

SOME EARWIGS (DERMAPTERA) FROM NEW ZEALAND.

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THE Dermaptera of New Zealand are very little known and my records (which, however, may be incomplete) indicate that only eight species appear to have been recorded. These are as follows :

LABIDURIDAE : **Euborellia annulipes* (Lucas), *Anisolabis littorea* (White),
**A. maritima* (Géné), **Labidura riparia* (Pallas), *Parisolabis novae-zeelandiae* Verhoeff, *Pseudisolabis walkeri* Burr.

CHELISOCHIDAE : **Chelisoches morio* (Fab.).

FORFICULIDAE : **Forficula auricularia* L.

The species marked with an asterisk (*) are cosmopolitan. The remaining are all endemic species at present unknown outside New Zealand. The family PYGIDICRANIDAE is unrepresented, as one would expect, but it is surprising that no members of the LABIIDAE (such as the cosmopolitan *Labia minor* (L.), *Labia curvicauda* (Motschulsky) and *Prolabia arachidis* (Yersin) appear to have been noted as occurring in New Zealand. This deficiency is somewhat reduced by the addition of three species belonging to the LABIIDAE in the present contribution which is based on a small collection of 26 specimens kindly forwarded for determination by Dr. W. J. Hall, M.C., Director of the Commonwealth Institute of Entomology, to whom I wish to record my indebtedness for the opportunity to study this material. Seven species are represented, of which no fewer than three are additions to the meagre New Zealand list. Of these additions, one species is new to science (*Nesogaster halli*), the second is an Australian species (*Chaetospania brünneri* (Bormans)), and the third is unfortunately represented by a single female which can only be referred to the genus *Labia* in its widest sense until male specimens are forthcoming.

LABIDURIDAE.

Anisolabis littorea (White, 1846).

Forficula littorea White, 1846, Voy. "Erebus" and "Terror," Ins. : 24, pl. 6, f. 4, 5.

NEW ZEALAND : Owairaka, 1 ♂, 9.iv.1940 (*D. Spiller*); Great Barrier Is., 1 broken spn. xi.1940 (*D. Spiller*).

Under the name of *Forficesila littorea* (White) this is the only earwig recorded in F. W. Hutton's *Catalogues of the New Zealand Diptera, Orthoptera, Hymenoptera* (Wellington, 1881). It is an abundant maritime species restricted to New Zealand.

Labidura riparia (Pallas, 1773).

Forficula riparia Pallas, 1773, *Reise Russ. Reichs.* 2 : 727.

NEW ZEALAND: Auckland, 1 ♂, 1939 (*D. Spiller*); Owairaka, 1 ♂, 1 ♀, 5. ix. 1940 (*D. Spiller*), 1 ♂, 1 ♀, same locality, under sacking, 3. vii. 1940 (*D. Spiller*); Great Barrier Is., 1 ♀ under shore rubbish, 23. xi. 1940 (*D. Spiller*).

The above specimens are the *truncata* (Kirby) variant of *L. riparia*, which is the dominant form in Australia. The distribution of *L. riparia* is world-wide and many local forms, feebly differentiated, occur in different parts of its range.

LABIIDAE.

Nesogaster halli sp. n. (Figs. 1-3.)

Of average size for the genus.

Male.—General colour brown, shining, almost hairless; legs, antennae and palpi dirty testaceous; forceps and ground colour of head reddish testaceous, latter with broad, transverse, dark brown patch extending from the middle of one eye to the other with its posterior margin abrupt and convex, enclosing, just above the clypeus, a median triangular spot of reddish testaceous and a pair of similarly coloured circular spots placed singly on the inner side of the antennal sclerite. The caudal portion of head is dark brown laterad with an isolated oblique dark brown line running from the inner angle of eye to caudal margin of head. The wing tips have an obscure longitudinal dark bar adjacent to, but not quite touching, inner margin.

Head tumid; median longitudinal suture distinct; transverse sutures wanting; eyes large, coarsely faceted, longer than cheeks and basal antennal segment; occiput contracted behind eyes; caudal margin very slightly sinuate. *Antennae* 13-jointed (an additional terminal segment may have been lost), all segments from third elongate club-shaped; third longer than either fourth or fifth; fourth shorter than fifth; fifth onwards more or less subequal in length. *Pronotum* narrower than head, but about the same length; a little broader caudad than cephalad; nearly truncate caudad and cephalad; pro- and metazona not markedly differentiated; sides moderately reflexed; caudal angles rounded. *Tegmina* ample, nearly twice as long as pronotum, wider than head, shoulders rounded, sides a little contracted caudad, caudal truncature slightly concave, lateral keels strong and complete. *Wing scales* prominent, nearly as long as pronotum. Sculpture of pronotum, tegmina and wing scales almost absent. *Abdomen* broader than tegmina at tergites 7 and 8, surface sculpture slight; ultimate tergite somewhat narrower, transverse, plane above with fine scattered puncturation; caudal margin slightly reflexed above pygidium. *Pygidium* not prominent, subquadrate, deflexed. *Forceps* distant, without flanges or teeth, broader at base, gradually tapering to about half their length then more or less cylindrical to slightly hooked apices; curvature of forceps slight, enclosing a very elongate oval space; lower inner edge with minute crenulations basad. *Penultimate sternite* ample, broadly rounded with a very slight median emargination. *Legs* as described for the genus. *Genitalia* (see fig. 2).

Length.—5-6 mm., excl. forceps; forceps 2-3 mm.

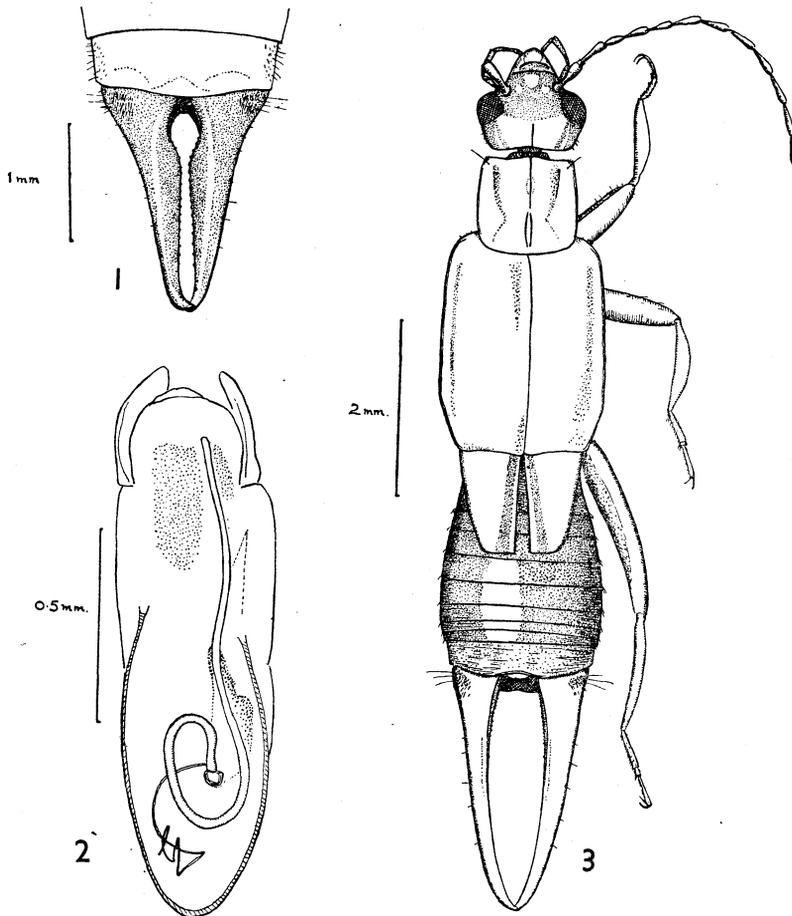
Female.—Agrees with male in almost all characters except that the head is solidly dark brown, the pronotum is dark brown with the lateral areas lighter. Ultimate tergite somewhat depressed mesad, its margin hardly reflexed. Pygidium almost hidden. Forceps distant at base and rather broad, then rather angularly approximated close to base, thence gradually tapering with their inner margins almost touching and rather coarsely crenulate. Penultimate sternite less ample than that of male, free margin rounded.

Length 6-8 mm., excl. forceps; forceps 2 mm.

Holotype, male, NEW ZEALAND: Titirangi, taken in flight, 9. iv. 1945 (*M. W. Carter*); Allotype female, Titirangi 12. iii. 1945 (*M. W. Carter*). Both speci-

mens in the collection of the British Museum (Nat. Hist.). Paratype male, Titirangi, iii. 1944 (*M. W. Carter*); paratype female, Mt. Albert, Auckland, 29. ix. 1941, sieved (*D. Spiller*), both in the writer's collection.

This distinct species is named after Dr. W. J. Hall, M.C., Director of the Commonwealth Institute of Entomology, London. It agrees closely with Burr's generic diagnosis (1908 : 43, repeated 1911 : 48). In several species of

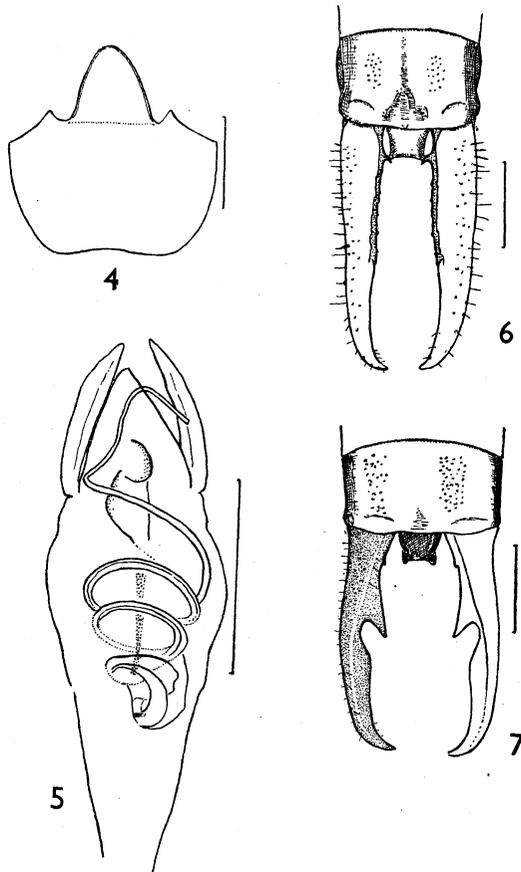


FIGS. 1-3.—*Nesogaster halli* sp.n. (1) Female forceps; (2) male genital armature; (3) male.

the genus the pygidium is very prominent in the male, but in some it is much reduced as is the case in the present species. From these species (*N. dolichus* (Burr, 1897), Celebes, *N. wallacei* Burr, 1908, Celebes, *N. tristis* (Bormans in Burr, 1903) New Caledonia, *N. pulchripes* (Bormans in Burr, 1903) Australia, and *N. papuus* (Bormans, 1900) New Guinea, it differs in the male by a combination of the distinctive coloration of the head, fully developed wings

and tegmina and the simple forceps. Recently (1946) Rehn has described five new species of *Nesogaster* and a single new species has been added by Hincks (1947), but all have the pygidium long and consequently do not require comparison with the present species.

The genus *Nesogaster* is an interesting one widely distributed in the Oriental Region, reaching the Palaeartic in Japan and strongly represented in the Papuan subregion (whence I have several new species awaiting description) with weaker offshoots in Australia and Oceania.



FIGS. 4-7.—*Chaetospania brunneri* (Bormans). (4) Penultimate sternite and manubrium of male; (5) male genital armature; (6) female forceps; (7) male forceps. The line represents 0.5 mm.

Chaetospania brunneri (Bormans, 1883). (Figs. 4-7.)

S(paratta) brunneri Bormans, 1883, *Ann. Soc. ent. Belg.* 27 : 69, pl. 2, f. 9 (♂♀, Australia Rockhampton).

NEW ZEALAND : Hastings, 3 ♂, 3 ♀, 18. xi. 1941, under pine bark (*D. Spiller*).

This series agrees well with de Borman's careful description and there can be no doubt that the identification is correct. Hitherto known as a rather

frequent Australian species, *C. brünneri* has not been recorded before outside that continent.

The genus *Chaetospania* includes a large number of small Labiids and is numerically very well represented in the Indo-Malayan region. It has once before been recorded from Oceania, whence Caudell (1927) has described *C. stoneri* from Fiji. Caudell's species appears to be closely related to the present species, but differs quite distinctly in the characters of the forceps and pygidium in both sexes.

The forceps and apical abdominal segments of both sexes and the genital armature and manubrium of the male of *C. brünneri* are shown in figs. 4-7.

Labia (sens. lat.) sp. ?

NEW ZEALAND: Mt. Albert, 1 ♀, 12.iii.1946 (*M. W. Carter*).

Unfortunately this species is represented by a unique female only, and it is therefore impossible to place it more closely with accuracy. The following is a brief description.

A small species, about 4.5 mm. long, including forceps, with all parts of the body markedly pubescent. General colour brown, moderately shining; legs testaceous with femora infuscated; head nearly black; forceps reddish; antennae brown, apparently lighter distad but all segments after tenth have been lost; third segment a little longer than fourth and fifth which are subequal in length; subsequent segments subequal and more or less ovate in shape. Head with obsolete sutures and caudal margin sinuate (as in *Chaetospania*); eyes small, shorter than basal antennal segment, barely a quarter the length of cheeks. Pronotum more or less parallel-sided, narrower than head, truncate meso-caudad, with caudal angles broadly rounded. Tegmina about as broad as head, only about one-quarter longer than pronotum, obliquely truncate caudad, depressed above, without lateral keels. Wing tips very small and only just exposed by tegmina. Abdomen rather regularly curved at sides, being narrower than tegmina at base, but considerably wider at the middle segments, thence contracted to apex; pliciform tubercles small; sides of segments not acute. Ultimate tergite transverse, truncate caudad, a little tumid above roots of forceps. Pygidium moderately prominent, its shape obscured by the contiguous forceps, the inner margins of which touch throughout their length, except that the apices are curved and crossed; the base of the forceps is broad, narrowing rather abruptly at mid-length, thence narrowing more gradually to apex. Penultimate sternite ample with free margin broadly rounded.

CHELISOCHIDAE.

Chelisoches morio (Fabricius, 1775).

Forficula morio Fabricius, 1775, *Syst. Ent.*: 270.

NEW ZEALAND: Titirangi, 1 ♂, 25.iv.1943 (*M. W. Carter*).

This cosmopolitan insect is particularly widely distributed in Oceania (Hincks, 1938, *The Dermaptera of Oceania*, *J. F. M. S. Mus.* 18: 312).

FORFICULIDAE.

Forficula auricularia Linnaeus, 1758.

Forficula auricularia Linnaeus, 1758, *Syst. Nat. Ed. X*, 1: 423.

NEW ZEALAND: Blenheim, 2 ♂, 2 ♀, 9.ii.1942 (*D. Spiller*); Havelock, ex Codling banding, 1 ♂, viii.1946 (*W. Cottier*); Invercagill, 1 ♀, 28.ii.1942 (*D. Spiller*).

A relatively recent introduction into Australia and New Zealand, doubtless from Europe.

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BOOK NOTICES.

Gall Midges of Economic Importance. By H. F. BARNES, M.A. (Oxford), Ph.D. (London). 8vo. London (Crosby Lockwood & Son, Ltd.), 1948. Vol. III, *Gall Midges of Fruit*. Pp. 184, 9 half-tone plates. Foreword by A. M. Masee, D.Sc. Price 15s. Vol. IV, *Gall Midges of Ornamental Plants and Shrubs*. Pp. 165, 8 half-tone plates. Foreword by G. Fox Wilson, N.D.H. Price 15s.

These two volumes bring the series halfway to its conclusion. The previous arrangement is continued, the host-plants being dealt with in alphabetical order. Under each plant are listed the gall midges attacking it, also in alphabetical order. The standard subheadings under each species are: Diagnostic character; Damage; Description; Distribution; Life-history; Food-plants; Natural enemies; Control measures. Each volume concludes with a list of references, an index of generic, specific and popular names of midges mentioned, a plant index and a general index.

A Guide to the Smaller British Lepidoptera. By L. T. FORD, B.A. 8vo. South London Entomological and Natural History Society, 1949. Pp. 230. Price 15s.

1,375 British Microlepidoptera are listed, with scientific names and synonyms. The biological notes on each species are tabulated for the four stages, ovum, larva, pupa and imago. Information given includes months of occurrence, food-plant, habitat, behaviour of larva or adult, and whether a web or a cocoon is produced.

A list of food-plants and other food substances is cross-referred to the main list, and is printed on green paper. The index of genera and species is printed on pink paper.