

Peraxilla (Elytranthe) tetrapetala was still common in the Tararua Range. Ian Powell reports that during Christmas in 1924 he saw a lot of mistletoe on beech along the track from Totara Flat to Dalefield, and a year later mistletoe flowers littered the ground from Tauherenikau Hut to about half way up to Bull Mound. Over the past 10 years or more, Tony Druce has found very few mistletoe plants in the Ruahine and Kaimanawa Ranges, and none in the Tararua Range, although Les Pracy recently saw flowering *P.(E.) colensoi* in the Tararuas. Druce considers that mistletoes, once a major component of our forests, are now extremely rare wherever possums have been present for any substantial time.

A 1980-84 inventory of threatened plants of the Wellington region made by members of the Wellington Botanical Society contains only one recent record of a leafy mistletoe, being a solitary plant of *Ileostylus (Loranthus)* on an isolated shrub of rohutu at Heretaunga.

In the early 1960s, *Peraxilla tetrapetala* and *Alepis (Elytranthe) flavida* were known to one of us (C C O) and Dr Ian Atkinson on mountain beech close to the Chateau in Tongariro National Park. Dr Atkinson reports that these mistletoes were rare elsewhere in the Park at that time, but land around the Chateau was regularly trapped for possums. Both species have now disappeared from this area (Wilson 1984).

Dr Ruth Mason recalls that mistletoe was very abundant in the Ureweras in the late 1920s, while Michael Greenwood and Tony Druce observed *P. tetrapetala* in abundance in the Ruahines



Korthalsella salicornioides in fruit, on manuka, western shore of Lake Wairarapa, March 1984.
Photo: C. C. Ogle.



Alepis flavida with flowers and ripe fruit on mountain beech, eastern shores of Lake Poteriteri, Fiordland National Park, January 1984.
Photo: C. C. Ogle.



Ileostylus micranthus on mountain totara, Lake Poteriteri, January 1984.
Photo: C. C. Ogle.

during the 1940s, where it is now rare (Wilson 1984).

Trilepidea (Elytranthe) adamsii, the sole member of an endemic genus, was last seen alive in 1954, and is thought to be extinct (Given 1981). In much of the North Island and large forested tracts of North-West Nelson it is now remarkable to find a plant of *Peraxilla* or *Tupeia*, while *Ileostylus*, at home on a wide range of hosts, is mostly uncommon.

There are some local exceptions. In a berry-fruit orchard beside the main highway at Otaki, *Ileostylus* occurs on eight plants of *Coprosma crassifolia* among a few totara trees, and occurs on totara itself where there are isolated trees in pasture of the Takaka Valley in North-west Nelson. *Ileostylus* is on salt-march ribbonwood and hawthorn in Golden Bay, and on a wide range of host trees, including kowhai, silver birch and willow, in farmland of the Nelson district, where *Peraxilla colensoi* occurs on isolated beech trees also. Most of these sites appear to be "special cases", where possums are unlikely to occur, would be heavily trapped, or where there is a wide range of alternative possum foods, including pasture plants.

Conditions which previously favoured mistletoe survival can change rapidly. Mark Bellingham reports that in an area of swamp of the upper Hokianga Harbour, *Tupeia antarctica* was common on shrubs of *Coprosma propinqua* up to 1982, but when water levels were lowered by draining, presumably giving access to possums, the mistletoes disappeared within a year, although they still remain in unmodified swamp nearby.

Certain parts of New Zealand have never had possums, and there, not surprisingly, one or more leafy mistletoe species are common. D'Urville Island has an abundance of *Tupeia* on five-finger (Ogle 1983), *Ileostylus* is common there, and although *Alepis flavida* has not been recorded there before, on 8 April 1985, PRW found large clumps of it on several large hard beech trees 50-150 m a.s.l. up a dry spur on the western side of Mill Arm, Greville Harbour.



Peraxilla tetrapetala flowering on mountain beech, Chateau Tongariro, Tongariro National Park, December 1963. This mistletoe is no longer known in this area.
Photo: C. C. Ogle.



Korthalsella lindsayi s.s. on *Melicope simplex*, Mataroa, Taihape, December 1984.
Photo: C. C. Ogle.

Direct evidence of possums

One of us (Wilson 1984) has shown possums were a major cause of the decline of mistletoes, during a five-year study in Mt Misery, Nelson Lakes National Park. Possums were first recorded in this part of the Park around 1965 (Rowley Taylor). The study area contained three leafy mistletoe species, *Peraxilla colensoi*, *P. tetrapetala* and *Alepis*. Marked mistletoe bushes were examined three-monthly for signs of possum browse and flowers or fruits. The amount of browsing damage was scored on a scale of 0-4, and each November the increase or decrease in the size of each mistletoe was assessed on the same scale.