

THE DERMAPTERA OF THE SOLOMON ISLANDS¹

By A. Brindle²

Abstract: The present paper is largely based on 2 collections of Dermaptera from the Solomon Islands, the first belonging to the B. P. Bishop Museum, Honolulu, and which consists of 366 specimens collected over a number of years, while the 2nd of 272 specimens belongs to the British Museum (Nat. Hist.), and resulted from the British Royal Society Expedition to the islands during 1965-1966. These 2 collections have been supplemented by additional specimens from the British Museum (Nat. Hist.) and all previous records of Dermaptera known to me from the Solomon Islands are included. The present paper therefore presents a complete survey of the Dermaptera of these islands as far as these are yet known. 40 species are recorded, of which 20 are described as new, with the exception of one species which is only represented by ♀ specimens.

Keys to all genera and species of Dermaptera now recorded from the Solomon Islands are given, together with a key to families or subfamilies recorded from both the Australasian and Oriental Regions. Notes on taxonomy and on the structure of the male genitalia are included.

The composition of the Dermaptera fauna of the Solomons and its relation to that of other parts of the Australasian and to that of the Oriental Region, is discussed. The Solomons appear to have a high proportion of endemic species (50 %) but since these consist of the species described as new, some of these may be later found in neighboring islands. There are 9 Australasian species recorded from the islands, and 3 Oriental species, one of the former species extending as far east as Samoa, and 1 of the latter species extending to Hawaii. Six species are cosmopolitan, while 1 species is adventive.

The Solomon Islands form a southeastern extension of the islands of the Bismarck Archipelago, which are themselves closely associated with New Guinea. All these islands form an association which is referred to in the present paper as the New Guinea area. However, the Solomon Islands are sufficiently separated from the rest of the New Guinea area to suggest that while they are likely to have a number of species common to the area as a whole, there should be large differences in the actual fauna. The New Guinea area forms most of the northern part of the Australasian Region, and since the Dermaptera are typically tropical or subtropical insects, this northern part should be the richest part of the Region as far as this order is concerned.

The Dermaptera of Australia and New Zealand in the southern part of the Region have been sporadically studied, but the present lists for these countries are certainly not complete. While New Zealand, with its temperate climate is likely to be relatively poor in Dermaptera, the tropical parts of Australia should be very interesting.

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In the northern part of the Australasian Region, the Dermaptera of the New Guinea area are not adequately known. Gunther (1929) gives a useful summary of the recorded Dermaptera of New Guinea itself, many of the records being from Burr (1902, 1906, 1909, 1912a, and 1912b), but this list needs considerable modifications, both in nomenclature and in the removal of incorrect records. A basic list of the Dermaptera of the Bismarck Archipelago has been given recently in Ramamurthi (1967).

In spite of the obvious limitations, however, there are basic lists of Dermaptera from New Guinea, the Bismarck Archipelago, and from Australia and other parts of the Australasian Region such as New Caledonia and the New Hebrides. In contrast the Dermaptera of the Solomon Islands are virtually unknown. Apart from such isolated records as that of *Chelisoche morio* (Fabricius) in Burr (1912b), there appear to be only 3 papers concerned with the Solomon Islands. Hincks (1938) in a summary of records of these insects from Oceania, recorded 4 species from the Solomon Islands, while Rehn (1948) recorded 5. The records in these papers to *Tagalina semperi* Dohrn are now known to refer to *T. grandiventris* (Blanchard) so that only 6 species were included in these publications. Ramamurthi (1968) recorded 5 species of Dermaptera from Rennell and Bellona Islands in the Solomons, and of these 3 were additional records.

In view of this lack of knowledge of the Dermaptera of the Solomon Islands, therefore, it was with great pleasure that I have had an opportunity to examine a collection of 366 specimens of these insects, collected over a number of years by collectors from the Bishop Museum, Honolulu. This material was supplemented by a second collection of 272 specimens collected during the British Royal Society Expedition to the Solomon Islands during 1965-1966. In addition, a further 69 specimens from these islands have been examined from undetermined material in the British Museum (Nat. Hist.), collected during 1909, 1922, 1933-1935, and 1953-1955. The present paper gives the result of the study of these 707 specimens, and forms the first adequate account of the Dermaptera of the Solomon Islands. A few additional records from other sources are included. Notes on the taxonomy, synonymy, and distribution of the various genera and species are included.

The material listed in the present paper is deposited either in the B. P. Bishop Museum, Honolulu, or, in the case of the material collected by the Royal Society, in the British Museum (Nat. Hist.), London. Some duplicate specimens are retained in the Manchester Museum. The location of the types of the new species are in the respective Museums, except for those stated.

Acknowledgments: My sincere thanks are due to Dr J. L. Gressitt, for the opportunity to examine the collection from the Bishop Museum, and to Dr D. R. Ragge and Mr J. Huxley of the British Museum (Nat. Hist.) who arranged for the material collected during the Royal Society Expedition to be made available to me, and for permission to examine the specimens in the British Museum (Natural History).

The order Dermaptera is divided into 2 very unequal sub-orders—the Arixenina, which consists of a single small genus, *Arixenia* Jordan, which is associated with bats in Indonesia and Sarawak, and the Forficulina, which represents the Dermaptera as generally understood.

The Forficulina are easily distinguishable in the adult stage by the presence of forceps

at the end of the abdomen; these are usually sexually dimorphic, those of the males being often distinctive, while those of the females are more uniform in structure. In the immature stages the forceps are simple, often resembling those of the female in both sexes, but in certain families the forceps of the immature stages are represented by segmented cerci. Elytra and wings are often fully developed in the adult: the elytra and wings cover the meso- and meta-nota and the basal segments of the abdomen when fully developed, but they may be short or completely absent. When the wings are fully developed they form a quadrant when unfolded, but are normally folded longitudinally and transversely to fit beneath the elytra, with only the tips protruding. The description of the wings in earwigs always refers to this exposed portion only. The wings may be reduced or completely absent. The sexes can easily be separated, apart from the difference in forceps structure by the number of visible tergites, the males usually having 10, while the females have only 8. In a few species, however, as in *Epilandex solomonensis*, described in the present paper, there are only 9 visible tergites in the male and only 7 in the female.

TAXONOMY

The taxonomy of the Forficulina is based on the structure of the male genitalia. The female genitalia have not been systematically studied. The male genitalia are usually more distinctive in the more primitive families, but in some of the higher families, such as the Forficulidae, the male genitalia tend to be more uniform in structure and less useful in taxonomy. The fact that the present taxonomy and classification is based on the male genitalia means that females can strictly only be named when in association with males. In practice many isolated females can be satisfactorily determined by using characters derived from the males. In the past, the description of species based on females has led to considerable confusion, since it is not possible to assume the main male characters, such as the forceps structure and the genitalia, from female specimens, although many external characters will be similar. Keys to families using external characters are given in Burr (1911), but these should now be considerably modified. Popham (1965) has published a recent key. However some characters are difficult to appreciate, and the dissection of the male genitalia is simple. These are situated beneath the penultimate sternite (the last free sternite) and are exposed if this is lifted.

Using the terminology of Hincks (1956), the male genitalia consist of paired penes or a single penis from which project parameres. There are 2 groups. In the more primitive families, the genitalia consist of paired penes, partially or entirely fused medially (fig. 2, 10, PE). From the distal end of each penis arises a paramere (fig. 2, 10, P), and from the distal part of each penis arises a distal lobe (fig. 2, 10, DL) in which is a virga (fig. 2, 10, V), the latter being the sclerotized part of the ductus ejaculatorius, although it is sometimes very weakly sclerotized and may not be visible. Sclerites or denticulated areas may occur in the distal lobe. In the family Pygidicranidae, both distal lobes are directed backwards when at rest (fig. 2, 8), but in the families Labiduridae and Carcinophoridae, one lobe is directed forwards and one directed backwards at rest (fig. 10, 16, 17).

In the higher families, the male genitalia consist of a single penis (fig. 49, PE), which bears paired parameres distally (fig. 49, P), but only a single distal lobe is

present, and this is directed forwards (fig. 49, DL). In the distal lobe is a virga (fig. 49, V), and this may be associated with sclerites of some complexity in the Labiidae, or with paired sclerites in the Chelisochidae. In the third family, the Forficulidae, the virga is usually simple, but often dilated basally to form a reniform vesicle.

In the present paper, the families are arranged as in Popham (1965), except that the Labiduridae is associated with the Carcinophoridae and the Labiidae immediately follows the Labiduridae.

DISTRIBUTION

Earwigs are typically tropical or subtropical insects, the majority occurring in the warmer countries of the World, and the number of species rapidly decreases with increasing latitude. In general, species have a relatively restricted distribution, so that each faunal area tends to have an endemic fauna, and often the distribution is further restricted within a region. The exceptions are a small number of widely distributed species which may be cosmopolitan in distribution, but it is thought that this wide distribution may be due, at least in part, to accidental introduction into various countries.

The Oriental Region is rich in species, and includes about 1/3 of the World total, while the Australasian Region accounts for about 1/9, but this latter region is not as well recorded as the former. From present records, the Australasian Region lacks one family (Diplatyidae), and 4 subfamilies (Platylabiinae, Allostethinae, Geracinae, and Anechurinae) which occur in the Oriental Region, and the Forficulidae are very poorly represented. Thus the most primitive family (Diplatyidae) is absent from this region while the most advanced family (Forficulidae) is almost absent. The relative numbers of species in the various families differ in the 2 regions. Although the Australasian Region has about 1/3 of the numbers of species which occur in the Oriental Region as a whole, it has proportionately fewer species in the Pygidicranidae, Labiduridae, and Forficulidae (1/5 to 1/4), but proportionately more in the Carcinophoridae (over 1/2), and is best represented in the Labiidae and Chelisochidae, in which the total of species is nearly 2/3 of the total of that of the Oriental Region.

A provisional estimate of the number of species common to both regions would be possibly 10 or less, but due to a good deal of incorrect recording, this figure is uncertain. It seems to be clear, however, that at least some of the Oriental species now recorded from New Guinea are, in fact, distinct species and it is certain that the Dermaptera fauna of the Australasian Region is very different from that of the Oriental Region. It is not certain where the fauna changes, but from present records it appears that an intermediate fauna may occur in the Lesser Sunda Islands and Celebes, and further studies on the fauna of these areas will be of great interest.

The Dermaptera of the Solomon Islands (see check list) included in the present paper number 40 species, of which 20 are new, 19 of which are described, together with 2 new subspecies. This high proportion of new species may not reflect the true endemism of the Solomon Islands, and is probably partly due to our inadequate knowledge of the Dermaptera of the New Guinea area as a whole. However the proportion does suggest that endemism in the Solomon Islands is a prominent feature of the fauna, and some species appear to have developed different subspecies in different islands, in *Chaetospania*

variabilis. On the other hand it is interesting to note that the specimens of *Gressittolabis delicatula* from both Bougainville and Guadalcanal are identical.

There are 9 Australasian and 4 Oriental species in the Solomon Islands list, but this latter total may be too high, since the specimens of *Chaetospania borneensis* from these islands differ in some structural features from specimens of this species from the Oriental Region, and may prove to be a new species when males are available. If this is the case, then the number of Oriental species would only be 3, and these have a wide distribution in the tropics, 1 extending into the mid-Pacific islands. Of the 9 Australasian species, 6 have a range from New Guinea or the Bismarck Archipelago, to the Solomon Islands, 2 species extend southwards to the New Hebrides or Australia, and one extends as far east as Samoa. The greater influence of the New Guinea fauna is to be expected on account of the geographical proximity of this large island to the Solomon Islands.

The 6 cosmopolitan species are those which occur together in a number of other countries and larger islands; all 6 occur, for example, in Madagascar. However the relative abundance of the 6 species in the Solomon Islands is different to that of the same species in Madagascar and elsewhere. By far the most common species in the Solomon Islands is *Chelisoches morio* (Fabricius), and the original center of this species may be the Pacific area, to judge from its abundance and wide distribution among the Pacific islands. *Labia curvicauda* (Motschulsky) is apparently scarce, while *Marava arachidis* (Yersin) is more widely distributed and more common, but this species is mainly of the fully winged form, and the wingless form, which is the more common cosmopolitan form in general, is only recorded from Malaita associated with human habitation. Another unusual feature is the scarcity of *Euborellia annulipes* (Lucas), which has the widest distribution of all the cosmopolitan species, and is often very common; in the Solomon Islands it has only apparently been recorded from Vella Lavella by Rehn (1948) and is not represented in the present collection. *Euborellia stali* (Dohrn) is also scarce, and this is a common species generally in the Oriental Region, but apparently less common in the Australasian Region: it has however a circumtropical distribution. The 6th species, *Labidura riparia* (Pallas), possibly the 2nd most widely distributed and common of the cosmopolitan species generally, is scarce in the Solomon Islands; this species often becomes dominant in parts of the subtropics and tropics, but appears to prefer dryer habitats, and this may account for its scarcity in the Solomon Islands.

The single adventive species, *Forficula auricularia* Linnaeus, is basically Palearctic, but is now very widely distributed throughout the World, in temperate or subtropical climates, always as an adventive except in the Palearctic Region. It does not appear to be capable of becoming established in tropical climates, but it can form colonies in tropical countries where the altitude results in a cooler climate, as, for example, at Bogota, Colombia, South America.

Although there are no doubt more species existing in the Solomon Islands, it is thought that the present material gives an adequate account of the fauna. The combination of the 2 collections has been extremely useful, since each collection tends to be selective. That belonging to the Bishop Museum has the larger species and the longer series, and only a few small immature specimens which cannot be determined, while that made by the Royal Society Expedition has mainly the smaller species and fewer numbers of

specimens. The latter collection has apparently resulted by investigating soil or other microhabitats, and consequently there is a high proportion of small immature specimens which cannot be determined. The use of pitfall traps by the Royal Society Expedition has resulted in the large numbers of *Epilandex* in the present material. The use by the Bishop Museum of Malaise and light traps indicates the possibilities of these methods of collecting specimens of this order.

The value of combining the 2 main collections is shown in the proportions of the species; of the 40 species now recorded from the Solomon Islands, 37 are represented in the present material. Of these the Bishop Museum collection has 27 species and the Royal Society collection has 24 species, with only 11 species common to both. Due to small mutual exchanges these totals will be slightly altered, and the proportions of new species are nearly equal between the 2 collections when a few types have been re-allocated.

The first key, to families or subfamilies, includes all those recorded from both the Oriental and Australasian Regions. The subsequent keys to subfamilies include only those recorded from the New Guinea area, i. e., New Guinea, the islands of the Bismarck Archipelago, and the Solomons. Keys to species only include those recorded from the Solomon Islands, except where short keys are given to separate the Solomon species from closely related species from other parts of the New Guinea area.

The figures are all drawn from holotypes (males) or allotypes (females), except for figures 11 and 27 which are from paratypes, and figures 3-6, 8, 19, 31-33, 37, 41-42, 45, 50-52, and 67-73, which are drawn from specimens in the present material which are not types.

KEY TO FAMILIES OR SUBFAMILIES

1. Male genitalia with paired distal lobes (fig. 2, 8, 10, 16, 17) 2
 Male genitalia with 1 median distal lobe (fig. 49, 55, 66). 8
2. Both distal lobes directed backwards (fig. 2, 8) 3
 One distal lobe directed backwards, one directed forwards (fig. 10, 16, 17) 4
3. Femora broad and with longitudinal ridges; larger and more slender species, yellowish brown and blackish brown in color; cuticle not strongly setulose; ♂ and ♀ forceps triangular in section at base. **Pygidicranidae (Pygidicraninae)**
 Femora broad but without longitudinal ridges; smaller and stout species, blackish in color; cuticle strongly setulose; ♂ and ♀ forceps cylindrical **Pygidicranidae (Echinosomatinae)**
4. Body and head flattened; pygidium fused with last tergite and forming an anal process **Labiduridae (Apachyinae)***
 Body and head normally convex; pygidium not fused with last tergite 5
5. Mesosternum rounded posteriorly; ♂ genitalia usually simple, distal lobes without sclerites and virga often slender, sometimes not visible **Carcinophoridae (Carcinophorinae)**
 Mesosternum truncate posteriorly; ♂ genitalia with sclerites in distal lobes, or with virga sclerotized, rarely simple 6
6. Elytra present, touching in mid-line; wings often visible; antennae longer; virga sclerotized and with a sinuous inner tube **Labiduridae (Labidurinae)**
 Elytra absent, or rudimentary, not touching in mid-line; virga less sclerotized and without a sinuous inner tube 7
7. First antennal segment shorter than distance between antennal bases; legs shorter, pos-

- terior legs not reaching much beyond middle of abdomen
 **Carcinophorinae (Parisolabiinae)***
 First antennal segment as long as or longer than distance between antennal bases; legs
 longer, posterior legs reaching tip of abdomen or nearly so
 **Carcinophoridae (Brachylabiinae)**
 8. Second tarsal segment simple; ♂ genitalia often with complex sclerites in distal lobe
 **Labiidae**
 Second tarsal segment not simple; ♂ genitalia without such sclerites in distal lobe 9
 9. Second tarsal segment prolonged as a narrow lobe beneath the 3rd (distal segment); ♂
 genitalia with paired sclerotized processes associated with the virga **Chelisochidae**
 Second tarsal segment broadened and flattened, forming a more or less cordiform segment,
 from dorsal side of which arises the 3rd (distal) segment; ♂ genitalia with base of
 virga often enlarged to form a reniform vesicle **Forficulidae**
- * Two subfamilies are recorded from New Guinea or islands in the Bismarck Archipelago, but
 are not yet recorded from the Solomon Islands while the family Forficulidae is represented
 in these islands only by one adventive species.

PYGIDICRANIDAE

A rather varied family in external appearance, and with well defined subfamilies. Characterized, together with the family Diplatyidae, by the presence of 2 distal lobes in the ♂ genitalia, both lobes being directed backwards at rest. Recorded from the Neo-tropical, Ethiopian, and Indo-Australian Regions. Two subfamilies, as separated in the key, occur in the Solomon Islands.

PYGIDICRANINAE

Usually medium to large species; cuticle mainly dull, due to the short pubescence or microsculpture of the cuticle; abdominal tergites usually more shining. Coloration of each species relatively stable. Elytra and wings rarely absent although sometimes reduced in size. Parameres of ♂ genitalia usually with inner teeth or projections. Recorded from the Neo-tropical, Ethiopian, and Indo-Australian Regions but best represented in the latter.

Two genera occur in the Solomon Islands.

KEY TO GENERA (SOLOMON ISLANDS)

1. Second tarsal segment simple, basal segment long, cylindrical (fig. 7); head less transverse (fig. 1) **Cranopygia** Burr
 Second tarsal segment greatly enlarged, basal segment very short and broad, conical in shape (fig.6); head more transverse (fig. 5) **Tagalina** Dohrn

Genus **Cranopygia** Burr

Cranopygia Burr, 1908, *Ann. Mag. Nat. Hist.* ser. 8, 2: 384 (type-species: *Pygidicrana cumingi* Dohrn, 1863).

Medium to large species, usually yellowish anteriorly, marked with black bands or patches, blackish brown or dark brown posteriorly; ♂ forceps with branches either contiguous (fig. 1)

or strongly curved, not or scarcely asymmetrical. Oriental and Australasian Regions.

Earlier records may not be correct owing to confusion between certain species, and Hincks (1959) records no species from the Solomon Islands. One new species is described below from these islands.

Cranopygia rostrata Brindle, new species Fig. 1, 2, 7.

Yellowish brown, marked with black anteriorly; abdomen and forceps blackish brown. Head with dorsal median black patch and posterior margin black; pronotum with 2 longitudinal sinuate black bands; elytra with all margins blackish brown; legs yellowish, with dark brown longitudinal bands, 1 on each side (fig. 1).

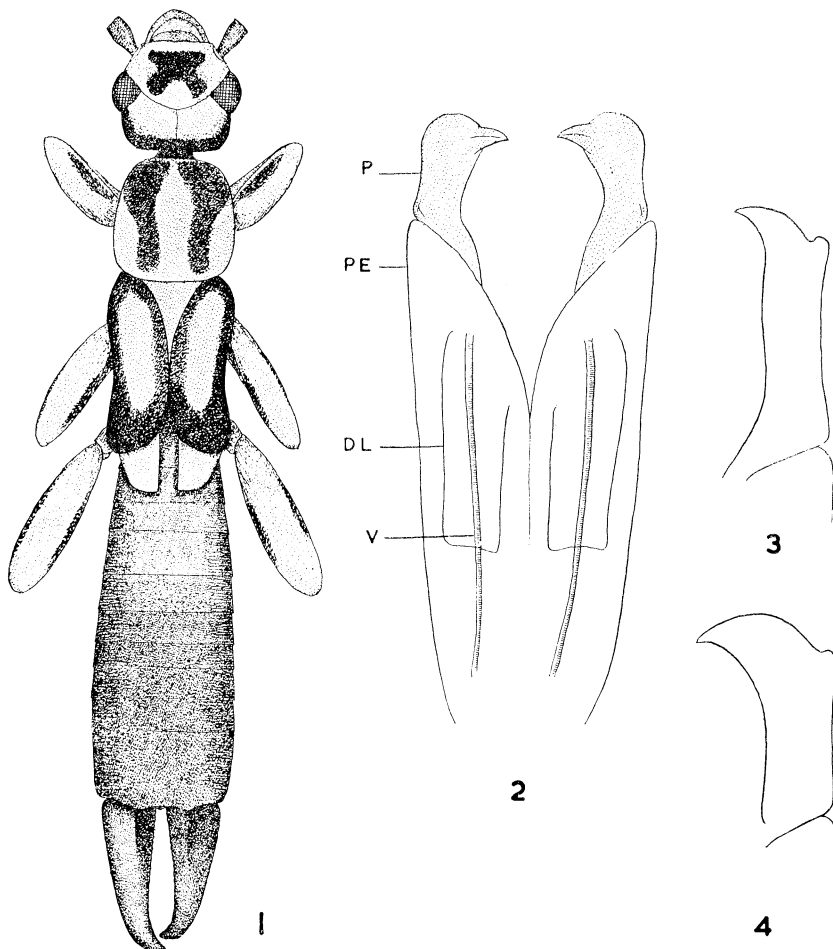


Fig. 1, 2, *Cranopygia rostrata* n. sp., ♂ dorsal; and ♂ genitalia. Fig. 3, 4, parameres of *C. carinata* Hincks and *C. ophthalmica* (Dohrn). (DL = distal lobe; P = paramere; PE = penis; V = virga).

♂. Head longer than broad, mouthparts long; head slightly depressed dorsally, sutures visible, lateral margins slightly converging posteriorly, posterior angles rounded, posterior margin straight. Eyes small. Cuticle coriaceous, finely pubescent, and with sparse short stiff hairs.

Pronotum as broad as long, lateral margins and all angles rounded, posterior margin straight; a well defined light yellow longitudinal furrow occurs medially. Elytra short, narrowed basally to expose a large triangular area of the mesonotum; wings short. Cuticle of pronotum and elytra coriaceous, pubescent, and with sparse short stiff hairs; wings pubescent, hairs yellow and longer than those on elytra, but without stiff hairs. Legs with femora very broad, pubescent, hairs yellow, and with longer stiff hairs along dorsal and ventral edges; tarsi with basal segment long and cylindrical, longer than both distal segments in posterior pair of legs, ventral edges with numerous short yellow hairs, 2nd segment short and simple, 3rd segment broader distally, apex with a transverse prominent arolium, and a pair of long curved claws, each claw widened basally (fig. 7).

Abdomen with tergites blackish on anterior half or more, yellowish brown on posterior margins; cuticle coriaceous, and with relatively long yellow hairs; last tergite black, penultimate sternite simple. Each branch of forceps depressed, wider at base, evenly narrowed distally, apex curved medially, inner margins finely dentated; branches contiguous. Parameres of ♂ genitalia long, each with an inner beak-like projection, virga long and slender (fig. 2). Length of body 15.5 mm, forceps 2.5 mm.

♀. Unknown.

Holotype ♂ (BMNH), Solomon Islands, San Cristobal, camp 2, 3, VIII. 1965, Warachito-Pagato confluence.

In the key to the species and species-groups of *Cranopygia* in Hincks (1959), the above species would key out to the *cumingi* group. The long simple virga is only otherwise found in *cumingi* and *nietneri*, both of which occur only in South India and Ceylon. In both of these species the ♂ parameres have an apical projection, and the inner projection is bifid at the apex. The specific name of the present species refers to the beak-like inner projection of the parameres, a shape which is distinctive. The 2 species recorded by Hincks (1959) from New Guinea, have parameres of a different shape—(fig. 3, *carinata* Hincks) (fig. 4, *ophthalmica* Dohrn).

Genus *Tagalina* Dohrn

Tagalina Dohrn, 1863, *Stett. Ent. Ztg.* 24: 44 (type-species: *Forficula grandiventris* Blanchard, 1853).

A small genus of large species; ♂ usually with the posterior segments of the abdomen very broad, and with the forceps strongly asymmetrical. Four species are recorded from New Guinea, which appears to be the main center of this genus, but only 1 species is known from the Solomon Islands (Hincks 1959), and this does not occur in New Guinea. The ♂ genitalia of this species, *grandiventris*, is distinctive in having a dilated end to each virga, forming a bell-shaped structure which is characteristic of this species. In all the New Guinea species the virga is slender and not dilated.

***Tagalina grandiventris* (Blanchard)** Fig. 5, 6, 8.

Forficula grandiventris Bl., 1853, *Voy. Pole. Sud.* 4: 349.

Tagalina grandiventris: Burr, 1911, *Gen. Insect.* 122: 17.—Hincks, 1959, *Syst. Mon. Derm.* 2: 109.

Yellowish brown anteriorly, abdomen blackish brown; frons and sometimes sides of head blackish; elytra more or less unicolorous, or with sutures darker.

♂. Head broad, transverse; eyes elliptical; pronotum longer than broad, anterior and lateral margins rounded, posterior margin straight; elytra short, well separated anteriorly, leaving a large triangular area of mesonotum exposed; dull, with scattered short stiff hairs. Femora of

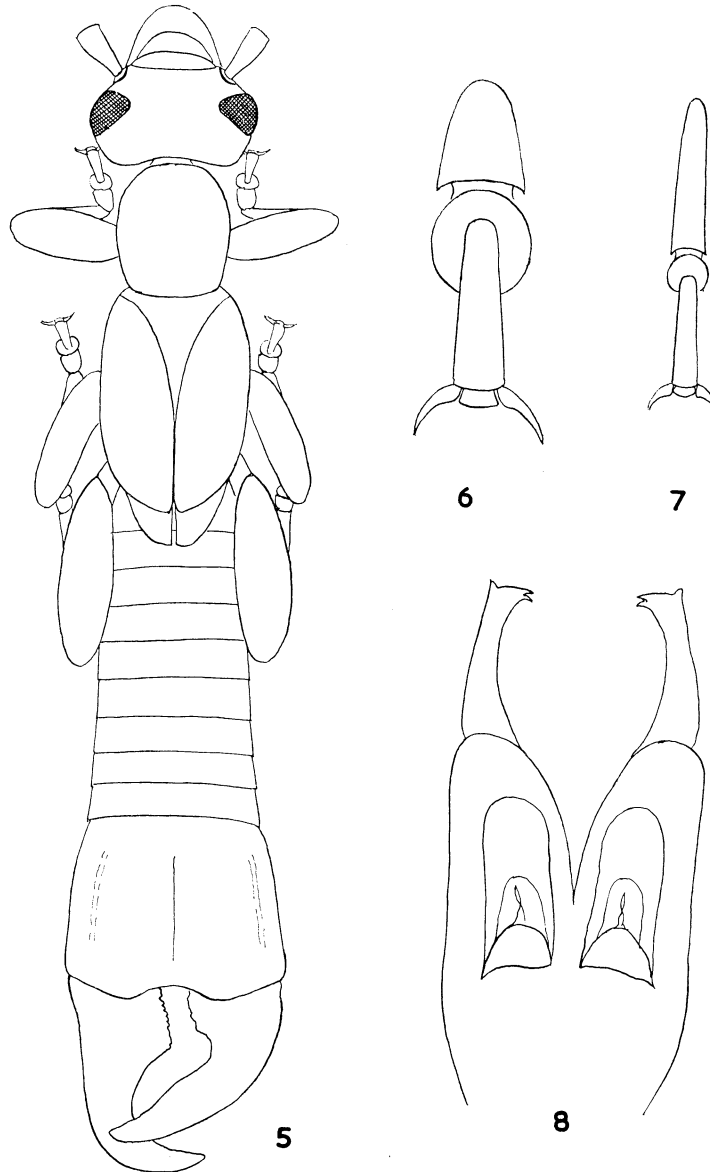


Fig. 5, 6, 8, *Tagalina grandiventris* (Blanchard) ♂ dorsal; posterior tarsus; and ♂ genitalia. Fig. 7, *Cranopygia*, posterior tarsus.

legs very broad; basal segment of tarsi short, conical; 2nd segment enlarged, rather bowl-shaped, the 3rd segment arising from dorsal surface of 2nd; arolia present. Abdomen finely punctured and pubescent, strongly widened posteriorly; last tergite large, cuticle rugose, and with longitudinal ridges towards lateral margins, 1 on each side, the ridges often broken up into tubercles. Forceps with branches asymmetrical. Length of body 19-26 mm, forceps 4-6 mm.

♀. Similar to ♂, but abdomen not strongly widened posteriorly; last tergite without ridges or tubercles; branches of forceps simple, more or less contiguous. Length of body 19-30 mm, forceps 4-6 mm.

TYPE-LOCALITY : Solomon Islands. Disposition of the type, a ♀ specimen, is not known.

MATERIAL EXAMINED. SOLOMON IS.: BOUGAINVILLE: Kukugai Vill., 150 m, XII.1960, 1 ♀, W. W. Brandt; Kieta, 17.II.1968, 1 nymph, Tawi; Arawa Pl'n, nr Kieta, 1 m, 11.VI.1956, 1 ♀, J. L. Gressitt; Kokure, 690 m, 18.VI.1956, 1 ♀, 1 nymph, E. J. Ford; Kokure, Crown Prince Ra., 900 m, 8/11.VI.1956, 4 nymphs, J. L. Gressitt (BISHOP). Buin, 21.VII.1922, 2 nymphs, E. A. Armytage (BMNH). VELLA LAVELLA; Mt Arewana, 100-400 m, 16.XI.1963, 1 ♂, 1 nymph, L. & M. Gressitt; nr Arewana, 17.XI.1963, 1 ♀, P. Shanahan (BISHOP). NEW GEORGIA GROUP: Kolombangara, 1-12 m, 9.VII.1959, 1 nymph, Gressitt; Gollifers Camp, 100 m, 22.I.1964, 1 nymph, Shanahan; mt. slope from 10-300 m, 9.VII.1959, 1 ♀, Gressitt; nr. Ego, 1-25 m, 16.VII.1959, 2 ♂♂, *Freycinetia*, Gressitt; Buruku, summit of Rendova Pk, 1050 m, 17.VII.1959, 1 ♂, 4 nymphs, Gressitt (BISHOP). Kolombangara, 750 m (2500 ft), camp site, 1965, 2 nymphs, P. N. Lawrence; rotten log, 900 m (3000 ft), 5 nymphs; 1200 m (4000 ft), arboreal moss, 1965, 1 nymph, Lawrence (BMNH). GUADALCANAL: Gold Ridge, 800 m, 23.VI.1956, 2 nymphs, Gressitt; Suta, 500-1200 m, 27.VI.1956, 1 nymph, Gressitt (BISHOP). Honiara, Poha River, 29.I.1956, 1 ♀, E. S. Brown; Popanu, 150 m (500 ft), 12.XII.1934, 1 ♀, R. A. Lever; Lower camp site, Monitor Creek, Mt Gallego, 3 nymphs; Camp 1, Mt Gallego, 8.VIII.1965, 3 nymphs; Umasani river camp, 10 km (6 mi.) SW of Tamboko, 13.VII.1965, 1 nymph (BMNH). SANTA ISABEL: Astrolabe Bay, St George Is., *Pandanus*, 2 ♀♀, (BMNH). MALAITA: Tangtalau, 150-200 m, 27.IX.1957, 1 ♂, 2 nymphs, Gressitt; Kwalo, 200-350 m, 30.IX.1957, 1 ♀, Gressitt; E of Kwalo (E of Auki), 350 m, 29.IX.1957, *Freycinetia*, 1 ♂, 1 ♀, Gressitt (BISHOP).

This species is restricted to the Solomon Islands and islands of the Bismarck Archipelago. Hincks (1959) records this species from Bougainville; New Georgia Group (Munda); Guadalcanal; Santa Isabel; and San Cristobal, in the Solomon Islands.

ECHINOSOMATINAE

Small to medium in size, stout species; usually blackish or with small yellow spots on pronotum, elytra, or wings; elytra and wings often fully developed, but wings sometimes absent; cuticle strongly setulose, with numerous blackish setae on anterior part of body at least. Forceps cylindrical, those of the ♂ more strongly curved than those of the ♀. Recorded from the Ethiopian, Oriental, and Australasian Regions, but best represented in the Oriental Region. Only one genus exists.

Genus *Echinosoma* Serville

Echinosoma Serv., 1839, *Hist. Nat. Orth.*, 34 (type-species: *Forficula atra* Beauvois, 1805).

As in the Pygidicraninae, some of the earlier records of this genus are erroneous, due

to confusion between various species. Hincks (1959) records 2 species from the New Guinea area, of which one appears to be restricted to New Guinea itself. The 2nd species extends from New Guinea to Australia and is the only species represented in the Solomon Islands.

***Echinosoma yorkense* Dohrn**

Echinosoma yorkense Dohrn, 1869, *Stett. Ent. Ztg.* **30**: 234.—Burr, 1911, *Gen. Insect.* **122**: 23.—Hincks, 1959, *Syst. Mon. Derm.* **2**: 136.

Dark to blackish brown; 1st 2 antennal segments, part of pronotum, wings, when present, yellowish; legs partly yellow, and sometimes elytra with a yellowish median spot. Abdomen sometimes with a distinct series of yellow spots, arranged in 3 longitudinal rows; these spots are often indistinct and may be almost absent.

♂. Head broad, eyes small; pronotum more or less rectangular, angles rounded; elytra short and fully developed, wings present or absent; abdomen broader medially, tergites 7-9 each with a lateral longitudinal ridge on each side; cuticle with short, light and dark broad setae, especially anteriorly, the setae being absent from posterior part of abdomen; forceps strongly curved, pygidium truncate. Length of body 8-11 mm, forceps 1.25-2.75 mm.

♀. As ♂, but forceps less curved, pygidium pointed apically. Length of body 8-11 mm, forceps 1.25-2.5 mm.

TYPE-LOCALITY: Cape York, Australia. Disposition of type uncertain.

MATERIAL EXAMINED. SOLOMON ISLANDS: BOUGAINVILLE; Kokure, 690 m, 9/13.VI.1956, 2 ♀♀, 1 nymph, (E. J. Ford); Kukugai Vill., 150 m, X.1960, 1 ♀, W. W. Brandt (BISHOP). CHOISEUL: Kitipi R., 80 m, 14.III.1964, light trap, 1 ♀, P. Shanahan (BISHOP). NEW GEORGIA GROUP: Gizo Is., 50-120 m, 16/28.IV.1964, Malaise trap, 2 ♀♀, J. Sedlacek; Kolombangara, Pepele, 30 m, 10.II.1964, 1 ♀, Shanahan (BISHOP). Gizo Is., 6.XII.1965, 2 ♀♀, P. J. M. Green-slade (BMNH). GUADALCANAL: II.1944, 1 ♀, H. E. Milliron; Kiwi Creek, 4.VIII.1944, 1 nymph, Milliron; Paripao, 21.V.1960, 1 ♀, C. W. O'Brien (BISHOP).

Hincks (1959) records this species from Guadalcanal, while Rehn (1948) records it from Malaita.

CARCINOPHORIDAE

A large family, typically apterous and dark in coloration. Rudimentary elytra may be present and sometimes the elytra and wings are fully developed. Forceps usually short, either symmetrical or asymmetrical in the ♂, but usually symmetrical in the ♀; ♂ genitalia with paired distal lobes one of which is directed backwards and one forwards at rest. The family occurs in all faunal regions.

The species have few good taxonomic characters externally, as a rule, and the taxonomy is based on the structure of the ♂ genitalia; many earlier records of various species have been shown to be in error, and the distribution of some species is uncertain. A number of subfamilies are recognized at present, but only 2 subfamilies have representatives in the Solomon Islands, as keyed out previously.

CARCINOPHORINAE

This is the largest subfamily; it is represented in all faunal regions, and includes a variety of species, but the classification is not satisfactory, partly due to the erection of too many genera. Popham & Brindle (1966) synonymized many of the genera, but this was a provisional action, and subject to modification when the male genitalia of more species are known. Three genera occur in the Solomon Islands.

KEY TO GENERA (SOLOMON ISLANDS)

1. Parameres of ♂ genitalia short, about as long as broad; virga of distal lobe usually not visible, but distal lobe with small denticulated pads **Euborellia** Burr
Parameres of ♂ genitalia longer than broad; virga usually visible, and distal lobes generally without denticulated pads 2
2. Parameres of ♂ genitalia greatly elongated and narrow; virga long, sclerotized basally (fig. 10); elytra always, wings sometimes present **Epilandex** Hebard
Parameres of ♂ genitalia less elongated; virga long and slender, but not sclerotized basally, and sometimes difficult to see (fig. 16); elytra and wings completely absent ...
..... **Anisolabis** Fieber

Genus **Epilandex** Hebard

Epilandex Heb., 1927, *Proc. Acad. Nat. Sci. Philad.* 79: 26 (type-species: *Landex burri* Borelli, 1921).

Rather small species, reddish brown or darker in color, and shining; more or less glabrous; elytra always present, wings present or absent. Male forceps usually asymmetrical, those of ♀ symmetrical. Very similar in external appearance to the Oriental species, *Euborellia femoralis* (Dohrn) with which the type species, *burri*, was confused by Burr (1915). Four species have been previously described — *burri* Borelli and *undulata* Ramamurthi from India and SE Asia; *handschini* Hincks from Sumba in the Lesser Sunda Islands; and *peterseni* Ramamurthi from New Britain, New Ireland, and the Philippine Islands.

The new species described in this paper, *Epilandex solomonensis*, is very similar to both *handschini* and *peterseni*, particularly in the very narrow parameres of the ♂ genitalia; from both of these, *solomonensis* is distinct by having lateral longitudinal ridges on tergites 7–8 only, or these absent, the other having such ridges on tergites 6–9. The penultimate sternite of *solomonensis* is simple while in the other 2 species there is a weak longitudinal ridge medially on the posterior margin. Both these characters apply to ♂ only.

In Dermaptera, as a general rule, the sexes are easily separable, apart from the difference in the structure of the forceps, by the number of visible tergites of the abdomen. In the ♂ there are 10 visible tergites while in the ♀ there are only 8. In *E. solomonensis* there are only 9 visible tergites in the ♂ and only 7 in the ♀. This peculiarity is probably shared by some other species. It has been assumed that tergite 1 is not visible in *E. solomonensis*, so that tergites 2–10 are visible in the ♂ of this species and tergites 2–8 in the ♀. The presence of lateral longitudinal ridges on tergites 7–8 therefore, indicate that these ridges are not present on the tergite immediately preceding the last tergite: in both *handschini* and *peterseni*, ridges should be present on the tergite preced-

ing the last one, as well as ridges on tergite 6. Specimens of these 2 species have not been examined.

The specimens of *E. solomonensis* form 3 groups—in the majority of the specimens the elytra are short and wings are not visible: these are referred to as the wingless form of the species, although it is possible that the wings are reduced and hidden beneath the elytra. In a smaller number of specimens the elytra are normally developed and wings are visible, and these are referred to as the winged form of the species. In a few ♂♂, which are smaller in size, the forceps are not asymmetrical as in the majority of ♂♂ of both the wingless and the winged form, but are symmetrical and resemble those of the ♀; in these ♂♂ the lateral longitudinal ridges are absent, or almost so, from the posterior abdominal tergites. These ♂♂ are referred to as the form *minor* of the species. All the specimens appear to be clearly conspecific, and, with 3 exceptions, have all been taken on Mount Austen on Guadalcanal.

It may prove that the wingless form is the form found in the higher altitudes, while the winged form is the dominant form in the lowlands. However, the specimens were preserved in spirit in tubes, and most tubes contained specimens of both forms. Further study will be necessary to clarify the distribution of the 2 forms on the island. It is also possible that the form *minor* may be restricted to the highest parts of the island.

The 3 exceptions consist of 1 ♀ specimen of the wingless form, labelled Guadalcanal, 900 m (3000 ft.), and a 2nd ♀, of the winged form, from Gold Ridge at an altitude of 600 meters, which appear to confirm some altitudinal difference between the 2 forms. The 3rd exception is a ♂ specimen of the wingless form from Santa Isabel in casuarina litter. This latter may be an adventive from Guadalcanal, or may indicate that this species is more widely distributed in the Solomon Islands than the present material would suggest.

***Epilandex solomonensis* Brindle, new species** Fig. 9-13.

Dark reddish brown to blackish brown; mouthparts, excluding clypeus, brown; lateral margins of pronotum yellow; basal third of distal antennal segments yellowish; apices of femora and tibiae, and all tarsi yellow.

♂. Head broad, tumid, except for a small depressed area around coronary suture; lateral margins and posterior angles rounded, posterior margin straight; eyes small, not protruding; cuticle almost entirely glabrous, but with isolated short stiff hairs laterally. First antennal segment shorter than distance between antennal bases, 2nd segment transverse; ratio of 3rd to 5th segments as follows—8: 5: 6; distal segments 2 × as long as broad or longer, strongly and evenly narrowed to base, apex also strongly narrowed; pubescent, hairs relatively sparse, long and yellow. Pronotum transverse, slightly widened posteriorly, lateral margins straight, posterior margin convex; cuticle coriaceous, glabrous. Elytra short, as long as pronotum, wings absent or concealed, cuticle coriaceous and glabrous. Legs short, femora broad, tibiae with external margin convex longitudinally, basal segment of tarsi cylindrical, as long as both distal segments in anterior pair of legs, much longer in posterior pair of legs. Femora and tibiae almost glabrous, but with isolated long stiff hairs; basal segment of tarsi with numerous short ventral hairs, these hairs being segregated into tufts, the tufts being most conspicuous on posterior tarsi.

Abdomen depressed, finely punctured and pubescent, hairs short and yellow; 9 tergites visible; tergites 7-8 each with a well defined lateral longitudinal ridge on each side, the ridge

projecting beyond posterior margin of tergite to form a spine; tergite 5 with a small projection on lateral margin on each side; last tergite transverse, cuticle rugose near posterior margin between bases of branches of forceps, and concave laterally, forming a depressed area on each side, the depression being bordered to median side by a longitudinal ridge which extends for distal 2/3 of tergite. Penultimate sternite broad, posterior margin convex. Each branch of ♂ forceps triangular in section basally, cylindrical distally, basal part broad and dentated on inner margin, branches asymmetrical. Length of body 10.5 mm, forceps 1.5 mm.

♀. As ♂, but only 7 tergites visible; no lateral longitudinal ridges on any tergites, nor

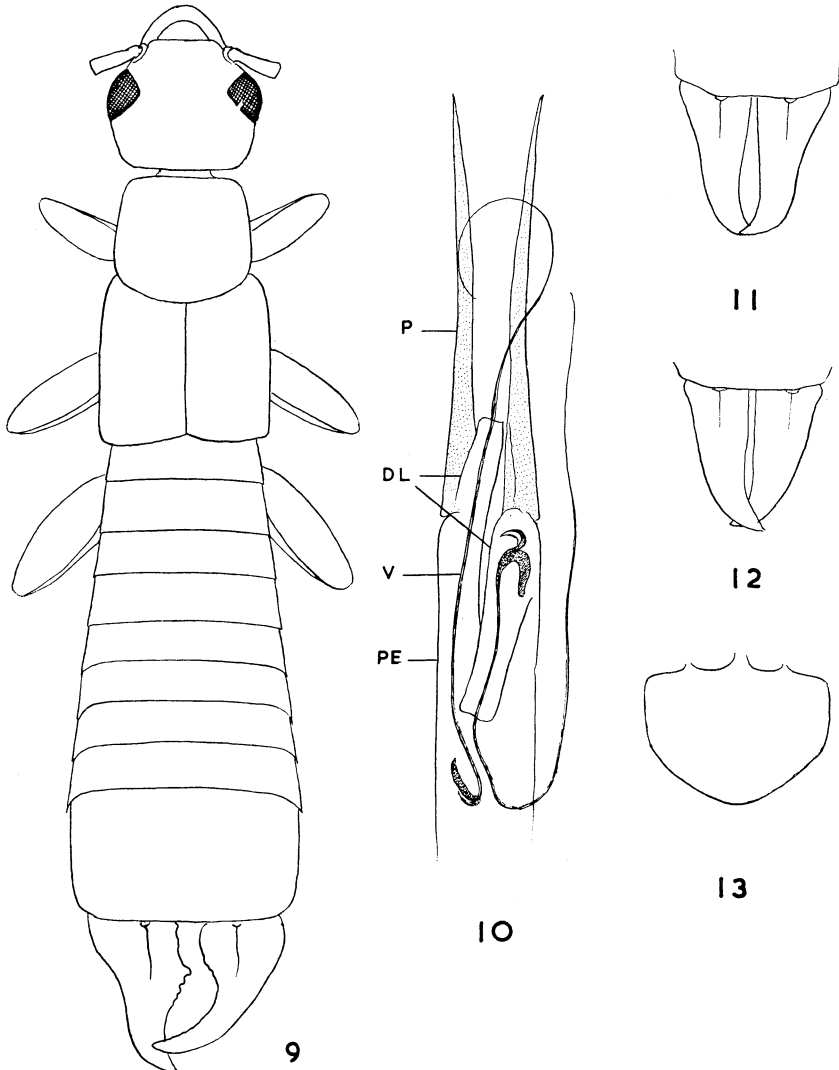


Fig. 9-13, *Epilandex solomonensis* n. sp., ♂ dorsal; ♂ genitalia; ♂ forceps of form *minor*; ♀ forceps; penultimate sternite of ♂ (DL=distal lobe; P=paramere; PE=penis; V=virga).

longitudinal ridges on last tergite, or this feebly indicated. Each branch of forceps triangular in section basally, cylindrical distally, straight, broad at base, evenly narrowed distally, apex incurved, inner margin dentated. Length of body 8.5 mm, forceps 1.25 mm.

The above is the description of the holotype and allotype, and corresponds with the rest of the specimens of the wingless form. The winged form is identical except that the elytra are longer than the pronotum and wings are visible. The form *minor* is a small form of the ♂ and differs, apart from size, in the absence of the lateral longitudinal ridges on the abdominal tergites, including those on the last tergite, and by the structure of the forceps which resemble those of the ♀.

The body length of all the wingless and winged specimens varies from 7-10.5 mm, with the forceps varying from 1.25-1.5 mm. The body length of form *minor* varies from 7-8 mm, and the forceps vary from 1-1.25 mm in length.

MATERIAL EXAMINED. SOLOMON ISLANDS: GUADALCANAL, Mt Austen, P. J. M. Greenslade (BMNH):

wingless form - ♂ holotype, ♀ allotype, 13 ♂, 13 ♀ paratypes, I.1966; 8 ♂, 5 ♀ paratypes (pitfall trap), 10.V.-28.VI.1965.

wingless form - 2 ♂, 3 ♀ paratypes (pitfall trap), IX/X.1965; 1 ♂, 2 ♀ paratypes (pitfall trap), 10.V-28.VI.1965; 3 ♂, 2 ♀ paratypes, I.1966.

form minor - 3 ♂ paratypes, I.1966; 3 ♂ paratypes, IX-X.1965; 1 ♂ paratype, XII.1965-I.1966.

Nymphs - 30, (pitfall trap) IX - X.1965; 8, XII.1965 - I.1966; 8, I.1966; 6, V.1966.

Non-paratypic material: GUADALCANAL: 900 m (3000 ft.), 6.V.1965 (wingless form), 1 ♀, P. J. M. Greenslade (BMNH); Gold Ridge, 600 m, 22.VI.1965, winged form, light trap, 1 ♀, J. L. Gressitt (BISHOP). SANTA ISABEL: Tatamba, casuarina litter, wingless form, 1 ♂, P. N. Lawrence (BMNH).

1 ♂ and 1 ♀ paratype of each form, and 1 ♂ paratype of form *minor* have been passed over to the Bishop Museum, and the Manchester Museum.

Genus **Euborellia** Burr

Borellia Burr, 1909, *Deut. Ent. Zs.* **1909**: 325 (type-species: *Anisolabis moesta* Gén e 1839) (name pre-occupied by *Borelli* Rehn 1906 - Orthoptera).

Euborellia Burr, 1910, *Proc. U. S. Nat. Mus.* **38**: 448 (replacement name for *Borellia* Burr).

Small species, blackish or dark brown in color, shining; not strongly punctured; legs yellow, often with femora darker; antennae often with one or more distal segments whitish. Elytra perfect, reduced, or completely absent; wings present or absent; abdomen depressed, widened a little medially; forceps of both sexes trigonal basally, cylindrical distally, those of the male usually being more curved than those of the female. Characterized by the short broad parameres of the male genitalia; a virga is usually not visible, but there are denticulated pads in each distal lobe. The genus occurs in all faunal Regions, and 2 species occur in the Solomon Islands.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Elytra represented by lateral flaps on mesonotum; smaller species **stali** (Dohrn)
Elytra completely absent; larger species **annulipes** (Lucas)

Both these species have a very wide World distribution, *stali* being circumtropical while *annulipes* is cosmopolitan.

Euborellia stali (Dohrn)

Forcinella stali Do., 1864, *Stett. Ent. Ztg.* **25**: 286.

Euborellia stali: Burr, 1911, *Gen. Insect.* **122**: 31.

This species has previously been synonymized with *plebeja* Dohrn which has normally developed elytra and wings, but *plebeja* appears to be specifically distinct, although its identity is not yet certain.

Black, shining; antennae brown or dark brown, basal segments yellow; pronotum with narrow lateral margins; legs yellow, femora banded with brown or dark brown.

♂. Head broad, tumid, not widened posteriorly; eyes small; pronotum longer than broad, widened posteriorly, lateral margins slightly sinuate; meso- and meta-nota transverse, the former with small lateral elliptical flaps, the latter with posterior margin concave; abdomen narrow, rather widened medially, last tergite transverse and with a median longitudinal furrow. Forceps trigonal basally, cylindrical distally, branches not strongly curved. Length of body 8-9 mm, forceps 1-1.5 mm. Occasionally much larger specimens occur.

♀. Similar to ♂, forceps with branches less curved and more or less contiguous. Length of body 8-9 mm, forceps 1 mm.

TYPE-LOCALITY: Java. Types presumably in the Warsaw Zoological Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS: GUADALCANAL: Kukum, 13-14.XII.1965, 4 ♂♂, 5 ♀♀, 26 large and 20 small nymphs, P. J. M. Greenslade (BMNH).

Usually readily recognized by the small size and by the presence of rudimentary elytra.

Euborellia annulipes (Lucas)

Forcinella annulipes Luc., 1847, *Ann. Soc. Ent. Fr.* **15**: 84.

Anisolabis annulipes: Burr, 1911, *Gen. Insect.* **122**: 29.

Euborellia annulipes: Burr, 1915, *J. R. Micr. Soc.* **1915**: 545.

Very similar to *stali*, but larger, and completely without elytra. Length of body 9-11 mm, forceps 1-2 mm.

TYPE-LOCALITY: Paris, France (introduced). Disposition of type not known.

Not represented in the present collection, but recorded from Vella Lavella by Rehn (1948).

Genus **Anisolabis** Fieber

Anisolabis Fieber, 1853, *Lotos* **3**: 257 (type-species: *Forficula maritima* Bonelli, 1832).

Usually larger than *Euborellia*, but similarly dark in color, and shining; always without elytra and wings; forceps of ♂ often strongly curved and asymmetrical. The genus occurs in all faunal regions, but is mainly Old World in distribution. A considerable number of species have been described, since all apterous earwigs of a generally similar external appearance were placed in this genus. However, it is now restricted to those in which the parameres of the ♂ genitalia are longer than broad; a slender virga is

present, and usually visible in each distal lobe, but denticulated pads are almost always absent.

Four species have been recorded from the New Guinea area, but none from the Solomon Islands; the single species represented in the present material is described as new.

Anisolabis bifida Brindle, new species Fig. 14-16.

Dark reddish brown; antennae yellowish brown, with several distal segments whitish; pronotum yellow laterally; legs yellow, femora darkened on basal half or more; forceps dark red; cuticle glabrous and shining.

♂. Head transverse, smooth, tumid but depressed medially on occiput; eyes small. First antennal segment shorter than distance between antennal bases, 2nd segment transverse, 3rd nearly 3 × as long as broad, 4th slightly longer than broad, 5th almost as long as 3rd; distal segments cylindrical, slender, nearly 4 × as long as broad; pubescent, hairs short and light yellow. Pronotum transverse, all margins straight; meso- and meta-nota transverse, the latter with posterior margin concave; all thoracic nota smooth, impunctate. Legs with femora broad, tibiae almost as long as femora, tarsi with basal segment cylindrical and as long as both distal segments in anterior legs, longer than both distal segments in posterior pair; femora and tibiae glabrous but with isolated stiff yellow hairs; tarsi with numerous short ventral yellow hairs; claws long, widened basally.

Abdomen depressed, widened medially, finely punctured, tergites 2, 3, and 4 each with 2 very long yellow setae, placed near posterior margin, 1 seta towards each lateral margin; tergites 7-9 rugose laterally, and with lateral longitudinal ridge on each side, the ridges on tergite 9 less marked; last tergite transverse, with a short longitudinal lateral ridge. Penultimate sternite transverse, posterior margin convex, and with an excision at apex. Forceps trigonal basally, cylindrical distally, each branch narrowed distally, apex incurved, inner margin with very small denticulations; pygidium small, rounded. Genitalia with long parameres, virga slender. Length of body 8 mm, forceps 1.5 mm.

♀. Unknown.

Holotype ♂ (BMNH), Solomon Islands, San Cristobal, NE Wainoni, 8-12.VIII. 1965, Isiah coll.

This species is closely related to *horvathi* Burr from New Guinea and *verhoeffi* Zacher from the Bismarck Archipelago, both of which are similar to *bifida* in size. The following key separates these 3 species:

1. Abdominal tergites 7-9 of ♂ each with a lateral longitudinal ridge on each side; penultimate sternite of ♂ bifid at apex (fig. 15). Solomon Islands **bifida***
- Abdominal tergites 7-8 or 6-9 of ♂ each with a lateral longitudinal ridge on each side; penultimate sternite of ♂ not bifid at apex 2
2. Abdominal tergites 7-8 of ♂ each with a lateral longitudinal ridge on each side; penultimate sternite of ♂ with a "deep rounded emargination and pointed lobes" on posterior margin. New Guinea **horvathi** Burr
- Abdominal tergites 6-9 of ♂ each with a lateral longitudinal ridge each side; penultimate sternite of ♂ with posterior margin concave (fig. 19). Bismarck Archipelago **verhoeffi** Zacher

No figure of the penultimate sternite of the ♂ of *horvathi* is available. *Horvathi*

* Described as new.

presumably has a much larger excision on the posterior margin than that of *bifida*, and a deeper one than that of *verhoeffi*. The phrase which is quoted in the couplet to *horvathi* is taken directly from the original description of this species. The ♂ forceps of *verhoeffi* are described as being strongly asymmetrical, unlike those of *bifida* which are almost symmetrical.

BRACHYLABIINAE

Very small to medium in size; dark colored species, usually completely without elytra or wings, occasionally with rudimentary elytra; cuticle coriaceous, punctured, or almost rugose, very dull to brightly shining. Eyes variable in size; legs long and relatively slender; abdomen fusiform; forceps of both sexes cylindrical, those of the ♂ having more strongly curved branches than those of the ♀. Recorded from the Neotropical, Ethiopian, Oriental, and Australasian Regions.

The genera of this subfamily are only indistinctly separable at present. Two genera have previously been recorded from the New Guinea area, each with one species; none have previously been recorded from the Solomon Islands but one genus is represented in the present material.

Genus *Brachylabis* Dohrn

Brachylabis Do., 1864, *Stett. Ent. Ztg.* **25**: 292 (type-species: *Forficula chilensis* Blanchard, 1851).

This genus is difficult to define, since the type-species is only known from the short original description, and some confusion exists as to its identity. At present all new species are placed in this genus pending a revision of the subfamily.

The single new species described below is very closely related to *Brachylabis yaloma* Ramamurthi from New Britain, with which it agrees in size; from *yaloma* the present species is distinctive by its transverse pronotum, that of *yaloma* being longer than broad.

Brachylabis greensladei Brindle, new species Fig. 17, 18.

Blackish brown; antennae dark brown, 2 distal segments whitish; mouthparts and palpi brown; femora dark brown basally, brown distally, tibiae brown, tarsi yellowish brown. All cuticle strongly punctured, almost rugose, and pubescent, hairs relatively long and yellowish white.

♂. Head transverse, tumid, lateral margins parallel, posterior angles rounded, posterior margin concave; eyes small. First antennal segment very long, much longer than the distance between antennal bases, 2nd segment transverse, 3rd segment 3 × as long as broad, 4th slightly longer than broad, 5th 1.25 as long as broad, 6th nearly 2 × as long as broad; 1st segment strongly narrowed to base; 3rd gradually narrowed basally, rest of segments nearly cylindrical, rather broad. Pronotum transverse, slightly widened posteriorly, posterior margin weakly convex; meso- and meta-nota transverse, the former without lateral ridges but angled anteriorly, the latter with posterior margin concave. Legs long, femora slightly broadened, tibiae shorter than femora; tarsi with basal segment cylindrical, as long as both distal segments in anterior pair of legs, but much longer than both distal segments in posterior pair. Femora, tibiae, and tarsi with short stiff hairs, tarsi with numerous ventral yellow hairs in addition. Penultimate sternite transverse, posterior margin weakly convex. Forceps cylindrical, only

weakly curved. Genitalia with pointed parameres (fig. 17). Length of body 5.75 mm, forceps 0.5 mm.

♀. As ♂, forceps less curved. Length of body 5-6.5 mm, forceps 0.5 mm.

Holotype ♂ (BMNH), allotype ♀ (BMNH), Solomon Islands, Guadalcanal, Mt Austen, 13.I.1966, P. J. M. Greenslade. 1 ♂, 3 ♀ paratypes, same data but 24.VIII.1965.

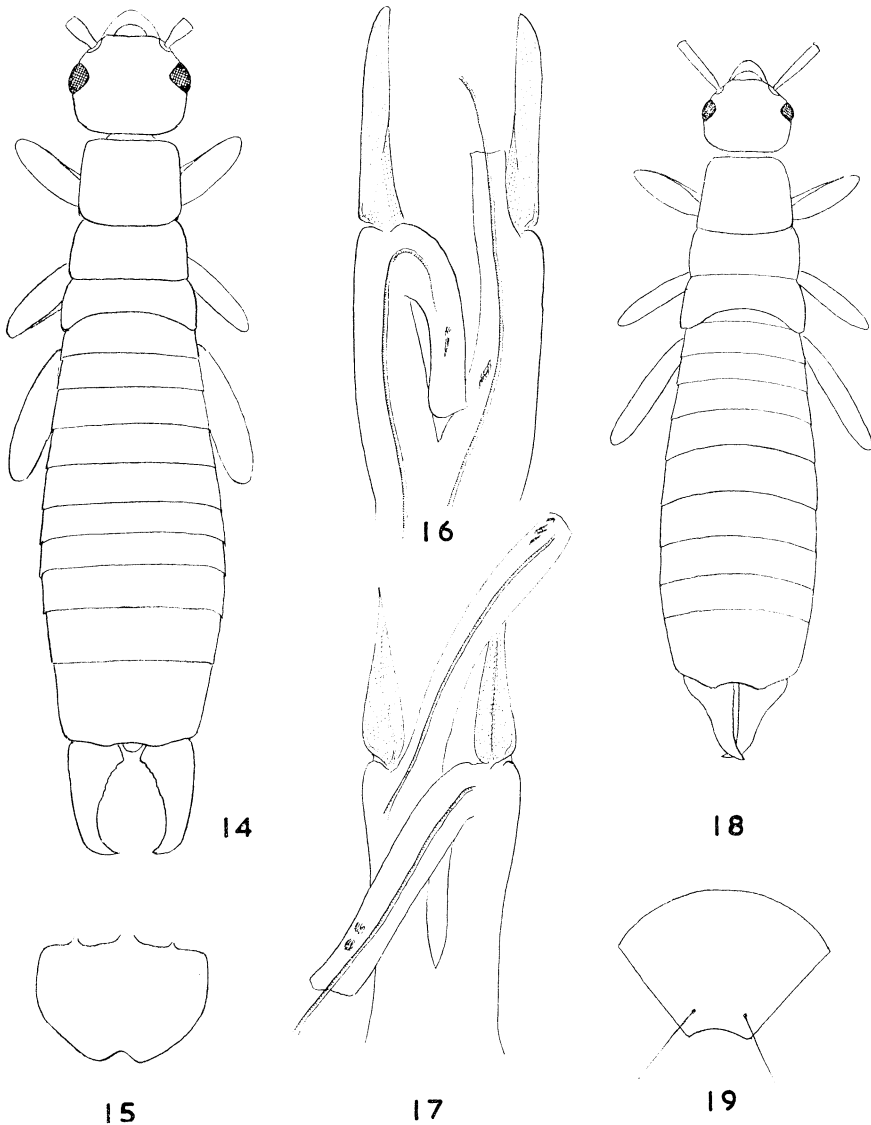


Fig. 14, 15, 16, *Anisolabis bifida* n. sp., ♂ dorsal; ♂ penultimate sternite; and ♂ genitalia. Fig. 17, 18, *Brachylabis greensladei* n. sp., ♂ genitalia; and ♂ dorsal. Fig. 19, *Anisolabis verhoeffi* Zacher, penultimate sternite of ♂ (after Zacher 1911).

MATERIAL EXAMINED. NEW GEORGIA GROUP: Gizo Is., 4.VI.1965, 1 ♀, Greenslade; Kolombangara, N of Kuzi, 300 m (1000 ft.), 6.IX.1965, in forest litter, 1 ♀, Greenslade (BMNH). San Cristobal, 16 km (10 mi.) S Wainoni, 420 m (1400 ft.), 27.VII.1965, in litter, 3 ft. up palm stump, 1 ♂ immature, P. N. Lawrence (BMNH).

I have much pleasure in naming this species after the collector, Mr. P. J. M. Greenslade. It is certain that there are more of these small species of the subfamily Brachylabiinae in the Solomons, since there is also 1 ♀ in which the pronotum is much less transverse. These small species are most likely to be collected by different collecting techniques, such as the use of the Berlese funnel or other methods to deal with debris, soil, etc. 1 ♀ paratype has been passed over to the Bishop Museum and 1 ♀ paratype to the Manchester Museum.

LABIDURIDAE

A relatively small family including 3 well defined subfamilies, of which one, the Allostethinae, is Oriental in distribution, and is not recorded from the New Guinea area. Representatives of the subfamilies Apachyinae and Labidurinae occur, but only the last subfamily occurs in the Solomon Islands.

LABIDURINAE

This subfamily contains species from rather small to very large in size; it is characterized by the structure of the virga, which is broad, almost straight, wider basally, and contains a sinuous inner tube. Representatives of all 3 genera occur in the New Guinea area, only one of which extends to the Solomon Islands.

Genus *Labidura* Leach

Labidura L., 1815, *Edinburgh Encycl.* 9: 48 (type-species: *Forficula riparia* Pallas, 1773).

A very small genus, dominated by the common and cosmopolitan species *Labidura riparia* (Pallas), which occurs in all faunal regions.

Labidura riparia (Pallas)

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

Labidura riparia: Burr, 1911, *Gen. Insect.* 122: 37.

This is a cosmopolitan species of very variable appearance; the variations in color, size, and certain structural features have led to numerous synonyms being published. The full synonymy has been given in Brindle (1967). All species of *Labidura* from the New Guinea area are referable to *riparia*, but some synonyms may be useful as indicating races of forms when these have been fully investigated. The color varies from uniformly pale yellow to almost blackish in color in various of the World, the color apparently being associated to some extent to the type of habitat. The specimens from the Solomon Islands are variegated.

♂. Pale yellowish, variegated with dark brown; yellow along sutures of elytra, along sides of abdomen, and forceps and elsewhere; legs yellow; elytra and wings normally developed in

specimens examined. Branches of forceps widely separated at base, each branch only slightly curved, and with 1 inner tooth beyond midpoint. Length of body 14-22 mm, forceps 5-8 mm.

♀. As ♂, but forceps with branches almost straight and contiguous, each branch narrowed distally, inner margin dentated. Length of body 12-20 mm, forceps 3.5-5 mm.

TYPE-LOCALITY: Siberia. Disposition of type not known.

MATERIAL EXAMINED. SOLOMON ISLANDS: BOUGAINVILLE, 1931, 2 ♀♀, J. H. L. Waterhouse coll (BISHOP). NEW GEORGIA GROUP, Gizo Is., 30 m, 4.VII.1964, 11-18.VII.1964, M. V. trap, 4 ♀♀, J. Sedlacek, (BISHOP); Gizo Is., 11.IX.1965, 1 ♀, P. N. Lawrence (BMNH). GUADALCANAL, near Malukuma, 9.IV.1956, 1 ♂, 1 ♀, 1 nymph, P. J. M. Greenslade (BMNH).

Rehn (1948) records this species from San Cristobal and Santa Ana Islands, while Ramamurthi (1968) records the species from Rennell Island. The apparent scarcity of this widely distributed and common species in the Solomons seems likely to be due to the unsuitability of the climate. The species is most common in dry sandy areas, but is evidently tolerant of considerable temperature variations since it occurs commonly in desert and semi-desert areas in the Palaearctic Region. Specimens occurring in the latter region are usually pale in color.

LABIIDAE

A very large family, found in all faunal regions and mainly includes small species, although some species are large. Typically the forceps are sexually dimorphic, those of the ♂ having the branches widely separated at the base, between which lies a pygidium, and the structure of these forceps and pygidia are often distinctive; those of the ♀♀ are much more uniform in structure, the branches being often contiguous, the pygidium usually small, and generally the ♀ forceps are not particularly useful in taxonomy owing to the general similarity between the species. Those of the genus *Chaetospania* are an exception. The subfamily Geracinae is unusual in having the forceps of both sexes similar, together with the possession of tarsal arolia. These 2 characters separate the Geracinae from the others. Five subfamilies are recorded from the area, the one indicated by “**” not extending to the Solomon Islands.

KEY TO SUBFAMILIES (NEW GUINEA AREA)

1. Each elytron with a well defined lateral longitudinal ridge 2
Elytra without such ridges 3
2. Body, including forceps, with long stiff hairs **Physogastrinae****
Body, including forceps without such hairs **Nesogastrinae**
3. First antennal segment longer than distance between antennal bases; pronotum narrowed anteriorly, forming a distinct neck; body flattened **Sparattinae**
First antennal segment usually shorter than distance between antennal bases; pronotum without such a distinct neck; body not flattened 4
4. Third antennal segment short, usually shorter than the 5th or about as long; eyes usually smaller (except in *Irdex* and *Argusina*) elytra often punctured and pubescent..... **Labiinae**
Third antennal segment longer than the 5th; eyes usually large; elytra usually smooth and glabrous or only finely pubescent **Spongiphorinae**

NESOGASTRINAE

This subfamily includes only the single genus *Nesogaster* Verhoeff, which is Oriental and Australasian in distribution.

Genus *Nesogaster* Verhoeff

Nesogaster Verhoeff, 1902, *Zool. Anz.* **1902**: 191 (type-species: *Labia dolicha* Burr 1897).

Small to medium in size, often brightly shining and sometimes contrastingly colored. Although 22 species are recognized at present, some of these may prove to be local races. Some confusion has existed between certain species and some earlier records are erroneous. Five species are recorded from the New Guinea area, of which 2 extend southwards to the Solomon Islands.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Male forceps with a single inner tooth on each branch; head often reddish, rest of body dark or blackish brown, with wings mainly yellow when present **aculeatus** (Bormans)
- Male forceps with a double tooth on inner margin of each branch; usually almost unicolorous, reddish or yellowish brown; wings absent **apicalis** Hincks

***Nesogaster apicalis* Hincks** Fig. 38.

Nesogaster apicalis Hincks, 1951, *Ann. Mag. Nat. Hist.* **12**, **4**: 568.

Brown, basal segments of antennae yellow; lateral margins of pronotum yellow; legs, forceps, and pygidium yellowish.

♂. Head tumid, broad; eyes small; antennal segments moniliform; pronotum broad, rectangular; elytra rather longer and wider than pronotum; wings absent or concealed; abdomen broad. Each branch of forceps with a longitudinal ridge near inner margin, ridge bearing 2 teeth; pygidium long and tapering. Length of body 4-7 mm, forceps 2-3.75 mm.

♀. As ♂, but forceps with branches shorter, contiguous, pygidium small and inconspicuous. Length of body 4.5-6.5 mm, forceps 2 mm.

TYPE-LOCALITY: New Hebrides and New Guinea. Types in British Museum (Natural History); paratype in Manchester Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS: GUADALCANAL, Popamanasiu, 1710 m (5700 ft.), 8-9.XI.1965, forest litter, 2 ♀♀, P. N. Lawrence (BMNH). BELLONA: Henagotu, 18.II.1965, 1 ♂, P. J. M. Greenslade (BMNH).

The specimen from Bellona Island is very small, the body length only measuring 4.5 mm, and the forceps 1.25 mm, but the structure of the forceps is identical to those of the paratype in the Manchester Museum. The ♀♀ from Guadalcanal are extremely large and dark, measuring 8 mm in body length with the forceps measuring 2 mm. There is always some doubt regarding the identity of isolated females, but *apicalis* appears to be variable in size. This species is the *Labia? apicalis* Bormans, in Gunther (1929).

Nesogaster aculeatus (Bormans)

Labia aculeata Bor., 1900, *Ann. Mus. Civ. Stor. Nat.* **20**: 456.

Nesogaster aculeatus: Burr, 1911, *Gen. Insect.* **122**: 49.

Head reddish; antennae brown, yellow basally; pronotum black, lateral margins yellow; elytra blackish brown, sometimes with a metallic sheen; wings, when present, mainly yellow; legs yellow, femora largely dark brown; abdomen brown to reddish. Sometimes more uniformly colored.

♂. Very similar to *apicalis* in structure; each branch of the forceps with only a single inner tooth, and pygidium shorter, but generally similar in pattern. Length of body 4.5–7 mm, forceps 1.5–2.25 mm.

♀. As ♂, but forceps with branches short and contiguous, pygidium inconspicuous. Length of body 5–7 mm, forceps 1–1.5 mm.

TYPE-LOCALITY: New Guinea. Type in Genoa Museum.

Not represented in the present collection, but recorded from Bellona Island by Ramamurthi (1968). Although the specimen examined by this author was a ♀, and this sex is more difficult to determine, the record is undoubtedly correct, since ♀♀ which are indistinguishable from other *aculeatus* have been examined from Samoa. Borelli (1928) also recorded this species from Samoa, and the species may have a wide distribution in the Pacific. Further research on this genus is being undertaken.

SPARATTINAE

A very distinctive subfamily, characterized by the strongly flattened body; the head is also flat and the pronotum is usually narrowed anteriorly, and a prominent neck is present; elytra and wings usually fully developed. The subfamily is mainly Neotropical in distribution, and only one genus occurs in the Old World.

Genus **Auchenomus** Karsch

Auchenomus Karsch, 1886, *Berl. Ent. Z.* **20**: 89 (type-species: *Auchenomus longiforceps* Ka., 1886).

Almost entirely restricted to the Oriental and Australasian Regions. Antennal segments elongated and narrow; eyes small; legs short; abdomen more or less parallel-sided; forceps variable in shape and size, sexually dimorphic.

Three species have been recorded from the New Guinea area, but none from the Solomon Islands. The 2 species in the present material are very distinct from the other 3 species in the New Guinea area and are described as new. In 1 species only 2 specimens are available, 1 from Guadalcanal, the other from Malaita; both are ♂♂ and show some difference in the forceps, but this difference is apparently due to a greater development in 1 specimen, the forceps of the other specimen being slightly malformed in 1 branch, and the inner teeth are less developed. In the 2nd species there are 18 specimens, which are divisible into 3 groups, based on the structure of the forceps or pygidia, and each of these groups is associated with a different island or group of islands. All the specimens are conspecific, but appear to represent 3 subspecies, and are so described. The 2 species may be separated as follows:

KEY TO SPECIES (SOLOMON ISLANDS)

1. Pronotum $2 \times$ as long as broad; very slender and elongated species (fig. 20), uniformly reddish yellow or slightly darker; forceps very long and slender **elongatulus***
 Pronotum as broad as long; shorter and broader species, variegated in color (fig. 21); forceps shorter and broad **variabilis***

Auchenomus elongatulus Brindle, new species Fig. 20, 27.

Reddish yellow, elytra and wings slightly darker; tips of distal antennal segments darker; last tergite dark brown medially; extremely slender.

♂. Head flat, depressed along sutures, as broad as long, narrowed posteriorly, posterior angles rounded, posterior margin slightly concave; eyes small. First antennal segment very long, much longer than the distance between antennal base, 2nd segment transverse, 3rd segment $4 \times$ as long as broad, 4th segment $3 \times$ as long as broad, 5th nearly $5 \times$ as long as broad; distal segments very long and slender, cylindrical, narrowed only at extreme base and apex; pubescent, hairs varying in length.

Pronotum very narrow, $2 \times$ as long as broad, lateral margins concave, posterior margin convex, the distal quarter reflexed over base of elytra; anterior angles prominent, each with a long seta. Elytra long and slender, leaving a large scutellum visible, wings very long. Cuticle of head, pronotum, glabrous and coriaceous; elytra and wings with cuticle coriaceous, but with sparse short stiff hairs. Legs long, femora slightly broadened, tibiae shorter than femora, tarsal segments comparatively short and broad, basal segment of tarsus nearly $2.5 \times$ as long as broad, 2nd segment quadrate, 3rd (distal) segment broad, apex with long curved claws.

Abdomen parallel-sided, long, depressed, cuticle coriaceous, and with sparse short stiff yellow hairs, and with a few longer hairs on posterior margin of tergites; tubercles on 4th tergite small; last tergite large, posterior margin more or less straight, but depressed between bases of the branches of forceps; each side of depression arises a small conical tubercle, directed dorso medially. Pygidium quadrate, strongly declivent, slightly narrowed distally, lateral margins darkened and minutely dentated. Each branch of forceps long, very slender, and with 2 inner teeth, relatively prominent, together with several very small teeth; branches asymmetrical, the left probably normal, the right branch malformed. Forceps pubescent, and with longer yellow hairs. Length of body 13.5 mm, forceps 5 mm (right branch), 4 mm (left branch).

♀. Unknown.

Holotype ♂ (BISHOP 9270), Solomon Islands, Malaita, E of Kwalo (E of Auki), 350 m, 29.IX.1957, J. L. Gressitt. Paratype ♂, Guadalcanal, Gold Ridge, 21.IV.1955 (Com. Inst. Ent., Coll. No. 14308) determined as *Auchenomus* n. sp. ♂, W. D. Hincks (BMNH).

The paratype is identical to the holotype (fig. 20) except for the greater development of the forceps, and the more numerous tubercles on the last tergite, there being 6 tubercles in the paratype (fig. 27), 2 small ones medially, and 4 large ones, while each branch of the forceps is long, with 1 basal tooth by the pygidium and the inner teeth are larger than in the holotype. The body length is 13 mm, and the forceps measure 6 mm.

The type form and the 2 subspecies of the 2nd new species may be separated as follows:

1. Inner ventral margin of ♂ forceps with a longitudinal ridge (fig. 23); ventral part of ♀ pygidium strongly projecting (fig. 24). New Georgia Group **variabilis egoloensis***
 Inner ventral margin of ♂ forceps with a tooth about midpoint (fig. 21, 26); ♀ pygidia with ventral part less projecting (fig. 22, 25) 2

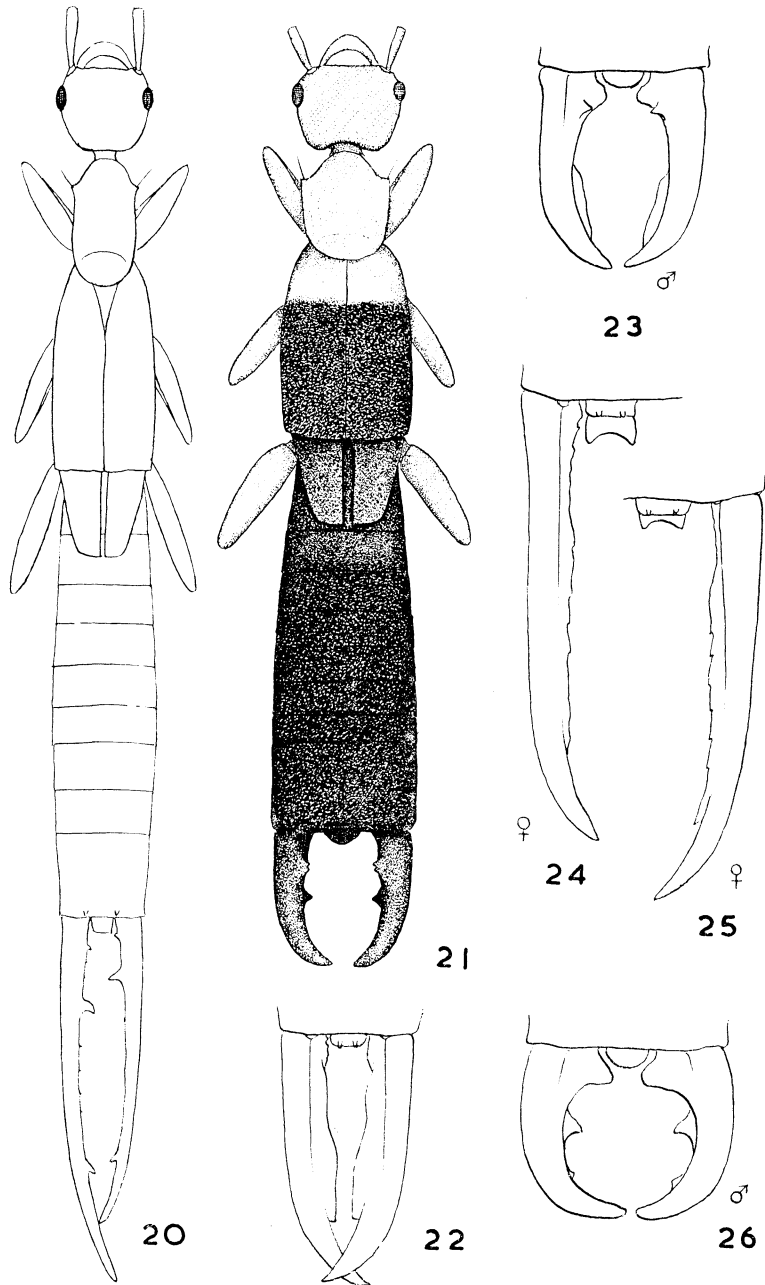


Fig. 20, *Auchenomus elongatulus* n. sp., ♂ dorsal. Fig. 21, 22, *A. variabilis* n. sp., ♂ dorsal; ♀ forceps. Fig. 23, 24, *A. variabilis egoloensis* n. ssp., forceps. Fig. 25, 26, *A. variabilis guadalcanalensis* n. ssp., forceps.

2. Basal part of ♂ forceps not produced into a large inner tooth (fig. 21); ventral part of female pygidium not visible (fig. 22). Bougainville **variabilis***
 Basal part of ♂ forceps with a large inner tooth (fig. 26); ventral part of ♀ pygidium projecting (fig. 25). Guadalcanal, Malaita **variabilis guadalcanalensis***

Auchenomus variabilis Brindle, new species Fig. 21, 22.

Blackish brown, anterior 1/3 of elytra, pronotum, head and mouthparts, basal segments of antennae, legs, yellowish or reddish yellow. Posterior femora may be darkened and elytra and wings may be almost entirely yellowish; the abdomen in some specimens is lighter basally.

♂. Head broad, transverse, flat, except for occipital areas posterior to coronary suture, which are slightly elevated; lateral margins curved and posterior margin strongly concave; eyes small. First antennal segment long, as long as distance between antennal bases, 2nd segment transverse, 3rd segment $2 \times$ as long as broad, 4th segment 1.5 as long as broad, 5th segment as long as 3rd; distal segments $4 \times$ as long as broad, slender, pubescent, hairs short and dark brown.

Pronotum rather longer than broad, narrowing slightly posteriorly, anterior angles well marked, each with a long seta; posterior margin convex. Elytra and wings long; cuticle of head, pronotum, elytra, and wings coriaceous, smooth. Legs similar in structure to those of the last species but comparatively stouter.

Abdomen relatively broad, depressed, parallel-sided; tergites 4-8 each with 4 small tubercles arranged along posterior margin of tergite; cuticle coriaceous, glabrous or almost so. Penultimate sternite broad, widened distally, posterior margin strongly convex, and with a short rugose ridge at each side of posterior margin, this ridge being visible from a dorsal view. Forceps with each branch short, broad, trigonal basally, cylindrical distally, dorsal edge with a low irregular ridge with 2 teeth, ventral edge with a large tooth about midpoint, pygidium small and rounded (fig. 21). Length of body 11 mm, forceps 1.5 mm.

♀. Similar to ♂ generally; forceps with each branch almost straight, and longer than those of ♂, dorsal edge blackened at base and finely dentated, inner ventral edge forming a narrow flange, with margin irregular and ending distally in a tooth; pygidium with dorsal part transverse, rounded, and with 2 small tubercles, ventral part bilobed distally but not visible from a dorsal view (fig. 22). Length of body 10 mm, forceps 2 mm.

Holotype ♂ (BISHOP 9271), Solomon Islands, Bougainville, Kokure, nr. Crown Prince Ra., 900 m, 11.VI.1956, J. L. Gressitt; allotype ♀, same data, 9.VI.1956, Gressitt. Paratypes 2 ♂ 1 ♀: same data, 8-11.VI.1956, Gressitt; 1 ♀, Kokure, 690 m, 8.VI.1956, E. J. Ford; 1 ♂, Boku, 50 m, 6.VI.1956, Gressitt (BISHOP).

1 ♂ and 1 ♀ paratypes have been passed over to the British Museum (Nat. Hist.) and to the Manchester Museum.

Auchenomus variabilis egoloensis Brindle, new subspecies Fig. 23, 24.

Similar to typical form, but each branch of ♂ forceps with a large tooth basally, inner ventral tooth replaced by a longitudinal flange (fig. 23); forceps of ♀ with ventral inner flange not ending in a tooth, and ventral part of pygidium strongly projecting (fig. 24).

Holotype ♂ (BISHOP 9272), allotype ♀, 2 ♂♂, 1 ♀ paratypes, Solomon Islands, New Georgia Group, nr. Egolo, 1-25 m, 16.VII.1959, *Freycinetia*, J. L. Gressitt. 1 ♂, 1 ♀ paratypes, Kolombangara, 1-12 m, 9.VII.1959, *Freycinetia*, Gressitt; 1 ♀ paratype, Munda, 1-30 m, 20.VII.1959, *Pandanus*, Gressitt (BISHOP).

1 ♂ and 1 ♀ paratypes have been passed over to the British Museum (Nat. Hist.) and the Manchester Museum.

Auchenomus variabilis guadalcanalensis Brindle, new subspecies Fig 25, 26.

Similar to typical form, but each branch of ♂ forceps shorter and broad, with a very large basal tooth, 1 ventral inner tooth near midpoint, and a small tooth beyond (fig. 26); each branch of ♀ forceps with inner flange ending in a tooth distally, ventral part of pygidium slightly projecting (fig. 25).

Holotype ♂ (MANCHESTER), allotype ♀, Solomon Islands, Guadalcanal, Rua Vata, 21, XI.1954, E. S. BROWN.

MATERIAL EXAMINED. SOLOMON ISLANDS: Malaita, Tangtalau, 200 m, 30.IX.1957, on *Sararanga*, 1 ♀, J. L. Gressitt (BISHOP).

LABIINAE

The differences between the subfamilies Labiinae and Spongiphorinae in the key in Burr (1911) are not now satisfactory, due to variability in the characters used—mainly the size of the eyes. This variation was brought to notice by Boeseman (1954), who showed that *Prolabia arachidis* (Yersin), the type species of the genus *Prolabia*, which is placed in the subfamily Labiinae in Burr (1911) is the wingless form of *Marava grandis* (Dubrony), the type species of the genus *Marava*, which is placed in the subfamily Spongiphorinae in Burr (1911). This position has arisen because the wingless form (*arachidis*) has small eyes while the winged form (*grandis*) has large eyes. On the basis of the eye size, therefore, each was placed in a different subfamily. In consequence of the findings of Boeseman (1954), *Prolabia* becomes a synonym of *Marava*, while *arachidis* has priority over *grandis*. The full synonymy of this species is given in Hincks (1954), and the correct name for the species is *Marava arachidis* (Yersin).

It is, therefore, not possible to use the size of the eyes as a primary character to separate the subfamilies. However, it is useful for separating the genera, since this variation is not known to occur widely. It is clear that the Labiinae and Spongiphorinae are closely related, and it is not yet certain that it is useful to keep both subfamilies. However at present this is the custom, but other characters have to be used to separate them, the main one being the relative length of the 3rd antennal segment, as in the present key to subfamilies. Due to this change, however, some species, known only from descriptions, may not necessarily be in their correct genera, but the species are placed as in Burr (1911) unless later studies have shown this placing to be incorrect.

KEY TO GENERA (SOLOMON ISLANDS)

1. Eyes large in ♂♂, rather longer than length of head behind eyes **Irdex** Burr
Eyes smaller than length of head behind eyes in both sexes 2
2. Forceps glabrous, or at least without numerous long stiff hairs; head often rugose dorsally, sometimes smooth **Labia** Leach
Forceps strongly setulose; head generally smooth 3
3. Head and body strongly depressed; small **Chaetospania** Karsch
Head usually convex; body less strongly depressed; large **Sphingolabis** Bormans

Genus **Chaetospania** Karsch

Chaetospania Karsch, 1886, *Berl. Ent. Z.* 30 : 87 (type-species : *Chaetospania inornata* Karsch 1886).

Closely related to both *Labia* and *Sphingolabis*, but usually more depressed, and the forceps often have a ventral inner flange on each branch, especially notable in females. Females have good taxonomic characters in the structure of the forceps, but since the forceps are sexually dimorphic, there is no certain way to associate the ♂♂ with the correct ♀♀, except by external characters other than the forceps, and by the localities. Variation in the structure of the forceps does occur, but this seems to be relatively small.

Four species have been recorded from the New Guinea area, but the records of one, *thoracica* (Dohrn) are probably erroneous, and refer to *nigriceps* (Kirby). This latter species was synonymized with *thoracica* in Burr (1911), but a recent examination of the male holotype has shown that it is quite distinct. The records of *borneensis* (Bormans) may also refer to another species, since the 2 ♀♀ referred to this species in the present paper show differences in the structure of the forceps to specimens of *borneensis* from Borneo. More material is necessary to settle the identity of this species from the Solomon Islands and New Guinea.

Five species of the genus are represented in the present material, 3 of which are new.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Each branch of ♂ forceps long and slender; pygidium short, posterior margin concave :
 each branch of ♀ forceps irregularly dentated along most of ventral edge (fig. 33).
 More or less uniformly dark species, large in size **borneensis** (Bormans)
 Male forceps not long and slender; pygidium otherwise; each branch of ♀ forceps usually with less of the ventral edge dentated 2
2. Each branch of ♂ forceps with a very large inner tooth; last tergite of ♀ without a small tubercle medially near posterior margin 3
 Each branch of ♂ forceps without a very large inner tooth; last tergite of ♀ with a small tubercle medially near posterior margin 4
3. Inner tooth of ♂ forceps near base, branches strongly curved (fig. 28); ♀ pygidium longer than broad (fig. 29) **gnathonica***
 Inner tooth of ♂ forceps beyond midpoint, branches not strongly curved (fig. 30); ♀ pygidium transverse (fig. 31, 32) **nigriceps** (Kirby)
4. Almost entirely blackish species; ♂ pygidium spatulate (fig. 34) **huxleyi***
 Pronotum, legs, and abdomen reddish yellow or yellow, or pronotum partly darker; ♂ pygidium short (fig. 37) **parva***

Chaetospania huxleyi Brindle, new species Fig. 34, 35.

Shining black to brownish black; tarsi yellowish brown.

♂. Head depressed, smooth and glabrous, transverse, lateral margins curved, posterior margin concave; eyes small. First antennal segment shorter than distance between antennal bases, 2nd segment transverse, 3rd slightly longer than broad, 4th 2 × as long as broad, 5th 2.5 as long as broad; distal segments as long as segment 5, all strongly narrowed to base; segments pubescent, hairs short and yellow. Pronotum as broad as long (measured along posterior mar-

gin) widened posteriorly, lateral margins straight, posterior margin convex, anterior half smooth and shining, posterior half rugose. Elytra and wings punctured and pubescent, hairs dark brown; elytra $2\times$ as long as pronotum, wings 1.25 as long as pronotum. Legs short, femora broad, tibiae compressed, external margin longitudinally convex, shorter than femora; tarsi shorter than tibiae, basal segment cylindrical, 2nd segment short, transverse, 3rd long, narrowed at base, all segments with numerous short ventral yellow hairs.

Abdomen more or less parallel-sided, punctured and pubescent; tergites also with sparse long yellow hairs, mainly along posterior margins and laterally. Penultimate sternite transverse, posterior angles rounded, posterior margin emarginate medially. Last tergite transverse, slightly depressed medially between bases of branches of forceps. Each branch of forceps trigonal for basal half, cylindrical distally, inner ventral edge with 1 tooth at base, a 2nd small tooth before midpoint, and a larger tooth towards apex, pygidium spatulate, declivent (fig. 34). Branches with numerous short yellow hairs basally, and with long yellow hairs sparsely distributed over all branch. Length of body 5.5 mm, forceps 1.25 mm.

♀. Similar to ♂; last tergite depressed between bases of branches of forceps, and with a small tubercle on posterior margin on middle of posterior margin, tubercle directed dorsoposteriorly; each branch of forceps straight except at apex, broad, trigonal basally, cylindrical distally, both dorsal and ventral inner edges strongly dentated; pygidium transverse (fig. 35). Length of body 5.25 mm, forceps 1.25 mm.

Holotype ♂ (BMNH), allotype ♀ (BMNH), Solomon Islands, New Georgia Group, Kolombangara, Kuzi, 5.XI.1965.

I have much pleasure in naming this species after Mr John Huxley of the British Museum (Nat. Hist.), who recognized it as a new species but allowed me to describe it.

Chaetospania parva Brindle, new species Fig. 36, 37.

Head, elytra, and wings blackish brown; pronotum yellow, darkened posteriorly; antennae brown; legs yellow, abdomen and forceps reddish yellow.

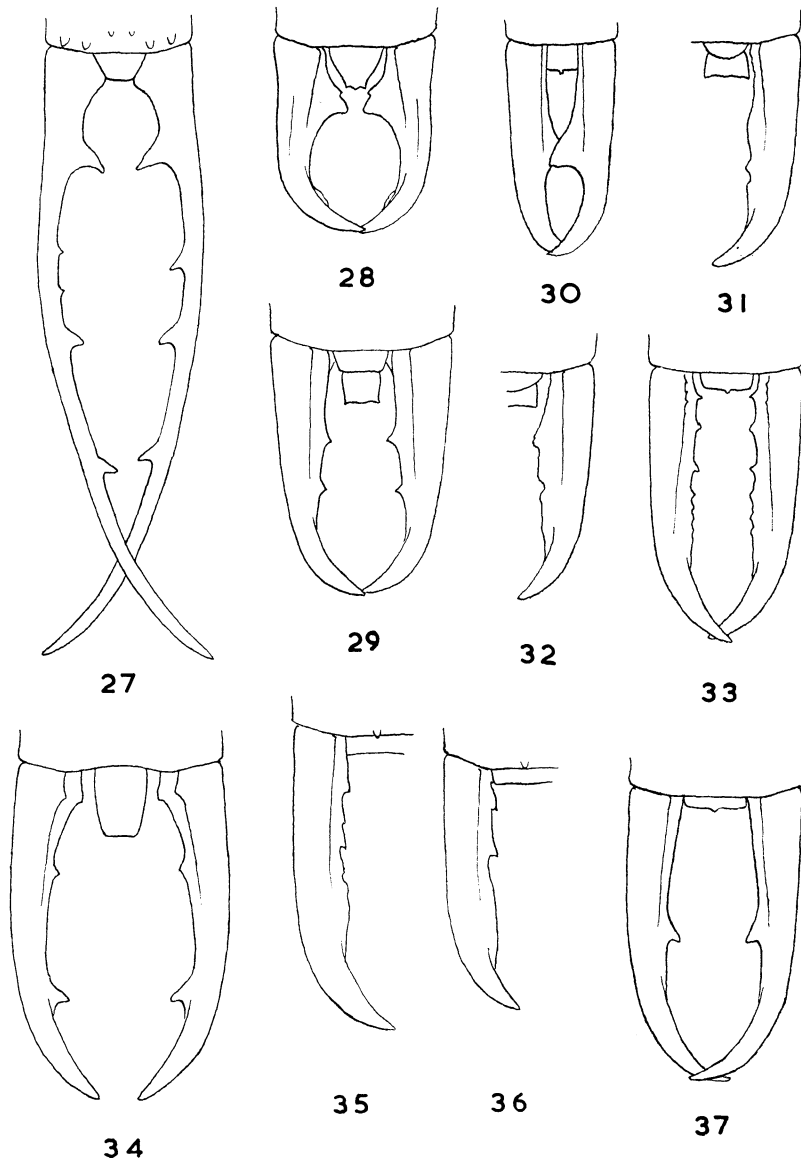
♂. Similar in structure to *huxleyi*, but differing as follows: antennal segments 3 and 4 subequal in length, 5th slightly longer, distal segments relatively shorter. Pubescence on elytra and wings yellow. Abdominal tergites 1-8 finely punctured and pubescent, tergite 9 more sparsely punctured, last tergite almost smooth. Each branch of forceps evenly but slightly curved, dorsal edge darkened but scarcely dentated, ventral edge with an inner tooth near midpoint, pygidium transverse, posterior margin with a small projection medially (fig. 37). Length of body 5 mm, forceps 1 mm.

♀. Similar to ♂; each branch of forceps straight except at apex, broad, trigonal for nearly basal $2/3$, both dorsal and ventral edges strongly and irregularly dentated, distal $1/3$ cylindrical, smooth; pygidium transverse (fig. 36). Length of body 4.25 mm, forceps 0.75 mm.

Holotype ♂ (BISHOP 9273), Solomon Islands, New Georgia group, Munda, 1-30 m, 15.VII.1929, J. L. Gressitt.

MATERIAL EXAMINED. SOLOMON ISLANDS: Florida Island, Nggela, Haleta, 0-100 m, 9. X.1964, light trap, 1 ♀, R. Straatman (BISHOP).

The ♀ is referred to this species with some reservations: it has the forceps very similar to those of *huxleyi*, and there is a similar small projection medially on the posterior margin of the last tergite. The color of the ♀ agrees with that of *parva*, and the size is less than in the paratype ♀ of *huxleyi*.



Forceps. Fig. 27, *Auchenomus elongatulus* n. sp., ♂. Fig. 28, 29, *Chaetospania gnathonica* n. sp., ♂, ♀. Fig. 30, 31, 32, *C. nigriceps* (Kirby), ♂, ♀ (Choiseul); ♀ (Malaita). Fig. 33, *C. borneensis* (Bormans). Fig. 34, 35, *C. huxleyi* n. sp., ♂, ♀. Fig. 36, 37, *C. parva* n. sp., ♀, ♂.

***Chaetospania borneensis* (Dubrony) Fig. 33.**

Forficula borneensis Dub., 1879, *Ann. Mus. Civ. Stor. Nat.* 14 : 381.

Chaetospania borneensis : Burr, 1911, *Gen. Insect.* 122 : 54.

Dark reddish brown, elytra and wings blackish brown; legs yellow.

♂. Head slightly depressed between eyes; pronotum quadrate, all margins straight except for anterior margin which is produced anteriorly, all angles rounded. Elytra and wings normally developed. Cuticle of head, pronotum, elytra, and wings punctured and pubescent, hairs yellow and short with the exception of 2 relatively large inflated elliptical areas, smooth and glabrous, in each anterior 1/4 of pronotum; abdomen depressed, cuticle punctured and pubescent. Each branch of forceps long, with 1 inner tooth. Length of body 8-9 mm, forceps 2.75-3.25 mm.

♀. Similar to ♂; each branch of forceps broad, almost straight, trigonal basally, cylindrical distally, basal ventral edge with a large basal tooth, posterior margin of pygium irregular. Length of body 8-9 mm, forceps 2.25-2.75 mm.

TYPE-LOCALITY: Borneo. Types in the Genoa Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS: Bougainville, Mosigeta, 25 m, 3.VI.1956, 1 ♀, E. J. Ford; Kokure, 690 m, 8.VI.1956, 1 ♀, Ford (BISHOP).

The present ♀♀ are referred to this species although there is some doubt. The descriptions above refer to specimens from Borneo, and these ♀♀ differ by the lack of the basal tooth on each branch of the forceps; by the more dentated ventral edge; and by the small projection on the pygidium (fig. 33). Some variation does occur in specimens of *borneensis* however. It is possible that the present females represent the New Guinea species referred to *borneensis* and which may be distinct when more material has been examined.

***Chaetospania nigriceps* (Kirby)** Fig. 30-32.

Platylabia nigriceps Kirby, 1891, *J. Linn. Soc.* **23**: 518.

Chaetospania thoracica: Burr, 1911, *Gen. Insect.* **122**: 54 (partim).

Reddish yellow; head blackish, mouthparts and antennae brown; elytra with anterior 1/5 yellow, rest of elytra and wings blackish; posterior tergites of abdomen darker; forceps and pygidium very dark brown.

♂. Head depressed, cordiform in shape; eyes small; antennae of holotype broken, 1st segment shorter than distance between antennal bases; pronotum quadrate, lateral margins straight and parallel, posterior margin straight, all angles rounded. Cuticle of head finely punctured and pubescent, that of pronotum, elytra, and wings more strongly punctured and pubescent; abdomen depressed, parallel-sided, punctured and pubescent. Each branch of forceps trigonal for basal 1/2, cylindrical distally, ventral edge with a large tooth beyond midpoint; pygidium longer than broad, with a small rounded projection on posterior margin (fig. 30). Length of body 8 mm, forceps 2 mm.

♀. As ♂; each branch of forceps straight, broad, except at apex, inner ventral edge dentated (fig. 31, 32). Length of body 7-8 mm, forceps 2.25 mm.

TYPE-LOCALITY: New Guinea. ♂ holotype in British Museum (Nat. Hist.).

MATERIAL EXAMINED. SOLOMON ISLANDS: CHOISEUL: Kitipit River, 80 m, 17.III.1964, 1 ♀, P. Shanahan. MALAITA: 3 km, N of Auki, 30 m, 2.VI.1964, 1 ♀, J & M. Sedlacek (BISHOP).

The description of the ♂ above refers to the holotype. Although this species is synonymized with *thoracica* (Dohrn) in Burr (1911) it is clearly distinct. The ♂ of

thoracica lacks the very large inner tooth on each branch of the forceps, and the pygidium is long, rather narrow, and pointed distally. The description of the ♀ above refers to the present ♀♀, which are apparently the 1st record of the ♀ of this particular species. These differ from the ♀♀ of *thoracica* by the ventral edge of the inner margin of each branch of the forceps ending smoothly distally, not ending in a tooth as in *thoracica*, and by the more prominent pygidia. Each of the present specimens varies slightly, the right branch of the forceps of the Choiseul specimen being shown in fig. 31, and that of the Malaita specimen being shown in fig. 32.

Chaetospania gnathonica Brindle, new species Fig. 28, 29.

A dull species; reddish yellow; elytra and wings dark brown.

♂. Head depressed, cordiform, occipital areas around posterior angles slightly elevated; cuticle finely and sparsely punctured and pubescent; eyes small. First antennal segment nearly as long as distance between antennal bases, 2nd segment transverse, 3rd and 4th segments subequal, 2× as long as broad, 5th segment slightly longer; distal segments 2.5 as long as broad, spindle-shaped, pubescent, hairs mainly short and yellow but with sparse longer yellow hairs.

Pronotum parallel-sided, slightly longer than broad, posterior margin convex, cuticle punctured and pubescent, mainly on posterior 1/2, but also medially on anterior part. Elytra and wings normally developed, cuticle punctured and pubescent, hairs yellow, relatively long. Legs with femora broad, tibiae wide, compressed, tarsi with 1st segment cylindrical, 2nd segment short, 3rd cylindrical, shorter than first; all segments with numerous short yellow ventral hairs, first segment also with 6 spiniform processes along each ventral edge.

Abdomen depressed, widest distally, cuticle finely punctured and pubescent, hairs yellow, and tergites with longer marginal yellow hairs. Each branch of forceps short, strongly curved, trigonal for basal 1/2, cylindrical distally, dorsal basal edge slightly curved longitudinally, ventral edge forming a large flattened projection, the apex with an anterior small tooth and a larger posterior tooth-like process; forceps with long yellow hairs; pygidium declivent, ventral surface narrowed distally, posterior margin faintly trisinate (fig. 28). Length of body 10 mm, forceps 1.75 mm.

♀. As ♂, each branch of forceps straighter and longer, trigonal basally, cylindrical distally, inner ventral edge with 2 equidistant teeth; pygidium large, declivent, ventral surface large, posterior margin trisinate (fig. 29). Length of body 9.5 mm, forceps 2.25 mm.

Holotype ♂ (BMNH), allotype ♀, Solomon Islands, Bougainville, Buin, 2.VII.1922, E. A. Armytage (BMNH). ♀ paratype, New Georgia Group, Kolombangara, nr. Kuzi, 3-9. IX.1965, P. N. Lawrence (MANCHESTER).

The tips of the branches of the forceps of the paratype male are broken, and the dorsal edge of each branch has a small tooth near the base.

Genus **Labia** Leach

Labia Leach, 1815, *Edinburgh Encycl.* 9: 118 (type-species: *Forficula minor* Linnaeus, 1758).

Small species, usually dull; eyes small, elytra and wings usually normally developed, punctured and pubescent. This genus is very closely related to *Chaetospania*, but the species are usually duller in coloration, and lack the numerous long yellow hairs on the body and forceps. The forceps of the ♀♀ are simple, and lack the ventral dentated

edge so characteristic of those of *Chaetospania*. The genus is found in all faunal regions.

Five species have been previously recorded from the New Guinea area, and 5 species are represented in the present collections, 2 species being new.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Pronotum almost as wide as head, transverse 2
Pronotum small, usually much narrower than head, and quadrate or almost so 3
2. Almost entirely dark brown in color; pygidium of ♂ large and triangular, not bifid at apex *pilicornis* (Motschulsky)
Abdomen reddish; pygidium of ♂ small, apex bifid (fig. 44) *bituberculata**
3. Elytra short, only tips of wings projecting; each branch of ♂ forceps with 2 small inner inner teeth (fig. 42) *sicaria* Burr
Elytra and wings normally developed 4
4. Blackish in color, abdomen reddish; head smooth and shining dorsally; each branch of ♂ forceps strongly curved and broad at base (fig. 41) *curvicauda* (Motschulsky)
Mainly dark brown or brown, abdomen yellow at base; each branch of ♂ forceps not strongly curved (fig. 43) *termitophila**

Labia curvicauda (Motschulsky) Fig. 41.

Forficesila curvicauda Mots., 1863, *Bull. Soc. Nat. Moscou* 36 : 2.

Labia curvicauda : Burr, 1911, *Gen. Insect.* 122 : 56.

Blackish, abdomen reddish; legs yellow, femora darkened; antennae yellow or brown. Pronotum sometimes yellow.

♂. Head wide, depressed, smooth; eyes small; pronotum small- narrower than head, slightly longer than broad, parallel-sided. Elytra and wings long; legs relatively short; abdomen parallel-sided, depressed. Each branch of forceps short, strongly curved and broad at base, either produced to form a rounded inner lobe (fig. 41) or more angular. Length of body 4-5 mm, forceps .75-1.25 mm.

♀. As ♂, but forceps with each branch straight, very broad at base, evenly narrowed to apex, branches contiguous. Length of body 4.5 mm, forceps .75 mm.

TYPE-LOCALITY: Ceylon. Type lost.

This is a cosmopolitan species, which occurs in all faunal regions, but as an adventive in temperate countries.

MATERIAL EXAMINED. SOLOMON ISLANDS: NEW GEORGIA GROUP: Gizo Is., 13.XII.1965, 1 ♀, P. J. M. Greenslade (BMNH). SANTA ISABEL: 5 km (3 mi.) W of Cockatoo I., fringe of *Casuarina* forest, laterite slope, under bark of dead tree, 20.IX.1965, 1 ♂, 1 ♀ (BMNH). TULAGI: 23.IV.1934, on flowers of coco palm, 1 ♂, 1 ♀, R. A. Lever (BMNH). GUADALCANAL: Tambalia, 35 km W Honiara, 30 m, 20-25.V.1964, light trap, 1 ♂, J & M. Sedlacek; Metanikan River (Mth), 21.V.1964, 1 ♂, H. E. Milliron (BISHOP). Umasoni River, 10 km (6 mi.) SW of Tamboko, 7-10.VII.1965, on *Areca macrocalyx*, 2 ♂, P. N. Lawrence; Nutu, ridge on ultrabasics, leaf litter, 26.X.1965, 1 ♂, Lawrence (BMNH). SAN CRISTOBAL: 6 m (20 ft.) up *Areca macrocalyx*, 10.2 km (6 3/4 mi.) S. Wainoni, 26.VII.1965, 1 ♂, 5 nymphs, P. N. Lawrence; litter and rotten wood, 29.VII.1965, 1 ♂, Lawrence (BMNH).

***Labia pilicornis* (Motschulsky)**

Forficesila pilicornis Mots., 1863, *Bull. Soc. Nat. Moscou* 36 : 2.

Labia pilicornis : Burr, 1911, *Gen. Insect.* 122 : 56.

More or less uniformly dark brown species ; legs yellowish ; abdomen slightly reddish brown.

♂. Head wide, transverse, posterior margin concave, cuticle striato-rugose ; eyes small ; pronotum transverse, posterior margin convex, rather wide ; elytra and wings well developed ; cuticle punctured and pubescent ; abdomen depressed. Each branch of forceps slender, only slightly curved, without inner teeth, pygidium large, triangular, directed dorsoposteriorly. Length of body 4-5.5 mm, forceps .75-1 mm.

♀. As ♂, but each branch of forceps shorter, simple, almost contiguous, but excavated on inner edge at base to accommodate the small quadrate pygidium. Length of body 4-5 mm, forceps .5-.75 mm.

TYPE-LOCALITY: Ceylon. Type lost.

MATERIAL EXAMINED. SOLOMON ISLANDS : GUADALCANAL : Lunga River (Mth), 4.VI. 1964, 1 ♀, H. E. Milliron. MALAITA : Auki, 20 m, 2-5.VI.1964, light trap, 1 ♀, J. & M. Sedlacek (BISHOP).

The ♀ from Guadalcanal is very small, the body length only measuring 3.5 mm, but that from Malaita is of the usual size.

***Labia sicaria* Burr** Fig. 42.

Labia sicaria Burr, 1902, *Term. Fuzet.* 482 ; 1911, *Gen. Insect.* 122 : 56.

Head, pronotum and elytra blackish brown, shining ; antennae and legs yellowish brown to brown ; abdomen reddish brown, forceps yellowish. A rather slender species.

♂. Head transverse, tumid, shining ; eyes small ; pronotum quadrate, parallel-sided, posterior margin weakly convex ; elytra short, as long as pronotum, finely pubescent ; only extreme tips of wings projecting laterally ; legs short, femora broadened. Abdomen rather long, narrowed at base, tergites punctured and pubescent ; last tergite more sparsely punctured and pubescent, transverse. Each branch of forceps curved, trigonal for less than basal 1/2, cylindrical distally, ventral inner edge with 2 small teeth, pygidium large and rectangular (fig. 42). Length of body 4.5 mm, forceps 1.25 mm.

♀. Not available.

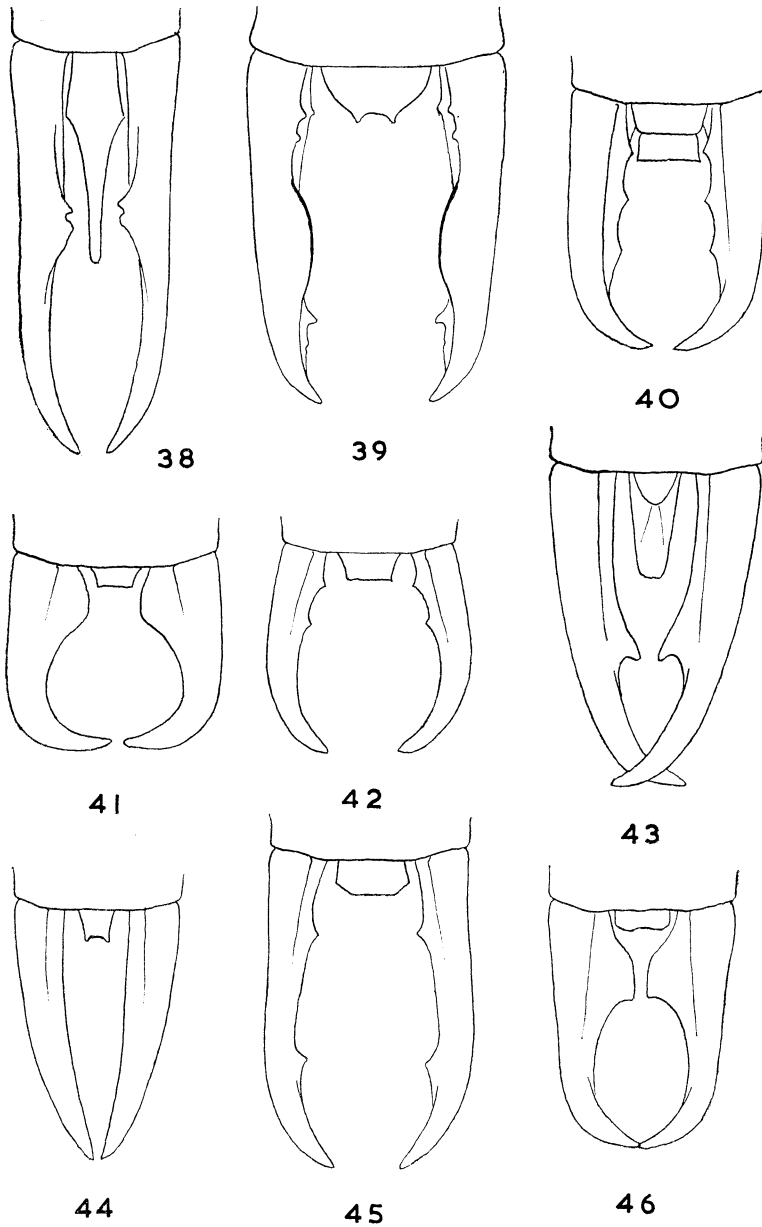
TYPE-LOCALITY: New Guinea. Holotype ♂, Hungarian National Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS : BOUGAINVILLE, Kokure, nr Crown Prince Ra., 900 m, 8.VI.1956, 2 ♂, J. L. Gressitt (BISHOP).

***Labia bituberculata* Brindle, new species** Fig. 44.

Reddish brown, elytra and wings blackish, lighter laterally ; mouthparts and antennae brown ; legs yellow ; abdomen reddish yellow, forceps yellowish ; distal segments of antennae paler at tips.

♂. Head transverse, tumid, posterior angles strongly rounded, posterior margin straight ; cuticle strongly striato-rugose, the striae running outwards from a median longitudinal ridge, coronary suture well marked posteriorly ; eyes small. First antennal segment shorter than distance between antennal bases, 2nd segment transverse, 3rd slightly longer than broad, and longer than 4th ; 5th 1.5 as long as broad ; distal segments slightly moniliform ; all segments



Forceps. Fig. 38, *Nesogaster apicalis* Hincks, ♂. Fig. 39, 40, *Irdex brevis* n. sp., ♂, ♀. Fig. 41, *Labia curvicauda* (Motschulsky), ♂. Fig. 42, *L. sicaria* Burr. ♂. Fig. 43, *L. termitophila* n. sp., ♂. Fig. 44, *L. bituberculata* n. sp., ♂. Fig. 45, *Marava arachidis* (Yersin), ♂. Fig. 46, *M. fulgida* n. sp., ♂.

pubescent, hairs short and yellow. Pronotum slightly transverse, lateral margins almost parallel, posterior margin strongly convex. Elytra rather short and broad, not quite $2\times$ as long as pronotum; wings as long as pronotum; cuticle of pronotum, elytra, and wings somewhat rugose, pubescent. Legs normal for genus. Abdomen broader medially, depressed, punctured and pubescent; last tergite transverse. Each branch of forceps trigonal for basal $1/2$, cylindrical distally, smooth, dorsal and ventral edges slightly widened at extreme base, pygidium small, medial in position, narrowed distally, apex slightly bifid, the apices consisting of 2 small tubercles (fig. 44); penultimate sternite transverse, posterior margin almost truncate, posterior angles rounded. Length of body 5 mm, forceps 1.25 mm.

♀. As ♂, forceps almost cylindrical throughout, evenly narrowed distally, apex incurved. Length of body 5 mm, forceps .75 mm.

Holotype ♂ (BMNH), allotype ♀, 8 nymphs, Solomon Islands: San Cristobal, NE Wainoni, Huni River Est., forest litter on coral limestone, 9-12.VIII.1965, Isiah coll. (BMNH).

***Labia termitophila* Brindle, new species** Fig. 43.

A dull species; head dark brown, lateral and posterior margins yellowish; antennae, pronotum, legs, and base of abdomen yellow, posterior part of abdomen and forceps dark brown; elytra and wings fully developed, dark brown.

♂. Head tumid, cuticle striato-rugose, pubescent; eyes small; 1st antennal segment shorter than distance between antennal bases, 2nd segment transverse, 3rd and 4th subequal in length, 1.5 as long as broad, 5th segment nearly $2\times$ as long as broad; distal segments 2.5 as long as broad, narrowed to base; all segments pubescent, hairs short and yellow. Pronotum as broad as long, lateral margins straight and parallel, posterior margin strongly convex, posterior angles completely rounded. Legs normal for genus. Elytra rather short, nearly $2\times$ as long as pronotum, wings slightly longer than pronotum. Cuticle of pronotum, elytra, and wings punctured and pubescent, hairs relatively long and yellow.

Abdomen long, parallel-sided, punctured and pubescent, and with long yellow hairs laterally; last tergite smooth and glabrous, posterior margin darkened. Each branch of forceps trigonal for basal $1/2$, dorsal inner edge blackened but not dentated, ventral inner edge forming a narrow flange which ends in a large tooth, pygidium long, declivent, and directed slightly ventrally (fig. 43). Length of body 5.5 mm, forceps 1 mm.

♀. Unknown.

Holotype ♂ (BMNH), Solomon Islands, Guadalcanal, Umasoni River, 9.6 km (6 mi.) SW of Tamboko, in nest of nasute termite, 1965, P. N. Lawrence.

This species resembles some species of *Chaetospania* in the possession of a narrow flange to the inner margins of the forceps, but the rugose head corresponds with some species of *Labia*. In view of this and the dull cuticle, and the lack of numerous long hairs on the body and forceps it is placed in the present genus.

Genus ***Sphingolabis* Bormans**

Sphingolabis Bormans, 1883, *Ann. Soc. Ent. Belg.* 27: (type-species: *Sphingolabis semifulva* Bormans, 1884).

Closely similar to *Chaetospania*, but larger in size. Six known species, of which one is recorded from the New Guinea area, and a 2nd species is here described as new.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Elytra almost impunctate and glabrous; ♂ and ♀ truncate posteriorly, not tuberosa (fig. 50, 51) **hawaiiensis** Bormans
 Elytra strongly punctured and pubescent; ♂ and ♀ pygidium tuberosa dorsally (fig. 47, 48) **tuberosa***

Sphingolabis tuberosa Brindle, new species Fig. 47-49.

Dark reddish brown to black, strongly depressed; antennae dark brown; legs dark reddish brown, tarsi yellowish.

♂. Head broad, cordiform, cuticle smooth with isolated long white hairs; eyes very small; 1st antennal segment as long as distance between antennal bases, 2nd segment transverse, 3rd twice as long as broad, 4th 2.5 as long as broad, 5th 3× as long as broad; distal segments nearly 4× as long as broad, spindle-shaped, pubescent, hairs short and dark, but also with longer sparse hairs. Pronotum rectangular, nearly quadrate, smooth anteriorly, slightly rugose on posterior 1/3; glabrous, except for a few long setae, 1 on each anterolateral angle, the other along lateral margins. Elytra short, strongly pubescent and punctured, hairs short, blackish; wings only just projecting; legs relatively short, femora broad, glabrous, tibiae compressed, glabrous, except for isolated long hairs; tarsi with numerous short yellow hairs ventrally.

Abdomen strongly depressed, slightly widened posteriorly, cuticle punctured and pubescent, and with longer marginal hairs. Penultimate sternite glabrous, transverse, posterior margin emarginate medially (as fig. 51). Each branch of forceps trigonal basally, dorsal edge oblique, ventral inner edge with small teeth and with a large tooth beyond midpoint, the tooth directed ventro-medially, pygidium large, dorsal part formed by a large tuberosa structure directed dorsoposteriorly (fig. 47). Length of body 11.5 mm, forceps 5 mm. Genitalia with long parameres with a distinct tip, virga long, relatively simple (fig. 49).

♀. As ♂, forceps similar but inner tooth small, pygidium with tuberosa structure narrower but more elevated, and ventral part of pygidium projecting beyond (fig. 48). Length of body 12 mm, forceps 4.5 mm.

Holotype ♂ (BMNH), allotype ♀, 2 ♂, 1 ♀ paratypes, Solomon Islands, Guadalcanal, Popamanasiu, 1650 m (5500 ft.), 25.X.1965, P. J. M. Greenslade; 1 ♀ paratype, same data but 1710 m (5700 ft.), 8-9.XI.1965, Lawrence (BMNH).

1 ♂ paratype has been passed over to the Bishop Museum, and 1 ♀ paratype to the Manchester Museum.

Sphingolabis hawaiiensis (Bormans) Fig. 50, 51, 52.

Forficula hawaiiensis Bormans, 1882, *Ann. Mus. Civ. Stor. Nat.* **18** : 341.

Sphingolabis hawaiiensis : Burr, 1911, *Gen. Insect.* **122** : 55.

Blackish to very dark red; tarsi yellow.

♂. Similar to *tuberosa*, but posterior margin of head straight; eyes larger in size; elytra longer and wings projecting farther from beneath elytra; cuticle of elytra and wings glabrous, but with isolated long stiff hairs; abdomen punctured and pubescent. Each branch of forceps trigonal at base only, elliptical in cross section distally, ventral inner edge irregularly dentated, and with a large inner tooth before midpoint; pygidium transverse, more or less truncate posteriorly (fig. 50). Length of body 11-13 mm, forceps 5-6 mm.

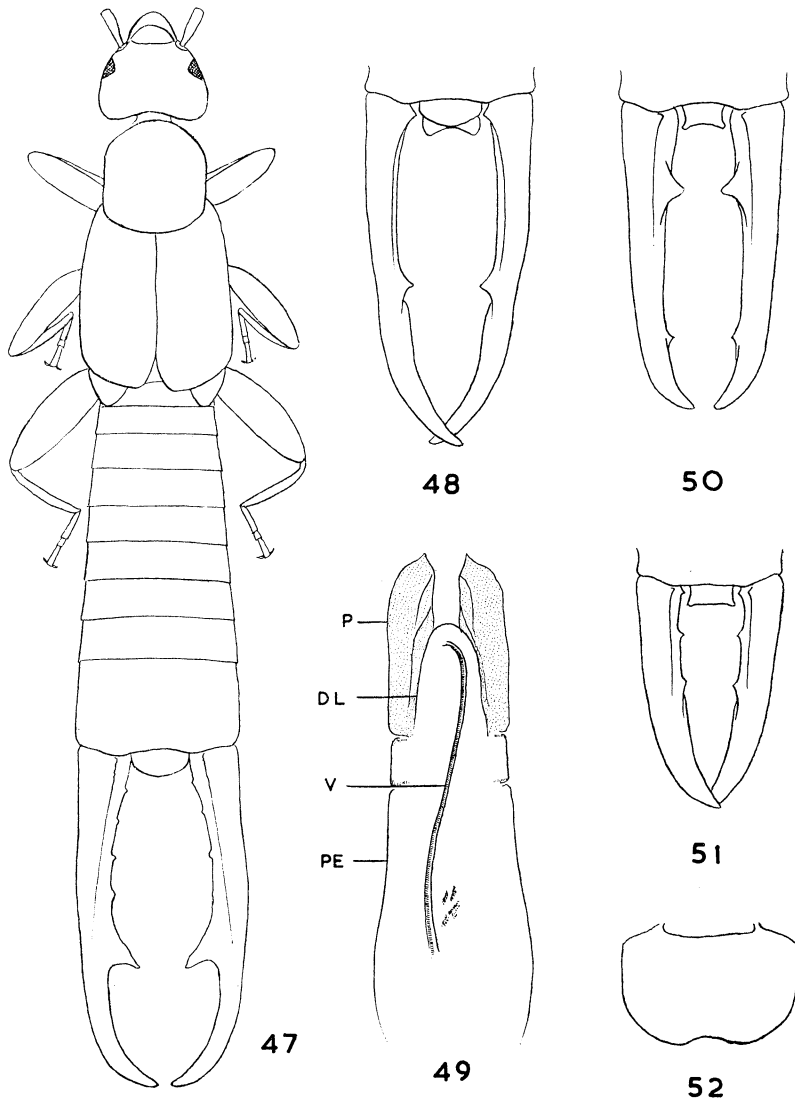


Fig. 47, 48, 49, *Sphingolabis tuberosa* n. sp., ♂, dorsal; ♀ forceps; and ♂ genitalia. Fig. 50, 51, 52. *S. hawaiiensis* (Bormans) ♂ forceps; ♀ forceps; ♂ penultimate sternite. (DL=distal lobe; P=paramere; PE=penis; V=virga).

♀. Similar to ♂, but each branch of forceps shorter, ventral edge with small teeth (fig. 51). Length of body 10-12 mm, forceps 3.5-4 mm.

TYPE-LOCALITY: Hawaii. Types in Genoa Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS: BOUGAINVILLE: Kokure, 690 m, 13.VI.1956, 1 ♀, E. J. Ford; Kukugai Vill., 150 m, XII.1960, 2 ♀, W. W. Brandt (BISHOP). NEW

GEORGIA GROUP: Kolombangara, Gollifers Camp, 100 m, 20.I.1964, 2 ♂, P. Shanahan (BISHOP). MALAITA; Tangtalau, Kwalo, 200-350 m, 30.IX.1957, 2 ♀, J. L. Gressitt; Dala, 8.VI.1964, Malaise trap, 1 ♀, R. Straatman (BISHOP). SAN CRISTOBAL: Wairahu River, 100-400 m, 9-15.V.1964, 1 ♂, J. Sedlacek (BISHOP).

This is a much more robust species than *tuberosa* and is brightly shining. It has a distribution extending from Lombok, in the Lesser Sunda Islands, eastwards to Hawaii.

Genus *Irdex* Burr

Irdex Burr, 1911, *Deut. Ent. Natn-Biblthk.* 2 : 59 (type-species : *Spongophora nitidipennis* Bor-mans, 1894).

Apovostox Hebard, 1927, *Proc. Acad. Nat. Sci. Philad.* 79 : 29 (type-species : *Labia pygidiata* Dubrony 1879).

Rather small to medium in size; 3rd antennal segment about as long as the 5th or slightly shorter; elytra and wings fully developed, punctured and pubescent or glabrous and smooth; eyes rather large, at least in ♂♂. Forceps dimorphic, those of the ♂ often with long branches, always well separated at base, pygidium prominent; branches of ♀ forceps also well separated at base, and with a prominent pygidium. The distinctions between *Irdex* and *Apovostox* are not too well defined, and at present they are considered synonymous. Oriental and Australasian Regions. One species has been recorded from the New Guinea area, and a second new species is described from the Solomon Islands.

Irdex brevis Brindle, new species Fig. 39, 40.

Blackish brown; mouthparts yellowish brown; antennae brown, or with distal segments yellowish; legs yellow with femora darkened, or mainly dark brown; forceps yellowish brown to brown.

♂. Head transverse, mainly tumid, but with a circular flattened area between and posterior to antennal bases; in area are 2 elliptical depressions; lateral margins almost parallel, posterior angles rounded, posterior margin concave. Cuticle punctured and pubescent, hairs stiff and blackish brown. First antennal segment nearly as long as distance between antennal base, 2nd segment transverse, 3rd segment 1.5 as long as broad, 4th slightly shorter, 5th as long as 3rd; distal segments 2× as long as broad, all segments except first being more or less cylindrical, strongly pubescent, with numerous short yellow hairs and longer darker hairs. Eyes large, rather longer than length of head behind eyes.

Pronotum slightly transverse, rather small, lateral margins straight and parallel, posterior margin strongly convex. Elytra normally developed, wings rather long; cuticle of pronotum, elytra, and wings strongly punctured and pubescent, hairs long, stiff, yellowish to dark brown. Legs with femora broadened, tibiae wide, compressed, tarsi with 1st segment long and cylindrical, 2nd segment short, 3rd segment long, apex with long curved claws; basal segment of tarsus with numerous short ventral yellow hairs, each ventral edge with 4 to 5 brown spini-form processes; femora and tibiae with sparse long dark brown hairs.

Abdominal tergites coriaceous, finely punctured and pubescent, and with long marginal dark brown hairs, mainly laterally; last tergite smooth, with a short longitudinal furrow medially, posterior margin slightly elevated above base of each branch of forceps. Each branch of forceps short, straight, mainly trigonal, dorsal edge forming a double toothed blackened projection a short distance from base, followed by a smooth ridge; thence the dorsal ridge becomes blackened on margin and curved, but disappears before apex; ventral edge

dark edged, with 1 small tooth near base, and a 2nd small tooth near apex ; pygidium large, narrowed distally, posterior margin concave (fig. 39). Forceps with long yellow hairs, sparse, except near base dorsally, where hairs are closely set. Penultimate sternite transverse, posterior margin rounded, truncate medially. Length of body 7.5 mm, forceps 2.25 mm.

♀. Similar to ♂ but darker in color, and apparently more mature. Eyes much smaller, shorter than length of head behind eyes. Each branch of forceps short, straight except at apex which is incurved ; trigonal except at apex ; dorsal edge smooth, margin darkened, ventral inner edge dentated ; pygidium declivent, ventral part prominent, rectangular (fig. 40). Length of body 7 mm, forceps 1.5 mm.

Holotype ♂ (BMNH), Solomon Islands, Santa Isabel, San Jorge, forest litter, 24. IX. 1965, T. P. & P. N. Lawrence; allotype ♀, New Georgia Group, Kolombangara, nr. Kuzi, forest litter, 3-9. IX. 1965, P. N. Lawrence (BMNH).

The above species can readily be separated from the only other recorded species of *Irdex* from the New Guinea area by the following key :

- 1. Larger, body length 13 mm ; each branch of ♂ forceps long and slender, 5 mm in length ; pygidium long, distal part strongly widened. **ernstmayeri** Gunther
- Smaller, body length 7.5 mm ; each branch of ♂ forceps short, broad, 2.25 mm in length ; pygidium short, narrowed distally **brevis***

SPONGIPHORINAE

This subfamily has been discussed earlier in connection with the Labiinae ; only 3 genera are at present allocated to this subfamily, of which 2 occur in the New Guinea area. Only one genus extends to the Solomon Islands.

Genus **Marava** Burr

Marava Burr, 1911, *Deut. Ent. Nat.-Biblthk.* 2 : 60 (type-species : *Forficula grandis* Dubrony, 1879).

Prolabia Burr, 1911, *Deut. Ent. Nat.-Biblthk.* 2 : 60 (type-species : *Forficula arachidis* Yersin 1860).

A genus which is not too well defined, but the antennal segments are usually a good character, but some variation does occur. Recorded from all faunal regions, and 3 species are known from the New Guinea area, 2 of which extend to the Solomon Islands. Another new species is described in the present paper.

KEY TO SPECIES (SOLOMON ISLANDS)

- 1. Pronotum quadrate ; ♂ forceps with branches smooth and simple, almost straight **nigrella** (Dubrony)
- Pronotum transverse ; ♂ forceps with inner teeth 2
- 2. Pronotum very transverse, proportion of length to breadth almost 3 : 2 ; lateral margins of pronotum curving smoothly into posterior margin ; ♂ forceps with a very large tooth on inner margin of each branch (fig. 46) **fulgida***
- Pronotum less transverse, proportion of length to breadth 3 : 2.5 ; lateral margins of pronotum not curving smoothly into posterior margin, posterior angles present ; ♂ forceps with 1 or 2 small teeth on inner margin of each branch (fig. 45) **arachidis** (Yersin)

Marava arachidis (Yersin) Fig. 45.

Forficula arachidis Yersin, 1860, *Ann. Soc. En. Fr.* ser. 3, **8** : 509.

Labia wallacei Dohrn, 1864, *Stett. Ent. Ztg.* **25** : 427.

Apterygida gravidula Gerstaecker, 1869, *Arch. Naturg.* **35** : 221.

Labia grandis Dubrony, 1879, *Ann. Mus. Civ. Stor. Nat.* **14** : 366.

Marava grandis : Burr, 1911, *Gen. Insect.* **122** : 53.

Prolabia arachidis : Burr, 1911, *Gen. Insect.* **122** : 57.

Marava arachidis : Hincks, 1954, *Proc. R. Ent. Soc. Lond.* ser. B, **23** : 162.

This is a variable species, and the variation in the size of the eyes, associated with the presence or absence of wings, has been previously discussed. The ♂ genitalia of all the forms have been examined and they appear to be identical.

Two distinct forms are represented in the present collections from the Solomon Islands.

1. Elytra and wings normally developed. Black or dark reddish brown in color; lateral and posterior margins of pronotum narrowly yellow; wings mainly yellow; tarsi yellow. Antennae brown, basal segment yellow.
2. Elytra short, wings absent or concealed. Reddish to yellowish brown; legs yellow. Antennae brown, basal segments yellow. Abdomen often darkened laterally near the base.

In each form the antennal segments are moniliform distally, and the basal segments of form 2 are almost conical, but these are less conical in form 1. In both forms the ♂ forceps are slender, evenly curved, each branch with 1 or 2 small teeth; the pygidium is rectangular, transverse, and with the posterolateral angles oblique (fig. 45). The forceps of the ♀♀ are straight, each branch slender distally, broader at base, inner margins dentated. Length of body 5-9 mm, forceps 1.5-2.75 mm (♂♂). .75-1.25 mm (♀♀).

TYPE-LOCALITIES: *arachidis* - Marseilles, France (probably introduced). Syntypes in Museum National d'Histoire Naturelle, Paris.

wallacei - New Guinea. Syntypes in Coll. Dohrn, presumably in the Zoological Museum, Warsaw.

gravidula - Mombasa, East Africa. Location of types not known.

grandis - New Guinea and Australia. Syntypes in Genoa Museum.

MATERIAL EXAMINED. (form 1), SOLOMON ISLANDS: BOUGAINVILLE: Sohano, 13.VI.1956, light trap, 3 ♀, J. L. Gressitt (BISHOP). NEW GEORGIA GROUP: Kolombangara, N of Kuzi, 450 m (1500 ft.), 4.IX.1965, 4 ♀, P. N. Lawrence; Moss forest, Kuzi, 900 m (3000 ft.), 4.IX.1965, 1 ♀, Lawrence (BMNH). SANTA ISABEL, near Fulatora, Pt. Raja, 30.IX.1965, 2 ♂, 2 ♀, Lawrence (BMNH). GUADALCANAL: Motanikan River (Mth) 2.IV.1944, 1 ♂, H. E. Milliron; 9.6 km SE of Honiara, Lunga River (bridge), 4.VI.1960, light trap, 2 ♂, 2 ♀, W. W. Brandt; Lunga River (Mth), 12.VIII.1944, 1 ♀, Milliron (BISHOP). MALAITA: Dala, 50 m, 6-22.VI.1964, 1 ♂, 1 ♀, J. & M. Sedlacek (BISHOP). SAN CRISTOBAL: Kira Kira, 30.VII.1960, 1 ♀, C. W. O'Brien (BISHOP), Ridge litter, near Wainoni, 300 m (1000 ft.), 8.VIII.1965, 1 ♀, Lawrence (BMNH). FAURO ISLAND: Toumo village, 30 m, 12.V.1964, light trap, 5 ♂, 2 ♀, P. Shanahan (BISHOP).

(form 2), SOLOMON ISLANDS: MALAITA, Tangtalau, 200 m, garbage dump, from human faeces, 27.IX.1957, 8 ♂, 11 ♀, 2 nymphs, Gressitt (BISHOP).

This is a cosmopolitan species, and occurs in all faunal regions, often as an adventive. The winged forms are more typical of the Oriental and Australasian Regions, the speci-

mens from the Neotropical Region being all of the wingless form, while this form appears to be the most common in Africa and elsewhere.

Marava fulgida Brindle, new species Fig. 46.

Very dark reddish brown, almost blackish brown, and brilliantly shining; antennae blackish brown, 2 or 3 antennal segments yellow, and 1 distal segment white (in the type this is the 9th segment in the right antenna and the 8th in the left); femora and tibiae yellow apically, tarsi yellowish brown; wings yellow at extreme base.

♂. Head transverse, tumid, glabrous, lateral margins curving smoothly into the slightly concave posterior margin; eyes large, about as long as length of head behind eyes. Antennal segments, except basal 3, strongly moniliform; 1st segment shorter than distance between antennal bases, 2nd segment transverse, 3rd segment 3× as long as broad, 4th segment 1.5 as long as broad, 5th 2× as long as broad; distal segments as long as 5th, all segments pubescent, hairs very short and yellow, and with sparse longer yellow hairs, these being equal in length to width of segment.

Pronotum strongly transverse, parallel-sided, posterior angles rounded, posterior margin straight; elytra and wings well developed; all cuticle of pronotum, elytra, and wings impunctate, smooth. Legs normal for genus.

Abdomen parallel-sided, tubercles on 4th segment small, tergites 1-6 almost impunctate, 7-8 faintly and sparsely punctured, 9 almost impunctate; last tergite transverse, irregularly punctured, posterior margin depressed between bases of branches of forceps. Penultimate sternite with posterior margin evenly rounded. Each branch of forceps trigonal for basal 2/3, the dorsal inner edge forming a prominent but blunt ridge, and the ventral inner edge widened basally to form a large projection; pygidium broad, posterolateral angles oblique, posterior margin concave medially (fig. 46). Length of body 7.5 mm, forceps 1.9 mm.

♀. Unknown.

Holotype ♂ (BISHOP 9274), Solomon Islands, Bougainville, Mosigeta, 25 m, 3.VI.1956, E. J. Ford (BISHOP).

This is a dark, small, brilliantly shining species, very distinctive in the ♂ by the large inner projections on each branch of the forceps. The ♀ will be probably best separated from winged females of *arachidis* by the more strongly transverse pronotum, the generally more shining cuticle, and by the wings only being yellow at the extreme base.

Marava nigrella (Dubrony)

Labia nigrella Dub., 1879, *Ann. Mus. Civ. Stor. Nat.* **14** : 370.

Prolabia nigrella : Burr, 1911, *Gen. Insect.* **122** : 58.

Marava nigrella : Ramamurthi, 1968, *Nat. Hist. Rennell Is.* **5** : 81.

Blackish brown, shining, lateral and posterior margins of pronotum whitish; tibiae and tarsi yellow.

♂. Head transverse, tumid, eyes small; antennal segments, except basal 2, rather conical; elytra and wings normally developed. Each branch of forceps well separated basally from the other, smooth, simple, and almost straight; pygidium elongated, triangular, with apex truncate. Length of body 5.5 mm, forceps 1.75 mm.

♀. As ♂, except that the branches of the forceps are shorter, and contiguous. Length of body 5.5 mm, forceps 1-1.25 mm.

TYPE-LOCALITY: Java. Syntypes in Genoa Museum,

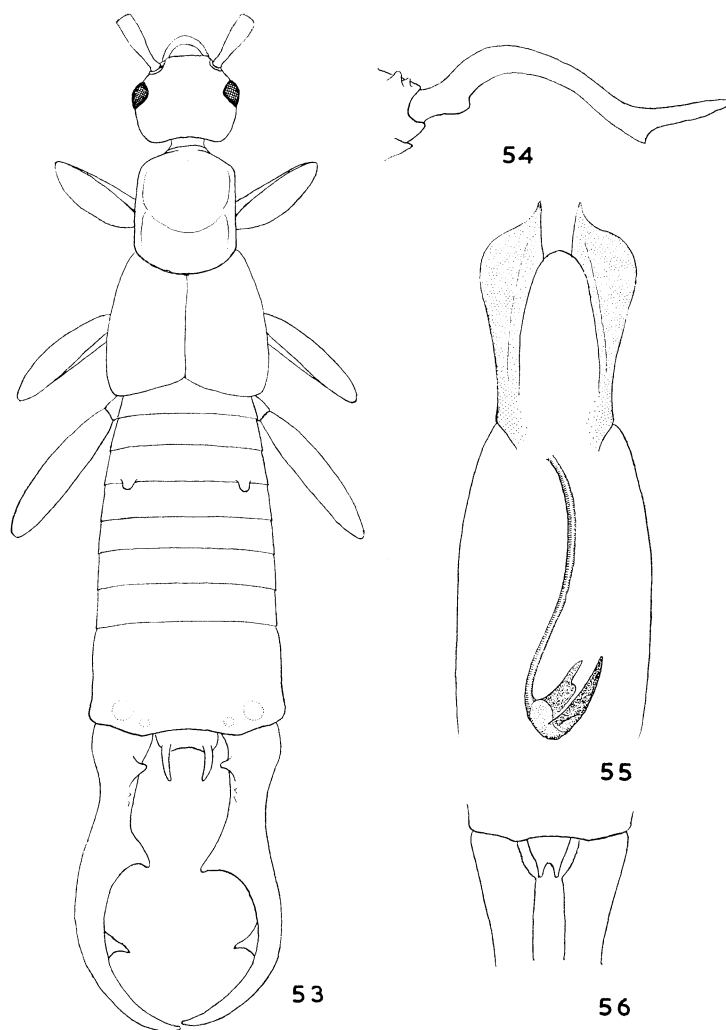


Fig. 53-56, *Taucopygia tridentata*, n. sp., ♂ dorsal; ♂ forceps lateral; ♂ genitalia; and ♀ pygidium.

Not represented in the present material, but recorded from Rennell Island by Ramamurthi (1968).

CHELISOCHIDAE

A relatively small family, entirely Old World in distribution except for *Chelisoches morio* (Fabricius) recorded as an adventive in North America. The family is well represented in the Australasian Region.

In the present material are a number of specimens of this family which do not belong

to any known genus. Most of the genera of this family have the tibiae sulcate or flattened on the external surfaces for at least the distal 1/4, and only 2 genera have the tibiae sulcate or flattened only at the extreme tip (the key to genera of this family in Burr (1911) needs modifications in this respect). These 2 genera are *Adiathetus* Burr and *Chelisocheila* Verhoeff, the latter containing only 1 species, and the former, although at present containing more, should only have the type species, since this is much different to the others, and modifications are to be made in a revision of the family.

All the present specimens have the tibiae sulcate at the extreme apex, and are easily distinguished from *Chelisocheila* by the non-metallic elytra (*Chelisocheila* having purplish metallic elytra), and from *Adiathetus* by the glabrous and smooth elytra (*Adiathetus* having pubescent elytra). It is likely that *Adiathetus proreoides* Ramamurthi, from New Britain, will belong to one of the new genera when the family is revised. The specimens in the present material are closely related, judging from the ♂ genitalia, but the external differences are so large that it has been necessary to erect 3 genera for them.

It seems likely that other species will occur, especially in New Guinea, and this area, together with Borneo, Celebes, and possibly some of the Sunda Islands, may form the most prolific area for the family as a whole.

Three described genera are also represented in the present material and the 3 new genera are described; the 6 genera now recorded from the Solomon Islands may be separated as in the following key:

KEY TO GENERA (SOLOMON ISLANDS)

1. Tibiae sulcate or flattened only at extreme apex 2
Tibiae sulcate or flattened for at least distal 1/4 4
2. Elytra short posterior margin obliquely truncate; wings absent; ♂ forceps undulate and each branch with 3 teeth (fig. 53); ♀ forceps with long slender branches; ♂ parameres widest distally (fig. 55). **Tauropygia***
Elytra longer, posterior margin not obliquely truncate; wings visible; ♂ forceps otherwise shaped 3
3. Male forceps similar in shape and length to those of the ♀, those of the ♂ with inner teeth; pygidium of both sexes excised on posterior margin, that of ♀ narrower than that of ♂ (fig. 63, 64); ♂ parameres widest medially (fig. 66). **Gressittolabis***
Male and ♀ forceps dissimilar in length and shape; pygidia normally sexually dimorphic: ♂ parameres parallel-sided except at apices **Adiathella***
4. Elytra and wings punctured and pubescent **Hamaxas** Burr
Elytra and wings smooth and glabrous 5
5. Distal segments of antennae long and slender; elytra with yellow markings; wings mainly yellow **Proreus** Burr
Distal segments of antennae broad and short; elytra and wings unicolorous, dark **Chelisoche** Scudder

Genus **Gressittolabis** Brindle, new genus

Rather small and slender earwigs; eyes small; 1st antennal segment as long as distance between antennal bases, all segments elongated and slender; elytra and wings fully developed;

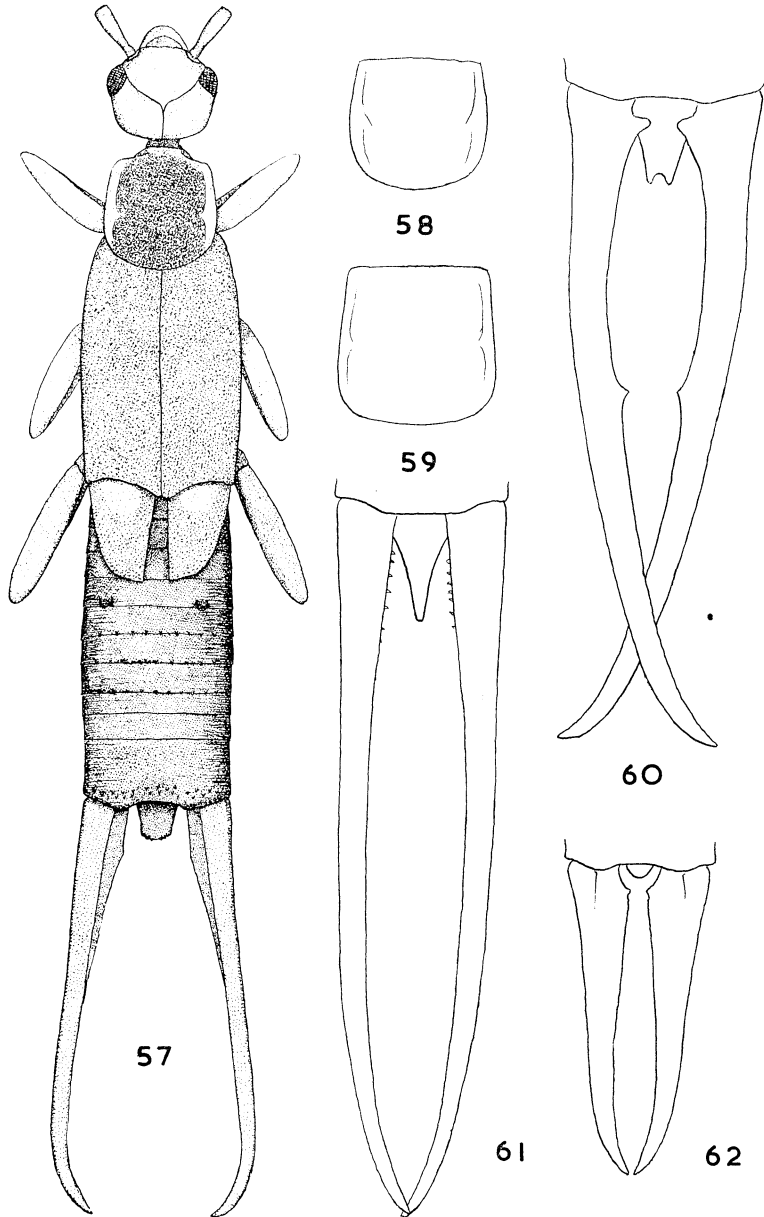


Fig. 57, *Adiathella lingua* n. sp., ♂ dorsal. Fig. 58, 61, 62, *A. spinosa* n. sp. pronotum; ♂ forceps; ♀ forceps. Fig. 59, 60, *A. incisa* n. sp., pronotum; ♂ forceps.

legs long, femora only slightly broadened, tibiae sulcate at apices only; abdomen parallel-sided. Cuticle of head, pronotum, elytra, and wings, smooth and glabrous; cuticle of abdominal tergites punctured; forceps of both sexes similar in length and thickness, each branch slender and long, those of the ♂ more widely separated at base than those of the ♀. Genitalia of chelisochid type, with a single distal lobe, a prominent virga, and paired sclerites, the latter short. Male parameres wide, with distinct apex.

This genus is named after Dr J. L. Gressitt, of the B. P. Bishop Museum, Honolulu, in recognition of his work on Pacific insects.

Type of the genus: *Gressittolabis delicatula* Brindle

***Gressittolabis delicatula* Brindle, new species** Fig. 63, 64, 65, 66.

Blackish brown, shining; antennae and mouthparts dark brown, one or more distal segments white; legs dark brown, bases and apices of femora yellow, bases and distal 1/4 or more of tibiae yellow; tarsi yellowish brown; forceps reddish brown to brown, apices whitish yellow.

♂. Head transverse, mainly tumid, depressed slightly on occiput on each side of coronary suture; 2 small elliptical depressions occur between antennal bases. Antennae with 1st segment as long as or slightly longer than distance between antennal bases, ratio of segments 1-6 as follows—17:3:5.25:5:7:9. Basal segments more or less cylindrical; distal segments elongated, more slender, and slightly but evenly narrowed to bases, pubescent, hairs yellow and short, about 1/3 of width of segment in length. In the type there are 12 segments in right antenna, most of segment 12 being white; there are 16 segments in left antenna, distal 1/3 of segment 12, all 13, and base of 14, white.

Pronotum longer than broad, slightly widened posteriorly, lateral margins almost straight, posterior margin convex, distal third of pronotum reflexed over base of elytra; elytra and wings well developed. Cuticle of head, pronotum, elytra, and wings smooth and glabrous. Legs long, slender; glabrous and smooth, except for tarsal segments which have numerous short ventral yellow hairs; basal segment of tarsi cylindrical, 2nd segment short, but produced ventrally into a long narrow lobe, distal segment cylindrical, but wider distally; claws long, broad at base, strongly curved near midpoint.

Abdomen slender, parallel-sided, tubercles on 4th tergite large; cuticle strongly punctured, punctures separated by 1.5 their own diameter; glabrous. Last tergite transverse, posterior margin depressed between bases of branches of forceps, and with 2 tubercles above base of each branch. Penultimate sternite transverse, posterolateral angles oblique, posterior margin excised (fig. 65). Each branch of forceps slender, trigonal at extreme base only, cylindrical distally, slightly undulate, inner margin with a small tooth 1/3 from base, directed slightly dorso-medially, and a 2nd tooth, larger and ventral in position, at midpoint. Pygidium transverse, short, each posterolateral angle with a long spine (fig. 63). Genitalia (fig. 66.) Length of body 8.5 mm, forceps 3.75 mm.

♀. Similar to ♂; white segments of antennae different in position—segment 13 and base of 14 in left antenna, segments 13 and 14 white in right antenna; abdominal tergites much less punctured; last tergite with posterior margin concave medially; each branch of forceps long and slender, almost straight except at apex which is curved medially; inner margin with very small rounded teeth; pygidium triangular, apex deeply excised (fig. 64). Length of body 9 mm, forceps 3.75 mm.

Holotype ♂ (BISHOP 9275), allotype ♀, Solomon Islands, Bougainville, Kokure, nr Crown Prince Ra., 900 m, 8.VI.1965, J. L. Gressitt; 2 ♀ paratypes, Simba Mission, 2.VIII.1965,

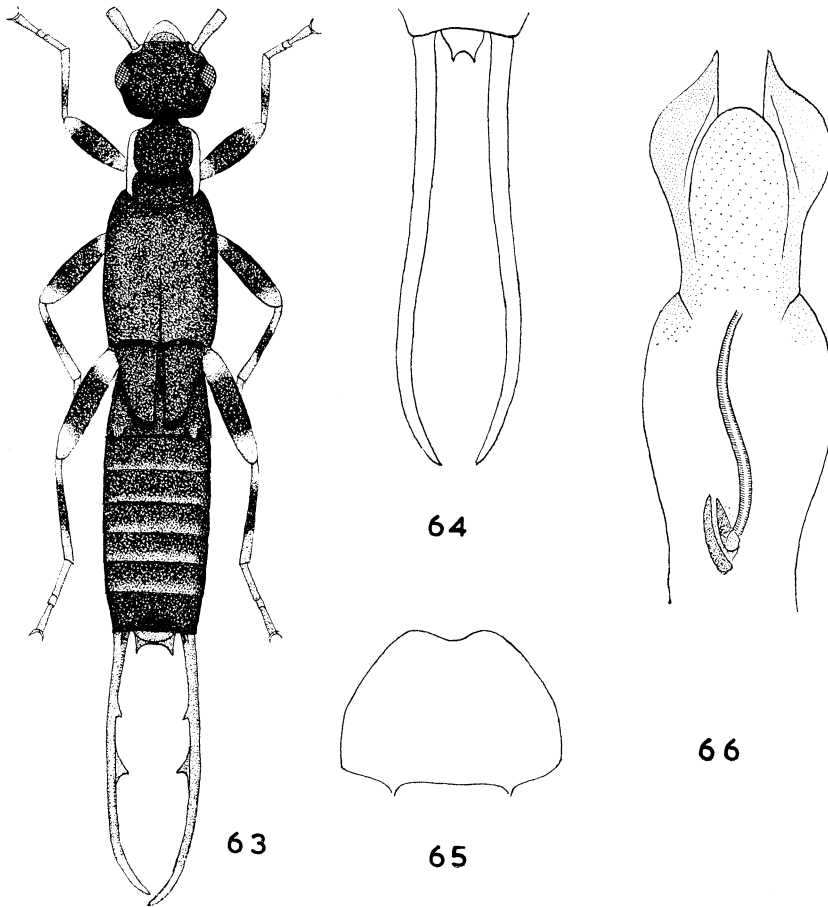


Fig. 63-66, *Gressittolabis delicatula* n. sp., ♂ dorsal; ♀ forceps; ♂ penultimate sternite; ♂ genitalia.

E. J. Ford; 1 ♀ paratype, Mutahi, 700 m, 18 km SE of Tinputz, 1-7.III.1956, R. Straatman (BISHOP). Guadalcanal, 2 ♂, 4 ♀ paratypes, 6 nymphs, Mt Austen, IX-X.1965 (pitfall trap), P. N. Lawrence (BMNH).

This is a rather small dark slender species, with long and slender forceps, unlike most of the Chelisochidae in which the forceps tend to be short and broad. Although the specimens belonging to the British Museum are from a different island to those belonging to the Bishop Museum, all the specimens are identical, so that the former specimens are considered paratype.

Genus *Adiathella* Brindle, new genus

Rather large and robust species; antennal segments elongated; pronotum relatively large; elytra and wings short or normally developed, or rather long, impunctate and glabrous; legs

long, tibiae sulcate only at apex; abdomen broad, tergites punctured, glabrous. Forceps of ♂ with long branches, the branches almost straight, scarcely broadened at base, inner margins with or without inner teeth; forceps of ♀ with shorter branches, each branch simple. Male genitalia of chelisochid type, with 1 distal lobe, a prominent virga, and paired short sclerites, similar to those of the previous genus, in general structure, but parameres parallel-sided, with narrowed apex.

Type of the genus: *Adiathella lingua* Brindle

There are 3 species represented in the present material, both sexes being represented in all the three. One other species, represented only by ♀♀, is provisionally placed in this genus.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Pronotum quadrate, lateral margins straight, posterior margin only weakly convex (fig. 59); elytra and wings short; ♂ pygidium elongated, apex bifid (fig. 60) ... **incisa***
Pronotum transverse, lateral margins curved, posterior margin strongly convex (fig. 57, 58) 2
2. Elytra and wings blackish brown, unicolorous sp.
Elytra and wings brown, the latter yellow at base 3
3. Male pygidium spatulate (fig. 57); forceps of ♀ relatively short, about 3 mm **lingua***
Male pygidium pointed distally (fig. 61); forceps of ♀ relatively long, about 6 mm ... **spinosa***

Adiathella lingua Brindle, new species Fig. 57.

Reddish brown; head reddish; antennae brown, basal segment yellow; pronotum blackish brown medially, with wide yellow lateral margins; legs yellowish brown; wings yellow at base.

♂. Head tumid; occiput, behind epicranial sutures, slightly inflated; lateral margins curved, posterior margin weakly concave; 2 short elliptical longitudinal impressions occur between antennal bases; eyes small. Four antennal segments only remaining in left antenna of type, right antenna missing; 1st segments as long as distance between antennal bases, ratio of segments - 20 : 3 (transverse) : 9 : 8.

Pronotum transverse, lateral margins curving smoothly into convex posterior margin, almost distal half reflexed over base of elytra; elytra very long, wings well developed. Cuticle of head, pronotum, elytra, and wings smooth and glabrous. Legs long, femora not strongly broadened, tibiae shorter than femora, slender; tarsi shorter than tibiae, basal segment long and cylindrical, as long as both distal segments in posterior pair, 2nd segment short, ventral surface prolonged into a narrow ventral lobe below distal segment, the latter long, widened distally; legs glabrous and smooth except distal part of tibiae and all tarsi which have numerous short ventral yellow hairs.

Abdomen long, tergites punctured, punctures shallow and separated by slightly more than their own diameter; tubercles on 4th tergite prominent; tergites 5-7 each with a transverse row of small tubercles near posterior margin; last tergite transverse, smooth, but with numerous small tubercles irregularly arranged transversely near posterior margin. Penultimate sternite transverse, posterior margin concave medially. Each branch of forceps trigonal basally, cylindrical distally, inner ventral edge of basal part with very small irregular teeth; pygidium declivent, tongue-shaped, posterior margin irregular and with very small black tubercles (fig. 57). Genitalia similar to fig. 55, but parameres not widened, more or less parallel-

sided, with apices strongly narrowed. Length of body 12 mm, forceps 7 mm.

♀. Similar to ♂ generally; pronotum slightly widened posteriorly; abdominal tergites with very shallow and sparse punctures; tergites 5-7 without tubercles near posterior margins; last tergite transverse, with a few isolated small tubercles near posterior margin. Penultimate sternite simple. Each branch of forceps widened at base, narrowed distally, almost straight except at apex, inner margin dentated on basal 1/2; pygidium small rounded. Length of body 11 mm, forceps 3 mm.

Holotype ♂ (BISHOP 9276), allotype ♀, 1 ♂ paratype, Solomon Islands, Guadalcanal, Suta, 500-1200 m, 27.VI.1956, J. L. Gressitt.

The ♂ paratype is retained in the Manchester Museum.

Adiathella spinosa Brindle, new species Fig. 58, 61, 62.

Reddish brown; antennae brown, basal segments yellow; lateral margin of pronotum and base of wings yellow; legs yellowish, femora darkened; pygidium and forceps reddish yellow.

♂. Similar to that of *lingua* but differing as follows: ratio of antennal segments 1-6 and 12 = 21 : 3 : 9 : 7 : 8.5 : 11 : and 15. Basal segments rather broad, cylindrical, distal segments narrower, all segments pubescent, hairs short and brown. Abdominal tergites mainly deeply punctured, punctures separated by their own diameter; posterior margins of tergites 5-8 with short longitudinal ridges on posterior margin; tergite 9 sparsely and weakly punctured; last tergite smooth, with several small tubercles irregularly arranged near posterior margin medially. Each branch of forceps elliptical in cross section at base, cylindrical distally, wider at base, inner margin with a few very small teeth near base; pygidium long and spine-like (fig. 61). Genitalia similar to those of last species but parameres narrower, outer margin slightly sinuate. Length of body 15 mm, forceps 11.5 mm.

♀. Similar to ♂; abdominal tergites sparsely punctured, punctures shallow; last tergite with only indications of tubercles near posterior margin. Each branch of forceps trigonal basally, cylindrical distally, inner margin dentated for basal 1/2; pygidium rounded (fig. 62). Length of body 11 mm, forceps 6 mm.

Holotype (BISHOP 9277), Solomon Islands, New Georgia Group, nr. Egolo 1-25 mm, 16. VII.1959, *Freycinetia*, J. L. Gressitt; allotype ♀, Kolombangara, 1-12 m, 9.VII.1959, J. L. Gressitt (BISHOP); 1 ♂ paratype, Kolombangara, 25-29.VIII.1965, P. N. Lawrence (BMNH).

The paratype ♂ has the elytra darker than the others, with a slightly purplish tint; the body length is 14 mm, and the forceps measure 6 mm.

Adiathella incisa Brindle, new species Fig. 59, 60.

Reddish brown; head and pronotum blackish brown, the latter yellow laterally; antennae brown, basal segments yellow; legs yellow; abdomen blackish brown, pygidium and forceps dark brown.

♂. Similar to the previous species, but differing as follows: pronotum comparatively larger, almost quadrate, lateral margins straight and almost parallel, posterior margin weakly convex (fig. 59). Elytra short, 1.25 as long as pronotum; wings short, less than 1/2 as long as pronotum; abdominal tergites strongly punctured as in *lingua*, but punctures deeper; each branch of forceps long, elliptical in cross section at base, cylindrical distally, inner margin with very small teeth near base, and with 1 larger tooth at base and a 2nd larger tooth near midpoint; pygidium narrowed distally, apex incised (fig. 60). Length of body 16 mm, forceps 11 mm (right branch, left branch broken).

♀. Similar to ♂, but lighter in color; abdominal tergites much less strongly punctured, punctures shallow and sparse; each branch of forceps trigonal at base, cylindrical distally, almost straight, apex incurved, inner margin dentated at base. Length of body 13.5 mm, forceps 3.5 mm.

Holotype ♂ (BMNH), allotype ♀, 1 ♂ paratype and 8 nymphs, Solomon Islands, Guadalcanal, Popamanasiu, 1710 m (5700 ft.), 8.XI.1965, low vegetation around top camp, P. N. Lawrence (BMNH).

The paratype ♂, which is retained in the Manchester Museum, has the basal tooth on each branch of the forceps greatly reduced.

? *Adiathella* sp.

Almost uniformly blackish brown, glabrous; antennae, tibiae, and tarsi yellowish brown to brown; pronotum with lateral margins whitish.

♀. Smaller than preceding species; pronotum relatively small, widened posteriorly, lateral margins curving smoothly into convex posterior margin; all cuticle coriaceous, smooth, glabrous; elytra and wings normally developed; forceps rather slender, each branch a little wider at base, evenly narrowed distally, inner margin slightly dentated basally, branches contiguous. Length of body 10 mm, forceps 3.5 mm.

MATERIAL EXAMINED. SOLOMON ISLANDS: SAN CRISTOBAL: Wairahu River (pressure lamp), 100 m, 9-15.V.1964. 21 ♀, J. Sedlacek (BISHOP).

Genus *Tauropygia* Brindle, new genus

Robust species; antennal segments elongated; elytra broad but short, obliquely truncate posteriorly; wings absent or concealed; legs long; abdomen broad, widest posteriorly in ♂, fusiform in ♀. Cuticle glabrous. Forceps dimorphic, those of the ♂ undulate and branches with inner teeth; those of ♀ slender and contiguous. Male genitalia of chelisochid type, with 1 distal lobe, a prominent virga and paired sclerites; parameres widest distally, short, apices narrowed. Monotypic.

Type of the genus: *Tauropygia tridentata* Brindle

Tauropygia tridentata Brindle, new species Fig. 53-56.

Black, shining; antennae and mouthparts yellowish brown; pronotum yellow on lateral margins; legs yellow, distal part of femora vaguely darker; pygidium and forceps yellowish brown.

♂. Head transverse, slightly depressed on occiput, and with 2 narrow, short, curved longitudinal depressions between bases of antennae; eyes small. First antennal segment longer than distance between antennal bases, 2nd segment transverse; ratio of segments 3-6 as follows, 9:8:12:15, almost cylindrical; distal segments longer but narrower, each segment evenly and slightly narrowed to base, pubescent, hairs yellow, mainly short, about .25 width of segment, but with sparse longer hairs, about .66 width of segment.

Pronotum longer than broad, parallel-sided, posterior margin convex, posterior 1/3 reflexed over base of elytra, anterior 1/3 with 2 small elliptical depressions on each side of a very short weak longitudinal ridge. Elytra short, wings absent. Cuticle of head, pronotum, and elytra coriaceous, glabrous. Legs long, tip of posterior tarsi reaching beyond tip of abdomen; femora of anterior pair broad, other femora narrower; tibiae almost as long as femora,

slender; basal segment of tarsi cylindrical, equal in length to 3rd segment, 2nd segment short, produced ventrally into a long narrow lobe; all tarsal segments with numerous short ventral yellow hairs.

Abdomen depressed, broadened gradually to last tergite; cuticle, except that of last tergite, punctured, the punctures shallow and separated by about their own diameter; tubercles on 4th tergite relatively large; last tergite smooth, posterior margin raised above the bases of each branch of the forceps, each of the raised areas bearing 1 large (exterior) and 1 small (interior) tubercle. Forceps elliptical in cross section basally, cylindrical distally; each branch angled at base, forming a ventral projection, thence directed dorsoposteriorly to about midpoint, thence curved ventrally; on the inner margin near base is a larger thorn-like tooth, directed medially, followed by a very large tooth near midpoint; at .75 from base, each branch has a large thorn-like ventral tooth, slightly curved medially; all forceps smooth and shining (fig. 53, 54). Pygidium short, transverse, with 2 large cylindrical and slightly curved processes (fig. 53). Genitalia with wide parameres, virga with 2 sclerites (fig. 55). Length of body 12 mm, forceps 5 mm.

♀. As ♂ but dark brown in color; abdomen with punctures shallower and wider separated; abdomen wide medially but narrowed distally; each branch of forceps long and slender, excavated at base to accommodate a small pygidium, the apex deeply excised (fig. 56); inner margin of each branch slightly dentated. Length of body 9 mm, forceps 5.25 mm.

Holotype ♂ (BISHOP 9278), Solomon Islands, Bougainville, NE Mutahi, 700 m, 8 km SE of Tinputz, 15-21.III.1968, R. Straatman; allotype ♀, Mt Balbi, 2000-2400 m, 1-7.III.1968, R. Straatman (BISHOP).

The ♀ is associated with the ♂ on external characters other than secondary sexual ones: it seems possible that this species is montane, and further collecting on the mountains of the island would be most useful.

Genus *Proreus* Burr

Proreus Burr, 1907, *Trans. Ent. Soc. Lond.* 1907: 129 (type-species: *Forficula simulans* Stål 1860).

Closely related to *Chelisoche*, and the ♂ forceps usually show a similar structure, but the species of the present genus are usually smaller in size or are more brightly colored. The genus is mainly Oriental in distribution, and 2 species are recorded from the New Guinea area, of which 1 extends to the Solomon Islands. This species is very distinctive in coloration, being blackish usually with a yellow patch on the elytra and the wings are mainly yellow.

Proreus laetior (Dohrn)

Lobophora laetior Dohrn, 1865, *Stett. Ent. Ztg.* 26: 73.

Proreus laetior: Burr, 1911, *Gen. Insect.* 122: 64.

A distinctive and colorful species; shining black; antennae, legs, lateral and posterior margins of pronotum, and usually a large median patch on each elytron, yellow; wings yellow, blackish on external margin; occasionally the elytral patch is obscure.

♂. Head transverse; eyes small; pronotum longer than broad, slightly wider posteriorly, posterior margin strongly convex; elytra and wings well developed. Forceps short, each branch broad, elliptical in cross section, inner margin broader and strongly and irregularly dentated; pygidium hidden. Length of body 8-10 mm, forceps 2-3 mm.

♀. Similar to ♂, each branch of forceps more slender, gradually narrowed from base, inner margin only slightly dentated; pygidium as broad as long, narrowed distally, apex truncate. Length of body 8-10 mm, forceps 2-2.75 mm.

TYPE-LOCALITY: Batchian. Holotype ♀ in Coll. Dohrn, presumably in the Zoological Museum, Warsaw.

MATERIAL EXAMINED. SOLOMON ISLANDS: BUKA: Gagan, 40 m, 16.VI.1956, 1 ♀, J. L. Gressitt (BISHOP). BOUGAINVILLE: Kieta, 17.II.1968, 1 ♀ (Tawi): Pukpuk Is., near Kieta, 26.VI.1956, 1 ♀, E. J. Ford (BISHOP). VELLA LAVELLA: Ulo Crater, 10 m, 17. XII.1963, 2 ♂, P. Shanahan; *Pusisoma*, second growth clearing, 17.XI.1963, 1 ♂, P. Shanahan (BISHOP). NEW GEORGIA GROUP: Kolombangaram Pele, 30 m, 7-13.II.1964, 3 ♂, 1 ♀, P. Shanahan; Iriri, 2 m, 29.VI.1964, 2 ♂, J. & M. Sedlacek; Kukunda, SW coast, 1-12 m, 10.VII.1959, 1 ♀, Gressitt; Munda, 1-30 m, 15.VII.1959, *Freycinetia*, 1 ♂, 4 ♀, Gressitt (BISHOP); Kolombangara, near Kuzi, 1965, 2 ♂, 2 ♀, P. N. Lawrence (BMNH). SANTA ISABEL: Buala, 18.VIII.1964, light trap, 1 ♀, R. Straatman (BISHOP). GUADALCANAL: Tenaru R., 25 m, 15.IX.1957, 1 ♂, Gressitt; Lunga River (Mth), 12.VIII.1944, 1 ♂, H. E. Milliron (BISHOP); Honiara, Poha river, 29.I.1956, 1 ♀, E. S. Brown; Rua Vata, 21. XI. 1954, 1 ♂, Brown; 6.V.1956, 1 ♀, Brown (BMNH). MALAITA: 6 km N of Auki, 60 m, 3. VI.1964, 1 ♂, J. & M. Sedlacek; Nuna Lava, 25 km NE of Dala, 200 m, 12.VII.1964. 1 ♂, 2 ♀, R. Straatman; Andalimu-Ngarafata, SW Fiu River, 1-10 m, 19.IX.1957, 1 ♂, Gressitt (BISHOP); Malaita, 9.IX.1954, 1 ♀, Brown (BMNH). SAN CRISTOBAL: Wainoni, 22.VII.1965, 1 ♀, vac. collector (BMNH).

Genus *Chelisoches* Scudder

Lobophora Serv., 1839, *Hist. Nat. Orth* : 32 (type-species: *Lobophora rufitarsis* Serv., 1839; generic name pre-occupied by *Lobophora* Curtis, 1825, Lepidoptera).

Chelisoches Scudder, 1876, *Proc. Boston. Soc. Nat. Hist.* **28** : 292 (type-species: *Forficula morio* Fabricius 1775).

Usually rather large and dark colored insects, sometimes with a yellow patch on elytra, or elytra metallic. A few species are not adequately known, and some confusion still exists. Five species of the genus occur in the New Guinea area, of which 2 extend to the Solomon Islands.

KEY TO SPECIES (SOLOMON ISLANDS)

1. Elytra black with a distinct metallic blue sheen **calopteryx** Gunther
Elytra black, without a metallic blue sheen **morio** (Fabricius)

Chelisoches morio (Fabricius) Fig. 67-72.

Forficula morio Fabr., 1775, *Syst. Ent.*, 270.

Lobophora rufitarsis Serville, 1839, *Hist. Nat. Orth.*, 32.

Chelisoches morio : Burr, 1911, *Gen. Insect.* **122** : 65.

Almost entirely shining black; 1 or more distal segments of antennae white, tarsi and apices of tibiae yellow.

♂. Head broad; eyes small; pronotum slightly transverse, posterior margin strongly convex; elytra and wings well developed; cuticle smooth, more or less glabrous; legs relatively long, femora broadened; abdomen elongated, parallel-sided, last tergite transverse, depressed between

bases of branches of forceps near posterior margin, forming a semi-circular depression, at anterior border of which are usually 4 small tubercles. Each branch usually widened for basal 1/2 or so, inner margin strongly dentated, but there is considerable variation. Those of the ♂♂ from Ulo Crater, Vella Lavella, are large, measuring nearly 10 mm, and have strong projections basally (fig. 67); most other have normal forceps (fig. 70), while asymmetrical forceps (fig. 69) are not uncommon. Sometimes the branches are almost simple (fig. 68). Length of body 12-18 mm.

♀. As ♂; each branch of forceps slender, not broadened, and almost straight, inner margin

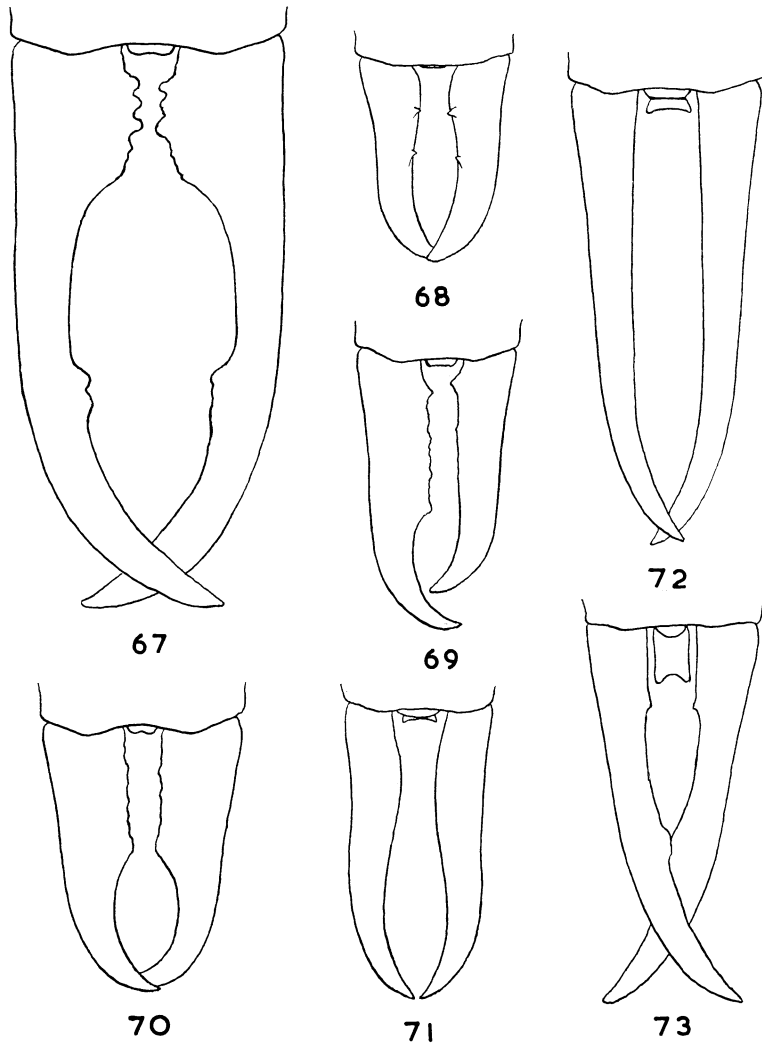


Fig. 67-72, forceps of *Chelisoches morio* (Fabricius), all to same scale, large ♂; small ♂; asymmetrical ♂; normal ♂; small ♀; large ♀. Fig. 73, *Chelisoches calopteryx* Gunther, ♀ forceps.

scarcely dentated, pygidium rectangular, sometimes hidden, sometimes projecting, posterior margin concave (fig. 71, 72). Length of body 14-18 mm, forceps 2-6 mm.

TYPE-LOCALITY: Tahiti. Syntypes in the British Museum (Nat. Hist.) and in the Kiel Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS: **BUKA:** Buka Airstrip, 2.VII.1959, 1 ♀, J. L. Gressitt; Gagan, 40 m, 5.VI.1956, 1 nymph, Gressitt (BISHOP). **BOUGAINVILLE:** Buku, 4.VI.1956, 1 ♀, Gressitt; Tokinoitu, 20 m, 2.VI.1956, 1 nymph, Gressitt; Simba Mission, 28.VI.1956, 1 ♂, E. J. Ford; Kihili, nr. Buin, 1 m, 31.V.1956, 1 ♂, Ford; Kukugai Vill., 150 m, XII.1960, 1 ♀, W. W. Brandt; NE Mutahi, 700 m, 18 km SE Tinputz, 1-7.III.1968, 2 ♀, R. Straatman (BISHOP); Buin, 16-21.VII.1922, 1 ♂, 1 ♀, 1 nymph, E. A. Armytage (BMNH). **CHOISEUL:** Kitipi River, 80 m, 17.III.1964, 1 ♀, P. Shanahan; Malangona, 10 m, 2-7.III.1964, 1 ♂, 2 ♀, 1 nymph, Shanahan (BISHOP). **VELLA LAVELLA:** Ulo Crater, 10 m, 21.XII.1963, 8 ♂, 27 ♀, 1 nymph, Malaise trap, Shanahan; Pusioma, 14.XI.1963, 1 ♀, Shanahan; Kundurumbangara, 80 m, 15.XI.1963, 1 ♀, Shanahan; Mt Arewana, 10-400 m, 16.XI.1963, 1 ♂, Gressitt (BISHOP). **NEW GEORGIA GROUP:** Kolombangara, Kukunda, SW coast, 1-12 m, grasses, 10.VII.1959, 2 ♀, Gressitt; Iriri, 2 m, 29.VI.1964, 1 nymph, J. & M. Sedlacek; Pepele, 30 m, 9.II.1964, 1 ♀, P. Shanahan; Gizo, 5 m, 16-26.IV.1964, 1 ♂, Sedlacek; Gizo, 1-100 m, 12.VII.1959, 1 nymph, Gressitt; nr Egolo, 1-25 m, 16.VII.1959, Saccharum, 1 ♀, Gressitt (BISHOP); Kolombangara, base camp, 1.6 km (1 mi.), inland from Kuzi, by Kolombara R., 5.XI.1965, 1 ♂, 1 ♀; 3-14.VI.1922, 2 ♂, 4 ♀, E. S. Brown; Rendova, 7.X.1955, 1 ♀, E. S. Brown (BMNH). **FLORIDA:** Nggela, Haleta, 0-50 m, 16.X.1964, 1 nymph, R. Straatman (BISHOP); 22.IV.1923, 1 ♀, E. A. Armytage; Nggela, 28.X.1934, 1 ♂, R. A. Lever (BMNH). **GUADALCANAL:** XII.1943, 1 ♀, (PUR); 19.XI.1943, 1 ♀ (PUR); 22.I.1944, 3 ♀ (PUR); Metamkau River (Mth), 21.V.1944, 1 ♀, H. E. Milliron; Kiwi Creek, 8.IX.1944, 1 ♂, Milliron; Lunga River (Mth), 10.IX.1944, 2 ♂, 1 ♀, Milliron; Suta, 500-1200 m, 27.VI.1956, 2 nymphs, Gressitt; Betikama R., VIII.1960, 1 ♀, Brandt; Tathimani, 13.V.1960, light trap, 1 nymph (C. W. O'Brien); Honiara, 22.IV.1964, 1 ♀, Shanahan; Tambalia, 30 km W of Honiara, 26.V.1964, 1 ♀, 1 nymph, Sedlacek; Poha R, 10 km, E of Honiara, 20 m, 29.IX.1964, 1 ♂, Straatman (BISHOP); no locality, 9.VII.1933, 1 nymph, Lever; no locality, 1965, 10 ♂, 5 ♀, 2 nymphs, P. J. M. Greenslade; Kukum, 28.III.1955, 1 ♂, 1 ♀, Brown, 18.I-18.IV.1966, 1 nymph, Greenslade; Rua Vatu, 23.XI.1954, 3 ♂, E. S. Brown, 8.XI.1955, 1 ♂, Brown; Kaukau, 23.VIII.1934, 1 ♂, 3 ♀, Lever; Tapenanje, 300 m (1000 ft.), 10-15.XII.1953, 1 ♀, J. D. Bradley; Honiara, 16.VI.1954, 1 ♀, E. S. Brown (BMNH). **RUSSELL:** Cape Marsh, 30.V.1922, 1 ♀, E. A. Armytage (BMNH). **MALAITA:** Auki, 2-20 m, 22.IX.1957, 1 ♂, 1 ♀, Gressitt; 3 km N of Auki, 30 m, 2.VI.1964, 2 ♂, 1 ♀, J. & M. Sedlacek (BISHOP); Wailulu, 28.XI.1965, Malaise trap, village garden, 2 ♂; Supaina, 21.V.1934, 1 ♀, Lever (BMNH). **TULAGI:** 18.I.1955, rubbish of ♂ coconut flowers, 1 ♀, 3 nymphs, Lever (BMNH). **SAN CRISTOBAL:** 11.IV.1927, 1 ♀, F. P. Drowne (BISHOP); 1/2 mile down Warahito River from Warahito, Pagato confluence, 25.VII.1965, leaf bases of *Pandanus*, 1 ♂, 1 ♀; camp 2, confluence of Warahito and Pagato rivers, 9.6-11.2 km (6-7 mi.) inland, 24.VII.1965, 1 ♀; Wainoni Mission, 20-21.VII.1965, 1 ♀; Maru Bay, 2.V.1955, 1 ♂, Brown; Kira Kira, 21.IV.1955, 1 ♀, 1 nymph, Brown; Waimasi, 29.IV.1955, 1 ♂, 1 ♀, Brown (BMNH). **RENNELL:** 26.XI.1955, 1 ♂, Brown; Hutuna, 20.X-22.XI.1953, 3 ♂, 2 ♀, J. D. Bradley (BMNH).

Rehn (1948) records this species from Choiseul, Florida, Guadalcanal, and Malaita; both Rehn (1948) and Ramamurthi (1968) record the species from Bellona and Rennell

Islands. Burr (1912b) records the species from Bougainville.

Chelisoches calopteryx Günther Fig. 73.

Chelisoches calopteryx Gün., 1929, *Mitt. Zool. Mus. Berl.* **15** : 77.

Shining black ; 1 or 2 antennal segments white ; tarsi yellow ; elytra and wings with a metallic bluish sheen.

Very similar in general structure to *morio* ; abdominal tergites strongly and closely punctured, tubercles on posterior margins of tergites 5-7, these being small and equally spaced along margin ; last tergite transverse, with numerous very small tubercles near posterior margin. Each branch of ♀ forceps elliptical in cross section, inner margin with a very narrow flange at base ; pygidium longer than broad, prominent, posterior margin excised (fig. 73). Length of body 15 mm, forceps 6 mm.

TYPE-LOCALITY : Wau, NE New Guinea. Type in the Zoological Museum, Berlin.

MATERIAL EXAMINED. SOLOMON ISLANDS : BOUGAINVILLE ; Togerao, 600 m, 18-21.IV. 1965, 1 ♀, R. Straatman (BISHOP).

This is the only specimen which has been examined and no ♂ has been available. The above description is of the ♀ recorded above, and is referred to the present species on account of the distinct bluish sheen of the elytra and wings.

Genus **Hamaxas** Burr

Hamaxas Burr, 1907, *Trans. Ent. Soc. Lond.* 1907 : 132 (type-species : *Chelisoches feae* Bormans 1904).

A rather distinctive genus in which the elytra and wings are pubescent, not a common feature of the Chelisochoidea. The parameres of the ♂ genitalia are short and wide, sometimes triangular in outline. The genus is Oriental and Australasian in distribution, together with some records from some Pacific islands. Two species occur in the New Guinea area of which one extends to the Solomon Islands.

Hamaxas nigrorufus (Burr)

Spongiphora nigrorufa Burr, 1902, *Term. Fuzet.* **25** : 480.

Hamaxas papuanus Burr, 1909, *Nova Guinea* **9** : 23.

Spongovostox nigrorufus : Burr, 1911, *Gen. Insect.* **122** : 52.

Hamaxas nigrorufus : Burr, 1916, *J. R. Micr. Soc.* **1916** : 10.

Blackish ; legs usually dark red to blackish, sometimes yellow ; abdomen and forceps reddish or abdomen completely darkened.

♂. Head transverse, occiput rather swollen ; eyes small ; pronotum quadrate, parallel-sided, posterior angles rounded, posterior margin convex ; elytra and wings well developed. Cuticle of head, pronotum, elytra, wings, and abdomen punctured and pubescent, hairs dark. Each branch of forceps long, slender, rather sigmoid in shape, with one inner tooth beyond midpoint. Length of body 7-9 mm, forceps 3-4.5 mm.

♀. As ♂ ; each branch of forceps shorter, slender, more or less straight, branches contiguous. Length of body 7-9 mm, forceps 1.5-2.25 mm.

TYPE-LOCALITY : New Guinea. Types in Hungarian National Museum.

MATERIAL EXAMINED. SOLOMON ISLANDS : BOUGAINVILLE : Kukugai Vill., 150 m, XII. 1960, 1 ♂, 1 ♀, W. W. Brandt ; Simba Mission, 2.VII.1956, 1 ♂, 7 ♀, E. J. Ford ; Mosigeta,

25 m, 3.VI.1955, 1 ♀, J. L. Gressitt (BISHOP). VELLA LAVELLA: Ulo Crater, 10 m, 21.XII.1963, Malaise trap, 1 ♂, P. Shanahan; Kow, 30 m, 28.XI.1963, Malaise trap, 2 ♂, 1 ♀, Shanahan (BISHOP). NEW GEORGIA GROUP: Kolombangara, Kukunda, SW coast, 1-12 m, 10.VII.1959, palm, 1 ♂, J. L. Gressitt (BISHOP); Kolombangara, camp area, 1965, 1 ♂ (BMNH). SAVO: 28.IV.1922, 2 ♂, 1 ♀, E. A. Armytage (BMNH). GUADALCANAL: Kiwi Creek, 15.VII.1964, 2 ♂, H. E. Milliron; Tambalia, 30 km W of Honiara, 10 m, 27.V.1964, 3 ♂, 3 ♀, R. Straatman; Roroni, 35 km E of Honiara, 10 m, 8.V.1964, 1 ♀, Straatman (BISHOP); Gallego camp 1, 9.VII.1965, 1 ♂; Honiara, 5.VIII.1954, 1 ♂, E. S. Brown; Honiara, Poha River, 29.I.1956, 1 ♂, E. S. Brown; Lunga 24.IX.1934, 1 ♀, R. A. Lever; Bonegi River, 210 m (700 ft.), 14.XII.1934, 1 ♂, Lever (BMNH). TULAGI: 22.IV.1922, 1 ♀, Armytage; 9.III.1934, 1 ♂, Lever (BMNH). SANTA ISABEL: 29.II.1934, 1 ♂, Lever; 20.II.1956, 1 ♀, E. S. Brown (BMNH). MALAITA: 12 km NE of Dala, 300 m, 17.VI.1964, 1 ♂, J. & M. Sedlacek; Dala, 50 m, 15-19.VI.1964, Malaise trap, 4 ♀, Sedlaceks; Tangtalau, Kwalo, 200-350 m, 24.IX.1957, 1 ♀, Gressitt; Auki, 2-20 m, 2.X.1957, 1 ♀, Gressitt; 6 km N of Auki, 60 m, 3.VI.1934, 1 ♀, Sedlaceks (BISHOP). SAN CRISTOBAL: Wairahu River, 100-400 m, 9-15.V.1964, 1 ♂, J. Sedlacek (BISHOP); camp 2, 150 m, 27-28.VII.1965, black light, 3 ♂, 2 ♀; 11.2 km (7 mi.) S of Wainoni, 30.VII-5.VIII.1965, 3 ♂, P. N. Lawrence (BMNH).

Ramamurthi (1968) records this species from Rennell Island.

FORFICULIDAE

A large family, best represented in the Ethiopian and Oriental Regions. Only one subfamily is known from the Australasian Region.

FORFICULINAE

Mainly Palaearctic in distribution, but well represented in the Oriental and Ethiopian Regions. Only relatively few species occur in New Guinea and fewer in Australia. Only 1 genus is represented in the Solomon Islands.

Genus *Forficula* Linnaeus

Forficula Linn., 1758, *Syst. Nat.* (10) 2: 423 (type-species: *Forficula auricularia* Linn., 1758).

Includes the common earwig of the Palaearctic Region; most of the genus are very similar in general appearance, and the ♂ genitalia tend to be very uniform in structure. Mainly Palaearctic, and 1 adventive species occurs in the Solomon Islands.

Forficula auricularia Linnaeus

Forficula auricularia Linn., 1758, *Syst. Nat.* (10) 2: 423.

Yellowish brown, abdomen, pronotum, and head darker.

♂. Head broad, tumid; eyes small; pronotum transverse, posterior margin convex; elytra and wings always well developed. Forceps variable in size, but always broad at base, each branch strongly dentated at base, this part ending in a distal tooth; distal part of forceps slender and curved. Length of body 9-12 mm, forceps 3-3.5 mm or longer.

♀. As ♂, but each branch of forceps slender, contiguous, simple. Length of body 9-12 mm, forceps 2.5-3.5 mm.

	Bougainville	Choiseul	Vella Lavella	New Georgia Gp.	Santa Isabel	Florida/Tulagi	Guadalcanal	Malaita	San Cristobal	Bellona	Rennell	World Distribution
19. <i>Labia curvicauda</i> (Motschulsky)				X	X	X	X		X			Cos.
20. <i>L. pilicornis</i> (Motschulsky)							X	X				O
21. <i>L. sicaria</i> Burr	X											NG-Sol.
22. <i>L. bituberculata</i> n. sp.									X			End.
23. <i>L. termitophila</i> n. sp.							X					End.
24. <i>Sphingolabis tuberosa</i> n. sp.							X					End.
25. <i>S. hawaiiensis</i> (Bormans)	X			X				X	X			O-H
26. <i>Irdex brevis</i> n. sp.				X	X							End.
Spongiphorinae												
27. <i>Marava arachidis</i> (Yersin)	X			X	X		X	X	X			Cos.
28. <i>M. fulgida</i> n. sp.	X											End.
29. <i>M. nigrella</i> (Dubrony)											X	O
CHELISOCHIDAE												
30. <i>Gressittolabis delicatula</i> n. sp.	X						X					End.
31. <i>Adiathella lingua</i> n. sp.							X					End.
32. <i>A. spinosa</i> n. sp.				X								End.
33. <i>A. incisa</i> n. sp.							X					End.
34. <i>A. sp.</i>									X			End.
35. <i>Tauropygia tridentata</i> n. sp.	X											End.
36. <i>Proreus laetior</i> (Dohrn)	X		X	X	X		X	X	X			C-Sol.
37. <i>Chelisoches morio</i> (Fabricius)	X	X	X	X		X	X	X	X	X	X	Cos.
38. <i>C. calopteryx</i> Gunther	X											NG-Sol.
39. <i>Hamaxas nigrorufus</i> (Burr)	X		X	X			X	X	X	X		NG-Sol.
FORFICULIDAE												
40. <i>Forficula auricularia</i> (Linnaeus)				X								Adv.

Key to abbreviations

Number of species

End.	= Endemic	20
NG-Sol.	= New Guinea to Solomon Islands	5
BA-Sol.	= Bismarck Archipelago to Solomon Islands	1
NG-NH	= New Guinea to New Hebrides	1
NG-Aust.	= New Guinea to Australia	1
NG-Samoa	= New Guinea to Samoa	1
C-Sol.	= Celebes to Solomon Islands	1
O	= Oriental.....	2
O-H	= Oriental to Hawaii	1
Cos.	= Cosmopolitan	6
Adv.	= Adventive	1

TYPE-LOCALITY: Europe. Type in Linnaean Collection, London.

MATERIAL EXAMINED. SOLOMON ISLANDS: NEW GEORGIA GROUP: Munda, 1-30 m, 21. VII.1959, 1 ♀, Gressitt (BISHOP).

This species is usually readily recognizable: the coloration is relatively constant, and the 4th antennal segment is very short, a feature which does occur in some other species of the genus but is not a usual feature.

This species is recorded in all faunal regions, but is an adventive in all except the Palaearctic. It is recorded from New Guinea, Australia, Tasmania, and New Zealand in the Australasian Region.

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