

Xylotoles costatus
Pitt Island Longhorn

A manual with aids to identification

by

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The Pitt Island longhorn, *Xylotoles costatus*, is a medium sized (17 - 20 mm long) beetle (Fig 1). It is the largest of a number of species of longhorn beetles, (family Cerambycidae) that occur on the Chatham Islands. Beetles of this family can generally be recognised by their elongate shape and long antennae, that are normally at least three quarters of the length of the beetle and sometimes even longer than the beetle.

Positive field identification of the Pitt Island longhorn is difficult because of the presence on the Chatham Islands of another very similar species of longhorn, *Xylotoles traversii*. Both species of *Xylotoles* are blackish with a variable green-bronze sheen. In the few specimens of the Pitt Island longhorn seen, the bronzy colour was more evident than in *X. traversii*. Both species of *Xylotoles* have ridges or costae on their elytra, or wing cases, these are much more pronounced in the Pitt Island longhorn than in *X. traversii*.

Figure 2 is a picture of the original type specimens of both species in the Natural History Museum in London. It can be seen from this that the most obvious difference between the two species is in size. The size of *X. traversii* is however, very variable, from 6 - 14 mm in length in our collections. The few specimens of the Pitt Island longhorn we have seen vary from 17-20 mm in length, but smaller specimens that overlap the size range of *X. traversii* could occur.

Other useful differences for distinguishing between the two species are the slightly raised area between the inner ridges on each wing case and the somewhat more spatulate or rounded tips to the wing cases in the Pitt Island longhorn. But these differences are quite subtle and not readily appreciated without direct comparison between the two species.

The best that can be said is that any specimen of *Xylotoles* from the Chatham Islands over 16 mm in length is likely to be a Pitt Island longhorn.

Until recently the Pitt Island longhorn was only known from specimens collected late last century and early this century on Pitt Island. Then in 1987 a specimen was collected from a dead branch of ngaio caught up in a tangle of *Muehlenbeckia* on Rangitira. In 1992 a second specimen was found, by us, on Rangitira walking up a *Coprosma* tree at night.

Repeated efforts by ourselves and by entomologists from the old D.S.I.R. Entomology Division over a period of twenty five years to recollect the Pitt Island longhorn from Pitt Island have been unsuccessful. It could be extinct on Pitt Island, or present in such low numbers as to be



Fig. 1: *Xylotoles costatus* - Pitt Island Longhorn



Fig. 2: *Xylotoles traversii* (left) and *X. costatus* (right).

hard to find, or possibly it is in a habitat that has not been adequately sampled.

Most species of *Xylotoles* are thought to be dead twig and branch feeders as larvae and there would certainly be plenty of this material on Pitt Island. Being larger than the other species of *Xylotoles* larvae of the Pitt Island longhorn might be expected to feed on woody material of a larger diameter than other species, like *X. traversii*. This might not be a problem on Pitt Island, but could go some way to explaining its apparent rarity on Rangitira. Most of the forest on Rangitira is relatively recent, and if the larvae needed large sized dead branches, or large rotten logs, larval food could be a limiting factor for the population.

The Pitt Island longhorn is flightless and the adults may spend a large part of their time on the ground, which would make them vulnerable to mouse predation on Pitt Island.

A priority for conservation of the Pitt Island longhorn is to establish its precise habitat requirements. This must involve determining its larval food requirements. Only when this has been achieved is real progress towards its long term conservation likely.

Further searches for the species on Pitt Island could still be worthwhile. Since it is now known to occur on Rangitira, it could also be present on Mangere and possibly Little Mangere. Searches on these two islands would be most valuable. Really good photographs and measurements could be used to document its presence in any of these places.

The best way of finding adult longhorn beetles is by beating woody vegetation onto a tray and by using branch traps. Branch traps are bunches of freshly cut branches, up to about 60 cm in length, hung up in trees. These dying branches give off various plant odours that are attractive to longhorn beetles. The branch traps can be beaten at regular intervals onto a tray and the longhorns collected or released back onto the tree. Recently dead or dying large branches are similarly attractive. Using these techniques we were able to collect large numbers of *X. traversii* and a variety of other species of longhorns of Chatham, Pitt, Rangitira and Mangere Islands, but unfortunately no Pitt Island longhorns.

Threats to the survival of the Pitt Island longhorn can really only be identified once its biology and habitat are better understood.