THE CASEMOTH,

LIOTHULA OMNIVORA

(PSYCHIDAE : LEPIDOPTERA)

A THESIS

PRESENTED IN PARTIAL FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

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CHAPTER I

INTRODUCTION

Liothula omnivora, one of the two known casemoths endemic to New Zealand, belongs to the Lepidopteran family Psychidae. It is distributed throughout the country, and can be found on a large number of host plants (see later). The other N.Z. casemoth, Orophora concolor, has been found on Wild Irishman and cassinias in the river beds of the South Island (Miller, 1955).

L. omnivora was first described by Fereday in 1878, but Meyrick (1890) transferred it to the genus Oiketicus (Guilding, 1827) mis-spelling it Oeceticus. Dr. Allan Watson (1967, pers. comm.) of the British Museum (Natural History) considers that this species should belong in the genus Liothula and the writer has adopted Watson's view in calling it L. omnivora. The type of L. omnivora is in the Canterbury Museum, Christchurch (Entomologische Beihefte 4, Horn and Kahle, 1937). Descriptions of the external morphology of the adult male and female have been made by Fereday (1878), Meyrick (1890) and Hudson (1928). Fereday and Hudson also described the larva, the pupa has been described by Hudson and Quail (1901), and the appearance of the egg briefly noted by Hudson.

Smith (1898) observed the locomotion of the larvae in his house and Hudson (1928) made observations on case repairing by larvae. Hudson (1928) also described the larval case, observed the suicidal crushing of adult males in captivity and the helpless condition of

the adult females and was the first person to describe briefly the life history of this species. He recorded four insect parasites and Gourlay (1930) also recorded four including two species not found by Hudson. Miller (1955) noted that the Maoris called L. omnivora by the names Kopa (to shut), whare atua (spirit house) or Raukatauri (flute of the goddess of music, Raukatauri).

This species is of little or no economic importance although Gaze (1891) reported that larvae defoliate and ring branches of currant plants, Miller (1917) found that larvae do minor damage to the leaves of N.Z. flax, and Clark (1932) observed a slight amount of damage was caused to Pinus radiata by larvae feeding upon the needles.

In this study, the anatomy, life history, general biology, case building, case function and studies on insect parasites have been undertaken.