

CODFISH ISLAND MOTHS

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DUNEDIN

Stewart Island moths have not been intensively studied but Howes (1914) listed species from Ruggedy and Halfmoon Bay while Patrick et al. (1989) reported on the Mason Bay fauna and later on the alpine fauna of Stewart Island (Patrick et al. 1992).

This brief report lists the moths, together with annotations from six excellent collections from Codfish Island between April 1992 and April 1993 received from Rhys Buckingham, Hamish Leary and Simon Torr. They were received in good condition, often alive and most specimens are in my collection.

Codfish Island (1214 ha) is off the north-west coast of Stewart Island in southern New Zealand and the most important habitat for the highly endangered flightless native parrot, kakapo. It rises to 227 metres above sea level and is generally forest or shrub covered with some wetland. Substantial sand dunes exist also at Sealers Bay.

RESULTS

The following moth species were found in the following months. Annotations relate to known larval food or ecology and species biogeography.

Lepidoptera Family and Species	Month/s Recorded	Notes Larval food plant/ecology
Hepialidae <i>Aoraia insularis</i>	Feb-March	endemic to Stewart Island's offshore islands. A large and distinctive species - wingspan up to 65 mm
Tineidae <i>Monopis ethelella</i> <i>Sagephora exsanguis</i>	February November	widespread, larvae on fibre associated with wetland <i>Carex</i>
Psychidae <i>Mallobathra</i> sp. aff. <i>crataea</i>	November	diurnal, larvae in case, forest
Oecophoridae <i>Hofmannophila pseudospretella</i> <i>Tingena</i> sp.	February November	domestic world-wide exotic species larvae in leaf litter

<i>Endrosis sarcitrella</i>	October	domestic, world-wide exotic species
Carposinidae		
<i>Heterocrossa cryodana</i>	November	larvae on fruits
Tortricidae		
<i>Strépsicrates zopherana</i>	October/November	larvae on manuka, diurnal adults
<i>Planotortrix puffini</i>	April	larvae web leaves of <i>Brachyglottis</i> and <i>Olearia</i> . Only Stewart Island, coastal Catlins and Fiordland
<i>Planotortrix excessana</i>	May	ubiquitous leaf roller
<i>Catamacta gavisana</i>	November	polyphagous on trees
<i>Apoctena flavescens</i>	November	polyphagous on shrubs
Pyralidae		
<i>Patagoniodes farinaria</i>	February	larvae bore into <i>Senecio</i> spp.
Crambidae		
<i>Orocrambus ramosellus</i>	March/April	larvae in grass bases
<i>Orocrambus vittellus</i>	February	larvae in grass bases
<i>Eudonia cyptastis</i>	November	larvae in upland wetlands
<i>Eudonia paltomacha</i>	November	larvae in upland wetlands
<i>Eudonia sabulosella</i>	November	larvae sodworm in dunes
<i>Eudonia minualis</i>	February	larvae on mosses
" <i>Scoparia</i> " <i>minusculalis</i>	March	larvae on mosses
Pieridae		
<i>Pieris rapae</i> (white butterfly)	March	larvae on crucifers, exotic
Arctiidae		
<i>Nyctemera annulata</i> (magpie moth)	November	larvae on <i>Senecio</i> spp.
Noctuidae		
<i>Agrotis</i> sp. nr. <i>innominata</i>	November	dune species, larvae on <i>Calystegia</i> , marram, etc
<i>Rhapsa scotosialis</i>	October/May	larvae on leaf litter
<i>Tmetolophota phaula</i>	November	coastal; larvae on pingao, etc
<i>Tmetolophota atristriga</i>	March	larvae on grasses, common
<i>Aletia moderata</i>	May	common larvae on <i>Raoulia</i> , herbs
<i>Aletia temperata</i>	October	coastal dunes, rare in the south
<i>Meterana</i> n.sp. aff. <i>pictula</i>	April, November	dunes, larvae on <i>Pimelea</i> , rare southern species
<i>Graphania ustistriga</i>	October	larvae on shrubs and herbs, common
<i>Graphania sericata</i>	October	upland forest, larvae on herbs,

<i>Graphania mutans</i>	October-April	southern species
<i>Graphania lignana</i>	Mar-Apr-May	ubiquitous, larvae on herbs
<i>Graphania agorastis</i>	February	common, larvae on grasses wetlands
Geometridae		
<i>Pasiphila charybdis</i>	February	larvae on <i>Hebe elliptica</i> , southern species
<i>Pasiphila sandycias</i>	May	larvae on <i>Coprosma</i> spp.
<i>Orthoclydon praefectata</i>	October-May	larvae on flax, common
<i>Chloroclystis inductata</i>	November	larvae on flowers
<i>Poecilasthena subpurpureata</i>	October-February	larvae on manuka
<i>Poecilasthena pulchraria</i>	October-February	larvae on <i>Gaultheria</i>
<i>Tatosoma tipulata</i>	November	polyphagous; forests
<i>Helastia cinerearia</i>	November-May	larvae on mosses on rock faces
<i>Xanthorhoe semifissata</i>	May	larvae on <i>Cardamine</i> , forest
<i>Austrocidaria similata</i>	May	larvae on <i>Coprosma</i> spp.
<i>Austrocidaria gobiata</i>	May	larvae on <i>Coprosma</i> spp.
<i>Austrocidaria callichlora</i>	October-May	larvae on <i>Coprosma</i> spp.
<i>Epicyme rubropunctaria</i>	November	larvae on <i>Gaultheria</i>
<i>Epiphyryne charidema</i>	October-November	larvae on <i>Dracophyllum</i> , to 220 m
<i>Homodotis falcata</i>	October-November	larvae on leaf litter, southern species
<i>Epyaxa rosearia</i>	October	larvae on herbs, open areas
<i>"Xanthorhoe" occulta</i>	October	larvae on herbs at 220 m
<i>Microdes epicryptis</i>	October	larvae on <i>Juncus</i> , uncommon
<i>Ischalis fortinata</i>	October	larvae on <i>Polystichum</i> (hard fern)
<i>Chalastra pellurgata</i>	October-May	larvae on <i>Polystichum</i> (hard fern)
<i>Pseudocoremia suavis</i>	October-March	larvae polyphagous on trees
<i>Pseudocoremia fenerata</i>	April	larvae on podocarps
<i>Pseudocoremia productata</i>	May	larvae polyphagous, forests
<i>Sarisa muriferata</i>	October	larvae on Hounds Tongue fern
<i>Declana leptomera</i>	November	larvae polyphagous; forest
<i>Declana floccosa</i>	October-November	larvae polyphagous; forest
<i>Xyridacma ustaria</i>	May	larvae on <i>Pittosporum tenuifolium</i>
<i>Xyridacma alectoraria</i>	October-November	larvae on three finger (<i>Pseudopanax</i>)
<i>Xyridacma veronicae</i>	February-May	larvae on <i>Hebe</i> spp.

SUMMARY

A total of 64 moth species have been recorded of which only four species are exotic. One species (*Aoraia insularis*) is endemic to the Stewart Island area while another four species are restricted to Stewart Island and coastal Otago/Southland.

A further three species are uncommon coastal moths of dunes, reflecting the high conservation value of the Sealers Bay dune system. The upland wetlands are

interesting also with a distinctive fauna.

An undescribed pink and green coloured noctuid in the genus *Meterana* is known from only three sites; Sealers Bay - Codfish Island, Mason Bay and Three Sisters Sand Dune near Bluff on the other side of Foveaux Strait. The green/white and red larvae feed on *Pimelea lyallii*, another southern endemic. The moths small natural distribution and rarity mean it is threatened with extinction especially from chance events. Similarly the *Agrotis* sp. nr. *innominata* is probably a distinct southern species with a brachypterous (flightless, short-winged) female. The limited dispersal ability of the female leads to increased risk for the species of local extinction due to habitat disturbance, etc and recovery will be extremely slow if at all. Incremental local extinctions can lead to complete extinction. It is highly likely that this dune system is home to the undescribed Stewart Island endemic moth in the genus *Notoreas*. Only known from three specimens collected at Mason Bay (Patrick et al. 1989), it has larvae feeding on the low shrub *Pimelea lyallii*.

More survey work is needed to build on the information contained here, especially to highlight the possible high conservation value of the dune systems of the island. It may be possible to further utilise the personnel associated with the Kakapo recovery work to obtain more specimens.

REFERENCES

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