

Mistletoe - Bruce Clarkson - Botanist Waikato University

Kissing under the mistletoe has long been a Christmas tradition but it requires an artificial sprig of Northern Hemisphere mistletoe to be hung in a strategic doorway. Christmas is also a good time to spare a thought for the fate of our own indigenous mistletoes. In New Zealand presently we have 8 mistletoe species in two main groups, those with large leaves and those with small leaves. In the Waikato, two species of the large-leaved group were quite common up until the middle 1960s and a further large leaved species was already rare. The rare mistletoe piritā or *Trilepidea adamsii* was last seen on Maungakawa (Sanatorium Hill) in 1954 but despite repeated searches has not been relocated and is considered extinct. Browsing by possums is thought to be the main reason for its extinction. No photographs of the plant exist but the botanical artist Audrey Eagle has an illustration of the Maungakawa plant in her 1975 book on New Zealand trees and shrubs. The other two large leaved mistletoes, or green mistletoes as they are often called, are still found but are now uncommon and have been lost from many localities because they also are a favoured food of possums. *Tupeia antarctica* for example was last recorded on Maungatautari mountain in 1963 by the pioneer botanist Michael Gudex.

Like all of our mistletoes it is a semi-parasite able to produce its own starch but dependent on a host plant for water and nutrition. The common hosts are second growth trees and shrubs such as fivefinger, mapou and kohuhu. With the increasing control of possum numbers being achieved in several Waikato reserves these days, the prospects for successful reintroduction of mistletoes are improving. The Maungatautari Ecological Island Trust is currently assessing the possibilities for such a reintroduction. The reintroduction will be researched on several fronts. First, checks will be made of original sites where the mistletoe was found to double-check that no plants remain. Second seed, will be obtained from populations as close as possible to the mountain to begin propagation trials. Successfully growing mistletoe is totally unlike growing a normal garden plant. Because they are parasitic they need to establish on a suitable host and develop a specialised connecting structure known as a haustorium. In natural conditions native birds eat the fruit of the mistletoe and disperse it to the host. The sticky glue of the seed coat ensures it adheres to the bark of the host tree long enough for the roots to make this connection. Trials will initially be undertaken at David Wallace and Juliette Chamberlain's property Warrenheip near Karapiro within the 15 hectare protected pest free enclosure. Seeds of the green mistletoe *Tupeia* will be attached to suitable hosts and monitored to see if the connection is adequately developed. Once the Trust is sure the technique has been perfected and possum numbers are sufficiently reduced, the green mistletoe will be reintroduced to Maungatautari mountain as part of the overall plan to restore the mountain ecosystems back to their original state of health and vitality.



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