

*Hadramphus spinipennis*  
**coxella weevil**

**A manual with aids to identification  
and descriptions of plant damage.**

by

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The coxella weevil, *Hadramphus spinipennis*, is a large stout, knobby-backed weevil that feeds on coxella, *Aciphylla dieffenbachii*, (Fig. 1). Because of its large size (20-25 mm in length) it cannot be confused with any other species of weevil or beetle occurring on the Chatham Islands.

Both adults and larvae feed on coxella, and this is the only known food plant. Adults and larvae produce characteristic feeding damage on coxella, (Figs 2-7). Recognition of the feeding damage is an important aid in location of beetle colonies. This feeding damage is divided into four main types.

**1. Adult feeding on leaf tips, blades and petioles.** This varies from mild grazing with white gum production, to large areas eaten out of petioles (Figs 2-3).

**2. Adult flower feeding.** Male flowers are clearly favoured. Male flower stalks are sometimes eaten almost through, causing tips to bend and die. Female flowers and green seeds are also eaten, usually only partially, but in extreme cases so that only a few seeds remain out of an umbel (Fig. 4).

**3. Larval feeding on leaves and petioles.** Sometimes leaf tips are gummed together with sticky brown gum enclosing a small larva. On other occasions leaf fronds can be found dying, with a gum deposit near the base of the leaf blade, in which case a larva can be found inside the petiole (Figs 5-6).

**4. Larval feeding in plant crowns amongst rotting leaf bases.** In these cases, if several larvae are present, the whole plant top may die (Fig. 7).

Other ways of checking for the presence of coxella weevils include looking for the adult weevils on the plant tops, and searching round the bases of the host plant, as adults can often be found here, resting during the day. Best of all is night searching for the weevils with a headlamp, particularly when the plants are in flower. Adult weevils seem to be strongly attracted to the male flower of coxella for feeding and mating, and can readily be seen on them with a spotlight.

An indication of the number of weevils in an area can be gained by counting the number of weevils present on 50 male flowers of coxella, just after dark in November or December. Our data suggest that up to 30 or 40 weevils might be seen in a healthy population, with perhaps as many as 75 on a really good, warm, humid night.

It is probable that at high populations the weevils can cause significant damage to coxella plants. Individual plants may be killed and possibly whole patches of the plant devastated. Professor Euan Young of Auckland University has recorded the disappearance of patches of coxella that he had previously surveyed. It is not known if the weevils are responsible for this disappearance, but it seems possible. Records of coxella disappearance would be most useful, particularly if combined with observation on weevil abundance and obvious signs of weevil induced damage.

It is also not known what effect the disappearance of patches of coxella has on weevil populations. It seems likely that adult weevils may be able to walk considerable distances in search of new host plants. Observations on coxella weevils away from their host plants would be most interesting. Information such as distance to nearest coxella plant, what the weevil was doing when seen, and particularly observations on feeding on plants other than coxella.

The coxella weevil is currently known from two populations; a substantial one on Mangere Island, and a smaller one on Rangitira. Historically the weevils used to occur on Pitt Island, but have not been seen there since early this century. Rediscovery of the weevil on Pitt Island would be a significant bonus and greatly improve its chances of long term survival.

The possibility exists of further populations of the coxella weevil being discovered. Coxella evidently exists on some of the smaller off shore islands and stacks, for instance Western Nugget in the Murumurus and perhaps in other places. Careful searches for weevils or weevil damage, as described above, could be rewarded with the discovery of a new population of the coxella weevil.

If a project is developed to protect and restore the southern end of Pitt Island consideration should be given to making provision for coxella and the coxella weevil. This would require complete control of all grazing animals, because coxella is a highly favoured food plant for sheep or cattle. The effect of mice and perhaps of cats and weka on coxella weevil adults and larvae would also need to be investigated.



Fig. 1: *Hadramphus spinipennis* - Coxella weevil.



Fig. 2: Adult weevil feeding damage to leaf tips, blades and petiole.



Fig. 3: Detail of adult weevil feeding damage to leaf tips and blades.



Fig. 4: Adult weevil feeding damage to a seed head.



Fig. 5: Larval feeding damage to leaf stems.



Fig. 6: Larval feeding damage to petiole base (larva exposed).



Fig. 7: Larval feeding damage to plant crown and petiole bases.