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Native trees play host to rare native species in Tiromoana Bush

Some of New Zealand's most rare and unusual native plants can be found growing on top of other native trees in Tiromoana Bush.

Among the more than 200 species of native plants growing in the bush are three species of mistletoes. What makes these 'arboreal parasites' so extraordinary is that unlike most plants, they cannot germinate on the ground. Instead they need their seeds to be spread by birds to the correct host tree where their 'roots' (called haustoria) grow into the branches and extract all the water and nutrients they need to survive from their host species.

They are literally plants growing on plants. What makes their survival even more miraculous is that they're very picky about the trees they choose to live on.

Professor David Norton, from the University of Canterbury's Te Kura Ngahere | School of Forestry and author of *The Tiromoana Bush Restoration Management Plan*, says considering the exacting conditions required for their growth it's pretty special to have three mistletoe species in Tiromoana Bush.

"So many factors have to come together to enable our rare native mistletoes to survive", says Professor Norton. "Birds are required to spread their seeds, and deposit them accurately onto specific native hosts for them to establish and grow. For example, dwarf mistletoe only grows on kānuka making it incredibly rare, yet a significant number are growing in Tiromoana Bush."

The three species of mistletoe in Tiromoana Bush are the dwarf mistletoe (*Korthalsella salicornioides*) which occurs only on kānuka, white mistletoe or tāpia (*Tupeia antarctica*) which occurs on five-finger, and green mistletoe or pikirangi (*Ileostylus micranthus*) which is found on mingimingi, matagouri and a few other hosts.

Professor Norton says dwarf mistletoe is the rarest of the three nationally, appearing to be a naturally uncommon and biologically sparse species and considered as critically endangered.

"Dwarf mistletoe is ranked as Nationally Critical, the highest threat level in New Zealand, because of concerns its main host species kānuka might be affected by myrtle rust. White mistletoe, or tāpia, is ranked as At Risk-Declining nationally, and is also quite sparse in many areas of New Zealand. Green mistletoe, or Pikirangi, is widely distributed nationally and the only mistletoe not threatened or at risk and also the most common species at Tiromoana Bush."

While there are many other rare and unusual native species at Tiromoana Bush, such as matai, whekī and titoki, the mistletoes are an extraordinary part of the regenerating native bush.

Tiromoana Bush and the native forest restoration project are owned and funded by Transwaste Canterbury, who own and operate the adjacent Kate Valley Landfill in Waipara. The bush is open free of charge to the public to experience a regenerating lowland native forest. For more information and visiting hours visit the website transwastecanterbury.co.nz