

Moths of the Awarua Bay area

AWARUA BAY lies 16 km south of Invercargill and is easily reached by a sealed highway that leads on to the Tiwai aluminium smelter. The areas surrounding Awarua Bay are an assemblage of diverse non-forest habitats of intense interest to botanists, ornithologists, and entomologists.

THE AREA encompasses a wide variety of shrub, bog, and grasslands that have persisted despite the encroachment of forests in pre-European times and agriculture and industry in more recent times. Many of the plant associations are sub-alpine and therefore it is interesting to find them at sea level and to find that the insects feeding on them are also of normally sub-alpine species.

Much of the area is at present being considered for an extensive reserve by the Department of Lands and Survey because of the valuable flora and fauna there. Public appreciation of the area is low at present, but reserve status followed up with education will make the area a valuable asset to the people of Southland.

The distinctive brown stony shores of the bay have patches of short native grasses and herbs on which two small, brightly coloured tortricid moths, *Merophyas paraloxa* and *Protithona potmias*, breed. Both day flyers, they are often seen sunbathing on the hot stones or on pieces of kelp strewn on the shore.

Attractive boulder butterflies, *Lycaena boldenarum*, are also found on the shores, the larvae feeding on *Muehlenbeckia*. The female is orange, and the male is a beautiful shining purple.

By Brian Patrick*

Another slightly larger copper butterfly, *Lycaena salustius*, is also common in the area, but it frequents the adjacent shrub lands as well. In this species both sexes are orange, but their larvae, too, feed on the common liane *Muehlenbeckia*.

Tiwai Peninsula

Tiwai Peninsula is well known for its industrial development, but it also has distinctive flora and fauna that are worth preserving. For here is a variety of shrub, herb, and grasslands that would not be out of place 1000 m up in the Otago mountains. The moist and windy climate, combined with the sandy soils, contributes to a luxuriant habitat dominated by a daisy shrub, *Olearia nummularifolia*, red tussock, *Chionochloa rubra*, and mingimingi, *Cyathodes juniperina*. The usually exposed wild Irishman shrubs, *Discaria toumatou*, are barely distinguishable here among the dense shrub land, and the stiff, spiny *Hymenanthera alpina* grows to a metre high and is often covered in shaggy white lichens.

The daisy shrub has a new species of leaf miner of the genus *Stigmella* feeding on it,

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at present unknown elsewhere. The adult moth is barely 2 mm in wing span and is grey.

An *Aciphylla* species grows here and supports a beautiful orange day-flying moth called *Dasyuris partheniata*. The larvae scour out the green tissue from the stiff, sharp-pointed leaf blades through winter and early spring, escaping attention by lying flat along the leaf blade. Twelve related species of the alpine regions of Otago-Southland also feed on *Aciphylla* species and the closely allied genus *Anisotome*.

Two more day-flying geometrid moths are found on the peninsula and both are also found in sub-alpine regions. *Lythria catapyrrha* is a small brown moth with orange hindwings and has pretty brown and green caterpillars that will feed on herbs, including *Plantago*. The adults occur in barer areas and are often seen sucking the nectar from the profusion of *Gentiana saxosa* flowers that appear in autumn.

The other geometrid is *Lythria perornata*, the distinct coastal form of an alpine species. The reddish purple caterpillars feed under the mats of two *Pimelea* species here. The adults are spectacular moths, with orange, black, and white striped forewings that constantly vibrate as the moth momentarily settles on the hot sand adjacent to its food plant. It is hard to catch, being ever alert to any movement.