Pacific Insects 17(1): 61-86 1 October 1976

THE DERMAPTERA OF NEW CALEDONIA[1]

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Abstract: The present paper is based on 3 collections of Dermaptera from New Caledonia and the Loyalty Islands; the 1st belongs to the B. P. Bishop Museum, Honolulu, and consists of 156 specimens collected over a number of recent years, and the 2nd, of 80 specimens, belongs to the British Museum (Nat. Hist.) and is mainly of specimens collected in 1914, with a few from a more recent expedition. The 3rd consists of specimens, including type material, collected by the original Sarasin & Roux expedition of 1911–1912, and held by the Basel Museum, Switzerland, apart from duplicates retained in the British Museum (Nat. Hist.). The species described as new by Burr (1914) under the names of *Spondox sarasini* and *Antisolabis rouxi* each consist of 2 distinct species, and lectotypes are designated for the true *sarasini* and *rouxi*, both of which are now placed in other genera. A lectotype is also designated for *Brachylabis canaca* Burr, since the type material of this species is syntypic. The specimens of the species listed by Burr (1914) as *Labia canaca* Burr consist of 3 distinct species, 1 of which is the true *canaca*, now placed in the genus *Chaetolabia*. All previous records of Dermaptera from New Caledonia known to me are included, and the records of *Titanolabis colossea* (Dohrn) in Dohrn (1864) and of *Chelisochella superba* (Dohrn) in Burr (1912) are rejected. Keys to families, subfamilies, genera, and species now represented in New Caledonia are given and a total of 18 species is recorded, of which 4 are described as new. The composition of the Dermaptera fauna of New Caledonia and its relation to the fauna of other groups of islands in the Western Pacific and Papuan Region is discussed. New Caledonia has a peculiar and strongly endemic fauna, over ½ of the species belonging to the subfamily Brachylabiinae, which otherwise is very poorly represented in other island groups, and unlike these groups, the Dermaptera of New Caledonia are little influenced by cosmopolitan species, apart from *Chelisoches morio* (Fabricius). Results of recent collecting suggest that the endemic Brachylabiinae may be now much less common, but the endemic Labiidae appear to be more frequent. There is no evidence that the cosmopolitan species, including *C. morio*, are more common now than in the past, and some of these species may be recent arrivals.

The first account of the Dermaptera of New Caledonia is that of Burr (1914) which was based on material collected by Sarasin & Roux in 1911–1912. Of the 10 species listed, 8 are endemic, and 6 of these were described as new species, the type material being held in the Naturhistorisches Museum, Basel, Switzerland, except for a few paratypes which were retained by Burr, and these are now in the British Museum (Natural History) in London.

Recently, 80 specimens of undetermined Dermaptera from New Caledonia in the British Museum (Natural History) have been examined, and these include most of the species described by Burr (1914), together with undescribed species. The paratypic material retained by Burr from the Sarasin & Roux specimens was also examined, and this examination showed that 2 series of paratypes, those of *Brachylabis rouxi* (Burr) and *Anisolabis sarasini* (Burr), each included 2 distinct species. Accordingly, the type material of these species was obtained on loan from the Basel Museum, and it was found that this material also included mixed species. Lectotypes of the 2 species have been selected from the Basel Museum material, the choice being fortunately simplified by details published in Burr (1914, 1915), and which are given under the respective species. Although the material in the British Museum has been regarded as paratypic, the actual status of most specimens is syntypic. Burr (1914) only designated a

[1]Part of the specimens examined are results of field work supported by grants to Bishop Museum from the U.S. National Science Foundation (G-10734, GB 518) and the National Institutes of Health (AI-01723).

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holotype in the case of *Brachylabis forficula* (Burr), although since *Brachylabis arripiens* (Burr) was described from a single male, this specimen can be regarded as the holotype, and *B. transiens* (Burr) was described from 1 male and 1 female, so that the male can be regarded as the holotype and the female as the allotype, as is the custom in Dermaptera. The holotypes of *B. arripiens* and *B. transiens* have also been examined, but not that of *B. forficula*, since a paratype of this species, of the same sex as the holotype, is in the British Museum and has been examined.

The 6 specimens of *Chaetolabia canaca* (Burr) recorded by Burr (1914) and held in the Basel Museum have also been examined, and these specimens consist of 3 distinct species, apart from a larva of *A. sarasini* which may have been inadvertently included. The specimens of *C. canaca* in the British Museum are also mixed. One species included in both series is a new species of *Nesogaster*, and since this genus is distinctive by having a lateral longitudinal ridge on each elytron, it is difficult to understand why these were included in *C. canaca*, which lacks such ridges, as Burr frequently used this character for this and other genera. A possible clue may lie in the date of publication (1914), since the main work of Burr on Dermaptera ended with the 1st World War, in which he took a very active part, and it may have been haste in dealing with the material which accounts for the confusion. The figures in Burr (1914) are very well produced and show considerable care in their preparation, but these are the work of an artist who presumably worked from available specimens.

In view of this confusion, it seemed desirable that a revision of the Dermaptera of New Caledonia should be published, and with this in view, I asked Dr J. Linsley Gressitt of the B. P. Bishop Museum, Honolulu, for the loan of material, since this Museum is preeminent in collections of Pacific insects. A total of 156 specimens from the Bishop Museum has been examined, and this collection has been extremely useful, both on account of its size, and on account of the years in which the specimens were collected, from the end of the 2nd World War to the present time. There is thus a period of about 30 years between the time when the Basel Museum material, and also that belonging to the British Museum, was collected, and the time when the Bishop Museum material was collected (a few specimens from the British Museum are later). The differences between these collections are discussed later.

There have been a few records of Dermaptera from New Caledonia apart from those in Burr (1914), and Hincks (1938) lists the records to that date. Of these, the records of *Titanolabis colossea* (Dohrn) and of *Chelisochella superba* (Dohrn) are rejected. Dohrn (1864) gave the habitat of *colossea* as Australia, New Caledonia, New Hebrides, and Fiji, but the location of any relevant specimens is doubtful. No other records of this species from the last 3 groups of islands have been made, and *colossea* is now regarded as an endemic Australian species, which, if always correctly recognized, attains a considerable size. The reference to New Caledonia could refer to one of the large endemic *Anisolabis* species of this island, but no large species which could be assigned to *colossea* is known from the New Hebrides or from Fiji. The specimen of *Chelisochella superba* (Dohrn), recorded from New Caledonia by Burr (1912), has been examined, and although this is correctly determined, the specimen is from an insect dealer in Paris, and the locality is not necessarily correct (Kaltenbach, in litt.).

The Dermaptera fauna of New Caledonia and the Loyalty Islands is somewhat peculiar, although it has obvious affinities to the fauna of other island groups in the Western Pacific and the Papuan Region. The nearest island group is that of the New Hebrides to the northeast, and the Solomon Islands lie further to the north, beyond which are the islands of Micronesia. The Dermaptera of these island groups have recently been studied, those of the Solomon Islands by Brindle (1970b); those of Micronesia by Brindle (1972), and those of the New Hebrides by Brindle (in press). The unusual type of Dermaptera fauna found in New Caledonia, when compared to that of these other islands, is shown in TABLE 1.

Such a comparison shows that the total of endemic species in New Caledonia is unusually

TABLE 1. Approximate percentages of species and specimens in collections examined from island groups in the western Pacific.*

Category of species	Micronesia		Solomon Is.		New Hebrides		New Caledonia	
	sp.**	spm	sp.	spm	sp.	spm	sp.	spm
Endemic	40	10	50	30	32	18	72	70
Australasian (including those extending into the Pacific)	22	12	25	22	42	38	3	1
Cosmopolitan (excluding *C. morio*)	33	45	15	30	18	6	16	2
Chelisoches morio		28		23		30		14

* The figures are only approximate. Oriental species are not included, nor are subsequent modifications (i.e., 1 endemic species of the Solomon Islands has since been found in the New Hebrides, so the present percentage is not 50). However, the general ratio of the figures remains true.

**sp. = species; spm = specimens.

high, about 72%, while the number of specimens of these species in the collections examined is also high. New Caledonia has proportionately over 2x as many endemic species as the New Hebrides, and many more than either the Solomon Islands or Micronesia, while the number of specimens of the endemic species represented in the collections is much greater still. The endemic species of New Caledonia, therefore, are strongly dominant, while in the other islands they are not, and form only a small proportion of the population. There is only 1 Australasian (Australasian-Pacific) species recorded from New Caledonia, while in the other islands these species form a reasonable part of the population, especially in the New Hebrides, and it is in New Caledonia that the cosmopolitan species are least represented. *Chelisoches morio* (F.) is usually classed as a cosmopolitan species, and it is so listed in the present paper, but recent work has shown that it is really a dominant Papuan and Pacific species, which becomes much less common to the west and is adventive beyond India and Ceylon. The relatively low numbers of this species in New Caledonia may indicate that here it is approaching its southern favorable limit of distribution, although it does occur on other islands to the south.

The differences between the Dermaptera of the New Hebrides and those of New Caledonia are striking: 3 Pacific genera (*Auchenomus* Karsch, *Sphingolabis* Bormans, and *Marava* Burr) found on the former group of islands do not occur in New Caledonia. The New Hebrides group has 1 small endemic species of *Brachylabis* Dohrn, and 1 small Australasian species of *Anisolabis* Fieber; in contrast New Caledonia has 2 large endemic species of *Anisolabis*, and 7 endemic species of *Brachylabis*, many of large size, and it is these species which give the Dermaptera fauna of New Caledonia its peculiar character. Otherwise the fauna is Western Pacific in type. A possible relation to the fauna of New Zealand is indicated by *Nesogaster cristata*, n. sp., which, although endemic, is very similar to, and appears to be most closely related to, *Nesogaster halli* Hincks from New Zealand.

Some of the endemic species of New Caledonia appear to be rare. *Nesogaster tristis* (Bormans), known previously from the type male, is recorded here from 4 specimens; *Chaetospania pentagonalis*, n. sp. is only known from the original 3 specimens taken by the Sarasin & Roux expedition; *Brachylabis arripiens* (Burr) is still known only from the single type male, while *B. transiens* (Burr), known from 2 specimens, is recorded here from another three.

The 2 sets of collections, those made during the period 1911–1914, and those made after 1945, are strikingly different (TABLE 2). Although collecting techniques and the extent of coverage of the islands may have differed in the 2 periods, the differences between the

collections are so large as to indicate a real change in the fauna. If this is so, then the endemic Brachylabiinae are much less common than formerly, while some of the endemic Labiidae are much more common. Both the large species of *Anisolabis* appear to be maintaining their status. Two cosmopolitan species, *Anisolabis maritima* (Bonelli) and *Labia curvicauda* (Motschulsky), have not been previously recorded, and the small number of specimens in the present material suggests that these may be recent arrivals, as could be the single Australasian-Pacific species, *Hamaxas nigrorufus* (Burr). A 3rd cosmopolitan species, *Euborellia annulipes* (Lucas), may be less frequent than formerly, but *Chelisoches morio* seems to be as common, although just what "numerous" means, in terms of actual numbers, in Burr (1914) is not known.

It is difficult to account for the apparent change in fauna; increased human interference with habitats can hardly be so widespread as to be responsible, and although the possibly more adaptive labiids may be supplanting the Brachylabiinae, the period of 30 years seems to be a short time for such a large change to have taken place on this account.

The large size of the endemic *Anisolabis* and *Brachylabis* species is interesting, and this feature is not known for other islands in the Western Pacific and Papuan Region. They are large even when compared to the fauna of a continent, such as Africa, in which few *Anisolabis* or *Brachylabis* and allied genera attain such a size. The feature of isolated island species attaining large sizes is, of course, known for other classes of animals, and the largest existing species of

TABLE 2. Numbers of specimens of species recorded from New Caledonia in collections made in the period 1911–1914, and in collections made in the period 1945–1970.

	1911–1914	1945–1970
Carcinophorinae		
E. annulipes (Lucas)	"numerous"*	6
A. maritima (Bonelli)	—	1
A. sarasini (Burr)	25	22
A. canaca, n. sp.	25	23
Totals	50**	52
Brachylabiinae		
B. canaca Burr	18	—
B. rouxi (Burr)	16	1
B. rouxioides, n. sp.		2
B. transiens (Burr)	4	—
B. geniculata (Montrousier)	4	2
B. arripiens (Burr)	1	—
B. forficula (Burr)	4	2
Totals	47	7
Labiidae		
N. tristis (Bormans)	3	1
N. cristata, n. sp.	4	37
C. pentagonalis, n. sp.	3	—
C. canaca (Burr)	4	30
L. curvicauda (Motschulsky)	—	3
Totals	14	68
Chelisochidae		
C. morio (F.)	"numerous"*	23
H. nigrorufus (Burr)	—	2

* from Burr (1914).
** without *E. annulipes*.

Dermaptera, *Labidura herculeana* (Fabricius), is only found on the island of St. Helena in the Atlantic. Like the endemic *Brachylabis* of New Caledonia, *L. herculeana* appears to be becoming much rarer, and since its present known habitat is small, its continued survival is doubtful (Brindle 1970a).

Checklist of New Caledonia Dermaptera

	Nomenclature in Burr (1914)	World distribution
Carcinophoridae		
Carcinophorinae		
1. *Euborellia annulipes* (Lucas)	*Anisolabis annulipes*	Cosmopolitan
2. *Anisolabis maritima* (Bonelli)	------	Cosmopolitan
3. *A. sarasini* (Burr)	*Spondox sarasini*	Endemic
4. *A. canaca*, n. sp.		Endemic
Brachylabiinae		
5. *Brachylabis canaca* Burr	*Brachylabis canaca*	Endemic
6. *B. rouxi* (Burr)	*Antisolabis rouxi*	Endemic
7. *B. rouxiodies*, n. sp.		Endemic
8. *B. transiens* (Burr)	*A. transiens*	Endemic
9. *B. geniculata* (Montrousier)	*Nannisolabis* geniculata	Endemic
10. *B. arripiens* (Burr)	*Antisolabis arripiens*	Endemic
11. *B. forficula* (Burr)	*Nannisolabis forficula*	Endemic
Labiidae		
Nesogastrinae		
12. *Nesogaster tristis* (Bormans)	------	Endemic
13. *N. cristata*, n. sp.		Endemic
Labiinae	*Labia canaca*	
14. *Chaetospania pentagonalis*, n. sp.		Endemic
15. *Chaetolabia canaca* (Burr)		Endemic
16. *Labia curvicauda* (Motschulsky)	------	Cosmopolitan
Chelisochidae		
17. *Chelisoches morio* (Fabricius)	*Chelisoches morio*	Cosmopolitan
18. *Hamaxas nigrorufus* (Burr)	------	Australasian and Pacific

Key to families and subfamilies (New Caledonia)

1. Elytra and wings completely absent; ♂ genitalia with 2 distal lobes, 1 directed backwards and 1 directed forwards at rest (FIG. 2, 3, 12–15) (Carcinophoridae) 2
   At least elytra present, wings often visible; ♂ genitalia with a single median distal lobe (FIG. 29, 30) ... 3
2. First antennal segment shorter than distance between antennal bases; body depressed, not fusiform in shape; each branch of forceps of both sexes trigonal at base, with a dorsal longitudinal ridge, branches of ♂ forceps often asymmetrical (FIG. 1) ..... **Carcinophorinae**
   First antennal segment longer than distance between antennal bases; body fusiform, strongly narrowed anteriorly and posteriorly; each branch of forceps of both sexes cylindrical, not trigonal at base, rarely with a basal inner tooth or flange, branches symmetrical in both sexes (FIG. 4, 5, 11, 18) ..... **Brachylabiinae**
3. Second tarsal segment prolonged beneath 3rd (distal) segment as a narrow lobe; ♂ genitalia with dark paired sclerites associated with the virga (FIG. 30) ..... **Chelisochidae**
   Second tarsal segment simple, not prolonged beneath 3rd; ♂ genitalia without dark paired sclerites but often with a complex arrangement of denticulated areas and sclerites (FIG. 29) (Labiidae) 4
4. Each elytron with a lateral longitudinal ridge which forms a lateral explanate rim to the dorsal surface (FIG. 24) ..... **Nesogastrinae**
   Elytra without such ridges (FIG. 20, 23) ..... **Labiinae**

CARCINOPHORIDAE

A large family of dark-colored earwigs, with short forceps, and typically without elytra or wings, although these are present in a minority of species. Two subfamilies, as separated in the key, are recorded from New Caledonia.

CARCINOPHORINAE

The taxonomy of this subfamily is largely based on the male genitalia, and any external characters often apply to males only, so that isolated females are often difficult to name with any certainty. There are a few females whose identity can be satisfactorily checked. Four species in 2 genera are now recorded from New Caledonia, of which 2 are endemic and 2 cosmopolitan.

Key to genera (New Caledonia)

1. Male parameres short, more or less as broad as long; each distal lobe with denticulated pads, at the end or laterally; virga not visible ..... **Euborellia** Burr
   Male parameres longer than broad; each distal lobe without such denticulated pads; virga usually visible (FIG. 2, 3) ..... **Anisolabis** Fieber

The 4 species of this subfamily recorded from New Caledonia may be separated by external characters as follows:

1. Pronotum as broad as long or transverse, and widened posteriorly 2
   Pronotum longer than broad, parallel sided (FIG. 1) 3
2. Head widened behind eyes; pronotum more strongly transverse; abdominal tergites coarsely coriaceous, punctures few, widely scattered and indistinct; larger species, body length usually above 12 mm. ..... **Anisolabis maritima** (Bonelli)
   Head not widened behind eyes; pronotum less transverse or almost as broad as long; abdominal tergites smooth and puncturation relatively close and distinct; smaller species, body length 10 mm or less ..... **Euborellia annulipes** (Lucas)
3. Head flattened dorsally; eyes larger; inner margin of branches of forceps almost smooth; reddish in color with yellow legs ..... **Anisolabis sarasini** (Burr)
   Head normally convex dorsally; eyes smaller; inner margin of branches of forceps obviously dentated; blackish in color, legs yellow with femora broadly black ..... **Anisolabis canaca,** n. sp.

Genus **EUBORELLIA** Burr

Borellia Burr, 1909, *Deut. Ent. Zs.* **1909**: 325 (type-species: *Anisolabis moesta* Gene, 1839) [name preoccupied by *Borellia* Rehn, 1906 (Orthoptera)].
Euborellia Burr, 1910, *Proc. U. S. Nat. Mus.* **38**: 448 (replacement name for *Borellia* Burr).

Similar to but generally smaller than *Anisolabis,* and usually without elytra or wings, although these are present in some species. Characterized by the short parameres of the male genitalia and by the denticulated pads on each distal lobe. One species is recorded from New Caledonia.

Euborellia annulipes (Lucas)

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

Anisolabis maritima: Burr, 1911, *Gen. Insect.* **122**: 29. 1914, *Nova Caledonia* **1**: 316 (New Caledonia).

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

Anisolabis (Euborellia) annulipes: Kaltenbach, 1968, *Ann. Naturh. Mus. Wien* **72**: 554 (New Caledonia).

Usually a blackish, shining, and rather slender species, the yellow legs having dark bands on the femora, but somewhat variable in color. The present adults from Tontouta are unusual in color and form, being dark reddish brown, with the antennae and legs yellowish, the femora scarcely darkened, and they are broad and relatively short. The pronotum is nearly as long as broad and widened posteriorly; the abdominal tergites are almost impunctate distally, but tergites 6–8 are rugose laterally and have a lateral longitudinal ridge on each side. Length of body, 6–8 mm; forceps, 1–1.15 mm. The specimens from the Loyalty Islands are more slender and darker, and resemble the typical form of *annulipes*.

Type-locality: Paris, France (introduced). Disposition of type not known.

Material examined: NEW CALEDONIA: Tontouta, 4.VI.1925, 1 ♂, 1 ♀, P. A. Buxton (determined by W. D. Hincks as *Euborellia* sp.?); Mt Panie, 25.VIII.1914, 1 larva, P. D. Montague; without exact locality or date, 1 larva, P. D. Montague (BMNH); LOYALTY ISLANDS: Mare, Tadine, 9–14.X.1958, 1 ♂, 1 ♀, B. Malkin (BISHOP).

The difference in the general appearance of the specimens from Tontouta and those from Mare is striking, but the male genitalia of the males appear to be identical, and correspond with *annulipes* as generally understood. Tenereal adults are always paler in color and tend to shrink when dried, and this may account for some of the difference in appearance.

Cosmopolitan in World distribution and found on many isolated oceanic islands.

Genus **ANISOLABIS** Fieber

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

Spondox Burr, 1914, *Nova Caledonia* **1**: 317 (type-species: *Spondox sarasini* Burr, 1914).

The above synonymy is given by Kaltenbach (1968). There have been too many genera erected in the Carcinophorinae, partly due to efforts to dismember the somewhat unwieldy genus *Anisolabis,* in which all apterous species of the subfamily were placed in earlier years, irrespective of the structure of the male genitalia. Burr (1915) remarked on the difficulty of segregating the species, but attempted a grouping based largely on the shape of the parameres of the male genitalia. It now appears, however, that the shape of the parameres is mainly useful at specific level, not at generic level. The male genitalia of *sarasini* is of the *Anisolabis* type, and apparently notable only for the unusually long parameres.

Two endemic species, formerly confused under the name *sarasini*, are now recorded from New Caledonia, and a lectotype is designated for the true *sarasini*. A 3rd cosmopolitan species is also recorded.

Key to species of *Anisolabis* (New Caledonia)

1. Pronotum strongly transverse, widened posteriorly; abdominal tergites less shining, coarsely coriaceous, and with a few indistinct punctures; ♂ forceps strongly curved and asymmetrical; ♂ parameres abruptly narrowed near apex ..... **maritima** (Bonelli)
   Pronotum longer than broad, parallel sided; abdominal tergites shining, smooth, and with puncturation distinct, although weak; ♂ forceps not strongly curved and weakly asymmetrical (FIG. 1); ♂ parameres not abruptly narrowed near apex 2
2. Dorsal surface of head flat; eyes larger, nearly as long as length of head behind eyes; inner margins of branches of forceps with very small denticulations (FIG. 1); ♂ parameres greatly elongated (FIG. 2); general coloration reddish brown to dark reddish brown, legs unicolorous yellow or reddish yellow, sometimes with the femora vaguely darker ..... **sarasini** (Burr)
   Dorsal surface of head convex; eyes smaller; inner margins of branches of forceps with more prominent teeth; ♂ parameres shorter (FIG. 3); general coloration blackish, legs yellowish or yellowish brown, femora broadly blackish ..... **canaca**, n. sp.

Anisolabis maritima (Bonelli)

Forficula maritima Bonelli, in Gene, 1832, *Sci. Regno Lomb-Venet., Ann.* **2**: 221.
Anisolabis maritima: Burr, 1911, *Gen. Insect.* **122**: 29.

Usually black with unicolorous yellow legs, but it may be reddish brown. Head broad and widened behind eyes; pronotum strongly transverse and widened posteriorly, margins more or less straight; abdomen broad and depressed with a somewhat characteristic structure, the cuticle being coarsely coriaceous with indistinct and widely scattered punctures. The ♂ forceps have strongly curved branches which are wider basally, and are asymmetrical, while the genitalia is distinctive in that each paramere is long and almost parallel sided for the most part but is abruptly narrowed towards the apex; virga narrow. Branches of the ♀ forceps straight and contiguous, narrowed from base to apex and relatively long. Length of body, 15–18 mm; forceps 2.5–3.5 mm.

Type-locality: Mediterranean. Disposition of syntypes not known.

Material examined: NEW CALEDONIA: Anse Vata, 23.X.1958, 1 ♀, C. R. Joyce (BISHOP).

Although the female is much less satisfactorily determined than the male, the characters given above are a good guide, and there is little doubt that the identity of the present specimen is correct.

Cosmopolitan in World distribution, mainly coastal.

Anisolabis sarasini (Burr) FIG. 1, 2

Spondox sarasini Burr, 1914, *Nova Caledonia* **1**: 317 (partim); 1915, *J. Roy. Micr. Soc.* **1915**: 531.
Anisolabis sarasini: Kaltenbach, 1968, *Ann. Naturh. Mus. Wien* **72**: 554 (New Caledonia).

Reddish brown to dark reddish brown, last abdominal tergite and forceps sometimes darker; antennae, palpi, and legs reddish yellow, sometimes with basal part of tibiae and distal part of femora rather darkened. Cuticle shining, smooth, impunctate anteriorly, posterior abdominal tergites lightly punctured, last tergite almost rugose but with impunctate and slightly depressed longitudinal bands medially. Antennal segments pubescent; femora with isolated short hairs and a few long setae; tibiae with dense yellow hairs and setae towards distal end; tarsi with similar hairs on 1st and 2nd segments, 3rd (distal) segment with less numerous hairs but with isolated setae; claws long and curved.

♂ (FIG. 1): head broad, flat dorsally; eyes rather large; pronotum longer than broad, almost parallel sided, margins more or less straight; mesonotum large. Abdomen wide, depressed, last tergite large; penultimate sternite somewhat triangular, but with a wide blunt posterior margin. Each branch of forceps trigonal at base, cylindrical distally, inner margin darkened but very weakly dentated, branches weakly curved and slightly asymmetrical; pygidium short and rounded (FIG. 1). Genitalia with very long parameres, virga long and narrow (FIG. 2).

♀: similar to ♂; penultimate sternite similar to that of ♂ but narrower and with the posterior margin short; forceps as ♂ but more or less straight, branches contiguous.

Length of body, 20–28 mm; forceps, 5–5.75 mm (♂♂), 4.5–5 mm (♀♀).

Type-locality: New Caledonia (endemic).

Lectotype ♂ (BASEL): Mt Kanala, 800–1000 m, Sarasin & Roux. 1 ♂, 2 ♀ paralectotypes, Panie-wald; 1 ♀ paralectotype, Panie, Gipfel; 1 larva, paralectotype, Panie (all Sarasin & Roux) (BASEL). 1 ♂, 2 ♀ paralectotypes, Mt Kanala, 800–1000 m, 4.XI.1911, Sarasin & Roux (BMNH).

Other material examined: NEW CALEDONIA: Ignambi, 1220 m (4000 ft.), (date obscure), 1 ♂, 1 ♀, P. D. Montague; Mt Panie, 24.III.1914, 1? (without head), P. D. Montague; Tichialit, 616 m (2020 ft.), 21.IX–3.X.1949, 2 ♀ 17 larvae (in base of bromeliad leaves), L. E. Cheesman (BMNH except 1 ♀, 3 larvae in MANCHESTER); Mt Panie Trail, 8–9.II.1963, 1 ♀, C. M. Yoshimoto; Mt Ignambi, 900–1100 m, 4.II.1964, sweeping, 1 ♀, J. Sedlacek; Panie, 1400 m, 1 ♀, J. L. Gressitt (BISHOP).

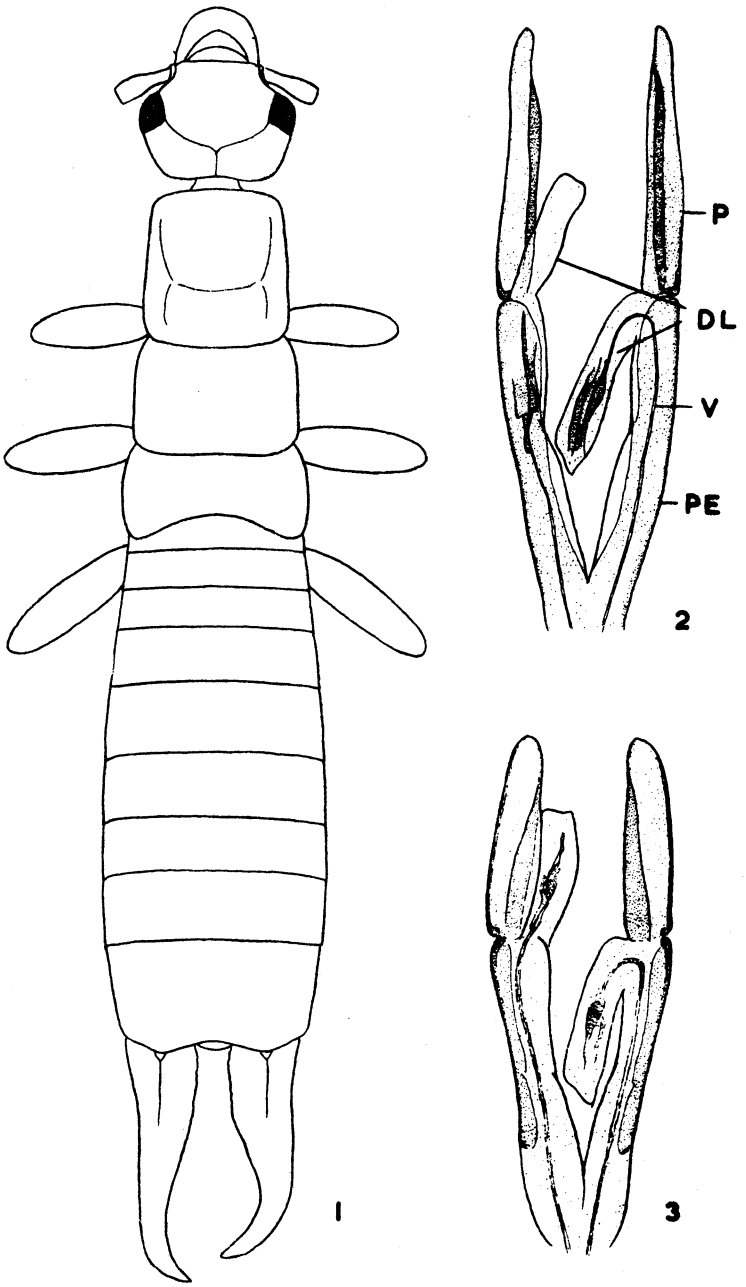


FIG. 1, 2. *Anisolabis sarasini* (Burr), ♂, dorsal; ♂ genitalia. FIG. 3. *A. canaca,* n. sp., ♂ genitalia (DL = distal lobe; P = paramere; PE = penis; V = virga).

Although the original material (syntypes) of this species included 2 species, the identity of *sarasini* is fixed in Burr (1914, fig. A, p. 317) in which the long parameres of the male genitalia are shown. The figure of the adult of this species in Burr (1914, Pl.IX, fig. 2) is less certain; it appears to be more like *A. canaca* on account of the blackish color, and the more strongly dentated inner margins of the forceps; however, the legs are shown as unicolorous reddish yellow, which applies only to *sarasini*.

Anisolabis canaca Brindle, **n. sp.** FIG. 3

Spondox sarasini Burr, 1914, *Nova Caledonia* **1**: 317 (partim).

Blackish, antennae dark brown or brown; legs yellow or brown, femora broadly blackish basally. Cuticle smooth and shining, abdominal tergites smooth except for last tergite which is slightly rugoso-striate.

♂: structurally similar to *sarasini*, but differing in convex dorsal surface of head, smaller eyes, smoother abdominal tergites, and much more pronounced teeth on inner margins of branches of forceps; teeth are broad, not strongly projecting, but are prominent. Genitalia with much shorter parameres (FIG. 3).

♀: similar to ♂, but with branches of forceps straighter, the branches being more or less contiguous.

Length of body, 15–20 mm, forceps, 3–4 mm.

Holotype ♂ (BMNH): New Caledonia (no date), P. D. Montague. 4 ♀ paratypes, including allotype, date as holotype (BMNH); 1 ♂, 1 ♀ paratypes, date as holotype (MANCHESTER); 1 ♀ paratype, New Caledonia, Canala, 1.VII.1914, P. D. Montague (BMNH); 1 ♂, 2 ♀, paratypes (1 ♀ with head missing), Mt Koghi, 450–600 m, 4–6.X.1967, J. Sedlacek; 1 ♀ paratype, Col des Pirogue, 14.II.1963, C. M. Yoshimoto; 1 ♀ paratype, Yahoue, 20.II.1963, C. M. Yoshimoto (BISHOP); 1 ♀ paratype, Paniewald (no date), Sarasin & Roux (BASEL).

Other material examined: NEW CALEDONIA: Mt Kanala, 800–1000 m, 4.XI.1911, 1? (end of abdomen missing), Sarasin & Roux, Mt Ignambi, 640 m (2100 ft), 7–15.VIII.1914, 1 larva; New Caledonia (no other data or date), 100–300 m, 25.III.1961, 1? (end of abdomen missing), J. Sedlacek; Col de la Pirogue, VII.1950, 1 larva, N. L. H. Krauss; 14.II.1963, 4 larvae, C. M. Yoshimoto; Yahoue, 20.II.1963, 4 larvae, C. M. Yoshimoto; Col des Rousettes, 450–550 m, 4–6.II.1963, 2 larvae, C. M. Yoshimoto; Col. d'Amieu, 450 m, 31.I.1963, 1 larva, C. M. Yoshimoto; Dumbea Valley, VI.1950, 1 larva, N. L. H. Krauss; Ile de Pins, Kuto, 13.VII.1958, 1 larva, B. Malkin; LOYALTY ISLANDS: Tadine, 9–14.X.1958, 2 larvae, B. Malkin (BISHOP).

This species appears to be variable in size, and a number of specimens have the abdominal tergites displaced, while 2 specimens have the head reddish, which may be due to immaturity. The species is readily separated from *sarasini* externally by its smaller size and by the characters given in the key. The male genitalia show large differences in the shape of the parameres and in the structures in the distal lobes. The larvae appear to be distinctive in that the inner margins of each branch of the forceps have the inner teeth visible even when small, and it is this character which has been used to name them. However, adult specimens are really necessary to confirm the occurrence of the species on the Ile de Pins and on the Loyalty Islands.

The specimens of this species from the Sarasin & Roux material are mainly those from Mt Canala mentioned by Burr (1914: 317) as "de la petit varieté" but they include 1 from the forest on Mt Panie.

BRACHYLABIINAE

Burr (1914) included his species of this species of this subfamily from New Caledonia in 3 genera, *Brachylabis* Dohrn, *Antisolabis* Burr, and *Nannisolabis* Burr, according to the key to genera (Burr 1911) as follows:

1. Mesonotum keeled (i.e., with a lateral longitudinal ridge at each side) ..... **Brachylabis**
   Mesonotum smooth 2
2. Antennal segments 3–5 relatively long ..... **Antisolabis**
   Antennal segments 3–5 short and globular ..... **Nannisolabis**

This works well with the New Caledonia species except that *arripiens* should be in *Nannisolabis* with *forficula*, and *geniculata* may have been better placed in *Antisolabis*.

However in a revision of the African Brachylabiinae, in course of preparation, I have found that the external characters used by Burr (1911) to separate the genera of the subfamily do not correspond with differences in the male genitalia. From these structures, closely related species may have small or very large eyes; the mesonotum may have lateral longitudinal ridges or not; rudimentary elytra may be present or absent; and the differences in the antennal segments, except for the 1st, also seem to be of specific value only.

Consequently the external characters given above are not sufficient for generic status, but they are very useful at specific level, and so useful that the species of this subfamily, including both sexes, can be much more easily separated than can those of the subfamily Carcinophorinae. In the African revision, the genus *Antisolabis* Burr with type-species *myrmecoides* Burr, from Africa, is transferred to the subfamily Parisolabiinae on account of the structure of the male genitalia and on account of the very short 1st antennal segment, which is always very short in the Parisolabiinae but always very long in the Brachylabiinae. None of the New Caledonia species correspond with *Antisolabis*. The genus *Nannisolabis*, with type-species *willeyi* Burr from Ceylon, is to be revised and may be synonymous with another genus.

In view of this, it is proposed to include all the species of the subfamily from New Caledonia in the single genus *Brachylabis*, pending a revision of the World species. The New Caledonia species form a closely related group, and at present the differences between them do not warrant generic separation. There are clearly 4 groups as indicated in the key to species.

Genus **BRACHYLABIS** Dohrn

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

Key to species of *Brachylabis* (New Caledonia)

1. Head elongated; mesonotum with a lateral longitudinal ridge at each side (FIG. 10); cuticle patterned, brownish with yellow stripes (*canaca* group) ..... **canaca** Burr
   Head short; mesonotum without lateral longitudinal ridges; cuticle unicolorous 2
2. Cuticle dull, roughened and punctured, strongly pubescent, hairs long and relatively close; larger species, body length 12 mm or more (*rouxi* group) 3
   Cuticle shining, smooth and punctured, or granular; very weakly pubescent, hairs short and sparse; smaller species, body length less than 12 mm 4
3. Posterior margin of head rounded, pronotum longer than broad (FIG. 8); cuticle, especially that of abdomen, much more strongly roughened; parameres of ♂ genitalia partially sclerotized, and with a few marginal setae, virga associated with a large sclerite (FIG. 14); larger species, body length 15 mm or more ..... **rouxi** (Burr)
   Posterior margin of head concave medially, pronotum transverse (FIG. 9); cuticle more uniformly and less strongly roughened; parameres of ♂ genitalia almost membraneous and with numerous setae (FIG. 15); virga almost simple; smaller species, body length 12–14 mm ..... **rouxioides** n. sp.
4. Cuticle of thoracic sclerites with closely spaced raised granules; antennae brown to dark brown with distal segments white (*arripiens* group) 5
   Cuticle of thoracic sclerites smooth with large punctures, not raised granules; antennae dark brown or brown, almost unicolorous (*transiens* group) 6
5. Pronotum as broad as long, almost parallel sided; ♂ forceps more strongly thickened basally (FIG. 18) ..... **arripiens** (Burr)
   Pronotum longer than broad, widened posteriorly (FIG. 4); ♂ forceps weakly thickened basally (FIG. 5) ..... **forficula** (Burr)
6. Pronotum strongly transverse, and more strongly widened posteriorly (FIG. 6) ..... **geniculata** (Montrouzier)
   Pronotum slightly longer than broad, and weakly widened posteriorly (FIG. 7) ..... **transiens** (Burr)

Brachylabis canaca Burr FIG. 10, 11, 12

Brachylabis canaca Burr, 1914, *Nova Caledonia* **1**: 318. – Kaltenbach, 1968, *Ann. Naturh. Mus. Wien* 72: 555 (New Caledonia).

Dark reddish brown, with longitudinal yellow, irregular stripes of variable prominence on thoracic and abdominal tergites; antennae dark brown or partially yellow; legs yellowish brown to brown, femora sometimes darker. Cuticle finely granulose, punctured and pubescent, dull.

♂: head elongated, eyes small, pronotum usually longer than broad, and widened posteriorly, mesonotum with well defined lateral longitudinal ridges, the ridge on each side forming a distinct rim (FIG. 10). Forceps with cylindrical branches, which are strongly and sharply curved (FIG. 11). Male genitalia with weakly sclerotized parameres which are narrowed distally and with a narrow tip, virga long, broadened basally, and associated with a long sclerite which joins the virga near base (FIG. 12).

♀: similar to ♂ but branches of forceps only very weakly curved.

Length of body, 10–12 mm; forceps, 1.25–1.75 mm.

Type-locality: New Caledonia (endemic).

Lectotype ♀ (BASEL): Mt Canala, Neu Caled., Sarasin & Roux. 1 ♀ paralectotype, same date as lectotype; 1? paralectotype (abdomen missing), Mt Humboldt, 1800 m, Sarasin & Roux; 1 ♀ paralectotype, Tschabel, Sarasin & Roux (BASEL). 1 ♂, 1 ♀ paralectotypes, Mt Canala, 800–1000 m, 4.XI.1911, Sarasin & Roux; 1 ♂ paralectotype, La Foa, 16.I.1912, Sarasin & Roux (BMNH).

Other material examined: NEW CALEDONIA Mt Panie, 27.VIII.1914, 1 ♀, P. D. Montague; Gonde, 2.XI.1914, 1 ♀, 1 larva, P. D. Montague; Central New Caledonia, 28.XI.1914, 1 larva, P. D. Montague (BMNH); Central New Caledonia, 1 ♀, P. D. Montague (MANCHESTER).

This is a distinctive species but may be composite. The genitalia of the male specimens from the Sarasin & Roux material in BMNH differ somewhat in structure, and this is correlated with a difference in the shape of the pronotum. The type form of *canaca*, as figured and described in Burr (1914), has the pronotum longer than broad, as in the male from Mt Canala, but the pronotum of the male from La Foa is much shorter. The female specimen from Tschabel in BASEL similarly has a short pronotum. However, the material is not sufficient to investigate further, since the male genitalia of the La Foa specimen may be aberrant. The shape of the pronotum is usually a good character but there is some variation in the shape of the pronotum in other species, although this is small and does not invalidate the key to species given previously.

Brachylabis rouxi (Burr), **n. comb.** FIG. 8, 14, 16

Antisolabis rouxi Burr, 1914, *Nova Caledonia* **1**: 319 (partim).

Blackish when fully mature, dark reddish brown in some specimens; palpi yellow, antennae dark brown; legs dark brown, with tarsi paler. Cuticle dull, roughened, that of thoracic sclerites largely granular, anteriorly wider spaced, closer together on metanotum where they form irregular transverse ridges, hairs arising from the granules; on the abdominal tergites roughness is largely due to large punctures which are not vertical, but set at an angle, and extend anteriorly, open posteriorly; posterior to a puncture is a short groove while anterior margin of puncture is raised, thus forming very short almost crescentic ridges; cuticle is strongly pubescent, the hairs long, yellowish brown or darker, strongly depressed and comparatively dense. Antennal segments pubescent, legs pubescent with dense hairs ventrally towards distal end of tibiae and ventrally on tarsi.

♂ (FIG. 8): head rounded posteriorly, eyes small; pronotum longer than broad, widened posteriorly; mesonotum large, wider anteriorly and swollen laterally, towards anterior margin is a transverse depression bordered anteriorly by a well defined ridge. Each branch of forceps cylindrical, well separated at base and broader, narrowed distally, curvature of branch rather variable; on inner margin is a small tooth of variable size. Penultimate sternite hairy, triangular posteriorly, actual apex slightly emarginate and with a circular depression on cuticle near apex (FIG. 16). Genitalia with long parameres which are more strongly sclerotized on outer 1/2, and with an acuminate apex; a few setae occur on outer margin; virga associated with a large sclerite (FIG. 14).

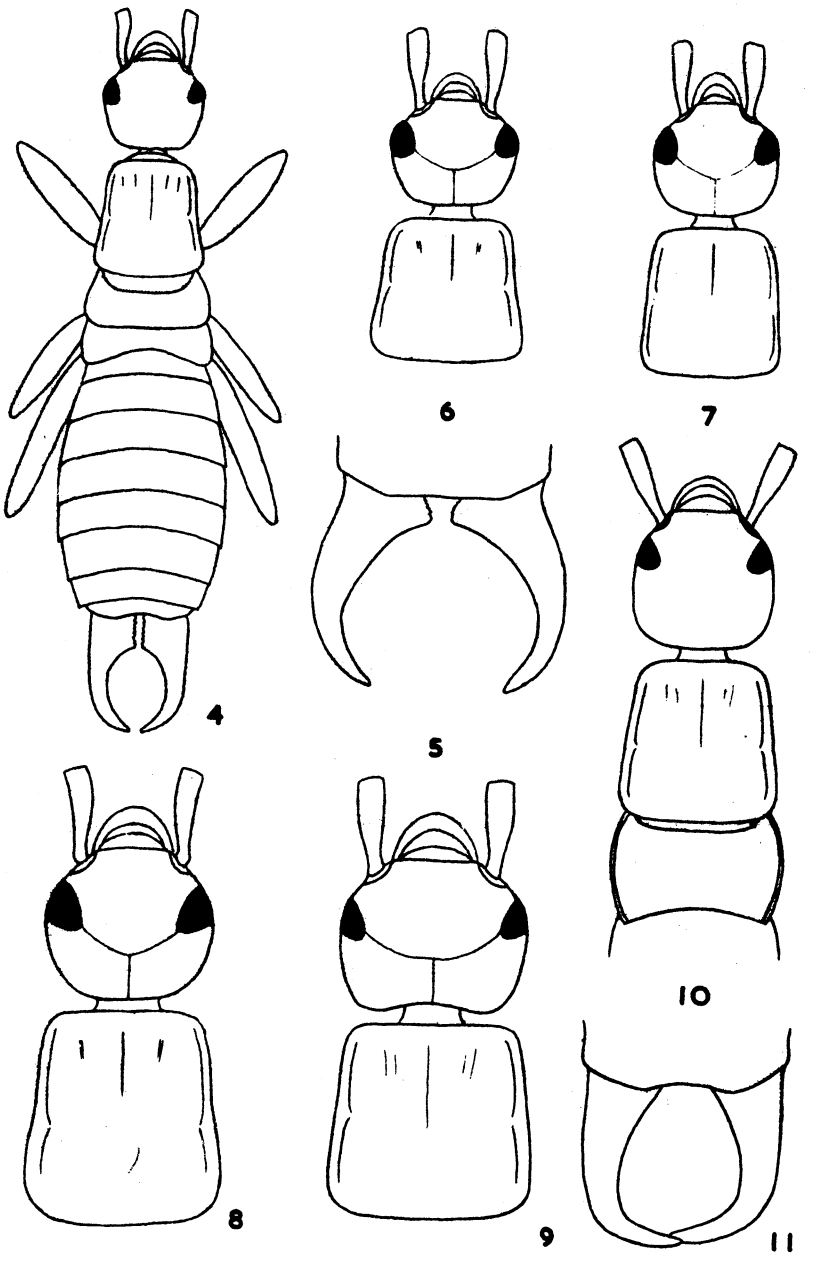


FIG. 4, 5. *Brachylabis forficula* (Burr), ♀, dorsal; ♂ forceps. FIG. 6. *B. geniculata* (Montrouzier), head and pronotum. FIG. 7. *B. transiens* (Burr), head and pronotum. FIG. 8. *B. rouxi* (Burr), head and pronotum. FIG. 9. *B. rouxioides*, n. sp., head and pronotum. FIG. 10, 11. *B. canaca* Burr, head, pronotum, and mesonotum; ♂ forceps.

♀: similar to ♂, but branches of forceps are less curved, but relatively well separated at base.

Length of body, 15–18 mm; forceps, 2.5–3 mm.

Type-locality: New Caledonia (endemic).

Lectotype ♂ (BASEL): Mt Canala, 800–1000 m, Sarasin & Roux. 1 ♀ paralectotype, same data (rather immature) (BASEL).

Other material examined: NEW CALEDONIA: Mt Ignambi, 640 m (2100 ft), 7–15.VIII.1914, 5 ♂♂, 1 ♀, 2 larva (BMNH except 1 ♂, 1 larva in MANCHESTER), Mt Ignambi, 650–1000 m. 4.II.1964, sweeping, 1 ♀, R. Straatman (BISHOP).

The lectotype of this species has been fixed with reference to the original description and figure, showing that the pronotum is longer than broad, and the figure of the male genitalia in Burr (1915, Pl.IX, fig. 6), which although very small, appear to agree with those of the present interpretation of the species (FIG. 14).

Brachylabis rouxioides Brindle, **n. sp.** FIG. 9, 15, 17

Antisolabis rouxi Burr, 1914, *Nova Caledonia* **1**: 319 (partim).

Dark reddish brown, almost blackish brown; antennae dark brown; legs reddish yellow or yellowish brown. Cuticle dull, granular on thoracic sclerites and abdominal tergites less roughened than in *rouxi*. All cuticle pubescent, hairs rather dense but generally shorter than in *rouxi*.

♂ (FIG. 9): superficially similar in structure to *rouxi*, but distinct by shape of head, which is much less rounded and has posterior margin concave; pronotum transverse, widened posteriorly; mesonotum similar to that of *rouxi*. Penultimate sternite without a circular depression near posterior margin medially (FIG. 17). Parameres of genitalia more membraneous, slightly asymmetrical, narrower distally, apex rounded, and with numerous setae (FIG. 15); virga almost simple, without a large associated sclerite. Forceps similar to those of *rouxi*.

♀: similar to ♂; branches of forceps less strongly curved.

Length of body, 12–14 mm; forceps, 2–2.5 mm.

Holotype ♂ (BISHOP 10,235): Forêt de Thi, 100–200 m, 10.III.1961, J. Sedlacek. Allotype ♀, Col des Pirogue, 14.II.1963, N. L. H. Krauss (BISHOP). 1 ♂ paratype, New Caledonia (no date), P. D. Montague; 1 ♂ paratype, Yate, 24.III.1912, Sarasin & Roux (= paratype *rouxi*) (BMNH): 1 ♀ paratype, Yate, Sarasin & Roux (= paratype *rouxi*) (BASEL); 1 ♂ paratype, Mt Mou, 10.III.1914, P. D. Montague (MANCHESTER).

Brachylabis transiens (Burr) **n. comb.** FIG. 7, 19

Antisolabis transiens Burr, 1914, *Nova Caledonia* **1**: 320; 1915, *J. Roy. Micr. Soc.* **1915**: 447.

Dark reddish brown to almost blackish; antennae brown, 1st segment darker; legs yellow, femora largely darkened medially, tibiae darkened basally. Cuticle shining, very sparsely pubescent, smooth with large punctures; that of head granulose posteriorly, puncturation irregular on pronotum, strongest on mesonotum and metanotum which are somewhat striato-rugose transversely; puncturation of abdominal tergites large, close, and sometimes they coalesce; cuticle with very sparse relatively short yellow hairs, more conspicuous laterally on abdomen.

♂ (FIG. 7): head well rounded posteriorly; ratio of antennal segments 3, 4, 5, 6 = 1.25:0.9:1.15:1.5. Pronotum slightly longer than broad, only weakly widened posteriorly, margins more or less straight but lateral margins somewhat sinuate; mesonotum broad, with an oblique lateral fold on each side and with a deep transverse median depression. Abdomen slightly depressed, last tergite small; penultimate sternite somewhat triangular, with apex broad and rounded and with a small median excision (FIG. 19). Each branch of forceps cylindrical, widest at base, narrowed distally, curved relatively sharply about 2/3 from base. Genitalia with acuminate parameres, virga long and simple, according to figure in Burr (1915, Pl.IX, fig. 17).

♀ similar, penultimate sterite simple; forceps similar to those of ♂ but much less curved and closer together.

Length of body, 9–10 mm; forceps, 1–1.25 mm.

Type-locality: New Caledonia (endemic). Types in BASEL.

Material examined: NEW CALEDONIA: Holotype ♂, Mt Canala, 800–1000 m, Sarasin & Roux (BASEL); Houadon R., 3–15.XI.1914, 1 ♂, 1 ♀ (latter with head missing), P. D. Montague (BMNH).

From the shape of the pronotum, which is only weakly widened posteriorly, this species can be confused with *arripiens*, but *transiens* is distinct by having the pronotum smooth with large punctures, while that of *arripiens* is granular. The male forceps of the latter species more resemble those of *forficula,* and are much more evenly curved than those of *transiens.*

Apart from the specimens examined and listed above, there is only the female allotype known from the same locality as the holotype male. The present measurements are from the present specimens and are shorter than those given in Burr (1914), who gives a body length of 11–12 mm, the discrepancy presumably due to shrinkage of the specimens. The ratios of the basal antennal segments of the specimens examined are given, but these are subject to some variation in other species of the subfamily.

Brachylabis geniculata (Montrouzier), **n. comb.** FIG. 6

Chelidurella geniculata Montrouzier, 1864, *Ann. Soc. Linn. Lyon* (N.S.) **11**: 222.

Nannisolabis geniculata; Burr, 1914, *Nova Caledonia* **1**: 321. – Kaltenbach, 1968, *Ann. Naturh. Mus. Wien* **72**: 555 (New Caledonia).

Dark reddish brown, antennae brown to dark brown or paler basally; legs yellow, femora with dark bands of varying intensity. Cuticle shining, very sparsely pubescent, and punctured. Puncturation similar to that of *transiens,* i.e., pronotum less strongly punctured than meso- or metanota, (specimen from Yate), or with all thoracic tergites equally strongly and closely punctured, the puncturation tending to form transverse irregular ridges (specimens from Tinchialit and Mt Panie); abdominal tergites strongly punctured, punctures smaller and closer together towards anterior margin of each tergite, larger on disc where punctures are closer than diameter of punctures.

♂ (FIG. 6): head transverse, not smoothly rounded posteriorly. Ratio of antennal segments 3,4,5,6 - 1.15:1:1.15:1.75 (specimen from Yate), or 2:1.5:2:2.15 (specimens from Tinchialit and Panie). The ratios are given with unit equalling width of segments. Each branch of forceps cylindrical, wider at base, narrowed distally and weakly curved, branches well separated at base.

♀: similar to ♂; branches of forceps closer together, scarcely curved, somewhat sinuate, rather abruptly narrowed distally.

Length of body, 8–10 mm; forceps, 1–1.25 mm.

Type-locality: New Caledonia (endemic). Disposition of type, possibly a female, is not known.

Material examined: NEW CALEDONIA: Above Yate, 21.III.1912, 1? (end of abdomen missing but ♀ according to Burr, 1914: 321); Mt Panie, 26.VIII.1914, 1 ♀, P. D. Montague; Tinchialit, 616 m (2020 ft), 21.X–3.X.1949, 1 ♂, 2 ♀♀, L. E. Cheesman (BMNH except 1 ♀ from Tinchialit in MANCHESTER).

This species is taken as interpreted by Burr (1914). The original description by Montrousier (1864) does not give sufficient details to be more certain of the identity. The differences between the specimen from Yate, and the other specimens recorded above, in the puncturation of the thorax and the ratio of the basal antennal segments is interesting; although variation of the latter character is known, the puncturation is normally fairly constant. No comparisons between the genitalia of the original Sarasin & Roux male from Canala in the Basel Museum, and those of the above male from Tinchialit have yet been made.

Brachylabis arripiens (Burr), **n. comb.** FIG. 18

Antisolabis arripiens Burr, 1914, *Nova Caledonia* **1**: 320.

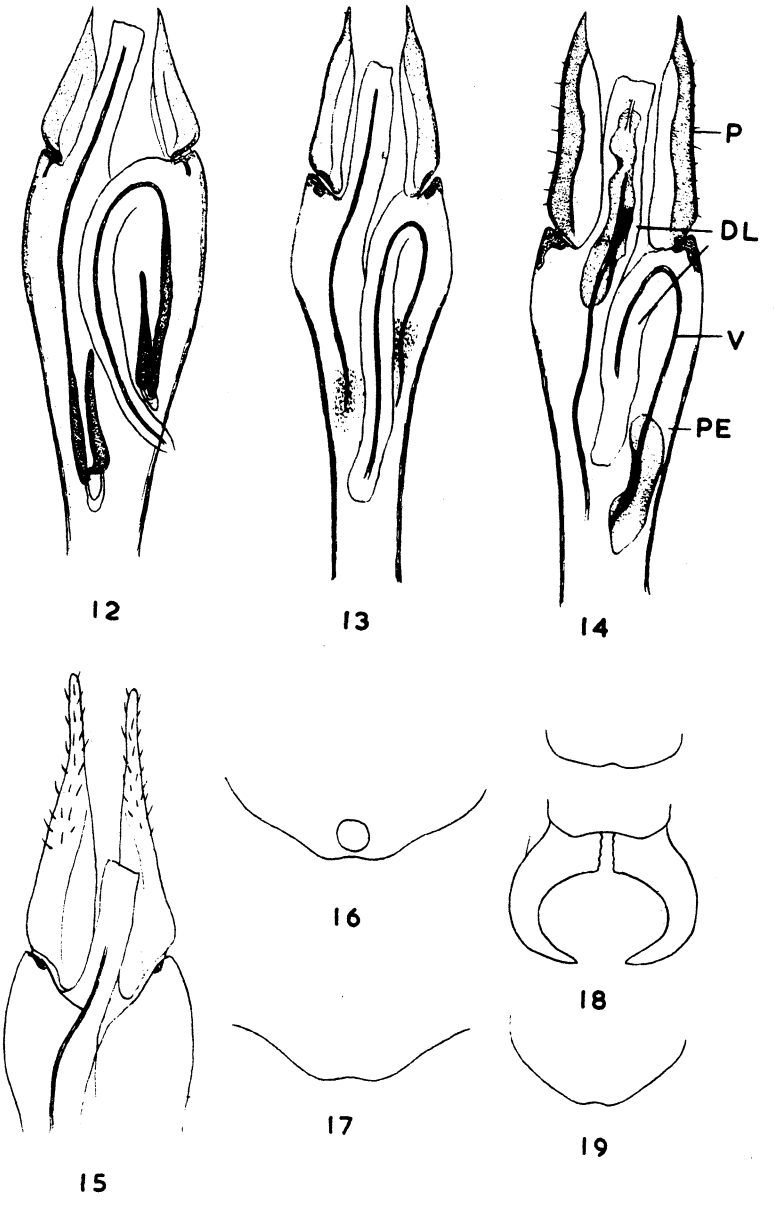


FIG. 12. *Brachylabis canaca* Burr, ♂ genitalia. FIG. 13. *B. forficula* (Burr), ♂ genitalia. FIG. 14, 16. *B. rouxi* (Burr), ♂ genitalia; ♂ penultimate sternite. FIG. 15, 17. *B. rouxioides,* n. sp., ♂ parameres; ♂ penultimate sternite. FIG. 18. *B. arripiens* (Burr), ♂ forceps and ♂ penultimate sternite. FIG. 19. *B. transiens* (Burr). ♂ penultimate sternite (DL = distal lobe; P = paramere; PE = penis; V = virga).

Black; antennae dark brown, segments 10–11 or 11–12 yellowish white; legs yellowish brown, paler at bases and apices of femora, and tarsi also paler. Cuticle of head and thoracic tergites closely granular, except anterior part of metanotum; of abdominal tergites sparsely punctured and pubescent, posterior tergites almost smooth; hairs and setae very sparse.

♂ (FIG. 18): head transverse, lateral margins curved, posterior margin almost straight, and posterolateral angles present. Ratio of antennal segments 3,4,5,6 = 2:1.15:1.75:2 (6th wider than 3rd), ratio given with width of segment as 1; each segment, from 5 distally, widened towards apex and shaped like a truncated cone with angles rounded; antennae 13-segmented in type. Pronotum slightly transverse, lateral margins almost straight and parallel, only slightly widened at posterolateral angles, mesonotum broad, swollen laterally, and without a distinct lateral fold, but with a strong transverse median depression which has a transverse ridge bordering anterior margin of depression, and which lies parallel and close to posterior margin of pronotum. Abdomen with lateral tubercles on 3rd tergite small, those on 4th larger. Each branch of forceps widened basally, narrowed distally, evenly and strongly curved; extreme base of branch declivent to ventral surface which is dentated; forceps are unusually robust (FIG. 18). Penultimate sternite short, transverse, posterior margin weakly rounded, and with a small median excision (FIG. 18).

♀: unknown.

Length of body, 9 mm; forceps, 1.25 mm.

Type-locality: New Caledonia (endemic). Type in BASEL.

Material examined: NEW CALEDONIA: Holotype ♂, Coné, 1911, Sarasin & Roux (with written label "11a *Antisolabis arripiens* / ♂ Coné, 15.VII.11 Burr / Typus: Neu Caledon / gesch. Drs. F. Sarasin and J. Roux, 1914") (BASEL).

The posterior segments of the abdomen were displaced and some of the segments were reversed in the type which was attached to a card mount. The specimen has been remounted on a new card mount and the posterior abdominal segments replaced correctly; it is in good condition.

The species resembles a well developed male of *B. forficula*, but differs in the shape of the pronotum, the weaker abdominal puncturation, and the much more robust forceps. Only known from the single type male.

Brachylabis forficula (Burr), **n. comb.** FIG. 4, 5, 13

Nannisolabis forficula Burr, 1914, *Nova Caledonia* **1**: 322.

Dark reddish brown to blackish; antennae dark brown or blackish, segments 10–11 yellowish white; femora and tibiae largely darkened medially, legs otherwise yellowish brown. Cuticle of head almost smooth anteriorly, granulose posteriorly, thoracic nota granulose, granules closest on posterior part of metanotum where they tend to form transverse irregular ridges. Abdominal tergites more strongly punctured than in *arripiens*, punctures relatively large; cuticle sparsely pubescent, hairs yellow, but forceps rather densely pubescent and hairs longer.

♂ (FIG. 5, 13): head with lateral margins curved, posterior margin almost straight, posterolateral angles present. Ratio of antennal segments 3,4,5,6 = 2:1.15:1.5:1.75, taking 1 as width of segments. Pronotum longer than broad, widened posteriorly, mesonotum with a shallow transverse median depression, the depression curving anteriorly towards lateral margin and forming the inner border of an oblique lateral fold. Abdomen with lateral tubercles on 3rd tergite small, those on 4th larger; last tergite small; penultimate sternite short, transverse, posterior margin weakly convex and with a small median excision (as in *arripiens*, FIG. 18). Each branch of forceps evenly and strongly curved, flattened on inner surface, and broader at base where there is a short inner dentated projection (FIG. 5), distal part curved and directed ventromedially. Genitalia with long acuminate parameres which have a distinct long narrow tip, virga long, more strongly sclerotized basally and associated with indistinct denticulations (FIG. 13).

♀ (FIG. 4): similar to ♂ but each branch of forceps straighter and with an inner dentated flange, distal part curved and directed ventromedially as in ♂.

Length of body, 7–9 mm; forceps, . 0.75–1 mm.

Type-locality: New Caledonia. Holotype ♀ (not ♂) in BASEL.

Material examined: NEW CALEDONIA: Hienghiene, 8.VI.1911, 1 ♀ (paratype), Sarasin & Roux; Gonde, 2.XI.1914, 1 ♀, P. D. Montague (BMNH); Paompai, 152 m (500 ft), 12–19.IX.1914, P. D. Montague 1 ♀ (MANCHESTER); Col d'Amieu, 650 m, 21.III.1968, 1 ♂, 1 ♀, J. L. Gressitt & T. C. Maa (BISHOP).

This is a small distinctive species and one of the few species of Brachylabiinae in which the forceps are not entirely cylindrical at the bases, but have either an almost forficulid type of serrated flange on the inner margin of each branch in the female, or a short dentated projection in the male. Although both specimens of this species listed in Burr (1914) were quoted as males, the one from Hienghiene is a female. The 2nd male cited in Burr (1914) from Mt Canala was designated as the "nomotype" and although this has not been examined, the forceps are apparently similar to the specimen from Hienghiene, except that the inner flange ended more sharply. In almost all species of Dermaptera, the male forceps, if different than those of the female, are more elaborate in structure, and females of the present species would be regarded as males on the structure of the forceps. Although the number of abdominal tergites visible differs in the sexes, it is sometimes difficult to be certain of their number since the posterior segments are often telescoped, so that in practice the abdomen has to be removed and softened, and during this an examination can also be made for any genitalia.

Fortunately a male specimen has been available in the material from the Bishop Museum, and the genitalia of this specimen, which is the only known male, is figured (FIG. 13). Both the holotype and the paratype of the species are females. The male forceps of *forficula* are less robust but otherwise similar to those of *arripiens,* so that it is possible that the unknown female of *arripiens* may have forceps similar to those of female *forficula.*

LABIIDAE

Two subfamilies, Nesogastrinae and Labiinae, are recorded from New Caledonia. The absence of the common cosmopolitan *Marava arachidis* (Yersin) (Spongiphorinae) is interesting since this species occurs widely in the Australasian Region and the Pacific.

NESOGASTRINAE

This subfamily includes a single genus, *Nesogaster* Verhoeff, which occurs from Java and the lesser Sunda Islands, Philippine Islands, and Borneo southwards to Australia and eastwards through the Pacific to Samoa.

Genus **NESOGASTER** Verhoeff

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

Small to medium in size; cuticle usually brightly shining, and male pygidium often conspicuous. Two species, one of which is described as new, and both of which are endemic, are now recorded from New Caledonia.

Key to species of *Nesogaster* (New Caledonia)

1. Pronotum as broad as long; each branch of ♂ forceps with a long inner flange for basal 1/2 or more (FIG. 26); branches of ♀ forceps relatively longer and more slender (FIG. 27); larger species, body length usually 8 mm ..... **tristis** (Bormans)
   Pronotum transverse; each branch of ♂ forceps with a short dorsomedian ridge at base (FIG. 24); branches of ♀ forceps relatively shorter and broader (FIG. 25); smaller species, body length 6–7 mm ..... **cristata,** n. sp.

Nesogaster tristis (Bormans) FIG. 26, 27

Labia tristis Bormans In Burr, 1903 a, *Ann. Mag. Nat. Hist.* ser. 7, **11**: 240.

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

Dark reddish brown, head, pronotum, and elytra almost blackish brown; antennae brown, basal segments yellow; legs yellowish, femora darkened. Cuticle of head, pronotum, and elytra coriaceous, almost glabrous and impunctate; of basal abdominal tergites coriaceous and similarly almost glabrous and impunctate, tergites 5–9 punctured, puncturation almost rugose on posterior margins; last tergite irregularly punctured and with broad smooth longitudinal bands.

♂: head transverse, eyes small, pronotum as broad as long and widened posteriorly; elytra short, somewhat depressed, with each lateral longitudinal ridge forming an explanate, dorsally directed margin; abdomen broad and depressed. Each branch of forceps broad for basal 1/2, with a well-marked dorsal longitudinal ridge, inner margin forming a slightly curved flange which has a thicker rim; distal 1/2 almost cylindrical, with a very small inner tooth; pygidium short, posterior margin concave on dorsal part but with a longer rectangular ventral part (FIG. 26).

♀: similar to ♂ but abdominal puncturation weaker; each branch of forceps shorter, inner dorsomedian edge with blunt projection near base, the branch excised beyond, then widened to form a ventral inner edge, pygidium not visible (FIG. 27).

Length of body, 8–9 mm; forceps, 4.5–5 mm (♂♂), 2 mm (♀♀).

Type-locality: New Caledonia (endemic). Disposition of type, a male, is unknown.

Material examined: NEW CALEDONIA: no other data, 1 ♂, P. D. Montague; Paompai, 152 m (500 ft), 12–19.IX.1914, 1 ♀, P. D. Montague (BMNH); New Caledonia, no date, 1 ♂ P. D. Montague (MANCHESTER); St. Louis Valley, 22.III.1945, 1 ♀, H. E. Milliron (BISHOP).

This species has hitherto been known only from the holotype male, and the above are the first recorded females. The original description is good and enables the species to be easily recognized. The females are similar to those of *cristata,* but can be separated by the longer forceps. Although this species is larger than *cristata,* shrinkage of dried specimens may be unusually large, and the female from Paompai is so retracted and only measures 7 mm in body length.

Nesogaster cristata Brindle, **n. sp.** FIG. 24, 25

Labia canaca Burr, 1914, *Nova Caledonia* 1: 323 (partim).

Dark reddish brown, head, pronotum, elytra, and wings when present, almost blackish brown, or with base of wings yellowish; pronotum yellowish laterally; antennae brown, basal 2 segments yellow; legs yellow, femora darker, forceps dark reddish. Cuticle of head, pronotum, and elytra coriaceous, impunctate and with very short sparse yellow hairs; of abdomen punctured and pubescent, tergites 1–4 finely so, posterior parts of tergites 5–8 more strongly, last tergite irregularly punctured with broad longitudinal smooth bands.

♂ (FIG. 24): head transverse, tumid, eyes rather small; 1st antennal segment relatively short, 2nd transverse, 3rd segment 2x as long as broad, 4th slightly longer than broad and wider than 3rd, 5th 1-1/2x as long as broad; distal segments strongly moniliform, segments pubescent. Pronotum transverse, widened posteriorly, and with a median longitudinal furrow; elytra short, wings absent or concealed, or elytra and wings fully developed. In the form with short elytra, each elytron is somewhat depressed, with lateral ridge forming an explanate and dorsally directed rim; in the form with fully developed elytra, each elytron is more convex dorsally, ridge forming a distinct margin placed slightly dorsolaterally. Legs relatively short, femora broad.

Abdomen slightly widened medially, depressed, lateral tubercles on 3rd tergite very small, those on 4th larger; last tergite transverse, posterior margin with a single small, blunt, tooth-like projection medially. Each branch of forceps relatively slender, dorsomedian edge broadened at base and very slightly dentated; a ventromedian tooth of variable size occurs at or beyond midpoint; pygidium short, posterior margin excised in a varying degree (FIG. 24).

♀: smaller than ♂; abdominal tergites more weakly punctured; each branch of forceps broad at extreme base with 1 or more blunt tubercles, then excised before widening to form an inner dentated edge (FIG. 25).

Length of body, 6–6.5 mm; forceps, 3.5 mm (♂♂); body, 5–6 mm, forceps 1.25–1.5 mm (♀♀).

Holotype ♂(BISHOP 10,236): Mt des Koghis, 300–600 m, 19.III.1968, J. L. Gressitt & T. C. Maa (wingless); allotype ♀, Forêt de Thi, 100–300 m, 25.III.1961, J. Sedlacek (wingless).

Paratypes (wingless): 1 ♂, Plateau de Dogny, 700 m, 1.II.1963, C. M. Yoshimoto; 2 ♀, Plaine des Lacs area, 6.XI.1958, C. R. Joyce; 1 ♂, 1 ♀, Col. d'Amieu, 650 m, 31.III.1968, J. L. Gressitt & T. C. Maa; 1 ♀, Pirogue, Col. de la, VI.1950, N. L. H. Krauss; 1 ♀, La Crouen, 16.III.1961, J. Sedlacek (BISHOP). 1 ♂, 1 ♀, Plaine des Lacs area, 6.XI.1958, C. R. Joyce; 1 ♂, Plateau de Dogny, by stream, 30.III.1968, J. L. Gressitt; 1 ♀, Forêt de Thi to Hamma, 700–800 m, 16.VII.1958, B. Malkin & J. Rageau (MANCHESTER). 1 ♂, Canala, 1911, Sarasin & Roux (with written label "6b, *Labia canaca* Burr ♂, Canala, X.11, Neu Caledonien, gesch. Drs. F. Sarasin and Roux, 1914") (BASEL). 1 ♂, Mt Panie, 28.VIII.1914, P. D. Montague; 1 ♀, Mt Panie, 457 m (1500 ft), 25.VIII.1914, P. D. Montague; 1 ♂, Central New Caledonia, 10.XI.1914, P. D. Montague; 1 ♂, Loyalty Islands, Mare, Netche, 25.XI.1911, Sarasin & Roux (named as *Labia canaca* in Burr collection) (BMNH).

Paratypes (wingless): 1 ♂, Plateau de Dogny, 700 m, 1.II.1963, C. M. Yoshimoto; 2 ♀♀, Plaine des Lacs area, 6.XI.1958, C. R. Joyce; 1 ♂, 1 ♀, Col d'Amieu, 650 m, 31.III.1968, J. L. Gressitt & T. C. Maa; 1 ♀, Pirogue, Col de la, VI.1950, N. L. H. Krauss; 1 ♀, La Crouen, 16.III.1961, J. Sedlacek (BISHOP). 1 ♂, 1 ♀, Plaine des Lacs area, 6.XI.1958, C. R. Joyce; 1 ♂, Plateau de

Other material examined: NEW CALEDONIA: Col des Pirogue, 14.II.1963, 5 larvae, C. M. Yoshimoto; Col des Roussettes, 450–550 m, 4–6.II.1963, 4 larvae, C. M. Yoshimoto; Mt des Koghis, 300–600 m, 19.III.1968, 1 larva, J. L. Gressitt; Mt Koghi, 500–800 m, 23–27.X.1967, 3 larvae, J. & M. Sedlacek; Plaine des Lac area, 6.XI.1958, 1 larva, C. R. Joyce; Col de Ho, 11.II.1963, 1 larva, C. M. Yoshimoto; Loyalty Islands, Mare, La Roche, 7–8.X.1958, 1 larva, B. Malkin; Loyalty Islands, Tadine, 7–8.X.1958, 1 larva, B. Malkin (BISHOP). Mt Koghi, 27.I.1963, 1 larva, C. Yoshimoto & N. Krauss; Yahoue, I.1963, 1 larva, N. L. H. Krauss; Forêt de Thi to Hamma, 700–800 m, 16.VII.1958, 1 larva, B. Malkin & J. Rageau (MANCHESTER).

This species is very similar to *Nesogaster halli* Hincks of New Zealand, especially in the form of the male forceps, but the pronotum of *halli* is less strongly widened posteriorly and more curved laterally. The eyes of the male are larger than those of the female in both species, and in *halli* the eyes of the male are very large, longer than the length of the head behind the eyes, while in *cristata* they are shorter. A similar difference in size occurs in the eyes of the females. *N. halli* is so far known only from specimens having fully developed elytra and wings.

LABIINAE

Three species in 3 genera are now recorded from New Caledonia. *Chaetolabia canaca* (Burr) is the only species so far known from the island in which the pronotum is widened posteriorly, while the other 2 species are readily separated by size and by the differences in the forceps. All the genera occur in the Australasian Region and the Pacific, but only 1 species, *Labia curvicauda* (Motschulsky), is not endemic to New Caledonia.

Key to genera (New Caledonia)

1. Branches of forceps of both sexes not strongly setulose; those of ♂ without a ventral inner flange and those of ♀ narrowed from base, with inner margin never strongly dentated or crenulated ..... **Labia** Leach
   Branches of forceps of both sexes strongly setulose; those of ♂ with or without a ventral inner flange, and those of ♀ not narrowed from base, with inner margin with at least a ventral inner flange, the margins of which are strongly dentated or crenulated 2
2. Head transverse, depressed, both head and pronotum usually punctured and pubescent; branches of forceps of both sexes usually with a ventral inner flange but without a dorsal inner flange or this weakly indicated ..... **Chaetospania** Karsch
   Head less transverse, tumid, not depressed, both head and pronotum glabrous and impunctate; branches of forceps of ♂ simple or almost so; those of ♀ with a more strongly dentated dorsal and ventral inner margin ..... **Chaetolabia** Brindle

Genus **CHAETOSPANIA** Karsch

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

An Old World genus, extending from Africa eastwards into the Oriental and Australasian Regions and the Pacific. The taxonomy of some of the Oriental and Australasian species is confused, but the single species now recorded from New Caledonia is new and does not appear to be closely allied to species from the Western Pacific or the Papuan Region.

Chaetospania pentagonalis Brindle, **n. sp.** FIG. 20, 21

Labia canaca Burr, 1911, *Nova Caledonia* **1**: 323 (partim).

Dark reddish brown, head, pronotum, elytra, and wings somewhat darker; antennae and legs yellowish brown, femora vaguely darkened. Cuticle rather dull, punctured and pubescent, except for last abdominal tergite which is rather coarsely coriaceous.

♂ (FIG. 20): head transverse, eyes rather large; 1st antennal segment relatively short, 2nd transverse, 3rd segment shorter than either 4th or 5th, distal segments elongated and moniliform, pubescent, and with longer yellow hairs. Pronotum parallel sided, lateral margins straight, posterior margin convex. Elytra and wings fully developed. Legs relatively short, femora broad. Abdomen depressed, almost parallelsided, lateral tubercles absent from 3rd tergite and very small on 4th tergite; last tergite transverse, large. Each branch of forceps trigonal at base, inner margin slightly sinuate, ventral inner margin with a narrow flange which has a small tooth about 1/3 from base; pygidium declivent, ventral edge pentagonal (FIG. 20).

♀: similar to ♂; forceps with branches wider and shorter, dorsal edge more marked and darkened at base, ventral inner edge wider and dentated, pygidium short, declivent, ventral posterior margin weakly concave (FIG. 21).

Length of body, 8–8.25 mm; forceps, 3.5 mm (♂), 1.5–2 mm (♀♀).

Holotype ♂ (BASEL): Panie, Neu Caledon, Sarasin & Roux. Allotype ♀, same data. 1 ♀ paratype, Paniewald, Neu Caledon, Sarasin & Roux (BASEL).

Genus **CHAETOLABIA** Brindle

Chaetolabia Brindle, 1972, *Ins. of Micronesia* **5**: 150 (type-species: *Labia esakii* Menozzi, 1941).

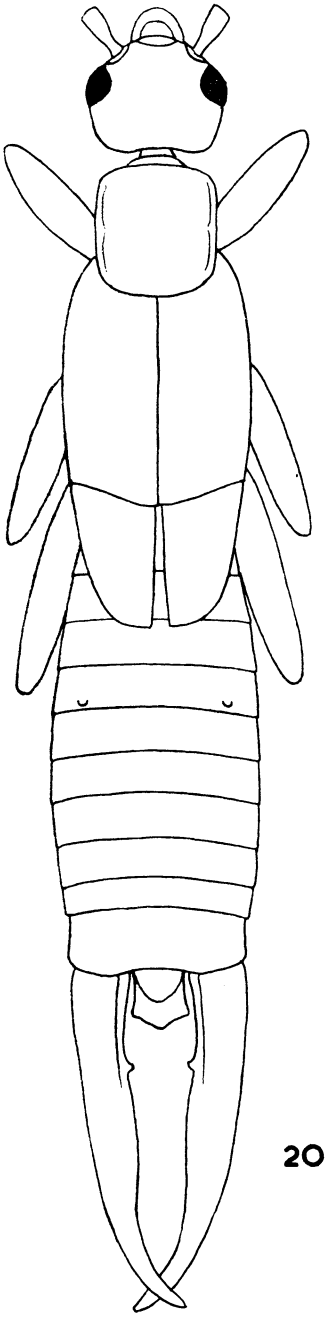
Intermediate in characters between *Chaetospania* and *Labia*. At present the genus is known from Africa and the Pacific, but some Oriental and Australasian species are likely to belong to this genus when checked. One species is recorded from New Caledonia.

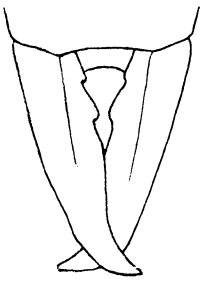
Chaetolabia canaca (Burr), **n. comb.** FIG. 22, 23, 29

Labia canaca Burr, 1903, *Ann. Mag. Nat. Hist.* ser. 7, **11**: 273; 1911, *Gen. Insect.* **122**: 56; 1914, *Nova Caledonia* **1**: 323 (partim).

Reddish brown; antennae brown to dark brown, basal segments paler; legs yellowish brown or with bases of femora darker. Cuticle rather shining, head and pronotum coriaceous with isolated very sparse yellow hairs, elytra, wings and abdomen punctured and pubescent.

♂ (FIG. 23): head transverse, tumid, eyes rather small; 1st antennal segment relatively long but shorter than distance between the antennal bases, 2nd segment transverse, 3rd longer than 4th and equal in length to 5th; distal segments moniliform, all segments pubescent and with sparse longer yellow hairs. Pronotum slightly longer than broad, widened posteriorly, lateral margins straight, posterior margin weakly convex; elytra and wings fully developed. Abdomen depressed, lateral tubercles absent from 3rd tergite and very small on 4th. Each branch of forceps trigonal and straight for basal 1/2, cylindrical and curved distally, inner margin with a small ventral tooth; pygidium large and bifid, exact shape somewhat variable (FIG. 23). Genitalia with long pointed parameres, virga broadened basally and sclerotized, and with associated sclerites (FIG. 29).





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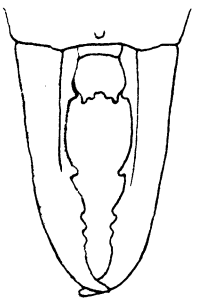

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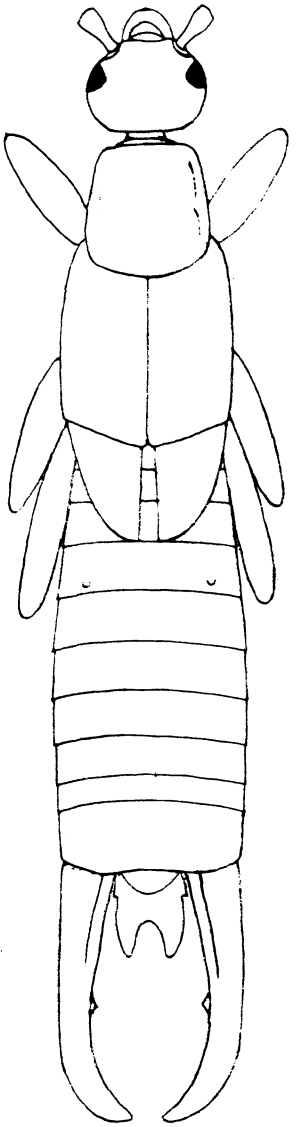

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FIG. 20, 21. *Chaetospania pentagonalis*, n. sp., ♂ dorsal; ♀ forceps. FIG. 22, 23. *Chaetolabia canaca* (Burr), ♀ forceps; ♂ dorsal.

♀: similar to ♂; posterior margin of last tergite with a small rounded tubercle medially. Each branch of forceps trigonal basally, cylindrical distally, inner ventral margin with a strongly dentated flange; pygidium angular, posterior margin excised, slightly variable in exact shape (FIG. 22).

Length of body, 7–8.5 mm; forceps, 2–2.75 mm (♂♂), 1.75–2.25 mm (♀♀)

Type-locality: New Caledonia (endemic). Types in BMNH.

Material examined: NEW CALEDONIA: Noumea, holotype ♂, paratype ♂ (BMNH). Nouvelle Caledonie, Noumea, 1 ♀, Godillot (ex. coll. de Bormans) (BMNH). Canala, 1911, 1 ♀ (with written label "6c *Labia canaca* Burr, Mt Canala, XI.11, ♀, Neu Caledonien, gesch. Drs. F. Sarasin and Roux, 1914") (BASEL). Forêt de Thi to Hamma, 700–800 m, 16.VII.1958, 7 ♂♂, 8 ♀♀, 3 larvae, B. Malkin & J. Rageau; Mt des Koghis, 300–600 m, and 600–900 m, 19.III.1968, 1 ♂, 1 ♀, J. L. Gressitt & T. C. Maa; Mt des Koghis, 450–600 m, 4–6.X.1967, 1 ♀, J. Sedlacek; Sarramea, nr La Foa, VII.1950, 1 ♂, N. L. H. Krauss; Mt Koghi, 26–30.I.1963, 1 ♀, light trap, C. M. Yoshimoto & N. L. H. Krauss; Col. d'Amieu, 450 m, 31.I.1963, 1 larva, C. M. Yoshimoto; Ile des Pins, Kuto, 13.VII.1958, 1 larva, B. Malkin; LOYALTY ISLANDS: Mare, La Roche, 7–8.X.1958, 1 ♂, B. Malkin; Tadine, 9–14.X.1958, 2 ♀♀, B. Malkin (BISHOP).

This is an endemic species. The record of Burr (1908) of a female specimen from the New Hebrides is an error. The specimen has been examined and belongs to a new species, endemic to the New Hebrides, and which is being described elsewhere (Brindle, in press).

Genus **LABIA** Leach

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

Small species, usually dull, with small eyes; elytra and wings usually fully developed but a number are wingless; elytra and wings punctured and pubescent. A relatively small genus but one found in all faunal Regions, and which includes a few cosmopolitan species. Only 1 species, which is cosmopolitan, is recorded from New Caledonia.

Labia curvicauda (Motschulsky) FIG. 28

Forficesila curvicauda Motschulsky, 1863, *Bull. Soc. Nat. Moscou* **36**: 2.
Labia curvicauda: Burr, 1911, *Gen. Insect.* **122**: 56.

This species is usually recognisable by its strongly depressed body, small size, and short and broad forceps, those of ♂ being strongly curved (FIG. 28), and those of ♀ being more or less straight and contiguous. Typically blackish, with abdomen reddish and legs yellow with femora partially darkened. Length of body, 4.5 mm; forceps, .75–1.25 mm.

Type-locality: Ceylon. Type lost.
Material examined: LOYALTY ISLANDS: Mare, La Roche, 7–8.X.1958, 2 ♂♂, 1 ♀, B. Malkin (BISHOP).

This is a new record for New Caledonia and its associated islands. It is recorded from the New Hebrides but only as an isolated record. Abundant in Micronesia and circumtropical in distribution.

CHELISOCHIDAE

An Old World family, mainly distributed in the Oriental and Australasian Regions and the Pacific, in the latter area being almost entirely represented by *Chelisoches morio* (Fabricius) which is the dominant species. Although *C. morio* has a cosmopolitan distribution it is mainly adventive outside the Regions mentioned, and has its main centre in the Pacific. Two species in 2 genera are recorded from New Caledonia, *Hamaxas nigrorufus* (Burr) being a new record based on 1 specimen.

Key to genera (New Caledonia)

1. Elytra pubescent; forceps of both sexes more slender, those of ♂ widely separated at base and arcuate, those of the ♀ shorter, and more or less contiguous; ♂ genitalia with triangular parameres (FIG. 30); a smaller dark species but not almost entirely black ..... **Hamaxas** Burr
   Elytra glabrous; forceps of both sexes broader, especially those of ♂, which have the inner margins strongly dentated, branches being more or less straight except towards apices, or only weakly arcuate, those of ♀ more slender than those of ♂, straight, and almost contiguous; ♂ genitalia with longer, narrower parameres, not triangular in shape; a larger, almost entirely black species as a rule, although sometimes reddish brown ..... **Chelisoches** Scudder

Genus **CHELISOCHES** Scudder

Lobophora Serv., 1839, *Hist. Nat. Orth:* 32 [type-species: *Lobophora rufitarsis* Serv., 1938; 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 dark colored and large species, though some are smaller. The exact limitation of the genus is not entirely satisfactory at present, and some revision is necessary. The single species recorded from New Caledonia, however, is the type-species and is well known.

Chelisoches morio (Fabricius)

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

Chelisoches morio: Burr, 1911, *Gen. Insect.* **122**: 65; 1914, *Nova Caledonia* **1**: 324. – Kaltenbach, 1968, *Ann. Naturh. Mus. Wien* **72**: 555 (New Caledonia).

This common Pacific species is recognizable by its almost entirely black and shining body, with legs dark except for tarsi; it sometimes has a metallic sheen on elytra and sometimes the entire insect is more or less uniformly reddish brown. Length of body, 14–18 mm; forceps, 4–7 mm.

Type-locality: Tahiti. Syntypes in BMNH and Kiel Museum.

Material examined: NEW CALEDONIA: Puebo, coast, 457 m (1500 ft), IX.1949, 1 ♂, L. E. Cheesman; Houadon R., 28.II.1914, 3–15.XI.1914, 1 ♂, 1 ♀, P. D. Montague; Mt Doe, 4.IV.1914, 1? (abdomen missing), P. D. Montague; Ngoe, 10.V.1914, 1 ♀, P. D. Montague; Mt Mou, 14.III.1914, 1 ♀, P. D. Montague (BMNH); Noumea, V–VI.1950, 1 ♂, 1 ♀, N. L. H. Krauss; Noumea, Ile Martre, VII.1950, 2 ♂♂, N. L. H. Krauss; Bourail, 5.II.1963, 1 ♂, J. L. Gressitt; La Crouen, III.1959, 2 ♀♀, N. L. H. Krauss; La Crouen, 16.III.1961, 1 ♀, 1 larva, J. Sedlacek; 1.6 m, E of Poidimie, 12.V.1945, 1 larva, H. E. Milliron; Yate, 2–50 m, 25–26.III.1968, 1 larva, J. L. Gressitt & T. C. Maa; Col d'Amieu, 750 m, 3.III.1960, 1 larva, J. L. Gressitt; Ile de Pins, Kuto, 12.VII.1958, 1 ♀, B. Malkin & J. Rageau; III.1959, 1 larva, N. L. H. Krauss; LOYALTY ISLAND: Mare, Tadine, 9–14.X.1958, 1 ♂, B. Malkin; 3.6 km NW of Cengeite, 13.X.1950, 2 ♀♀, B. Malkin; We, Lifou Is., 30–31.I.1962, 1 ♀, N. L. H. Krauss; 16–18.II.1963, 1 ♀, 1 larva, C. M. Yoshimoto; Lifu, near We (Gue), 2–35 m, 26–28.III.1968, 5 larvae, T. C. Maa; Ouvea, Fayaoue, 0–50 m, I.1969, 1 larva, N. L. H. Krauss (BISHOP).

Little variation normally occurs in this species apart from relatively small differences in the structure of the male forceps and in the length of the female forceps.

Genus **HAMAXAS** Burr

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

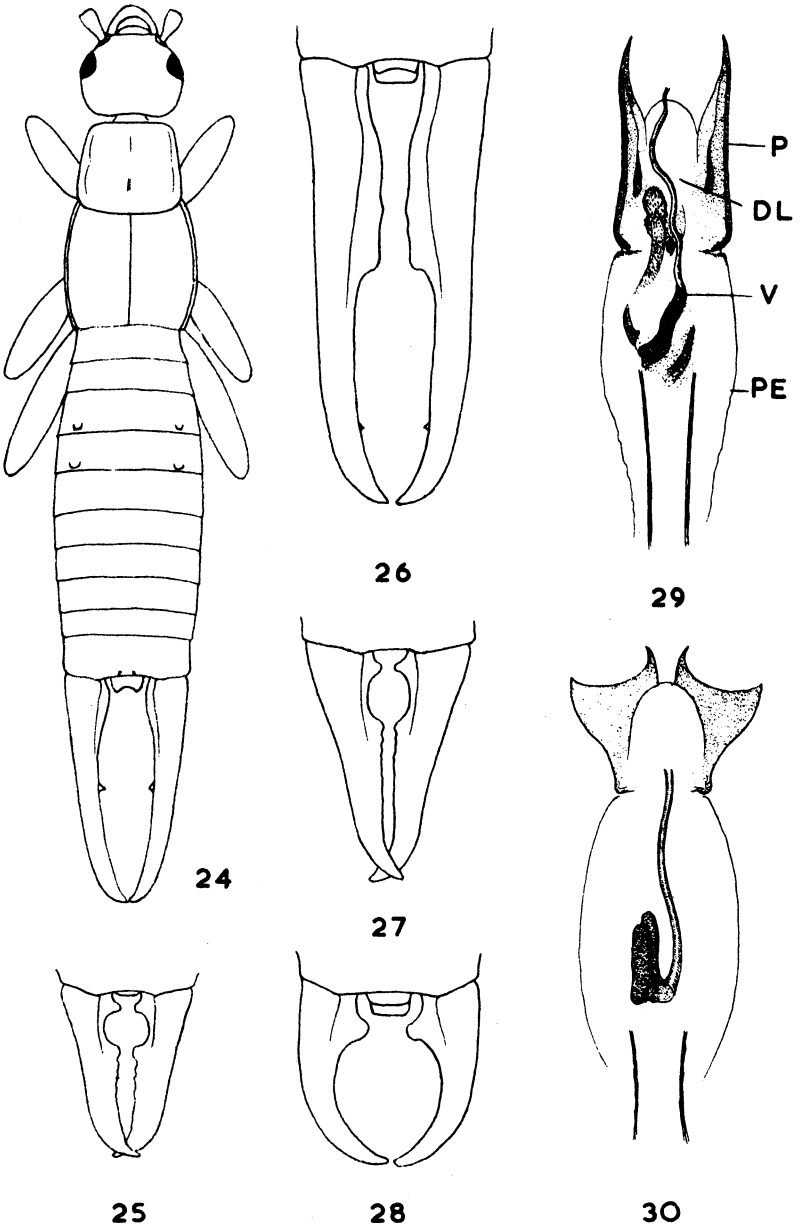

FIG. 24, 25. *Nesogaster cristata,* n. sp., ♂ dorsal; ♀ forceps. FIG. 26, 27. *N. tristis* (Bormans), ♂ forceps; ♀ forceps. FIG. 28. *Labia curvicauda* (Motschulsky), ♂ forceps. FIG. 29. *Chaetolabia canaca* (Burr), ♂ genitalia. FIG. 30. *Hamaxas nigrorufus* (Burr), ♂ genitalia (DL = distal lobe; P = paramere; PE = penis; V = virga).

A rather distinctive genus in which the elytra and wings are pubescent, and the male genitalia have triangular parameres, or at least the median part of the paramere is much widened. The virga has 2 basal sclerites, as in other genera of the family. The genus is Oriental, Australiasian, and Pacific in distribution, but only the present species occurs in the latter area, and this is the one recorded from New Caledonia.

Hamaxas nigrorufus (Burr) FIG. 30

Spongiphora nigrorufa Burr, 1902, *Termesz. Füz.* **25**: 480.
Hamaxas papuanus Burr, 1909, *Nova Guinea* **9**: 23.
Spongovostox nigrorufus: Burr, 1911, *Gen. Insect.* **122**: 52.
Hamaxas nigrorufus: Burr, 1916, *J. Roy. Micr. Soc.* **1916**: 10.

Blackish, rather dull, abdomen often reddish or partly reddish; legs yellowish to blackish. Length of body, 7–9 mm; forceps, 3–4.5 mm (♂♂), 1.5–2.5 mm (♀♀).

Type-locality: New Guinea. Types in Hungarian National Museum.

Material examined: NEW CALEDONIA: Puebo, coast, 457 m (1500 ft), X.1949, at light, 1 ♀, L. E. Cheesman (BMNH).

This is a new record for New Caledonia, and the species does not seem to be frequent in the southwest Pacific, but a few records exist for the New Hebrides; most frequent in New Guinea, the Solomon Islands, and Micronesia. The species also occurs in Hawaii.

Acknowledgements : My sincere thanks are due to Dr J. Linsley Gressitt for the loan of the specimens from the B. P. Bishop Museum, Honolulu, and for kindly arranging for the editing and publication of the present paper in Pacific Insects. I am also indebted to Dr D. R. Ragge and Mrs J. Marshall for facilities freely granted for examining specimens in the British Museum (Natural History); to Dr C. Baroni Urbani of the Naturhistorisches Museum, Basel, for his kindness in sending type specimens on loan and for allowing me to select lectotypes from them; and to Dr A. Kaltenbach of the Naturhistorisches Museum, Vienna, for the loan of the specimen of *C. superba,* and for his comments on the validity of this record and that of *colossea.*

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