

THE ESTABLISHMENT OF THE BIOLOGICAL CONTROL AGENT FOR PATERSON'S
CURSE, *DIALECTICA SCALARIELLA*, IN VICTORIA

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Abstract. The only agent released in Victoria has been the leaf miner, *Dialectica scariella*. This agent has a short life cycle which is temperature dependant, and not influenced by photoperiod. Consequently, in the colder areas of Victoria where releases have been made, conditions such as frost, snow and wet boggy ground may inhibit establishment. A large proportion of Victoria receives little or no summer rains and therefore a period of between two and six months may exist between die off of the plant and the next germination. Unless old plants or rosettes are found along drains, irrigation channels, roadside runoffs and other damp areas, this moth will not be able to survive and breed during the dry months. Summer rains that bring on a flush of early germination will alleviate this problem and allow breeding to occur over this 'vulnerable' period.

THE TWIGMINING MOTH *LEUCOPTERA SPARTIFOLIELLA*,
AN ACCIDENTAL INTRODUCTION FOR BIOLOGICAL CONTROL OF
BROOM (*CYTISUS SCOPARIUS*) IN NEW ZEALAND

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The broom twigminer, *Leucoptera spartifoliella* (Hübner) (Lepidoptera : Lyonetiidae) was first collected in New Zealand in 1950. It is a European species which was accidentally introduced, probably with imported ornamental broom plants. Tests undertaken by research workers from the United States prior to its purposeful introduction there for biological control of broom showed the moth to be highly host specific to broom and therefore not to pose a threat to other plants. The life cycle of *L. spartifoliella* in New Zealand is similar to that recorded in Europe. Adults occur in the field from December to March and eggs are laid on green stems, new growth being preferred. Larvae mine these stems through much of the year, pupating in silken cocoons, which are usually attached to the underside of twigs and branches, in November. In New Zealand populations of *L. spartifoliella* frequently reach high levels so that larval mining results in the production of large areas of dead plant material. A factor which may contribute to the high numbers recorded here compared to Europe and North America is the apparent absence in New Zealand of the eulophid parasite *Tetrastichus evonymellae*. This parasite has been identified as having a probable controlling influence on populations of *L. spartifoliella* in England. The impact of *L. spartifoliella* on broom in New Zealand is being assessed, as in conjunction with the introduction of further species from Europe which are restricted to broom, this moth may contribute towards successful biological control of an aggressive scrub-weed.