

NOTES ON NEW ZEALAND INSECTS AND RECORDS OF INTRODUCED SPECIES

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All of the insects mentioned in these notes are represented in Entomology Division collections at Nelson.

HEMIPTERA: *Jassidae*.

Deltocephalus montanus Evans

In paragraph two of the author's paper on Dryinidae (1954), reference was made to the hosts of Strepsiptera and Dryinidae, submitted to J. G. Myers for identification and of the subsequent loss of this material. I am advised by J. W. Evans that this New Zealand jassid is the same as the one he described (1939) from Mount Lofty, South Australia, as *D. montanus*. Its New Zealand host relationship can now be placed as *Elenchus maorianus* Gourlay and *Neogonatopus alpinus* Gourlay (1953).

COLEOPTERA: *Carabidae*.

Nemaglossa atriceps (Macleay)

Two specimens of this Australian insect were taken by J. W. Campbell in Auckland on 5/10/46; many other records of its occurrence in Auckland and Northland are given by Pilgrim (1963), so this small colourful carabid has been established for many years in these districts. The fact that T. Broun, after many years residence in these areas, did not take *N. atriceps*, suggests that it is not one of those insects common to both faunas.

Coccinellidae.

Scymnus notescens Blackburn

This species of coccinellid, belonging to the Tasmanian fauna has been seen on a number of occasions by the writer in Nelson; details of three collected specimens are Dun Mt. track, 14/2/37, E. S. Gourlay, Nelson, 12/4/41, E. S. Gourlay and Riwaka, 6/1/65, K. McCarthy. In this country it appears to be a scale insect predator and is seen only infrequently.

Cryptophagidae.

Henoticus claifornicus Mannheim

During 1959, in the store of Pyne, Gould and Guinness at Ashburton, a consignment of Australian dried apricots was found to be infested with *H. californicus*, having arrived in this condition from Australia. Although control measures were employed, the nature of the store was such that dispersal of *H. californicus* could have taken place prior to these.

Cartodere ruficollis Marsham

An exceptionally large population of this insect was found on 28/5/62 at Orinoco, Nelson, where it was breeding in baled grass hay in an old barn. Moulds were prevalent throughout the hay, giving optimum breeding conditions, so with litter present every year on the barn floor and under the buildings, continuity of *C. ruficollis* here is assured.

Cerambycidae.

Oemona hirta (Fabricius)

Duffy (1963) lists thirty-three host plants of *O. hirta*, of which eleven belong to the New Zealand flora; an additional host plant can now be added, *Carmichaelia ovata* Simpson, from which larvae and puparia of *O. hirta* were obtained in November in upper Awatere valley, Marlborough, in living small branches and larger diameter trunks, situated in open tussock country and in small gullies leading into the Awatere river.

Scarabaeidae.

Onthophagus granulatus Bohemann

O. granulatus was described (1858) from Sydney, Australia, and was included by Hudson (1923) in his "Index of New Zealand beetles" as an introduced species. Balthasar (1946) redescribed this species from New Zealand, under the name *O. novaesealandiae*, which is a synonym of *O. granulatus*. Remarks made by Hudson (1934) would indicate that this species has been known in New Zealand since about 1844.

Curculionidae.

Oreocalus hebe Marshall

A small series of this species was reared in February, 1952, from *Hebe divaricata* (Cheesman), obtained a month earlier from the Dun mountain tramline, Nelson, on the western face of Wooded Peak, at an altitude of about 2,300 ft. Eggs are probably laid by *O. hebe* in or on the terminal part of leaf buds of *H. divaricata* and larvae feed inside the buds in this area. *H. divaricata* buds in early stages of development have the opposite leaves sealed at their edges, these coming apart with increase in size and finally opening up to their fully developed position. When *O. hebe* inhabit the terminal parts of buds they inhabit this action, so buds at the terminal portion remain sealed and as bud growth progresses this terminal part therefore becomes deflected, so producing the plicate, lateral, sealed-bud abnormality (Fig. 1). Completion of the weevil life cycle occurs in the deflected area; an oval pupal cell is formed here, from which the adult escapes by chewing a circular hole, in January. Parasitism by a chalcidoid wasp sometimes occurs, but is insufficient for marked reduction in *O. hebe* populations.



Fig. 1: Legend.

Hebe divaricata infested by **Oreocalus hebe**. Current season's growth with small supplementary buds; former season's growth with developing branchlets. **O. hebe** emergence holes in three bottom specimens.

O. hebe was reared from "galls" on **Hebe traversii** (Hooker f.) from Cass in 1933 by L. Morrison, from which material Marshall (1938) drew up his description of **O. hebe**; the "galls" on **H. traversii** appear to be the same form of arrested development, as with **H. divaricata**.

Echthromorpha intricatoria (Fabricius)

In his remarks concerning this species, Parrott (1952) states ". . . . the first record of its occurrence in New Zealand should be that of Ashmead (1900)." This reference relates to Ashmead's **Allotheronia 12-guttata**, which was synonymised by Parrott with **E. intricatoria**; however, details of **A. 12-guttata** from Ashmead's description (1901) show that it was "bred by A. Koebele from the pupa of an unknown moth" and the location was given as Australia. The first New Zealand record of **E. intricatoria** is therefore that of C. C. Fenwick who took a specimen in 1915 at Longwood Range, near Orepuki and referred to by Gourlay (1926).

Eupelmidae.

Polymoria barteli Gourlay

While rearing adults of the lamiid **Poecilippe medialis** Sharp from larval material in lemonwood, **Pittosporum eugenioides** A. Cunningham in Nelson, December 1962, a specimen of **P. barteli** emerged from a larval tunnel of **P. medialis**, destroying the larva and so establishing host relationship. The host of **P. barteli** could not be given by the author when describing this species (1928).

Cynipidae.

Anacharis zealandica Ashmead

Specimens of **A. zealandica** are present in Entomology Division collections at Nelson, labelled Wereroa 3.8. 1917 and Palmerston North, Sept. 1930 "bred from cocoon found in ground," W. Cottier, both mounts accompanied by cocoons of the hemerobiid **Micromus tasmaniae** Walker with emergence holes of **A. zealandica** present. From similar rearings by the author, **A. zealandica** is established as a primary parasite of **M. tasmaniae**; parasitism occurs after the larva of **M. tasmaniae** spins the cocoon. It is not usual to find cocoons of **M. tasmaniae** in the ground, for their normal location is under foliage in sheltered places, while distribution of host and parasite are general throughout New Zealand.

Psammocharidae.

Salius bicolor Fabricius

From records of live individuals of the Australian psammocharid wasp **S. bicolor** taken in Northland, it would appear that this species has become established in New Zealand only recently and may be expected to extend its range of distribution gradually in the North Island. B. Ashby found the first specimen at Tokerau beach, Doubtless Bay, 28/4/63, another was taken at the Moerewa

freezing works by O. R. Anderson on 20/3/64; both of these are in the collections of Entomology Division, Nelson. A specimen in Forest Research Institute collection, Whakarewarewa, was obtained at Waitangi in May 1963, while in the same year *S. bicolor* was collected by G. B. Rawlings of Kerikeri, whose personal comment was that it was the only species of *Salius* to be seen in that district. *S. bicolor* is about the same size as the native *S. monachus* Smith, but has matt colouring in bright rusty brown and black, the latter predominating on the thorax, parts of the abdomen, coxae and wing tips.

As preferred hosts of *S. monachus* are funnel-web spiders it is possible that *S. bicolor* could have the same host group, restricting distribution correspondingly.

Arpactidae.

Gorytes carbonarius Smith

G. carbonarius is an annual visitant to the author's garden in Nelson, where, in worked beds, it burrows to construct its nesting sites, provendering them with late larval "spit-bugs" of the Aphrophoridae, *Carystoterpa trimaculata* (Butler); up to three individuals are placed in each burrow, when a single egg is deposited on the hosts, longitudinally between the rudimentary wings and the legs of one larva. Before the autumn *G. Carbonarius* larvae reach maturity, but remain as larvae until a short time before adult emergence occurs, when they have a short pupal stage. Larval *C. trimaculata* are conveniently situated feeding on young shoots of Meyer lemon trees, where *G. carbonarius* adults locate them, secreted within the frothy accumulation that surrounds them.

Larridae.

Tachytes nigerrimus Smith

The host of this insect is the native cockroach known at present as *Cutilia truncata* Brunn.; preferred habitat of the wasp is sandy river beds, where it excavates burrows in partly consolidated banks above normal flood level and stores in them for larval food late stage larval *C. truncata*. As *T. nigerrimus* is plentiful in the upper reaches of the Maitai river in Nelson but is uncommon in the town area, details of life cycle are not known. The genus *Tachysphex* Kohl 1833, has been applied to European species of *Tachytes* of authors; whether New Zealand members of this genus require new generic placement is yet to be proved.

Crabronidae.

Crabo carbonicolor Dalla Torre

Though not as plentiful as *Gorytes carbonarius*, this insect has much the same habits and occupies the same area in the garden; its life cycle corresponds in period of time, but the host is *Cutilia truncata*, of which larval stages smaller than those used by the sturdier *Tachytes nigerrimus* are brought to the nest, partly by short flights and partly by dragging over the ground. In all in-

stances observed sting paralysis of the hosts was accomplished before removal to nesting sites was attempted. **C. carbonicolor** is more commonly known in New Zealand as **Rhopalum carbonarium** Smith.

Spilomena sp.

This species was first seen by the author in Christchurch in 1919 and since 1924 on a number of occasions in Nelson, appearing from late October till early December. Adults visit emergence holes of **Anobium punctatum** de Geer in weather-boarding of old houses where verandahs give protection from the weather. Close observation showed adult **Spilomena** working in the holes, cleaning out quantities of **A. punctatum** larval frass and then, when a satisfactory condition had been obtained, storing inside numbers of the common introduced thrips, **Heliothrips haemorrhoidalis** (Bouche); from this point further investigations were not made, due to impossibility of obtaining invaded material on which to work. All thrips carried by the wasps were immobilised and apparently formed larval food of **Spilomena**.

A matter of interest concerning this insect and its relationship with **A. punctatum** is that there is no record of the same connection in Europe, so though **A. punctatum** and **H. haemorrhoidalis** came initially from there this would suggest that the species of **Spilomena** in New Zealand is not of European origin. Two species of **Spilomena** have been described, **S. troglodytes** (Linden) found throughout Europe and **S. pusilla** (Say) from Connecticut and Indiana, U.S.A.

Spilomena specimens were collected in Auckland, 5/10/1945 by J. W. Campbell and in Dunedin in 1949 by L. Gurr, who assumed, in correspondence, that it was parasitic on **A. punctatum**.

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