated and successfully grown in 1985, and two of these were given to Geoff Davidson of Oratia Native Plant Nursery for growing on. Geoff transferred these to large containers and they began flowering in the early 1990s. One nicknamed 'Martha' repeatedly sets a large amount of seed, without any special manipulation, and Geoff has now been able to raise many seedlings. It appears that while the flowers Martha produces are similar to those on the wild parent, with apparently 'infertile' pollen, a good proportion are in fact viable. In other words, 'Martha' is a hermaphrodite - she doesn't know if she is Martha or Arthur.

The availability of large numbers of seed progeny raises the possibility that we can find a fully functional male plant. Finding such a plant would allow re-establishment of a normal breeding population of *Pennanria baylisiana* on the Three Kings. You can participate in this search. The plant you have bought will grow well in a warm garden site, and we would expect it to begin to flower in four or five years. We would be interested in checking the flowers at that time to see if any are true males. Please do not plant these plants in the wild, to avoid 'genetic' pollution of the wild kaikomako population.

Proceeds from the sales of these plants will be donated to the Auckland Botanical Society's Lucy Cranwell research fund, and to the N. Z. Native Forests Restoration Trust.

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