

In addition to the above method of obtaining parasites for liberation, use was also made of material which emerged from the field collections. During March and April approximately two thousand were obtained in this manner and liberated on a cabbage patch in Palmerston North.

(e) *Field Survey in Manawatu.*

The majority of the crops in the Manawatu were only moderately damaged by *Plutella*, and in most cases were in a vigorous and healthy condition. However, a collection of *Plutella* was made in this locality to determine whether *Diadromus* had established or not, and also to ascertain if *Angitia cerophaga*, a small number of which had been liberated there in 1936, could be found. The above collections have not yet been analysed.

(f) *Field Survey, South Island.*

Liberation of *Angitia cerophaga* was carried out on Mr. McKenzie's farm, twenty miles south of Ashburton, the Division being greatly assisted by the local Instructor in Agriculture by his active participation in this work.

Field surveys were made simultaneously in the locality, and it was revealed that *A. cerophaga* was already well established in the district. Subsequent surveys indicated that it has been established over an area extending from Nelson to the Waitaki River.

The dry season in Canterbury was very suitable for *Plutella*, and consequently abundant host material was provided to render possible a thorough establishment of *Angitia*, which was found to be active in its parasitizing work—in one instance reaching a figure of 75 per cent. There was also a remarkable absence of attack from native hyper-parasites.

It is interesting to mention at this stage that the pupal parasite, *Diadromus*, is also spreading in the South Island. The only liberations of this parasite made in the south were at Nelson, but our field surveys showed that it has already spread as far as Blenheim.

(2) WHITE BUTTERFLY.

During the past season supplies of *Apanteles glomeratus* and *Apanteles rubecula* (both larval parasites of Pierids) were received from Farnham Royal. Of these, the most important for consideration was *Apanteles rubecula*, a solitary larval parasite of *Pieris rapae*. Unfortunately, only a small number were received and we were not successful in getting them established.

(a) *Field Survey, Hawke's Bay.*

A survey was made in Hawke's Bay during April of this year to ascertain the position regarding white butterfly in that district. The survey extended from Dannevirke to Hastings, and all investigations showed that the butterfly was causing only very slight damage, the larvæ being scarce. Collections of pupæ were made from fencing-posts and from grass surrounding the crops. In the majority of cases no pupæ were found on either fence-posts or in the grass, but from the small numbers collected it was found that they were heavily parasitized.

(b) *Field Survey, Manawatu.*

A survey of the white butterfly in the Manawatu was also carried out during April. An investigation of brassica crops in the Marton district indicated that damage attributed to white butterfly was in reality caused by diamond-back moth, though it is possible that in one or two isolated cases the loss from butterfly attack was fairly severe. Collections of pupæ were made from fencing-posts and grass, and in both cases the percentage of parasitism was high. On one or two crops only were butterfly larvæ found to be causing damage, and in these cases the crop was poor, with a large number of weeds growing through it. Other than these cases mentioned, the crops were not suffering from butterfly injury.

(c) *South Island Survey.*

Surveys were also carried out in the South Island, though they were less intensive and far wider spread. It can be said that from Nelson to as far south as Timaru the white butterfly has been held under very good control. There were, of course, odd places where the butterfly appeared to be quite prevalent, but of all the crops examined it can be said that none was at any time likely to be devastated by the butterfly, though, of course, some slight injury would result.

(3) SUBTERRANEAN GRASS-CATERPILLAR.

In the spring of 1937 and in following years the subterranean grass-caterpillar (*Porina* sp.) was responsible for considerable damage to improved pastures in Canterbury, Otago, and Southland. In view of the fact that no effective method of controlling this insect was known, an assistant was