

INSECTS OF MICRONESIA

Heteroptera: Anthocoridae¹

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INTRODUCTION

The Anthocoridae or "flower bugs" are predaceous. Though a few common species are often found on flowers, most live in unexposed niches. They occur in many different situations, such as under loose bark, in leaf litter, in decaying fruits and vegetables, in beetle galleries in shelf fungi, in stored grain products, in the nests of birds and wood rats, and in several kinds of epiphytes. Much of the material treated in the present report was collected at light.

Usinger (1946: 52-57; 1951a: 317) recorded seven species in six genera of anthocorids from Micronesia. The present report increases the number to 20 species belonging to 13 genera. Approximately 400 specimens were available for study. A list of the various collectors is given by Gressitt (1954).

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The collections are deposited in the following institutions: United States National Museum (US); B. P. Bishop Museum (BISHOP); Chicago Natural History Museum (CM); Kyushu University (KU); Museum of Comparative Zoology (MCZ).

DISTRIBUTION

The distribution pattern of Micronesian anthocorids, as shown in table 1, is almost identical with that known for other families of Heteroptera. It is clear that the southern Marianas and Palau are the major source areas for most of the species. Nine of the species appear to be restricted to these two areas, which may reflect more intensive collecting on these islands. Of the six species that are very widespread in Micronesia, only one, *Buchananiella sodalis* (White), is found from the northern Marianas to the Gilberts. Elsewhere,

¹ This represents, in part, Results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 129.

Table 1. Distribution of Micronesian Anthocoridae

	MICRONESIAN ISLAND GROUPS										Other Localities	
	Bonin	N. Mariana	S. Mariana	Caroline						Marshall		Gilbert
				Palau	Yap	Caroline Atolls	Truk	Ponape	Kusaie			
Anthocorinae												
1. <i>Bilia</i> sp.	×											
2. <i>Blaptostethus pacificus</i> *			×									
3. <i>Kitocoris omura</i> *	×											
4. <i>Montandoniola moraguesi</i>				×								France, Italy, Spain, Portugal, Africa, India, Japan, China, Hawaii
5. <i>Orius niobe</i> *			G†									
6. <i>Orius</i> sp.	×											
Lyctocorinae												
7. <i>Tiare nesiotis</i> *				×								
8. <i>Amphiareus constrictus</i>			×	×	×				×			Africa, through SE Asia, North and South America
9. <i>Buchananiella sodalis</i>		×	×	×	×		×	×	×	×	×	Africa, Hawaii, North and South America including West Indies
10. <i>Cardiastethus minutissimus</i>			×	×	×	×	×	×	×			
11. <i>Lasiochilus marianensis</i>			×	×	×		×	×	×	×		
12. <i>L. swezeyi</i>			×						×			
13. <i>L. palauensis</i> *			×	×								
14. <i>L. mesostenus</i> *			×		×							
15. <i>L. campylus</i> *			×									
16. <i>L. ather</i> *			×		×							
17. <i>Physopleurella mundula</i>		×	×	×	×			×	×	×		Widespread in the Pacific
18. <i>Scoloposcelis parallelus</i>			×	×								Tropical Asia, Taiwan, Java, New Guinea, Australia
19. <i>Xylocoris galactinus</i>											×	Cosmopolitan
20. <i>X. dybasi</i> *			×									

* Described as new.

† Guam only.

this species has been collected in Africa, North and South America, and the West Indies.

It is not surprising that four new *Lasiochilus* species were found in the Micronesian material. As four of the main Hawaiian Islands each have an endemic species and there are six endemics in the Seychelles, I expect that even more new species will be found in the numerous islands of Micronesia.

SYSTEMATICS

Family ANTHOCORIDAE

Very small, oval or elongate-oval species. Head prolonged anteriorly, rostrum 3-segmented, antennae 4-segmented, ocelli present (in Micronesian forms). Hemelytra with a distinct cuneus and embolium, cuneal fracture well developed, membrane without closed cells, its veins few or wanting. Tarsi 3-segmented, pseudarolia sometimes present. Adults with well-developed metapleural scent gland openings. Male genitalia strongly asymmetrical. Nymphs with three pairs of dorsal abdominal scent gland openings.

The characters used to separate the subfamilies and tribes of the Anthocoridae are not completely satisfactory. For the sake of convenience, I have listed the genera under the subfamilies to which they are currently assigned. However, no attempt has been made to separate the subfamilies in the key. Tribes are discussed only in connection with the two new genera, *Kitocoris* and *Tiare*.

KEY TO GENERA OF MICRONESIAN ANTHOCORIDAE

- | | | |
|-------|---|----------------------|
| 1. | Metapleural scent gland opening curved forward, often reaching anterior margin of metapleuron..... | 2 |
| | Metapleural scent gland opening directed backward, usually continuing as a fine carina which curves forward to anterior margin of metapleuron | 8 |
| 2(1). | Anterior femora spined..... | 3 |
| | Anterior femora unarmed..... | 4 |
| 3(2). | Scent gland opening small, evenly curved forward (fig. 1, <i>a</i>), not reaching anterior margin; front femora with a few weak spines..... | <i>Scoloposcelis</i> |
| | Scent gland opening large, angulate near middle (fig. 1, <i>b</i>); front femora with 5 or more strong spines..... | <i>Blaptostethus</i> |
| 4(2). | A prominent collar on anterior margin of pronotum..... | 5 |
| | Collar absent or very obscure..... | 6 |
| 5(4). | Collar enclosed between anterior apical angles of pronotum, lateral margins of pronotum sharply, prominently reflexed; all antennal segments of approximately equal thickness..... | <i>Kitocoris</i> |
| | Collar lying completely in front of anterior apical angles of pronotum, lateral margins narrowly carinate, not broadly reflexed; first and second antennal segments very stout..... | <i>Montandoniola</i> |
| 6(4). | Last two antennal segments filiform, clothed with very long hairs, each much longer than diameter of antennal segment; scent gland opening large and broad (fig. 1, <i>c</i>)..... | <i>Xylocoris</i> |
| | Last two antennal segments scarcely thinner than segments one and two, clothed with short hairs..... | 7 |

- 7(6). Scent gland opening angulate, anterior margin very smooth and shining (fig. 1, *d*); pronotum with a pair of calluses near anterior margin.....*Orius*
Scent gland opening evenly curved from base, its apex reaching anterior margin of metapleuron; no calluses on the pronotum.....*Bilia*
- 8(1). Scent gland quite small, not continuing forward from its posteriorly directed apex to anterior margin of metapleuron.....*Lasiophilus*
Scent gland continuing to anterior margin of metapleuron, usually as a very fine carina9
- 9(8). Anterior tibiae bowed, anterior femora armed with spines; beak not reaching anterior coxae.....*Physopleurella*
Anterior tibiae straight, anterior femora, at most, with slender hairs; beak reaching anterior coxae.....10
- 10(9). Middle and hind tibiae with a continuous row of long hairs, each much longer than diameter of tibia, hind tibiae slightly bowed; pronotal collar very narrow; second antennal segment hardly longer than interocular width*Tiare*
Middle and hind tibiae without long hairs, the pubescence not longer than diameter of segment; hind tibiae straight; pronotal collar wide; second antennal segment much longer than interocular width.....11
- 11(10). Apices of corium and embolium subequal in width; a bifurcate spine on apex of metasternum and hidden by hind coxae.....*Amphiareus*
Apex of corium almost twice as wide as that of embolium; no spine on apex of metasternum.....12
- 12(11). Scent gland opening distinctly bowed posteriorly where it joins a very fine carina which curves abruptly forward to anterior margin of metapleura (fig. 1, *e*); pubescence of dorsal surface long, dense, semierect.....*Buchananiella*
Scent gland opening almost straight basally but directed posterolaterally where it curves evenly forward to anterior margin of metapleura (fig. 1, *g*); pubescence of dorsal surface fine, semiappressed.....*Cardiastethus*

SUBFAMILY ANTHOCORINAE

In this subfamily, the third and fourth segments of antennae are short and fusiform. The hairs on these segments are short, hardly longer than diameter of segments.

Genus *Bilia* Distant

Bilia Distant, 1904, Fauna Brit. India 2: 480 (type-species: *fracta* Distant, Ceylon).

Biliola Carvalho, 1951, Anais Acad. Brasil. Cienc. 23 (4): 386 (type-species: *castanea* Carvalho, India).

Only a few species of the genus have been described. Most of these occur in Japan; one or two others are known from India, Ceylon, and Taiwan. Undetermined species have been observed feeding on aphids and the eggs and nymphs of cicadellids [Carayon and Miyamoto, 1960, Mushi 33 (4): 31].

1. *Bilia* sp. ?

BONIN IS. CHICHI JIMA: July 1951, R. M. Bohart. Only a single, badly mutilated specimen of this genus is at hand.

Genus *Blaptostethus* Fieber

Blaptostethus Fieber, 1860, Wien. Ent. Monatschr. 4: 265 (type-species: *piceus* Fieber, Celebes).

Blaptostethus occurs in Africa and in the islands from Japan south into the East Indies. Very little is known of the habits of this genus. Carayon (1958, Soc. Sci. Madagascar, Mem. 9: 343) reported the finding of large numbers of *B. plenetii* Carayon in all developmental stages in the nests of weaverbirds.

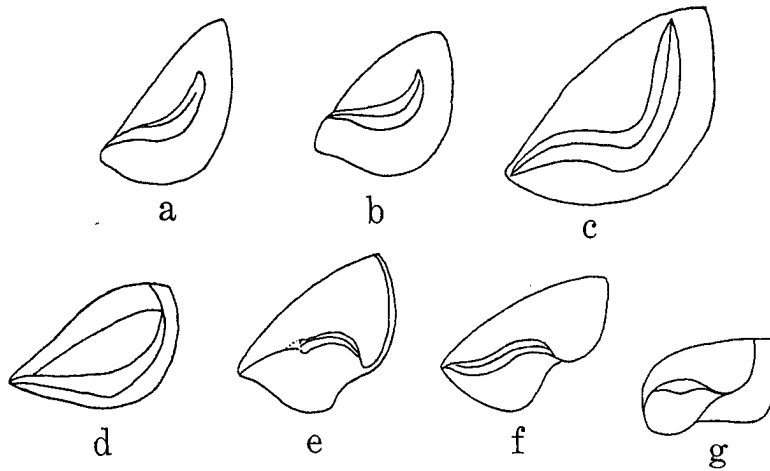


FIGURE 1.—Scent gland openings: a, *Scoloposcelis parallelus*; b, *Blaptostethus pacificus*; c, *Xylocoris dybasi*; d, *Orius niobe*; e, *Buchananiella sodalis*; f, *Tiare nesiotis*; g, *Cardiastethus minutissimus*.

2. *Blaptostethus pacificus* Herring, n. sp. (fig. 2).

Relatively small, slender, parallel-sided; inner margins of clavus along scutellum and claval suture, and cuneus brown; antennal segment 2 longer than width of head across eyes; fore femur of male with 7 spines, female with 4 to 6.

Head slightly broader across eyes than long, 33:29², anteocular portion a little shorter than an eye, 12:15. Eyes rather large, over one-half as wide as interocular space. Disk smooth and shining. Rostrum barely reaching apex of anterior coxae, proportion of segments 1-3, 9:25:19. Antennae slender, segment 1 clearly surpassing apex of head, 2 longer than width of head across eyes in male, 37:33, subequal in female, proportion of segments 1-4 (female allotype), 12:34:23:22.

Pronotum subequal in length to head on median line, approximately twice as broad as long, 57:28; sides straight posteriorly, rounded only at anterior margins; median shallow groove extending almost the entire length, ending shortly before anterior and posterior margins. Disk smooth, polished, with faint wrinkles on anterior and posterior margins. Middle of disk with a few rather long hairs, becoming denser along lateral margins, the sides with 4 much longer, erect hairs. Scutellum subequal in length to pronotum on median line, glabrous on basal third, dull and clothed with subappressed hairs elsewhere.

² 73.5 units = 1 mm.

Hemelytra exceeding tip of abdomen, clavus, corium, and cuneus impunctate, uniformly clothed with moderately long, semierect, backwardly directed hairs. Embolium one-half as wide as corium at level of cuneal fracture. Membrane dull except for shining narrow basal stripe.

All femora moderately swollen, front pair a little more than one-third as thick as long, provided with a row of robust spines (7 in male, 4 to 6 in female), middle and hind pair unarmed.

Posterior border of left side of abdominal sternite 3 of male provided with a glandular apparatus consisting of a large, oval patch of tightly compressed, short, whitish hairs.

Male genital clasper (fig. 2) as seen from above, sharply angled at base, constricted at middle and provided with 1 apical and 2 lateral fingerlike spines.

Color brown. Basal three-fourths of corium, outer margin of clavus, ochraceous. Membrane fuscous. Tibiae and tarsi becoming ochraceous apically. Last three segments of antennae ochraceous.

Size: Length of male and female 2.83 mm.

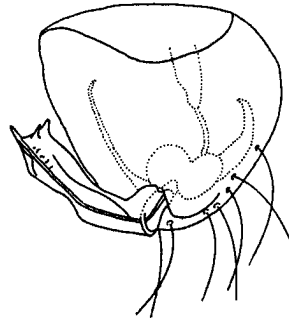


FIGURE 2.—*Blaptostethus pacificus*, male genitalia from above.

Holotype, male (KU), allotype, female, paratypes, five females, Garapan, Saipan, Sept. 20, 1939, Esaki; male, Saipan, June 29, 1951, Bohart.

DISTRIBUTION: S. Mariana Is. (Saipan).

Blaptostethus pacificus appears most closely related to *B. esakii* (Hiura), new combination, originally described as a *Lasiochiloides*, but differs in coloration, proportion of antennal segments, and armature of the front femora. The male further differs from all known species by the shape of the male clasper and the form of the glandular apparatus.

Genus *Kitocoris* Herring, new genus

Body elongate-ovate. Surface shining, generally very shallowly punctured or shagreened, with rather long, semierect pubescence, clothing of hairs on hemelytra arranged in distinct rows. Lateral margins of pronotum without hairs.

Head subtriangular, broader across eyes than long, constricted behind eyes into a distinct neck. Eyes large, protruding, remote from anterior margin of pronotum. Ocelli rather small, situated near posterior angles of eyes. Antennae short, all segments of equal thickness. Rostrum very short, not reaching bases of anterior coxae, segment 2 not reaching posterior margin of eye.

Pronotum almost trapezoidal, its posterior margin sinuate, front margin almost straight. Anterior collar very prominent, distinctly constricted laterally and completely enclosed within anterolateral margin. Disk convex, finely punctured, with a distinct transverse depression behind middle forming two lobes, front lobe very convex. Lateral margins of the pronotum widely laminately expanded and reflexed, the expansion widened between lobes. Scutellum almost equilateral, convex and shining in front, then flattened and finely rugulose.

Hemelytra broader and longer than abdomen, shallowly punctate and clothed with long, serially arranged hairs; costal margin laminately expanded and moderately reflexed; width of embolium subequal to corium at level of cuneal fracture; cuneus three-fourths as long as embolium. Membrane narrow, with 2 short veins.

Scent gland opening very much like that of *Orius*; broad, curved forward to anterior margin of metapleura, anterior margin shining.

Legs nearly alike, femora rather enlarged, unarmed. Front and hind coxae contiguous. Front tibiae spined, tarsi provided with pseudarolia.

Ovipositor well developed.

Type-species: *Kitocoris omura*, n. sp.

Kitocoris differs from all other anthocorids in the laminately expanded and reflexed lateral margins of the pronotum. Even so, it belongs in the subfamily Anthocorinae and the tribe Oriini [*sensu* Carayon, 1958, Mus. Nat. Hist. Nat., Mem. 16 (5): 154].

Many characteristics of *Kitocoris*, especially the structure of the scent gland opening, show affinities with *Orius*, but it differs in the characters mentioned above and in the structure of the head, presence of a prominent collar, shorter beak, and the explanate margins of the hemelytra with its narrow membrane.

3. *Kitocoris omura* Herring, n. sp. (fig. 3).

Small, oblong oval; chestnut brown, hemelytra paler, membrane smoky; antennal segment 2 less than width of vertex including one eye; front coxae, basal half of front femora, a band on middle femora chestnut brown, remainder of legs straw yellow.

Head broader across eyes than long, 31:25; anteocular portion shorter than an eye, 8:12; eyes large, approximately one-half as wide as interocular space; disk smooth and shining. Rostrum very short, not reaching anterior coxae, proportion of segments 1-3, 5:11:15. Antennae slender, only slightly longer than head and pronotum combined, proportion of segments 1-4, 10:19:13:13.

Pronotum subequal in length to head on median line, approximately twice as broad as long, 58:27; sides evenly but gently rounded; evenly punctured except middle of callused area and reflexed margins, most densely so on collar; pubescence long and fine, absent on lateral margin, sparse on disk of callused area. Scutellum subequal in length to pronotum on median line, glabrous, thickly clothed with pale hairs.

Hemelytra translucent; exceeding lateral and apical margins of abdomen; finely, shallowly punctate; clothed with rows of rather long, semierect, backwardly directed hairs. Membrane dull except for shining narrow basal stripe.

Color chestnut brown, shining. Basal two antennal segments somewhat paler, hemelytra varying from almost straw yellow along reflexed lateral margins to chestnut brown along claval commissure and cuneus; membrane dull, smoky. Front coxae, basal half or more of front femora, a paler stripe on middle femora, chestnut brown; remainder of legs straw yellow.

Size: Length 2.25 mm., greatest width 1.00 mm.

Male unknown.

Holotype, female (US 69188), Omura, Chichi Jima, June 19, 1949, Mead.
DISTRIBUTION: Bonin Is. (Chichi Jima).

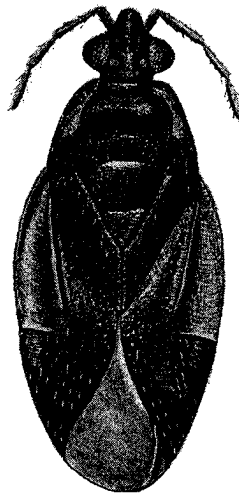


FIGURE 3.—*Kitocoris omura*, female, holotype.

Genus **Montandoniola** Poppius

Montandoniola Poppius, 1909, Acta Soc. Sci. Fenn. 37 (9) : 30 (type-species: *Montandoniella moraguesi* Puton, Majorca).

Teisocoris Hiura, 1959, Osaka Mus. Nat. Hist., Bull. 11:1 (type-species: *Ectemnus pictipennis* Esaki, Japan).

The distribution and food habits of this genus are discussed under *moraguesi*. The only other species is known from a single female, the type, from Mt. Kilimanjaro.

4. **Montandoniola moraguesi** (Puton).

Montandoniella Moraguesi Puton, 1896, Rev. d'Ent. 15: 233.

Montandoniola moraguesi: Poppius, 1909, Acta Soc. Sci. Fenn. 37 (9) : 30.

Montandoniola thripodes Bergroth, 1916, U. S. Nat. Mus., Proc. 51 (2150) : 233.

Ectemnus pictipennis Esaki, 1931, Annot. Zool. Japon. 13: 264.

DISTRIBUTION: France, Spain, Portugal, Italy, Africa, Canary Is., India, China, Japan, Philippines, Caroline Is., Hawaiian Is. (introduced).

PALAU. BABELTHUAP: Two, Kaishar-Ngardok-Ngiwal, Aug. 1939, Esaki.

M. moraguesi appears to feed exclusively on Thysanoptera. Carayon (1961, South African Animal Life 8: 542) reported on specimens from Grahams-

town that were "feeding on thrips in curled leaves of *Ficus craterostoma*." It was reported [Herring, 1966, Ent. Soc. Washington, Proc. 68 (2):93] as a very effective predator of the Cuban laurel thrips, *Gynaikothrips ficorum* (Marchal), and in 1964 it was introduced into Hawaii from the Philippines for the control of this pest.

Genus *Orius* Wolff

Orius Wolff, 1811, Icon. Cim. 5: IV (type-species: *Salda nigra* Wolff, Germany).

Triphleps Fieber, 1860, Wien. Ent. Monatschr. 4: 266 (type-species: *Salda nigra* Wolff).

This is a large genus with worldwide distribution. Members of this genus are frequently encountered as hitchhikers on plant material at ports-of-entry into many countries. They have been intercepted on a wide variety of cut flowers and ornamentals as well as on cotton, potatoes, corn, peppers, and several kinds of beans. Two of the North American species have been introduced into Hawaii for control of agricultural pests.

5. *Orius niobe* Herring, n. sp. (fig. 4).

Head broader across eyes than long, 24: 20; reddish brown, vertex rugulose, shining; ocelli large and prominent, close to eyes, the latter large; narrowest portion of vertex less than twice width of an eye, 11: 7; pubescence short and fine. Antennae short, segment 2 rather stout, much shorter than width of head across eyes, 14: 24, pale yellow, segment 4, reddish; proportion of segments 1-4, 6: 14: 10: 14. Rostrum reaching middle of front coxae. Pronotum almost 2.5 times as broad as long, 43: 18; reddish brown; strongly punctate; calluses almost smooth, only punctate medially; posterior depression behind calluses distinct; lateral margins straight for almost entire length, only very slightly rounded at anterior margins; basal margin slightly concave; pubescence short and fine. Scutellum similar to pronotum in color and pubescence; depressed at middle, both lobes shining, faintly shagreened. Hemelytra pale straw yellow, translucent; cuneus almost transparent, no dark markings; rather densely, unevenly punctured; pubescence short and fine; membrane white; cuneus over one-half as long as embolium, 22: 39.

Ventral surface reddish brown, legs pale yellow. Front femora of male with 1 or 2 small black tubercles near middle. Cone of left clasper thick at base, unevenly tapered, no tooth visible. Flagellum tripartite, middle part about equal in length to the cone (fig. 4).

Size: Male, length 1.63 mm., greatest width 0.58 mm.; female, length 1.74 mm., greatest width 0.69 mm.

Holotype, male (US 69189), Yona, Guam, S. Mariana Is., Oct. 1952, Krauss. Allotype, female, Agana, Guam, Oct. 1952, Krauss. Paratypes, male, same data as holotype; male, Anderson Airforce Base, Guam, Aug. 1952, Krauss.

DISTRIBUTION: S. Mariana Is. (Guam).

On the basis of the male clasper, *O. niobe* does not seem to be closely related to any other species of *Orius*, as none is known with the tripartite

flagellum. The small size, and pale, translucent to transparent hemelytra should serve to separate the females from those of other species of the Pacific.

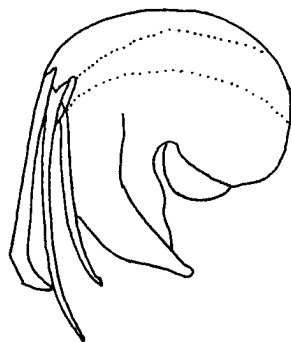


FIGURE 4.—*Orius niobe*, male genitalia from above.

6. *Orius* sp. ?

BONIN IS. CHICHI JIMA: Ani Jima, July 1949, on shelf fungi, Mead.

A single, nondescript female of *Orius* does not belong to the new species described above.

SUBFAMILY LYCTOCORINAE

In this subfamily, the third and fourth segments of the antennae are long and slender. Hairs on these segments are conspicuous, much longer than the diameter of the segments.

Genus *Tiare* Herring, new genus

Small, elongate, parallel-sided. Surface shining; pronotum evenly, deeply punctured. Pubescence dense, of median length, backwardly directed. Lateral margins of pronotum without long hairs.

Head subtriangular, rugulose, broader across eyes than long, inserted into thorax to eyes. Eyes large, protruding, almost touching anterior margin of pronotum. Ocelli large, almost touching inner posterior margin of eyes. Rostrum short, reaching to or slightly beyond anterior coxae.

Pronotum almost trapezoidal, its posterior margin only shallowly sinuate, front margin almost straight. Anterior collar narrow but distinct, placed almost entirely in front of the anterolateral margins. Disk very convex, deeply, densely punctured and with a distinct transverse depression behind middle, front lobe callused, with a few scattered punctures. Apical half of lateral margins of pronotum carinate and slightly reflexed. Scutellum almost equilateral, strongly constricted at middle by a rather broad channel with 3 circular pits, both lobes convex, smooth and shining.

Hemelytra longer than abdomen; clavus only rugulose; clothed with moderately long, dense, backwardly directed hairs; costal margins straight, parallel; width of embolium only one-third that of corium at level of cuneal fracture; cuneus only little more than half as long as embolium. Membrane with 3 equally spaced, obscure veins.

Scent gland opening (fig. 1, f) curved backward where it joins a very fine carina which extends posteriorly to hind margin of metapleura and there loops forward along the edge of the lateral margin to the anterior margin of the metapleura.

Legs nearly alike, femora somewhat enlarged, unarmed, front and hind coxae contiguous; middle and hind tibiae with an evenly spaced row of long spinelike hairs, those on hind tibiae much longer than the diameter of the tibiae; hind tibiae bowed.

Type-species: *Tiare nesiotis*, n. sp.

Tiare is apparently most closely related to *Cardiastethus* although at first glance one is reminded of the small dark species of *Orius*. The scent gland (fig. 1, f) is clearly different from that of either of these and strongly resembles that of *Buchananiella*.

From *Cardiastethus*, *Tiare* can be separated by the shallowly sinuate base and the broader, reflexed lateral margins of the pronotum, the long, spinelike hairs on the tibiae and the looped carina extending from the scent gland.

The resemblance to *Orius* is only superficial. The last two antennal segments of the only specimen of *Tiare* are missing so I did not at first recognize this genus as a lycocorine. *Orius* belongs to a tribe in the Anthocorinae which is characterized by the presence of pseudarolia.

7. *Tiare nesiotis* Herring, n. sp. (fig. 5).

Very small, elongate-oval species; chestnut brown, hemelytra somewhat paler; membrane dark; antennal segment 2 less than width of vertex including one eye; under surface and all legs, chestnut brown.

Head broader across eyes than long, 28:22; anterior portion shorter than an eye, 9:12; eyes large, almost as wide as interocular space; disk finely rugulose, shining. Rostrum short, reaching slightly beyond anterior coxae, proportion of segments 1-3, 8:16:14. Antennal segment 2 less than width of vertex including one eye, 16:20 (segments 3 and 4 missing).

Pronotum longer than head on median line, approximately twice as broad as long, 42:20; sides almost straight; evenly, deeply punctured except middle of callused area, pubescence of moderate length, dense everywhere except on callused area. Scutellum slightly longer than pronotum on median line, glabrous, evenly clothed with pale hairs on both lobes and on the broad transverse canal.

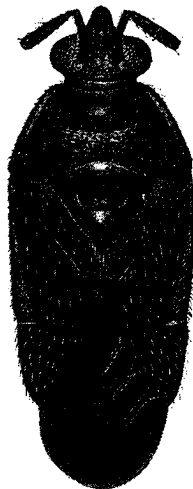


FIGURE 5.—*Tiare nesiotis*, male, holotype.

Hemelytra, particularly the clavus, becoming more shining laterally and apically; clavus coarsely, shallowly punctate, more strongly so on margins bordering scutellum; corium impunctate or with a few vague punctures; evenly clothed with fine pubescence. Membrane brown, dull except for shining narrow basal stripe.

Color almost completely chestnut brown, only the corium somewhat paler.

Size: Length 1.60 mm., greatest width 0.62 mm.

Female unknown.

Holotype, male (BISHOP 7160), Koror, Palau, Apr. 14, 1953, Beardsley.

DISTRIBUTION: Caroline Is. (Palau).

Genus *Amphiareus* Distant

Amphiareus Distant, 1904, Ann. Mag. Nat. Hist. VII, 14: 221 (type-species: *Xylocoris fulvescens* Walker, Ceylon).

Poronotus Reuter, 1871, Öfv. Sven. Vet. Akad., Förh. 28: 562 (type-species: *Xylocoris constrictus* Stål, Brazil). Preoccupied.

Poronotellus Kirkaldy, 1904, Entomologist 37: 280 (type-species: *Xylocoris constrictus* Stål).

8. *Amphiareus constrictus* (Stål).

Xylocoris constrictus Stål, 1860, Rio Jan. Hemipt. 2: 44.

DISTRIBUTION: North and South America, Africa, Asia, Australia, New Guinea, Hawaii, Mariana Is., Caroline Is.

S. MARIANA IS. SAIPAN: As Mahetog area, three, Jan. 1945, one, Apr. 1945, one, Nov. 1945, all Dybas. GUAM: Pt. Oca, two, May 1945, G. Bohart; one, May 1945, Dybas; four, June 1945, one, July 1945, Gressitt and Bohart; two, Asan, Dec. 1945, Gressitt; Pt. Ritidian, four, Aug. 1945, Gressitt, one, Aug. 1945, Bohart and Gressitt; one, Machanao, June 1945, Uisinger; one, Pati Pt., June 1945, Dybas; one, Agana, 545 m. SW, June 1945, Dybas.

PALAU. KOROR: Ngarbaged (Arabaketsu), one, May 1938, Murakami, three, Apr., July 1953, Beardsley.

YAP. YAP: Four, July-Aug. 1950, Goss.

KUSAIE. Four, Mutunlik, Jan., Feb. 1953, Clarke.

The rather complicated synonymy of this species which involves the names *Poronotus* and *Poronotellus* is the subject of my recent paper [Herring, 1965, Ent. Soc. Washington, Proc. 67: (3): 202].

Genus *Buchananiella* Reuter

Buchananiella Reuter, 1884, Monogr. Anthocor. (Separata), 126 (type-species: *Cardiastethus continuus* White, Madeira).

For the status of this genus and its allies see Herring [1965, Ent. Soc. Washington, Proc. 67 (3): 202-203].

This is a worldwide genus commonly intercepted in commerce. Specimens have been taken from vegetable refuse, dry paper, and foodstuffs, where they apparently feed on psocids. In Africa two species have been collected from the nests of weaverbirds.

9. *Buchananiella sodalis* (White).

Cardiastethus sodalis White, 1878, Ann. Mag. Nat. Hist. V, 1: 372.

Buchananiella sodalis (White): Reuter, 1884, Monogr. Anthocor. (Separata), 126.

DISTRIBUTION: North and South America, Africa, Indian Ocean islands, Pacific Ocean islands (including Hawaii).

N. MARIANA IS. PAGAN: One, July 1939, Yasumatsu. ANATAHAN: Four, Aug. 1951, Bohart.

S. MARIANA IS. SAIPAN: One, Dec. 1944, Hagen; Laulau Bay, two, Jan. 1945, one, May 1945, Dybas; As Mahetog area, two, Dec. 1944, five, Jan. 1945, one, Mar. 1945, three, Apr. 1945, one, May 1945, Dybas; two, Mt. Tagpochau, 380 m., Feb. 1945, Dybas; two, Kalabera area, Feb. 1945, Dybas; one, nr. Garapan, Dec. 1945, Dybas; one, hills E. of Garapan, Jan. 1945, Dybas; one, Halaihai-as Teo area, Feb. 1945, Dybas; one, Banaderu-Tanapak, May 1940, Yasumatsu and Yoshimura. TINIAN: Mt. Lasso, NW slope, one, Mar. 1945, one, Apr. 1945, Dybas. GUAM: Two, Fadang, May 1945, Dybas; one, Yigo, Aug. 1952, Krauss; one, Mt. Alifan, Apr. 1946, Krauss; one, Asan, Dec. 1945, Gressitt; one, Ritidian Pt., May 1945, Dybas; two, Anantes Pt., May 1945; two, Oca Pt., May 1945, Dybas; one, May 1945, one, June 1945, Bohart and Gressitt.

PALAU. BABELTHUAP: One, Ngerchelong, Dec. 1947, Dybas. PELELIU: Two, North Central, July 1945, Dybas. KOROR: One, Apr. 1953, one, July 1953, one, Mar. 1954, Beardsley.

YAP. YAP: One, Kanif, July-Aug. 1950, Goss; one, Gagil District, July-Aug. 1950, Goss; one, hill behind Yaptown, Nov. 1952, Gressitt.

TRUK. WENA (Moen): Six, May 1946, Townes; Mt. Teroken, Feb. 1953, Gressitt.

PONAPE, One, Colonia, Jan. 1953, Clarke; one, Mt. Nanalaud, Mar. 1948, Dybas.

KUSAIE. Mutunlik, Mar. 1953, Clarke.

MARSHALL IS. ARNO: Three, June 1950, Usinger.

GILBERT IS. KURIA: One, Nov. 1964, Perkins.

Genus *Cardiastethus* Fieber

Cardiastethus Fieber, 1860, Wien. Ent. Monatschr. 4: 266 (type-species: *luridellus* Fieber, Pennsylvania, U.S.).

Dasypterus Reuter, 1871, Öfv. K. Vet. Akad., Förh. 5: 564 (type-species: *Xylocoris limbatellus* Stål, Brazil).

Orthosolenia Reuter, 1884, Monogr. Anthocor. (Separata), 131 (type-species: *Cardiastethus brounianus* White, New Zealand).

Lippomanus Distant, 1904, Ann. Mag. Nat. Hist. VII, 14: 221 (type-species: *hirsutus*, Burma).

Members of the genus *Cardiastethus* have been collected in the same type of habitats as those of *Buchananiella*. They are common in shipments of grain and other foodstuffs. Two African species are known only from the nests of weaverbirds; one nest of *Ploceus* sp. yielded more than 200 specimens. Carayon (1957, Soc. Ent. France, Ann. 126: 187) stated that these anthocorids feed principally on psocids.

10. ***Cardiastethus minutissimus*** Usinger.

Cardiastethus minutissimus Usinger, 1946, B. P. Bishop Mus., Bull. 189: 56 (Guam).

DISTRIBUTION: S. Mariana Is., Caroline Is.

S. MARIANA IS. SAIPAN: One, Mt. Tagpochau, 379 m., Feb. 1945, Dybas; one, Tutturam, Laulau Bay, Jan. 1945, Dybas; one, As Mahetog area, Jan. 1945, Dybas. GUAM: One, Mt. Santa Rosa, May 1945, Bohart and Gressitt; one, Pt. Ritidian, June 1945, Bohart and Gressitt; one, Oca Pt., May 1945, Dybas; two, Fadang, May 1945, Dybas; one, Piti, 1 mi. S., June 1945, Dybas.

PALAU. KOROR: Three, Nov. 1947, Dybas; one, Apr. 1953, Beardsley; one, SW Koror, Dec. 1952, Dybas. NGAIANGL (Kayangel): Three, Dec. 1952, Gressitt. NGEREMEAOS (Ngiramaous): One, Nov. 1947, Dybas. PELELIU: One, north central, July 1945, Dybas; two, Ngergoi (Garakayo), Aug. 1945, Dybas.

YAP. YAP: Five, hill behind Yaptown, Nov.-Dec. 1952, Gressitt; one, Tomil District, July-Aug. 1950, Goss.

CAROLINE ATOLLS. ULITHI: One, Fassarai I., July 1946, Townes.

TRUK. WENA (Moen): Mt. Teroken, four, Dec. 1952, one, Feb. 1953, Gressitt.

PONAPE. One, Nanpohnmal, Jan. 1953, Gressitt; one, Colonia, Feb. 1948, Dybas.

KUSAIE. Mutunlik, three, Jan. 1953, two, Feb. 1953, Clarke; one, Kusaie Hill, Mar. 1953, Clarke.

Genus ***Lasiochilus*** Reuter

Lasiochilus Reuter, 1871, Öfv. K. Vet. Akad., Förh. 5: 562 (type-species: *palidulus* Reuter, United States).

Lasiochilus species are usually collected in dead plant material such as

loose bark, rotting logs, decaying fruits, shelf fungi, etc. Some of the Micronesian specimens were collected from decaying breadfruit limbs and logs and rotting *Pandanus* fruit; others were taken by beating vegetation.

KEY TO MICRONESIAN SPECIES OF LASIOCHILUS

1. Scutellum very small, width of base less than interocular width; wings at level of hind margin of pronotum broad, elevated above and overlapping edges of depressed scutellum (fig. 6, a)..... 4
 Scutellum broad, width of base greater than interocular width, wings at level of hind margin of pronotum narrow, not elevated nor overlapping edges of scutellum; scutellum flat (fig. 6, b)..... 2
2. Antennal segment 2 subequal to width of head including eyes, 2.5 times length of segment 1; pronotum over twice as broad as long; pale coloration confined to bases of clavus, corium, and cuneal fracture, male clasper as in fig. 7, a..... *marianensis*
 Antennal segment 2 shorter than width of head including eyes, approximately twice length of segment 1; pronotum not more than twice as broad as long; pale coloration either more extensive or absent..... 3
- 3(2). Sides of pronotum broadly, strongly rounded anteriorly; basal two-thirds of clavus and corium pale, male clasper as in fig. 7, b..... *swezeyi*
 Sides of pronotum almost straight from base to apex, there gently curved inward; hemelytra unicolorous, pale reddish brown; male clasper as in fig. 7, c..... *ather*
- 4(1). Anterior angles of pronotum gently rounded; body very cylindrical; almost 3.5 times as long as broad; size small, less than 1.75 mm., last three antennal segments subequal, male clasper as in fig. 7, d..... *mesostenus*
 Anterior angles of pronotum broadly rounded; body elongate oval; not more than three times as long as broad; size larger, more than 1.75 mm., last three antennal segments not subequal..... 5
- 5(4). Hemelytra mostly ochraceous; scent gland opening short, abruptly curved backward at its apical third, not nearly reaching posterior margin of metapleura; male clasper as in fig. 7, f..... *campylus*
 Hemelytra unicolorous, brown; scent gland opening long, almost reaching posterior margin of metapleura; male clasper as in fig. 7, e..... *palauensis*

11. *Lasiochilus marianensis* Usinger.

Lasiochilus marianensis Usinger, 1946, B. P. Bishop Mus., Bull. 189: 52 (Guam).

DISTRIBUTION: N. and S. Mariana Is., Caroline Is., Marshall Is.

N. MARIANA IS. PAGAN: One, Songsong, Apr. 1940, Yasumatsu and Yoshimura.

S. MARIANA IS. SAIPAN: One, Mar. 1945, Dybas; As Mahetog area, one, Nov. 1944, six, Mar. 1945, five, Apr. 1945, Dybas; Sadog Talofoto, six, Feb. 1945, one, Mar. 1945, Dybas; five, Fanaganan (Fanagam), May 1940, Yasumatsu and Yoshimura; one, nr. Garapan, Jan. 1945, Dybas; one, Garapan-Sadog Tasi, May 1940, Yasumatsu and Yoshimura; one, Mt. Tagpochau, about 380 m., Feb. 1945, Dybas. TINIAN: Two, SE section, Apr. 1945, Dybas;

Mt. Lasso, NW slope, Mar. 1945, Dybas. GUAM: Three, Feb. 1938, Oakley; four, Oca Pt., June 1945, Dybas; two, Mt. Alifan, Apr. 1946, Krauss; two, Amantes Pt., May 1945, Dybas; one, Pilgo River, May 1945, Gressitt; one, Fadian (Fadang), May 1945, Dybas.

PALAU. ANGAUR: Two, Feb. 1948, Dybas. PELELIU: One, E. coast, Jan. 1948, Dybas.

YAP. YAP: Four, S. Yap, July-Aug. 1950, Goss; five, Gagil District, July-Aug. 1950, Goss; one, Tomil-Maki, Sept. 1939, Esaki.

TRUK. WENA (Moen): Two, S. Valley, Mt. Tonaachau, Apr. 1949, Potts.

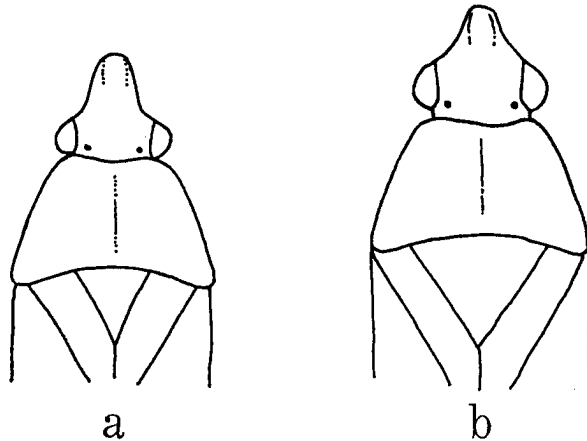


FIGURE 6.—Structure of scutellum and wing bases of *Lasiochilus* species: a, *L. mesostenus*; b, *L. swezeyi*.

PONAPE. Three, Agric. Exp. Sta., June-Sept. 1950, Adams; Colonia, one, Jan. 1953, Clarke; one, Feb. 1948, Dybas; one, Mt. Kupwuriso, N. slope, Mar. 1948, Dybas; one, Sokehs (Jokaj), Feb. 1948, Dybas.

KUSAIE. One, Lele, Aug. 1946, Oakley.

MARSHALL IS. ARNO: Two, Ine, June 1950, Usinger.

12. *Lasiochilus swezeyi* Usinger.

Lasiochilus swezeyi Usinger, 1946, B. P. Bishop Mus., Bull. 189: 54 (Guam).

DISTRIBUTION: N. and S. Mariana Is., Caroline Is.

N. MARIANA IS. PAGAN: One, Songsong, Apr. 1940, Yasumatsu and Yoshimura.

S. MARIANA IS. SAIPAN: Ten, Garapan-Sadog Tasi, May 1940, Yasumatsu and Yoshimura. GUAM: One, Piti, Oct. 1936, Swezey.

KUSAIE. Two, Mutunlik, Feb. 1953, Clarke.

13. *Lasiochilus palauensis* Herring, n. sp. (fig. 7, e).

Small, elongate-oval species, head as broad as long, pronotum strongly rounded at anterior angles, scutellum polished on basal third, male genital clasper long, curved, with a keel near middle, apex not suddenly dilated nor constricted.

Head about as broad as long, antecular part as long as eye, upper surface smooth, polished; arcuate impression between eyes obsolescent at middle. Eyes quite small, interocular space four times width of eye. Ocelli very small, near hind margin of eyes, both eyes and ocelli touching anterior margin of pronotum. Rostrum reaching middle coxae,

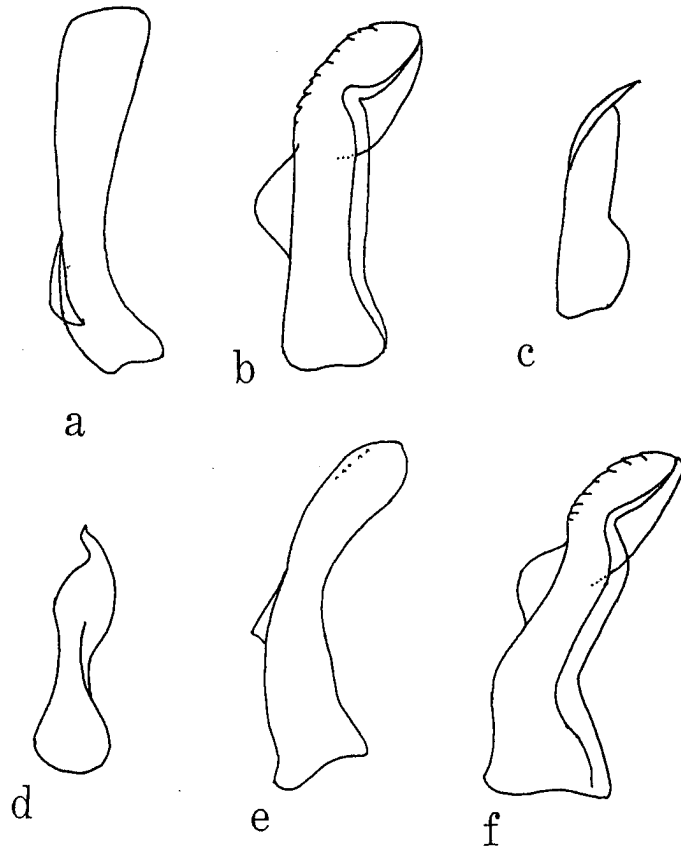


FIGURE 7.—Left claspers of males of *Lasiochilus* species: a, *L. marianensis*; b, *L. swezeyi*; c, *L. ather*; d, *L. mesostemus*; e, *L. palauensis*; f, *L. campylus*.

proportion of segments 1-3, 8:24:17. Antennae one-fourth longer than width of pronotum across humeri, 61:45, segment 1 reaching apex of head, 2 distinctly shorter than width of head across eyes, 19:22, proportion of segments 1-4, 9:19:17:16.

Pronotum subequal to head on median line, only slightly more than twice as broad across humeri as long, 45:21; sides fairly straight on posterior half, broadly, strongly rounded anteriorly. Disk smooth, polished, slightly elevated on anterior half, depressed posteriorly, the longitudinal impression short, obsolete on anterior half, ending before posterior margin. Depressed posterior area only faintly rugulose. Pubescence long but

sparse except along lateral margins where it is dense and short. Scutellum small, depressed, partially hidden under broad wing bases, visible portion of base of scutellum subequal to vertex or hardly more than one-third width of hind margin of pronotum; polished on basal third, dull elsewhere.

Hemelytra reaching tip of abdomen, dull, sides parallel; clavus, corium, and cuneus impunctate, uniformly clothed with long, subappressed, backwardly directed hairs, those along lateral margins dense. Embolium two-thirds as wide as corium at level of cuneal fracture.

Ostiolar canal evenly curved backward, not reaching posterior margin by a distance equal to width of canal at middle. All femora swollen, front ones broadest, almost one-half as thick as long, 14:29. Male clasper (fig. 7, e) long and curved, constricted and with a keel near middle, apex evenly rounded.

Color brown with apex of head, apical two antennal segments, tibiae, tarsi, and rostrum ochraceous. Hemelytra usually with a very small ochraceous area at base.

Size: length 1.81 mm., greatest width 0.58 mm.

Female unknown.

Holotype, male (US 69191), Ulimang, Babelthuap, Palau Is., Dec. 16, 1947, beating dead branches, Dybas. Paratypes (US, CM, BISHOP): Two males, same data as holotype; two males, Koror, limestone ridge S. of inlet, Jan. 21, 1948, under bark and beating, Dybas; male, E. coast of Peleliu, Jan. 27, 1948, beating, Dybas; male, Ulebsehel, Dec. 19, 1952, Beardesley; male, Fadian (Fadang), Guam, May 30, 1945, Dybas; male, As Mahetog, Saipan, Nov. 21, 1944, Dybas.

DISTRIBUTION: Western Caroline Is. (Palau), S. Mariana Is. (Saipan, Guam).

This new species, along with *mesostenus* n. sp. and *campylus*, n. sp., comprises a very distinct group that may be immediately separated from all other members of the genus by the structure of the pronotum and wings. *L. palauensis* may be separated from *mesostenus* and *campylus* by its longer, evenly curved scent gland opening, the relatively shorter antennae, and the shape of the male genital clasper.

14. *Lasiochilus mesostenus* Herring, n. sp. (figs. 6, a; 7, d).

Very small, elongate-oval species, head as broad as long, pronotum evenly, gently rounded at anterior angles, scutellum polished on basal half, male genital clasper very small, swollen near apex and ending in a slender fingerlike process which is directed toward the left.

Head as broad as long, anteocular part longer than an eye, upper surface smooth, polished; arcuate impression between eyes obsolescent at middle. Eyes quite small, interocular space four times width of an eye. Ocelli small, near hind margin of eyes. Rostrum reaching middle coxae, proportion of segments 1-3, 8:24:17. Antennae one-third longer than width of pronotum across humeri, 57:39, segment 1 almost reaching apex of head, 2 much shorter than width of head across eyes, 17:22, proportion of segments 1-4, 8:17:15:17.

Pronotum subequal in length to head on median line, almost twice as broad across humeri as long, 39:20; sides moderately straight on posterior half, only gently rounded anteriorly. Disk smooth, polished, slightly elevated on anterior half, depressed posteriorly, the longitudinal impression short, obsolete on anterior and posterior margins; depressed posterior area finely rugulose. Pubescence long but sparse except along lateral margins. Scutellum small, depressed, partially hidden under broad wing bases, visible portion of

base of scutellum subequal to vertex or hardly more than one-third width of hind margin of pronotum; polished on basal half, dull elsewhere.

Hemelytra reaching tip of abdomen, dull, sides parallel; clavus, corium, and cuneus impunctate, uniformly clothed with long, subappressed, backwardly directed hairs, those along lateral margins denser. Embolium about two-thirds as wide as corium at level of cuneal fracture.

Ostiolar canal abruptly curved backward at its apical third, forming almost a right angle, apex not reaching hind margin of metapleura. All femora swollen, front ones broadest, one-half as thick as long, 12:24. Male clasper (fig. 7, *d*) very small, swollen near apex and ending in a fingerlike projection directed toward the left.

Color brown with apex of head, most of the antennal segments, tibiae, tarsi, and rostrum ochraceous.

Size: Length 1.71 mm., greatest width 0.51 mm.

Holotype, male (CM), Papako area, Saipan, S. Mariana Is., Jan. 17, 1945, Dybas. Allotype, female, Fadian (Fadang), Guam, June 3, 1945, Dybas. Paratypes (US, CM, BISHOP, MCZ): two males, Mt. Tagpochau, Saipan, 375 m., Feb. 15 and 18, 1945, Dybas; female, Tomil Dist., Yap, July-Aug. 1950, Goss; female, Utegal, Woleai Atoll, July 28, 1946, Townes.

DISTRIBUTION: S. Mariana Is. (Saipan, Guam), Caroline Is. (Woleai Atoll).

L. mesostenus is most closely related to *palauensis* and *campylus*. It can be separated from both by its smaller size, more cylindrical body, gently rounded anterior angles of the pronotum, and the unique structure of the male genital clasper.

15. *Lasiochilus campylus* Herring, n. sp. (fig. 7, *f*).

Small, elongate-oval species, head slightly broader than long, pronotum rather strongly rounded at anterior angles, scutellum polished on basal half, male genital clasper angulate, very broad and flattened apically.

Head slightly broader than long, 24:20, anteocular part as long as eye, upper surface smooth, polished, arcuate impression between eyes obsolescent at middle. Eyes small, interocular space about four times width of eye. Ocelli small, close to hind margin of eyes and touching anterior margin of pronotum. Rostrum reaching middle coxae, proportion of segments 1-3, 8:25:17. Antennae one-third longer than width of pronotum across humeri, 62:43, segment 1 reaching apex of head, 2 shorter than width of head across eyes, 20:24, proportion of segments 1-4, 9:20:17:16.

Pronotum slightly longer than head on median line, less than twice as broad across humeri as long; sides fairly straight on posterior half, strongly rounded anteriorly. Disk smooth, polished, slightly elevated on anterior half, depressed posteriorly, the longitudinal impression short, visible only on middle third. Depressed posterior area faintly rugulose. Pubescence inconspicuous except along lateral margins. Scutellum small, depressed, partially hidden under the broad wing bases, visible portion of base of scutellum subequal to vertex; polished on basal half, dull elsewhere.

Hemelytra reaching tip of abdomen, dull, sides parallel; clavus, corium, and cuneus impunctate, uniformly clothed with long, subappressed pubescence, that along lateral margins dense. Embolium two-thirds as wide as corium at level of cuneal fracture.

Ostiolar canal abruptly curved backward, not nearly reaching posterior margin. All femora swollen, front and hind ones almost equally so, one-half as thick as long, 16:30. Male clasper (fig. 7, *f*) angulate near base, very broad and flattened apically with a keel near middle.

Color brown, dull, wings mostly ochraceous, only inner edges of clavus, apex of

embolium, and cuneus brown; antennae, rostrum, tibiae, and tarsi, ochraceous. Membrane dark.

Length: Male 1.96 mm., female 2.11 mm.; greatest width (male and female) 0.66 mm.

Holotype, male (CM), Kalabera area, Saipan I., S. Mariana Is., Feb. 16, 1945, Dybas. Allotype, female, As Mahetog area, Saipan I., Dec. 23-30, 1944, Dybas. Paratypes (CM, US, BISHOP): Male, nr. Lake Susupe, Saipan, Nov. 30, 1944, Dybas; male, Pidos Kalaha (Mt. Magpi) summit, Saipan, Mar. 1, 1945, Dybas; two females, As Mahetog area, Saipan, Nov. 17 and Dec. 3, 1944, Dybas; female, Laulau Bay, Saipan, Jan. 5, 1945, Dybas; male, Pago Bay, Guam I., June 2, 1945, Dybas; male, Fadang, Guam, May 31, 1945, Dybas.

DISTRIBUTION: Southern Mariana Is. (Saipan, Guam).

This species is very similar to *palauensis* and *mesostenus*. It differs from both by the paler coloration of the hemelytra and the shape of the male genital clasper. It differs from *palauensis* by the short, abruptly bent scent gland opening and from *mesostenus* by its larger size and longer second antennal segment.

16. *Lasiochilus ather* Herring, n. sp. (fig. 7, c).

Small, elongate-oval species, head as broad as long, pronotum gently rounded at anterior angles, scutellum polished on basal half, male genital clasper ending in a very slender needlelike point.

Head as broad as long, antecular part longer than eye, 10:8, upper surface smooth, polished; arcuate impression between eyes obsolescent at middle. Eyes small, interocular space about 3.5 times width of an eye. Ocelli small, situated near hind margin of eyes. Rostrum reaching middle coxae, proportion of segments 1-3, 9:27:17. Antennae one-third longer than width of pronotum across humeri, 59:39, segment 1 reaching apex of head, 2 only slightly shorter than width of head across eyes, 19:21, proportion of segments 1-4, 8:19:15:16.

Pronotum subequal in length to head on median line, twice as broad across humeri as long, 39:19; sides almost straight posteriorly, narrowly, weakly rounded anteriorly. Disk smooth, polished, hardly elevated on anterior half, the longitudinal impression distinct, visible from just behind anterior margin to posterior margin. Posterior half of pronotum finely rugulose. Pubescence rather sparse. Scutellum normal, broadly, smoothly polished on basal half, elsewhere dull.

Hemelytra reaching tip of abdomen, dull, sides parallel; clavus, corium, and cuneus impunctate, uniformly clothed with relatively short, subappressed pubescence. Embolium about two-thirds as wide as corium at level of cuneal fracture.

Ostiolar canal short, bent abruptly backward at apical third, not nearly reaching posterior margin of metapleura. All femora swollen, front ones broadest, almost one-half as thick as long, 11:26. Male clasper (fig. 7, c) very small, constricted at middle, ending in a very slender needlelike point.

Color brown, apex of head, rostrum, tibiae, and tarsi ochraceous.

Size: Length of male 1.78 mm., female 1.81 mm.; greatest width of male 0.58 mm. female 0.58 mm.

Holotype, male (US 69194), Pt. Ritidian, Guam I., S. Mariana Is., June 2, 1945, Bohart and Gressitt. Allotype, female, same data as holotype.

DISTRIBUTION: S. Mariana Is. (Guam), ? Caroline Is. (Yap).

There is a single male of what appears to be this species from Yap, col-

lected by Townes on July 14, 1946. I am refraining from making it a paratype as the antennal proportions do not quite agree with those of Guam specimens. The Yap specimen also appears to be somewhat teneral.

L. ather is related to *swezeyi* but can be distinguished from that species by its uniform brown coloration, poorly rounded anterior angles of the pronotum and the shape of the male clasper.

Genus *Physopleurella* Reuter

Physopleurella Reuter, 1884, Monogr. Anthocor. (Separata), 124 (type-species *Cardiastethus mundulus* White, Hawaii).

Physopleurella is widespread in distribution, occurring in the southeastern United States, equatorial Africa, Australia, New Guinea, Japan, and Pacific Ocean islands (including Hawaii).

Three African species of this genus are known only from the nests of weaverbirds (*Ploceus* sp.).

17. *Physopleurella mundula* (White).

Cardiastethus mundulus White, 1877, Ann. Mag. Nat. Hist. IV, 20: 111.

Physopleurella mundula (White): Reuter, 1884, Monogr. Anthocor. (Separata), 124.

DISTRIBUTION: Widespread in the Pacific.

S. MARIANA IS. SAIPAN: One, Dec. 1944, Dybas; one, As Mahetog area, Jan. 1945, Dybas; one, Laulau Bay, Dec. 1944, Dybas; one, Fadian (Fadang), May 1945, Dybas; one, Banaderu-Tanapak, May 1940, Yasumatsu and Yoshimura. GUAM: Two, Mt. Alifan, Apr. 1946, Krauss; two, Pati Pt., June 1945, Dybas; one, Pt. Oca, June 1945, Gressitt; one, Machanao, June 1936, Usinger.

PALAU. PELELIU: Two, east coast, Aug. 1945 and one, north central, July 1945, Dybas.

YAP. YAP: One, July-Aug. 1950, Goss; one, Oct. 1952, Krauss; one, Rul, Sept. 1939, Esaki.

CAROLINE ATOLLS. NAMA: One, Feb. 1949, Potts.

PONAPE. One, Colonia, Jan. 1938, Esaki.

KUSAIE. One, Mutunlik, Jan., and one, Feb. 1953, Clarke; one, Lele, Mar. 1953, Clarke.

MARSHALL IS. ARNO: One, July 1950, La Rivers. ENIWETOK: One, Japtan, Aug. 1956, Tuthill.

Genus *Scoloposcelis* Fieber

Scoloposcelis Fieber, 1864, Wien. Ent. Monatschr. 7: 66 (type-species: *Anthocoris pulchellus* Zetterstedt, Lapland).

Ostorodias Distant, 1904, Ann. Mag. Nat. Hist. VII, 14: 219 (type-species: *contubernalis* Distant, India).

Sesellius Distant, 1904, Ann. Mag. Nat. Hist. VII, 14: 221 (type-species: *Anthocoris parallelus* Motschulsky, Ceylon).

18. ***Scoloposcelis parallelus*** (Motschulsky).

Anthocoris parallelus Motschulsky, 1863, Soc. Nat. Moscou, Bull. 36(3): 89.

Sesellius parallelus (Motschulsky): Distant, 1904, Ann. Mag. Nat. Hist. VII, 14: 221.

Scoloposcelis parallelus (Motschulsky): Poppius 1909, Acta Soc. Sci. Fennica 37 (9): 25.

Scoloposcelis picicornis Poppius, 1910, Wiener Ent. Zeitung 29 (4): 140.

DISTRIBUTION: Tropical Asia, Taiwan, Java, New Guinea, Australia, Mariana Is., Caroline Is.

S. MARIANA IS. SAIPAN: As Mahetog area, one, Nov. 1944, one, Jan. 1945; three, hills E. of Garapan, Jan. 1945; one, nr. Garapan, Dec. 1944; one, Achugau area, Dec. 1944; one, Kalabera area, Apr. 1945, all Dybas. TINIAN: Three, Mt. Lasso, Mar. 1945; three, ridge SE section, Mar. 1945, all Dybas. GUAM: Six, Fadian (Fadang), May-June 1945, Dybas; two, Talofof, Apr. 1946, Krauss; one, Machanao, June 1936, Usinger. ROTA: One, Oct. 1945, Necker.

PALAU. BABELTHUAP: Three, Ulimang, Dec. 1947, Dybas. KOROR: One, Apr. 1953, Beardsley.

Many of the above specimens were collected under dead bark. It is likely that they were feeding on the larvae of bark beetles or fungus beetles (Ciidae), inasmuch as other species of *Scoloposcelis* are known to feed on these groups.

Genus ***Xylocoris*** Dufour

Xylocoris Dufour, 1831, Ann. Sci. Nat. Paris 22: 423, pl. 13, fig. 3 (type-species: *rufipennis* Dufour, France?).

Piezostethus Fieber, 1860, Wien. Ent. Monatschr. 4: 265 (type-species: *Xylocoris rufipennis* Dufour).

KEY TO MICRONESIAN SPECIES OF XYLOCORIS

1. Hemelytra translucent, shining; all but membrane finely but distinctly punctured; apex of scent gland not quite reaching anterior margin of metapleuron; brown coloration usually limited to claval commissure and posterior margin of cuneus; male clasper as in figure 8, *a*.....**dybasi**
Hemelytra opaque, dull, impunctate; apex of scent gland touching anterior margin of metapleuron; brown coloration extending along inner margin of clavus, along claval commissure, and over entire cuneus; male clasper as in figure 8, *b*.....**galactinus**

19. *Xylocoris galactinus* (Fieber).

Anthocoris galactinus Fieber, 1836, Beitr. Geo. Nat. Heilwiss 1: 107.

Xylocoris albipennis Herrich-Schaeffer, 1853, Wanz. Ins. 9: 223.

DISTRIBUTION: Europe, Africa, Asia, North and South America.

MARSHALL IS. ENIWETOK: One, Nov. 1944, Dybas; two, Nov. 1944, Edgar; One, Japtan I., Nov. 1944, Dybas.

This bug is found in manure heaps, stable straw, hot beds, stored bulk grain, and other habitats where the temperature is quite high (Hall, 1951, Ent. Mo. Mag. 87: 45-52). It is also found in decaying vegetation and under the bark of trees. Several of the Micronesian specimens were collected from decaying coconuts. It appears that this species has been transported around the world in foodstuffs.

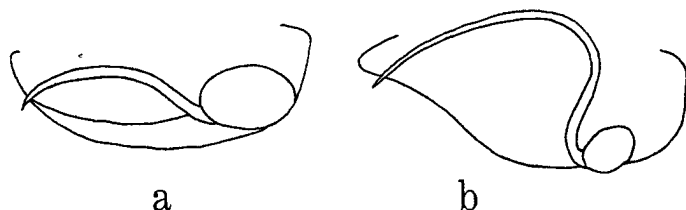


FIGURE 8.—Left claspers of *Xylocoris* species, posterior view: a, *X. dybasi*; b, *X. galactinus*.

20. *Xylocoris dybasi* Herring, n. sp. (fig. 8, a).

Elongate-oval species; hemelytra almost entirely straw yellow, finely, shallowly punctate; male genital clasper long, sickle-shaped, its apex visible from below.

Male. Head as broad as long, anteocular part about equal to length of eye, 12:13; upper surface smooth, polished, very finely rugulose behind arcuate impression. Eyes of moderate size, interocular space about 3.5 times width of an eye, 20:6. Ocelli small, situated near hind margin of eye. Rostrum reaching base of middle coxae, proportion of segments 1-3, 15:31:21. Antennae but little longer than width of pronotum across humeri, 73:65, segment 1 reaching apex of head, 2 shorter than width of head across eyes, 25:31, proportion of segments 1-4, 8:25:20:20.

Pronotum subequal in length to head on median line, twice as broad across humeri as long, 65:32; sides straight from base to anterolateral angles, there gently rounded. Postmedian transverse impression subobsolete. Disk in front of it smooth, polished, finely transversely rugulose. Pubescence rather long, golden, denser along lateral margins. Scutellum with median depression broad, anterior lobe smooth, polished, posterior lobe finely rugulose.

Hemelytra surpassing apex of abdomen by one-third the length of membrane; clavus, corium, and membrane evenly, but shallowly, punctate; uniformly clothed with fine, long hairs. Embolium about two-thirds as wide as corium at level of cuneal fracture.

Ostiolar canal long, broad, almost reaching anterior margin of metapleura, its inner margin forming an obtuse arc. All femora swollen, front ones broadest, almost one-half as broad as long, 18:40. Male clasper (fig. 8, a) long, sickle-shaped, curved laterally over the genital segment, its apex directed ventrally. Apex of abdomen with a few long hairs.

Color chestnut brown, apex of head, antennae, rostrum, tibiae, and tarsi ochraceous. Hemelytra almost entirely straw yellow, only a narrow, pale, reddish-brown stripe along the claval commissure and along the posterior margin of corium and cuneus. Membrane milky white.

Size: Length 2.47 mm., greatest width 0.95 mm.

Female. Very similar to male in pubescence and coloration but larger and more robust, the posterior margin of the pronotum broader, the second antennal segment longer and the punctures of the hemelytra deeper and much more evident.

Size: Length 2.76 mm., greatest width 1.12 mm.

Holotype, male (CM) As Mahetog area, Saipan, S. Mariana Is., May 1, 1945, Dybas. Allotype, female, same locality and collector, Apr. 30, 1945. Paratypes (CM, US, BISHOP, KU) : same locality and collector, male, Nov. 18, 1944; female, Nov. 23, 1944; female, Apr. 1945; female, Apr. 30, 1945. Hagman Pt. (Inai Haguman), Saipan, female, July 6, 1939, Esaki. Pt. Ritidian, Guam, two females, June 6 and 28, 1945, Bohart and Gressitt; Oca Pt., two females, May 28 and June 2, 1945, Dybas.

DISTRIBUTION: S. Mariana Is. (Saipan, Guam).

The translucent, straw-yellow, punctate hemelytra should be sufficient to separate this species from related forms.