

# INSECTS OF MICRONESIA

## Heteroptera: Lygaeidae<sup>1</sup>

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This article treats of the family Lygaeidae of the Micronesian islands included in the survey. Collections were made by members of Kyushu University, Japan, from 1936-1940; by Bernice P. Bishop Museum in 1936; by United States military personnel from 1944 to 1946; and by collectors for the Pacific Science Board of the National Research Council from 1947 to 1954. Also included are a few records from the collections in the United States National Museum. A list of the various collectors is given by Dr. J. L. Gressitt in the introduction to *Insects of Micronesia*, 1954 (vol. 1). New material was added by C. W. Sabrosky in 1957.

The United States Office of Naval Research, the Pacific Science Board (National Research Council), the National Science Foundation, and Bishop Museum have made this survey and the publication of the results possible. Field research was aided by a contract between the Office of Naval Research, Department of the Navy, and the National Academy of Sciences, NR 160-175.

The collections are deposited in the following institutions: United States National Museum (US); B. P. Bishop Museum (BISHOP); California Academy of Science (CAS); Chicago Natural History Museum (CM); Museum of Comparative Zoölogy (MCZ); and Kyushu University, Fukuoka, Japan (KU).

Although the Lygaeidae is a large family, it is poorly represented in the Micronesian Islands as only 42 species and one subspecies belonging to 19 genera were collected. Eleven new species are described and one new subspecies added. Whether any of these are endemic is uncertain. Either because of more intensive collecting or due to natural causes, the Palau group is richest in the number of species recorded. A list to show the distribution of the Micronesian Lygaeidae is appended to this introduction.

The most recent account dealing directly with the hemipterous fauna of the Micronesian Islands is that of Usinger (1946, *Insects of Guam*, II, B. P. Bishop Mus., Bull. 189). Of the earlier articles furnishing information concerning the lygaeid fauna of the Micronesian and other areas of the South

<sup>1</sup> This represents, in part, Results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 96.

Pacific, the more important are: Stål, 1859, Freg. Eugenies Resa, Ins. and 1874, Enumeratio Hemipterorum 4; Montrouzier, 1861, 1864, Fauna Ent. N. Caledonia; Distant, 1903, 1910, Fauna of India, Rhynch.; Kirkaldy, 1908, Cat. Hemipt. Fiji; 1910, Hemipt. Hawaiiensis; Bergroth, 1918, Studies in Philippine Heteroptera; China, 1930, Insects of Samoa; Van Duzee, 1932, 1935, Hemipt. of Marquesas Islands.

It appears from the data on the labeled specimens that most of the collecting was done either by general sweeping of herbage or by means of light. Also the Berlése funnel was used to some extent. Therefore little is recorded as to host plants. Most of the Lygaeidae are phytophagous and only a few are known to be predaceous.

The work on the collection was done at the United States National Museum where much information was furnished by the large Philippine collection of C. F. Baker. All synoptic keys pertain chiefly to the Micronesian categories.

Drawings were made by Dr. Reece I. Sailer, Entomology Research Branch, U. S. Department of Agriculture. I wish to give my thanks to Dr. R. L. Usinger for his assistance in the determination of species in the genus *Nysius*.

#### KEY TO MICRONESIAN SUBFAMILIES OF LYGAEIDAE

1. Suture between third and fourth ventral abdominal segments, with few exceptions, curved anteriorly, not extended to lateral margins. Head most commonly with two setae near eyes. Anterior femora incrassate and most commonly spined below ..... **Rhyparochrominae**  
Suture between third and fourth ventral abdominal segments straight and extended to lateral margins. Head devoid of setae near eyes..... 2
- 2(1). All abdominal spiracles set dorsally on connexivum. Basal margin of pronotum, at least before base of scutellum, deflexed and more or less depressed on each side..... 3  
Not all abdominal spiracles set dorsally on connexivum. Basal margin of pronotum neither deflexed nor depressed on each side of base..... 4
- 3(2). Two inner veins of membrane connected by cross vein, thus forming a large basal cell..... **Lygaeinae**  
Two inner veins of membrane not connected by cross vein..... **Cyminae**
- 4(2). Head as wide or often wider than basal margin of pronotum; eye large, either pedunculate or overlapping anterior angles of pronotum. Abdominal spiracles of first three segments set dorsally on connexivum; last three set on venter (*Germalus*, *Geocoris*)..... **Geocorinae**  
Head narrower than basal margin of pronotum; eyes small and very nearly in contact with anterior angles of pronotum. Spiracles set otherwise..... 5
- 5(4). Frons of head not porrect; bucculae short, corium not expanded, not wider than abdomen, nearly impunctate; apical margin sinuate within. Fore femora most commonly mutic (except *Caenoblissus*). Abdominal spiracles of the sixth segment set on the venter (*Blissus*, *Caenoblissus*)..... **Blissinae**  
Frons of head most commonly porrect; bucculae long, commonly extended to base of head. Corium most commonly expanded wider than abdomen; apical margin straight. Fore femora spined below. Abdominal spiracles of the basal segment set dorsally on connexivum (*Oxycarenus*)..... **Oxycareninae**

## KEY TO MICRONESIAN TRIBES AND GENERA OF LYGAEINAE

1. Apical margin of corium straight. Pygofer of male not foveate. Commonly brightly colored, red and black (*Lygaeni*)..... 2  
 Apical margin of corium sinuate at inner angle. Pygofer of male foveate. Commonly cinereous (*Orsillini*)..... **Nysius**
- 2(1). Scutellum tumid and carinate apically. Basal margin of pronotum slightly, concavely arcuate before base of scutellum, depressed and expanded on each side..... **Oncopeltus**  
 Scutellum not tumid, depressed on each side of longitudinal carina which is commonly united with sub-basal transverse ridge. Basal margin of pronotum straight, not expanded on each side..... 3
- 3(2). Femora of males spined below; tibiae with a row of acute tubercles. Pronotum longitudinally carinate posteriorly; basal margin depressed on each side of base of scutellum. Osteolar peritreme commonly obsolete..... **Spilostethus**  
 Femora and tibiae of males mutic. Pronotum with disc obsoletely carinate; basal margin very slightly depressed on each side of base of scutellum. Osteolar peritreme distinct..... **Graptostethus**

## SUBFAMILY LYGAEINAE

## TRIBE LYGAEINI Stål

Genus **Oncopeltus** Stål

*Lygaeus* subgen. *Oncopeltus* Stål, 1868, Hemipt. Fabricius 1: 70, 75.

*Oncopeltus*, Stål, 1874, Enumeratio Hemipterorum 4: 98, 101.

1. **Oncopeltus confusus** Horváth (fig. 1).

*Oncopeltus nigriceps* Distant, 1903, Fauna of India, Rhynch. 2: 4 (not Dallas).

*Oncopeltus confusus* Horváth, 1914, Mus. Nat. Hungarici, Ann. 12: 656 (India).

Head and pronotum pilose. Red, with head, pronotum anteriorly, base of scutellum, transverse band across middle of corium and the membrane, black; the last with basal angle and discal spot, white. Pleurites with broad black bands, anteriorly.

DISTRIBUTION: India, Western Caroline Is.

PALAU. BABELTHUAP: Ngiwal, one, July 1946, Townes. KOROR: One, Mar. 1954, Beardsley. ANGAUR: Two, Apr. 1957, Sabrosky.

Genus **Spilostethus** Stål

*Lygaeus* subgen. *Spilostethus* Stål, 1868, Hemipt. Fabricius 1: 72, 75; 1874. Enumeratio Hemipterorum 4: 104.

*Lygaeodon* Puton, 1869, Soc. Ent. France, Ann. IV, 9: 139.

*Spilostethus*, Oshanin, 1912, Kat. Paläarkt., Hemipt., 27.

The femora of the males are provided with spines and the tibiae with a row of small acute tubercles. The osteolar peritreme is commonly obsolete.

Type of the genus fixed as *S. pandurus* Scop. by Oshanin, 1912.

2. *Spilostethus hospes* (Fabricius).

*Lygaeus hospes* Fabricius, 1794, Ent. Syst. 4: 150 (India).—Hoffmann, 1932, Lingnan Sci. Jour. 11(1): 126, pl. 1 (life history).

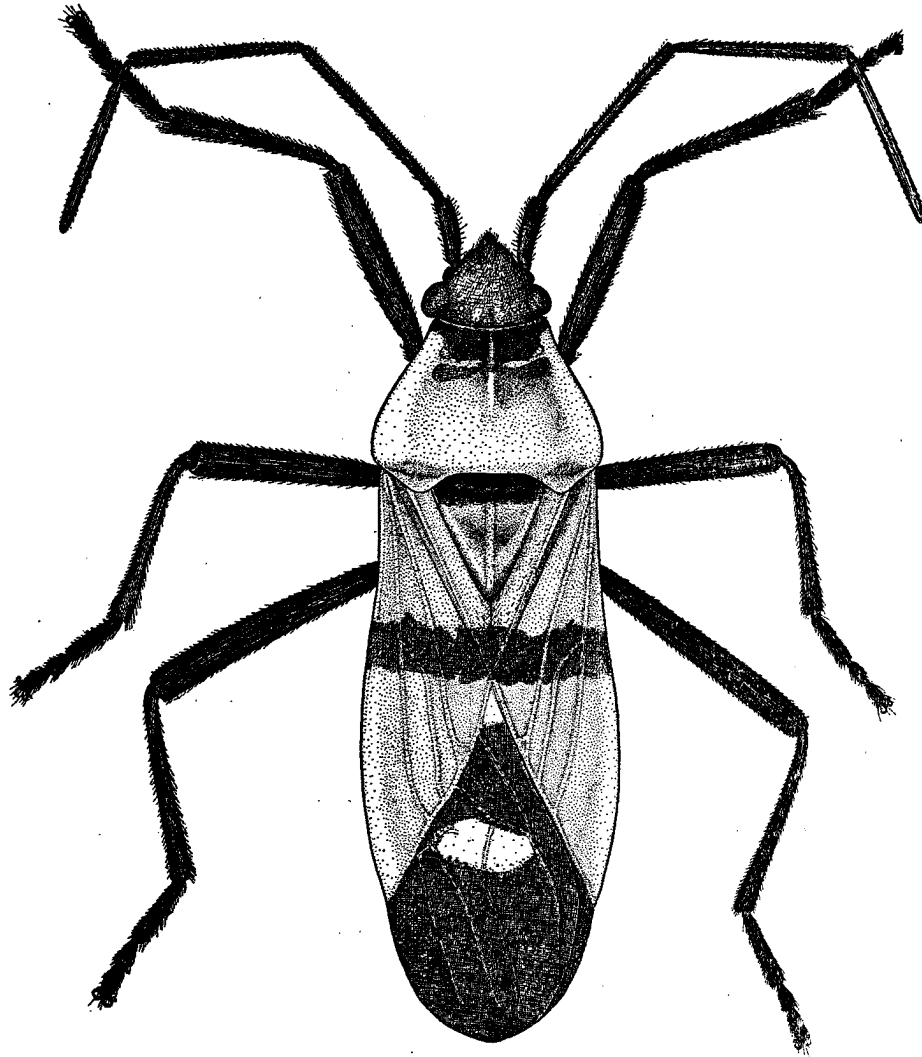


FIGURE 1.—*Oncopeltus confusus*.

*Lygaeus* subgen. *Spilostethus hospes* Stål, 1868, Hemipt. Fabricius 1:72 (var. b. *familiaris*).

*Lygaeus pacificus* Boisduval, 1833, Voy. Astrolabe, Ent. 2:639, pl. 11. fig. 20.

Red. Head with tylus, basal spot on each side adjacent to eyes, pronotum with broad, longitudinal vitta on each side of disc, scutellum except at apex, outer margins of clavus and adjacent area of corium and a spot in the middle of disc and membrane, black; beneath with anterior margin of propleuron, lateral and apical margins of meso- and meta-pleuron and abdominal incisures banded with black.

DISTRIBUTION: India, Southeast Asia, Philippine Is., Australia, New Guinea, China, Japan, Formosa, Solomon Is., New Caledonia and Caroline Is.

PALAU. BABELTHUAP: One, Ngiwal, July 1946, Townes. KOROR: Two, northeast corner, July 1946, Townes; one, Arabaketsu (Ngarbaged), Feb. 1936, Esaki. NGERKABESANG (Arakabesan): Three, July 1946, Townes. PELELIU: Five, July 1946, Townes. ANGAUR: Three, Apr., May 1957, Sabrosky.

YAP. YAP: Yaptown, Mt. Mataade, one, July 1946, Townes. GAGIL: Four, July 1946, on sweet potato, Oakley; Ruul-Tomil, one, Sept. 1939, Esaki.

HOSTS: *Solanum*, *Physalis*, *Emilia*, *Crotolaria*, and *Urena* (Hoffmann).

#### Genus *Graptostethus* Stål

*Lygaeus* subgen. *Graptostethus* Stål, 1868, Hemipt. Fabricius 1:73, 75.

*Graptostethus* Stål, 1874, Enumeratio Hemipterorum 4:99, 116, Hoffmann, 1934, Lingnan Sci. Jour. 13(1):171-178, figs. 1-7 (life history).

#### KEY TO MICRONESIAN SPECIES OF GRAPTOSTETHUS

1. Head black, with a small pale spot at base; body devoid of pilosity.....**nigriceps**  
Head red with black markings; tip of clypeus or occasionally entire clypeus  
and areas about ocelli black; pilosity short.....**manillensis**

#### 3. *Graptostethus nigriceps* Stål.

*Graptostethus servus* var. *nigriceps* Stål, 1874, Enumeratio Hemipterorum 4:117 (Guam, Ascension, and Fiji Is.).

*Graptostethus nigriceps*, China, 1930, Insects of Samoa 2(3):115.—  
Usinger, 1946, B. P. Bishop Mus., Bull. 189:27.

Very little variation in the markings of numerous specimens from Tahiti (in USNM collection). Head black, frequently with small basal spot and bucculae, pale. Pronotum marked with black as follows: Postapical band which is extended posteriorly on each side of disc for a short distance. Clavus, except narrow inner margin, and adjacent surface of corium, fuscous. Venter of abdomen black margined with red.

DISTRIBUTION: Fiji, New Caledonia, New Hebrides, Samoa, Tahiti, S. Mariana Is., Ascension Is., Ponape.

S. MARIANA IS. GUAM: Five, 1911, Fullaway.

PONAPE. Part of type series from Ponape.

CAROLINE ATOLLS. ULITHI: Agor, four, Oct. 1952, Krauss; Falalop, seven, Sept. 1956, McDaniel. FAIS: Three, Apr. 1954, Beardsley. WOLEAI: One, Sept. 1952, Krauss. LAMOTREK: Five, Falik, Feb. 1953, Beardsley. SATAWAL: One, Feb. 1953, Beardsley.

TRUK. WENA (Moen): Sixty-five, May 1946, Townes; Civ. Ad. Area, four, Feb., Mar. and Apr. 1949, Potts. FEFAN: One, May 1946, Townes. TON (Tol): Two, Mt. Unibot, Feb. 1953, Gressitt; four, May 1946, Townes. TONOAS (Dublon): Two, Feb. 1948, Maehler.

PONAPE. Colonia, one, Agric. Exper. Sta., June-Sept. 1950, Adams.

MARSHALL IS. KWAJALEIN: Two, Sept. 1956, Clagg; one, Dec. 1950, Oshiro.

**6. *Nysius vinitor* Bergroth (fig. 2, a).**

*Nysius vinitor* Bergroth, 1891, Ent. Mon. Mag. II, 2: 69 (Australia).—Kirkaldy, 1908, Linn. Soc. New South Wales, Proc. 32: 770.—Evans 1929, Bull. Ent. Res. 19: 352.

*Male*: Head much wider than long (55 × 30), preocular part scarcely shorter than eye; bucculae narrow, gradually diminishing posteriorly, terminating much before base of head, shorter than first rostral segment. Antenna with second segment over twice as long as basal and little shorter than terminal segment; proportionate lengths of segments: 15, 35, 35 and 40. Pronotum much wider than long (65 × 35); width of anterior margin a little greater than median length. Membrane shorter than costal margin of corium.

DISTRIBUTION: Australia, Philippine Is., western Caroline Is.

PALAU. ANGAUR: One male, Feb. 1948, Dybas.

YAP. YAP: Five males, eight females, Oct. 1952, Krauss; three females, Mar. 1954, Beardsley; south Yap, male, female, Ruul District, five males, two females, Gagil District, male, female, Kolonia, female, all July-Aug. 1950, Goss. RUMUNG: South Rumung, male, east Rumung, male, all July-Aug. 1950, Goss. MAP: West Map, male, south Map, four males, six females, all July-Aug. 1950, Goss.

**7. *Nysius pulchellus* Stål.**

*Nysius pulchellus* Stål, 1859, Freg. Eugenies Resa, Ins., 244 (Guam).—Usinger, 1946, B. P. Bishop Mus., Bull. 189: 27; 1951, Hawaiian Ent. Soc., Proc. 14(2): 316; 1952, op. cit. 14(3): 522.

DISTRIBUTION: Micronesia.

N. MARIANA IS. PAGAN: One, Regusa-Tarague, Apr. 1940, Yasumatsu and Yoshimura; one, Songsong, Apr. 1940, Yasumatsu and Yoshimura. ANATAHAN: Two, Aug. 1951, R. Bohart. AGRIHAN: Five, July 1951, R. Bohart. ALAMAGAN: Nine, July 1949, Mead and two, July 1951, Bohart.

S. MARIANA IS. SAIPAN: One, Aug. 1944, Hall; three, Matansha-Calabera, one, Garapan, May 1940, Yasumatsu and Yoshimura; three, near Tanapag, Nov. 1944, Dybas; eight, Matansha, Apr. and one, June 1946, Oakley; two, Chalan Laulau, Apr. 1946, Krauss; As Mahetog area, one,

Nov. 1944, Dybas; Saipan, two, Nov. and two, Dec. 1944, Edgar; two, May 1945, Dybas; one, June 1946, Oakley. TINIAN: Three, Nov. 1952, from grass, Beardsley; 13, June 1945, Townes; Tinian Harbor, two, Mar. 1945, and one, Apr. 1945, Dybas; Marpo Valley, one, June 1946, Oakley; near Guaguan Point, four, Apr. 1945, Dybas. ROTA: One, Sabana-Kirisuto, Feb. 1936, and two, Teteto-Tatacho-Sonson, Nov. 1937, Esaki; one, Oscilita, June 1946, Oakley. GUAM: Two, Pt. Oca, May 1945, Gressitt and Bohart; one, June

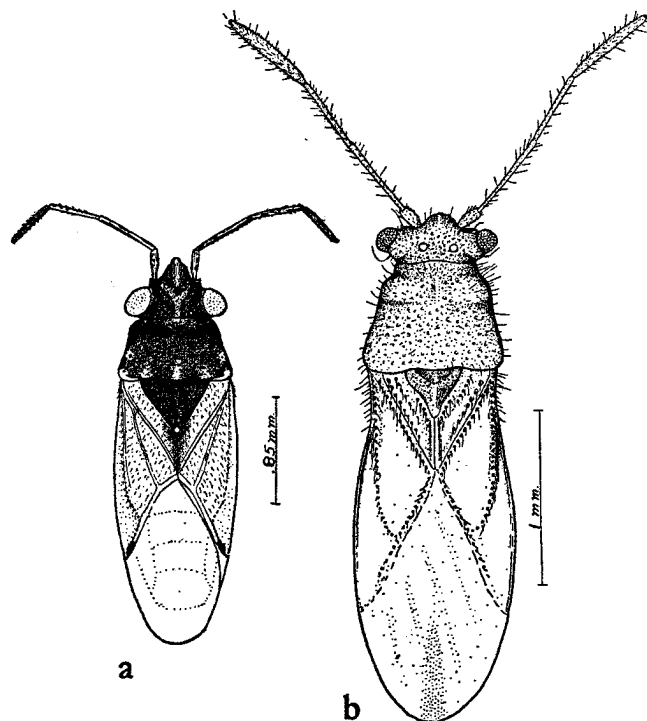


FIGURE 2.—a, *Nysius vinitor*; b, *Cymoninus philippinus*.

1945, Dybas; two, Agana, May 1945, Bohart and Gressitt; two, Agana Airport, June 1946, Townes; one, Mt. Santa Rosa, June, one, Pt. Taguan, July, 1945, Pt. Ritidian, June 1945, Bohart and Gressitt; eight, Mt. Alifan, six, Talofofo, and one, north Guam, Apr. 1946, Krauss; Umatac, one, May 1936, Usinger.

CAROLINE ATOLLS: PULO ANNA: Four, Sept. 1952, Krauss. ULITHI: Mogmog, 15, Oct. 1952, Krauss; Fassarai, one, Oct. 1952, Krauss and two, July 1946, Townes; Potangeras, one, Nov. 1947, Dybas; Falalop, four, Apr. 1952, Beardsley, one, Sept. 1956, McDaniel. FAIS: One, Oct. 1952, Krauss

and one, Apr. 1952, Beardsley. SOROL: Three, Oct. 1952, Krauss. WOLEAI: Fifteen, Sept. 1952, Krauss and four, Feb. 1953, Beardsley; Utegal, four, Feb. 1953, Beardsley. ETAL: One, Nov. 1952, Beardsley. SATAWAN: One, Nov. 1952, Beardsley; Ta, four, Nov. 1952, Beardsley. NOMWIN: One, May 1946, Oakley.

TRUK. WENA (Moen): One, May 1946, Townes; one, Oct. 1952, Beardsley. TONOAS: One, Jan. 1938, Esaki. TON: Three, Pata-Sabote-Epin, Apr. 1940, Yasumatsu and Yoshimura.

KUSAIE. One, Mutunlik, Feb. 1953, Clarke; one, Lelu, Mar. 1953, Clarke.

MARCUS. Twelve, May 1952, Sakagami.

MARSHALL IS. UJELANG: Sixteen, Oct. 1953, Beardsley. LIB: One, Oct. 1953, Beardsley. MAJURO: Three, June 1950, Usinger, and three, same data, La Rivers. KWAJALEIN: Two, Apr. 1948, Maehler; six, Mar. 1953, Clagg. ENIWETOK: One, May 1946, Oakley; 10, Dec. 1950, and 17, Jan. 1951, Oshiro; Aniyaanii (Bruce) I., 65, Aug. 1956, Tuthill; Japtan I., 79, Aug. 1956, Jan. 1957, Tuthill; Parry (Elmer) I., seven, Aug. 1956, Tuthill.

HOSTS: *Nysius pulchellus*, according to the data furnished by Oakley, feeds on lima beans, *Euphorbia*, *Portulaca*, tobacco, and sweet potato.

#### 8. *Nysius picipes* Usinger.

*Nysius picipes* Usinger, 1937, Hawaiian Ent. Soc., Proc. 9(3): 439, fig. 1 (Wake).

DISTRIBUTION: Wake, Marshall and Gilbert Is.

WAKE. Ten, Aug. 1937, Hadden; six, Aug. 1940, Lyons; seven, Nov. 1953, Joyce.

MARSHALL IS. ENIWETOK: Engebi, Japtan, Aomon Is. (after Usinger, 1937). BIKINI: After Usinger, 1937. RONGELAP: Two, Oct. 1953, Beardsley. WOTHO: Nineteen, Oct. 1953, Beardsley. NAMU: Fourteen, Oct. 1953, Beardsley. AILINGLAPALAP: One, Nov. 1937, Esaki; 12, Wotja, Oct. 1953, Beardsley; Bigatyelong, Aug. 1946 (after Usinger). LIKIEP: Likiep I., after Usinger, 1937; Lato, 50, Dec. 1951, Fosberg, nos. 305, 330, 331, part, 332. EBON: Four, Sept. 1953, Beardsley. ARNO: One, Ine, June 1950, Usinger; four, Aug. 1950, La Rivers. TAKA: Watwejok, four, Dec. 1951, Fosberg, nos. 274, 281, 299. JEMO: One, Dec. 1951, Fosberg, no. 446. POKAK: Sibylla, 45, July 1952, Fosberg, nos. 1274, 1276, 1281; Kamome, three, July 1952, Fosberg, no. 1202. BIKAR: One, Aug. 1952, Fosberg, no. 1412. MILI: One, Oct. 1953, Beardsley.

GILBERT IS. TARAWA: One, Mar. 1951, Catala; five, Aug. 1956, Brown. ONOTOA: Buiartum, six, July 1951, Moul.

HOSTS: *Sesuvium*, *Cordia*, *Portulaca*, *Boerhavia*, *Sida*, *Pisonia grandis* and *Fimbristylis cymosa* (after Usinger).



## SUBFAMILY CYMINAE

## TRIBE NININI, NEW STATUS

Genus *Ninus* Stål

*Ninus* Stål, 1859, Freg. *Eugenies Resa*, Ins., 252.—Bergroth, 1921, Soc. Ent. Belg., Ann. 61: 168.—Distant, 1903, Fauna of India, Rhynch. 2: 19.  
*Ossipaga* Distant, 1918, Fauna of India, Rhynch. 7: 185.

9. *Ninus insignis* Stål.

*Ninus insignis* Stål, 1859, Freg. *Eugenies Resa*, Ins., 253, pl. 3, fig. 5 (Guam).—Bergroth, 1918, Philippine Jour. Sci., 13 D: 63; 1921, Soc. Ent. Belg., Ann. 61: 166.—Usinger, 1946, B. P. Bishop Mus., Bull. 189: 28; 1951, Hawaiian Ent. Soc., Proc. 14(2): 317, 321; 1952, op. cit. 14(3): 522.

*Ninus singalensis* Breddin, 1907, Deutsche Ent. Zeitschr. 1907: 39.

*Ninus stylatus* Kirkaldy, 1908, Linn. Soc. New South Wales, Proc. 33: 356.

*Ossipaga ceylanica* Distant, 1918, Fauna of India, Rhynch. 7: 185, fig. 85.

DISTRIBUTION: Ceylon, Malay Peninsula, Java, Borneo, Philippine Is., Fiji, New Caledonia, S. Mariana Is., Caroline and Marshall Is.

S. MARIANA IS. SAIPAN: One, Oleai-Hinashisu-Charanka, Nov. 1937, Esaki. GUAM: Talofoto Ridge, two, Jan. 1945, Dybas; one, Pilgo River, May 1945 and two, Pt. Oca, July 1945, G. Bohart and Gressitt; Agana, three, June 1945, Dybas; Piti, two, May 1946, Swezey.

PALAU. BABELTHUAP: Ngerehelong, one, May 1957, Sabrosky; Ngardmau, one, May 1957, Sabrosky; Ulimang, 12, Dec. 1947, Dybas; Ngarem-lengui, one, June 1957, Sabrosky; east Ngatpang, five, Dec. 1952, Gressitt; Imeliik, Netkeng, four, July 1957, Sabrosky; Iwang (Airai), three, Jan. 1948, Dybas; Dec. 1952, Gressitt; Airai, Ngerimal, 18, June 1957, Sabrosky.

KOROR: Sixteen, Apr., May 1957, Sabrosky; eight, Nov. 1947, Dybas; three Sept. 1952, Gressitt; three, Jan. 1953, Beardsley. MALAKAL: One, May 1957, Sabrosky. NGESEBUS: One, May 1957, Sabrosky. PELELIU: Nine, west coast, Feb. 1948, Dybas.

YAP. YAP: Four, Ruul, July-Aug. 1950, Goss; one, Nif, July 1951, Gressitt; one, Ruul near Kolonia, and Kolonia, one, June 1957, Sabrosky; seven, Kolonia, Mar. 1954, Beardsley; nine, Oct. 1952, Krauss; four, Mt. Mataade, one, hill behind Yaptown, light trap, Dec. 1952, Gressitt; eight, central Yap, July-Aug. 1950, Goss. RUMUNG: One, north, July-Aug. 1950, Goss. MAP: Eight, west and south Map, July-Aug. 1950, Goss; Chol, one, June 1957, Sabrosky. GAGIL: One, July-Aug. 1950, Goss. TOMIL: One, July-Aug. 1950, Goss; one, Ruul-Tomil, Nov. 1938, Esaki.

CAROLINE ATOLLS. ETAL: Three, Etal I., Nov. 1952, Beardsley. LUKUNOR: One, Lukunor I., Nov. 1952, Beardsley.

TRUK. WENA (Moen, Wela): Twenty-two, May 1946, Townes; one, July 1939, Esaki; 10, Oct. 1952, Beardsley. FEFAN: Three, Mt. Iron, Jan. 1953, Gressitt. TONOAS (Dublon): Three, Oct. 1952, Beardsley.

PONAPE. Four, Sokehs (Jokaj), Feb. 1948, Dybas; 30, Colonia, June-Sept. 1950, Adams; Aug. 1946, Townes; Mar. 1948, Dybas; nine, hydroelectric plant, Aug. 1946, Townes; 19, Not Point, June-Sept. 1950, Adams; five, Nanpohnmal, Jan. 1953, Gressitt; south of Nanpohnmal, Jan. 1953, Clarke; three, Madolenihm (Matalanim), Aug. 1946, Oakley; five, June-Sept. 1950, Adams; 15, Tolotom, southeast, June-Sept. 1950, Adams; one, Tolenot Peak, 666 m. June-Sept. 1950, Adams; one, Reitao-One-U, July 1939, Esaki; six, Agric. Exper. Sta. 10, Mt. Kupwuriso, two, airfield, four, Peipalap Peak, June-Sept. 1950, Adams.

MARSHALL IS. LIB: Ten, Oct. 1953, Beardsley. ARNO: Ine I., six, Aug. 1950, La Rivers.

#### Genus *Cymoninus* Breddin

*Cymoninus* Breddin, 1907, Deutsche Ent. Zeitschr. 1907: 38 (genotype *C. subunicolor* Breddin).—Bergroth, 1918, Philippine Jour. Sci. 13 D: 64, 1921, Soc. Ent. Belg., Ann. 61: 166-168.

*Cymoninus* is distinguished from *Ninus* by the difference in the shape of head, subsessile and smaller eyes, position of ocelli, shorter antennae bucculae, and rostrum.

#### 10. *Cymoninus philippinus* Bergroth (fig. 2, b).

*Cymoninus philippinus* Bergroth, 1918, Philippine Jour. Sci. 13 D: 64; 1921, Soc. Ent. Belg., Ann. 61: 168.

Brown, testaceous, pilose. Following parts with cinereous bloom, head with intra-orbital area, vitta and vertex between ocelli, pronotum with three longitudinal vittae, scutellum, propleura, meso- and metapleura in part. Antennae and legs testaceous. Corium unicolorous. Venter of abdomen with intramarginal, brownish vitta.

DISTRIBUTION: Philippine Is., S. Mariana Is., western Caroline Is. S. MARIANA IS. SAIPAN: One, Oct. 1947, Lange. GUAM: Four, Agana, Oct. 1952, Krauss.

PALAU. PELELIU: Fourteen, July 1946, Oakley.

#### SUBFAMILY BLISSINAE

#### Genus *Caenoblissus* Barber, n. gen.

Brachypterous. Body short, oval, shining, sparsely covered with long hairs; head, pronotum, and abdomen closely punctate. Head wider than long; tylus elevated, extended very slightly beyond jugae; ocelli set close to base of head and much farther apart than each is removed from eye; antenniferous tubercles short, blunt. Antenna short, second and third segments subspatulate, terminal segment fusiform. Pronotum wider than long, posterior margin straight, prosternal margin open behind anterior coxae. Hemelytron and

membrane very short, scutellum much wider than long. Femora incrassate, anterior one with preapical spine below; tibiae subspatulate with several apical spine-like setae.

Type species: *Caenoblissus pilosus*, n. sp., by present designation.

*Caenoblissus* differs from *Blissus* by being more robust and shining, femora more incrassate, anterior one with preapical spine below, apices of tibiae crowned with spine-like setae.

Only brachypterous form known. As brachyptery is rather common in this subfamily, it is quite possible that macropterous forms occur.

#### 11. *Caenoblissus pilosus* Barber, n. sp. (fig. 3).

Brachypterous female: Shining black, body, antenna, and legs sparsely covered with long tawny hairs. Antenna and legs testaceous. Scutellum dull, somewhat pruinose. Hemelytron tinted with brown, membrane sordid white.

Head nearly one-third wider than long ( $20 \times 25$ ), coarsely, closely punctate, eyes very nearly in contact with anterior pronotal angles, preocular part nearly twice as long as eye, antenniferous tubercles over half as long as eye. Antenna somewhat incrassate, subequal to combined length of head and pronotum, terminal segment long, fusiform, as long as combined length of first and second segments, proportionate lengths of segments: 10, 17, 15 and 27. Rostrum extended to posterior coxae, basal segment extended to base of head. Pronotum much wider than long ( $70 \times 45$ ), closely, finely punctate, lateral margins parallel on basal two-thirds, thence evenly, broadly rounded anteriorly; basal margin straight. All femora incrassate, widest across middle, anterior one with premedian spine, anterior tibia shorter than femur, somewhat spatulate, with spine-like apical setae. Scutellum much wider than long ( $35 \times 15$ ), dull pruinose, closely, coarsely punctate. Hemelytron abbreviated, veins obsolete, costal margin twice as long as scutellum, apical margin obtusely angulated within, clavus expanded apically, two clavi just in contact behind apex of scutellum; membrane short, restricted to apical margin of corium, obtusely rounded apically. Tergum and venter closely punctate. Length 3.50 mm.

Holotype, female (US 63533), Yap. East Rumung I., July-Aug. 1950, Goss. Paratypes, two females with same data as type.

DISTRIBUTION: Western Caroline Is.

### SUBFAMILY GEOCORINAE

#### TRIBE GERMALINI

*Germalini* Montandon, 1913, Sec. Scient. Acad. Roumaine, Bull. 2(1): 49.

#### Genus *Germalus* Stål

*Germalus* Stål, 1862, Stett. Ent. Zeitung 23: 311.—Montandon, 1913, Sec. Scient. Acad. Roumaine, Bull. 2(1): 49.

*Ophthalmocoris* Montandon, 1907, Mus. Nat. Hungarici, Ann. 5: 89 (name preoccupied).

*Neocypus* Distant, 1914, Nova Caledonia, Zool. 1(4): 378, pl. 11, fig. 10 (part, not *Ocypus* Montrouzier<sup>2</sup>).

*Neogermalus* Montandon, 1913, Sec. Scient. Acad. Roumaine, Bull. 2(1): 49-50.

<sup>2</sup> Dr. Carvalho has informed me that *Ocypus variegatus* Montrouzier, 1861, is a mirid.

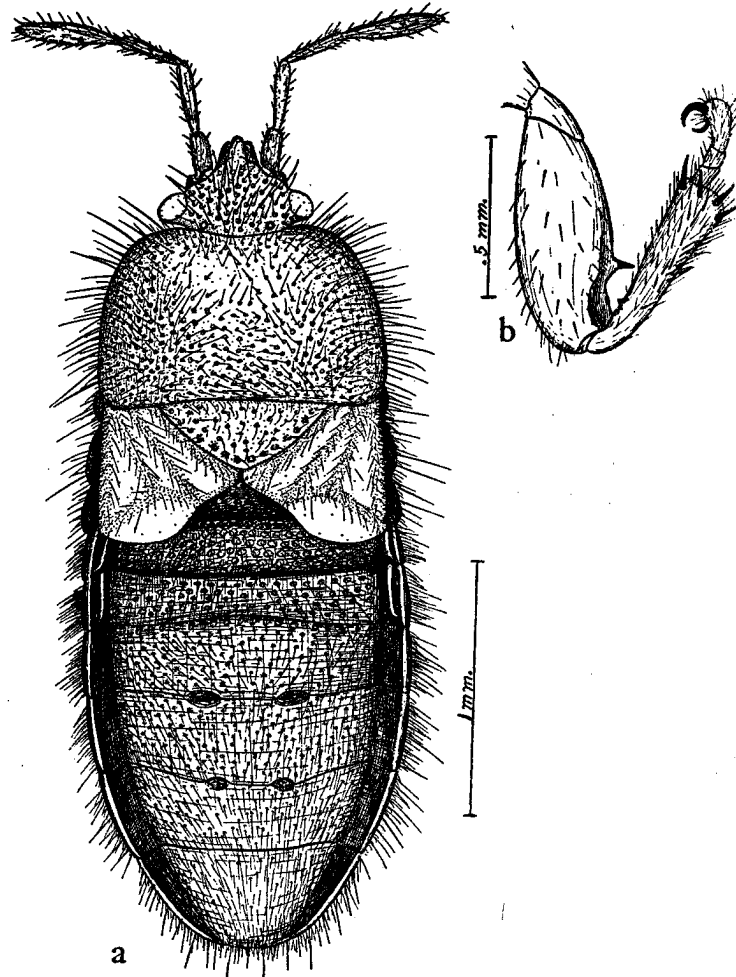


FIGURE 3.—*Caenoblissus pilosus*: a, dorsal view; b, fore leg.

Tylus not sulcate, eyes large, pedunculate. Scutellum shorter than pronotum. Two claval margins parallel to each other, commissure shorter than scutellum, the latter with Y-shaped calloused ridge. Punctations of corium arranged in linear series along the veins.

#### KEY TO MICRONESIAN SPECIES OF GERMALUS

1. Head, pronotum, and abdominal venter immaculate. Second segment of antenna shorter than terminal. Pronotum wider than head; two cicatrices separated by longitudinal double row of fuscous punctures. Osteolar peritreme short, nearly straight, extending to just beyond middle of metapleuron, not quite reaching basal margin of sclerite.....**indecorus**

Head with median longitudinal fuscous vitta; ocelli rimmed with fuscous. Second segment of antenna longer than terminal. Pronotum as wide as head, two cicatrices separated by longitudinal double row of fuscous punctures; humeral angle with fuscous spot. Osteolar peritreme quite different..... 2

- 2(1). Ocelli set about as far apart as each is removed from eye. Corium with conspicuous fuscous punctations. Osteolar peritreme long, broadly curved anteriorly, extending to near outer basal angle of metapleuron.....**fusconervosus**
- Ocelli set closer together than each is removed from eye. Punctations of corium unicolorous. Osteolar peritreme straight, extending to beyond middle of basal margin of metapleuron.....**palauensis**

**12. Germalus indecorus** Barber, n. sp. (fig. 4, a).

Head and pronotum pale ochraceous; head immaculate; eyes red; ocelli pink; antennae stramineous, basal segment and femora faintly spotted with fuscous. Pronotum sparsely punctate with fuscous, humeral angles immaculate; two cicatrices separated by a longitudinal double row of fuscous punctures; posterior margin impunctate. Scutellum and linear series of punctures of hemelytra fuscous. Venter immaculate.

Head two and one-fourth times wider than long; ocelli a little farther apart than each is removed from eye. Antennae with second segment a little longer than terminal, proportionate lengths of segments: 20, 40, 30 and 35. Pronotum nearly one-third wider than long, narrower than head, width of anterior margin less than median length, anterior lateral margin rather abruptly and symmetrically rounded. Osteolar peritreme short, nearly straight extended to just beyond middle of metapleuron. Length 4.70 mm.

Holotype, female (US 63529), Ponape, Mt. Temwetemwensekir, Jan. 1953, Gressitt. Paratypes (BISHOP, MCZ), female with same data as type, male, Ponape, Peipalap Peak, June-Sept. 1950, Adams.

DISTRIBUTION: Caroline Is. (Ponape).

Very similar and closely related to *G. palauensis*. Beside the difference in color markings and punctuation, the pronotum is relatively shorter, less contracted anteriorly, and the osteolar peritreme quite different.

**13. Germalus fusconervosus** Barber, n. sp. (fig. 4, b).

Very pale stramineous, head and pronotal cicatrices more ochraceous. Head with median, longitudinal, black vitta, more shining on the tylus; eyes red; ocelli limpid, faintly surrounded with fuscous. Antennae stramineous, basal segment above and apex of second segment fuscous. Pronotum, scutellum, veins of hemelytra, and pleurites punctate with fuscous; pronotum with two cicatrices continuous, not interrupted by a longitudinal double row of fuscous punctures; humeral angles with a fuscous spot. Venter immaculate. Legs faintly spotted with fuscous.

Head not quite twice as wide as long (95 × 50), preocular part one-third shorter than eye; ocelli set about as far apart as each is removed from eye. Antenna one-fifth longer than combined length of head and pronotum; second segment longest but little longer than terminal segment, proportionate lengths of segments: 20, 50, 35 and 45. Pronotum nearly one-fourth wider than long, subequally as wide as head, lateral margins distinctly sinuate in middle, thence broadly, symmetrically rounded to anterior margin, rather closely, coarsely punctate with fuscous; posterior margin smooth. Hemelytra and membrane hyaline; clavus with a row of fuscous punctures along basal half of outer margin; corium much longer than membrane with the usual longitudinal series of fuscous punctures along the veins. Osteolar peritreme long, broadly curved anteriorly, extended near to outer angle of mesopleuron, outer margins sharply carinate. Length 4.50 mm.

Holotype, male (US 63530), Wena (Moen), Truk, Mar. 1949, Potts. Paratypes (US, BISHOP, CAS, KU), three females with same data as type and one female, Civ. Ad. Area, Mar. 1949, Potts; one female, Wela, Truk, July 1939, Esaki; male and female, Mt. Unibot, Tol I., Dec. 1953, Gressitt; one female, Pis I., Truk, Feb. 1954, Beardsley.

DISTRIBUTION: Caroline Is. (Truk).

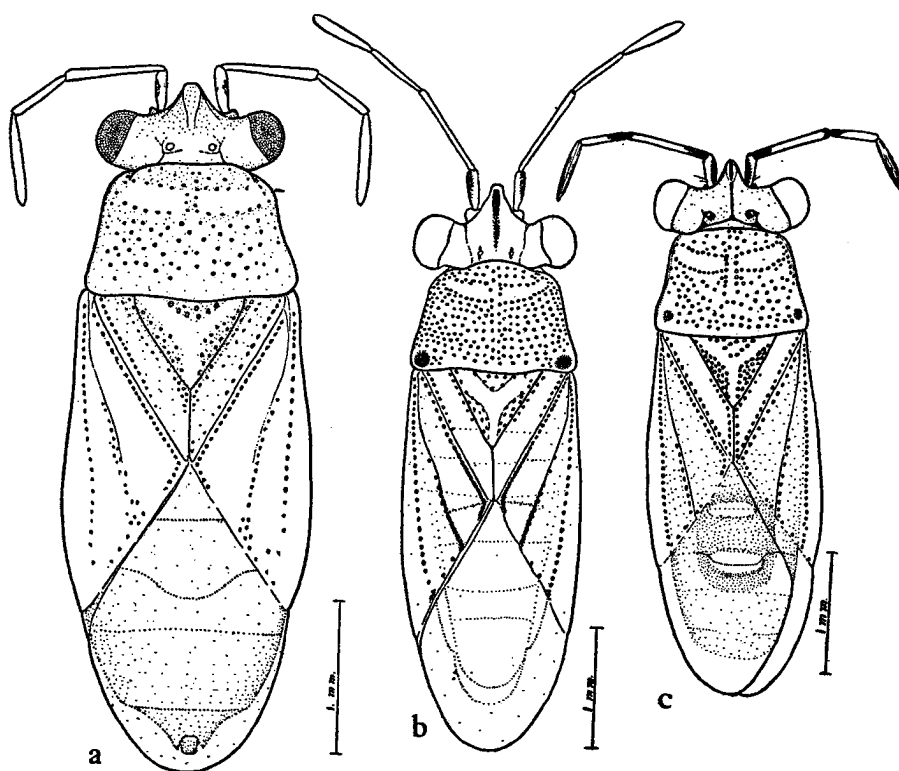


FIGURE 4.—a, *Germalus indecorus*; b, *G. fusconervosus*; c, *G. palauensis*.

*G. fusconervosus* as compared to *sobrinus* is less ochraceous, less robust, pronotum much narrower, more convex dorsally, and lateral margins more contracted anteriorly; also, the fuscous punctures along the hemelytral veins are more conspicuous. The osteolar peritreme is quite different, broadly curved anteriorly, and extended to near outer angle of mesopleuron.

**14. *Germalus palauensis* Barber, n. sp. (fig. 4, c).**

Pale yellow. Head with longitudinal, median, fuscous vitta; eyes red; ocelli limpid with a fuscous spot at the inner side; antennae testaceous, basal segment spotted with

fuscous; base and apex of second segment, base of third and all of terminal segments fuscous. Pronotum rather sparsely punctate with fuscous; two cicatrices separated by a longitudinal double row of fuscous punctures; humeral angles with a fuscous spot. Legs pale yellow; femora faintly spotted with fuscous. Punctures of corium concolorous. Venter immaculate.

Head two and one-half times wider than long, ocelli set closer together than each is removed from eye. Antennae with terminal segment shorter than second, proportionate lengths of segments: 20, 45, 25 and 30. Pronotum nearly one-fourth wider than long, as wide as head; lateral margins slightly sinuate at middle, rather abruptly symmetrically rounded anteriorly; two cicatrices separated by a longitudinal double row of fuscous punctures; posterior margin impunctate. Osteolar peritreme very gently curved anteriorly, extended just beyond middle point of anterior margin of metapleuron. Length 4.50 mm.

Holotype, female (US 63531), Palau Is., Babelthuap, Ngaremeskang, Dec. 1952, Gressitt. Paratypes (BISHOP, KU), female, Babelthuap, northwest Auluaptagel (Ngarmalk), Dec. 1952, Gressitt; female, Ngaramisukan-Kaishar, Aug. 1939, Esaki; female, Peleliu, Akarokuru-Ashiasu, Aug. 1939, Esaki.

DISTRIBUTION: Western Caroline Is. (Palau).

Very closely related to *G. fusconervosus* in the shape and character of body parts. However, the two cicatrices are separated by a longitudinal double row of fuscous punctures and the surface more sparsely punctate with fuscous. Punctations of the corium and pleurites unicolorous. Also, the osteolar peritreme is quite distinctive.

#### SUBFAMILY OXYCARENINAE

##### Genus *Oxycarenum* Fieber

*Oxycarenum* Fieber, 1837, Beitr. Ges. Nat. Heilwiss. 1(3): 339; 1851, Rhynchotographien, 38.

*Maruthas* Distant, 1914, Nova Caledonia, Zool. 1(4): 379.

Head and pronotum densely, coarsely punctate; head porrect; bucculae long, extended to base of head; rostrum long, often extended on to venter. Anterior femur spined below. Corium flat and expanded, wider than abdomen. Membrane with few simple veins.

##### 15. *Oxycarenum bicolor* Fieber.

*Oxycarenum bicolor* Fieber, 1851, Rhynchotographien, 39 (India).—

Distant, 1903, Fauna of India, Rhynch. 2: 44.—Esaki, 1941, Sixth Pacific Sci. Congr., Proc. 4: 411.—Usinger, 1946, B. P. Bishop Mus., Bull. 189: 29.

Sparsely covered with pale, capitate hairs. Head, antenna, pronotum, and clavus black. Corium white with transverse band and apex black. Osteolar peritreme, posterior margin of metapleuron, acetabular margins, and middle region of posterior tibiae, white.

DISTRIBUTION: India, Burma, Java, Philippine Is., Australia, S. Mariana Is. and Caroline Is.

- Two trichobothria of fourth ventral abdominal segment set close together near anterior margin of segment, sometimes a third trichobothrium is set close to posterior margin of segment. Hemelytral membrane with two basal cells from which arise three or four longitudinal veins (*Lethaeus*)  
 ..... **Lethaeini**
- 4(3). Body elongate. Head not imbedded to eyes. Antennae long and slender, basal segment as long or longer than head. Pronotum with distinct transverse impression separating two lobes; lateral margin at least of anterior lobe, carinate; humeral angles sometimes (*Narbo*) with a slight notch. Anterior femur long, not strongly incrassate. Hypopygium of male sometimes with slight tubercle (*Dieuches*, *Narbo*)..... **Dieuchini**
- Body short, more oval. Head commonly imbedded to eyes or very nearly so. Antennae shorter, basal segment shorter than head. Pronotum with transverse impression either shallow or absent; lateral margin either explanate or carinate. Anterior femur shorter and more or less incrassate..... 5
- 5(4). Lateral margin of pronotum commonly explanate and in part pale, very rarely entirely concolorous with surface; posterior surface frequently pale, punctate with fuscous. Hypopygium with small tubercle (*Aphanus*)  
 ..... **Beosini**
- Lateral margin of pronotum carinate; posterior surface commonly uniformly colored. Hypopygium of male without small tubercle (*Cligenes*).....  
 ..... **Rhyparochromini**

#### TRIBE CLERADINI

##### Genus *Clerada* Signoret

*Clerada* Signoret, 1862, IN Maillard, Ile Réunion, Ins., 28.

##### 17. *Clerada apicicornis* Signoret.

*Clerada apicicornis* Signoret, loc. cit., 28, pl. 20, fig. 8 (Réunion I.).

*Gastrodes terminalis* Walker, 1872, Cat. Hemipt. Heteropt. Brit. Mus. 5: 122.

*Clerada apicicornis*, Usinger, 1946, B. P. Bishop Mus., Bull. 189: 29 (Guam).

General color brown. Head porrect, longer than pronotum, not imbedded to eyes; ocelli set behind eyes; basal two segments of rostrum as long as head. Anterior margin of pronotum narrowly depressed; lateral margin carinate. Membrane with transverse basal plica on outer half, with four simple veins, two inner veins sinuate. Femora mutic.

DISTRIBUTION: India, Ceylon, Thailand, Philippine Is., Australia, Samoa, Hawaiian Is., Mexico, North and South America, West Indies, S. Mariana Is., Eastern Caroline Is., Bonin Is.

BONIN IS. CHICHI JIMA: One, Oct. 1934, Okabe and Ikeda; one, July 1949, Kondo. HABA JIMA: One, June-July 1949, Mead.

S. MARIANA IS. GUAM: Pt. Oca, two, May, June 1945, Dybas; one, Agana Airport, Aug. 1945, Dybas.

KUSAIE. FUNAUNPES, one, Jan. 1953, Clarke; MUTUNLIK, two, Mar. 1953, Clarke.



## TRIBE MYODOCHINI

## KEY TO GENERA OF MICRONESIAN MYODOCHINI

1. Body rather short. Head scarcely exerted; eyes commonly in contact with anterior angles of pronotum. Pronotum with anterior lobe compressed below on lateral margin of propleuron; anterior margin depressed without constricted collar. Clavus with three regular rows of punctures..... **Exptochiomera**
- Body more elongate. Head more or less exerted, eyes not in contact with anterior angles of pronotum. Pronotum with anterior lobe convex dorsoventrally, not compressed below on the lateral margin; anterior margin with a constricted collar. Clavus commonly irregularly punctate..... 2
- 2(1). Head strongly exerted, postocular margin subequal to or longer than eye; tylus more or less projected; vertex with narrow smooth curved line before each ocellus. Venter of abdomen longitudinally carinate..... **Bedunia**
- Head much less exerted; postocular margin shorter than eye; tylus scarcely projected; vertex either with a narrow smooth curved line before each ocellus or without such line. Venter of abdomen either carinate or ecarinate..... 3
- 3(2). Vertex of head with a narrow smooth curved line before each ocellus and venter of abdomen longitudinally carinate..... **Nesopamera**
- Vertex of head without a narrow smooth curved line before each ocellus and venter of abdomen ecarinate..... 4
- 4(3). Body more narrow, elongate. Postocular margin of head gradually contracted posteriorly; anterior constricted collar commonly wide and flat. Scutellum much longer than wide..... **Paromius**
- Body less narrow, elongate. Posterior margin of head abruptly contracted posteriorly. Scutellum more nearly equilateral..... **Pachybrachius**

Genus **Paromius** Fieber

*Paromius* Fieber, 1861, Eur. Hemipt., 45, 170.

## KEY TO MICRONESIAN SPECIES OF PAROMIUS

1. Rostrum longer, extended to middle of mesosternum. Antenna longer, second segment at least one-third longer than terminal segment..... **piratoides**
- Rostrum shorter, scarcely extended behind anterior coxae. Antenna shorter, second and terminal segments subequal..... **pallidus**

18. **Paromius piratoides** (Costa).

*Plociomereus piratoides* Costa, 1864, Mus. Napol., Ann. 2: 78 (Philippines).

*Nabis bicolor* Walker, 1873, Cat. Hemipt. Heteropt. Brit. Mus. 7: 145.

*Paromius piratoides*, Stål, 1874, Enumeratio Hemipterorum, 4: 148.—

Usinger, 1946, B. P. Bishop Mus., Bull. 189: 32 (Guam).

DISTRIBUTION: Philippine Is., Thailand, S. Mariana Is., and Caroline Islands.

S. MARIANA IS. AGIGUAN: One, July 1954, Davis.

PALAU. BABELTHUAP: Ulimang, six, Dec. 1947, Dybas; Ngiwal, one, Nov. 1951, Gressitt; one, May 1957, Sabrosky; Ngaremeskang, five, Ngatpang, two, Dec. 1951, Gressitt; Arakabesan (Ngerkabesang), 18, July 1946,

- Posterior lobe of pronotum unicolorous and the body slightly pilose and lateral margin of corium narrowly pale with postmedian, intercostal, fuscous spot and venter entirely black or posterior margin of pronotum with two vague pale spots and body more or less pilose and pale costal margin with a postmedian fuscous spot and venter pale yellow at base..... 6
- 6(5). Posterior lobe of pronotum unicolorous black or castaneous and body slightly pilose. Costal margin of corium narrowly pale with a postmedian intercostal fuscous spot and venter entirely black.....*nietneri*
- Posterior margin of pronotum with two vague pale spots. Body more or less pilose. Pale costal margin of corium with postmedian costal or intercostal spot and abdominal venter pale yellow at base, and anterior tibia of male with median spine..... 7
- 7(6). Narrow pale costal margin of corium with postmedian intercostal fuscous spot. Body with shorter pile. Terminal segment of antenna pale at base. Femora ochraceous.....*chinai*
- Narrow pale costal margin with postmedian costal, fuscous spot. Pile of body longer and more dense. Terminal segment of antenna fuscous. Femora in part fuscous.....*palauensis*

## 20. *Pachybrachius pacificus* (Stål).

*Pamera pacifica* Stål, 1874, Enumeratio Hemipterorum 4: 149 (Fiji Is.).

*Orthaea periplanios* Kirkaldy, 1907, Canadian Ent., 39: 246.

*Orthoaea pacifica*, Kirkaldy, 1907, Hawaiian Ent. Soc., Proc. 1(4): 150;—1908, Linn. Soc. New South Wales, Proc. 33: 358.—China, 1930, Insects of Samoa 2(3): 128.

*Orthaea vincta* Kirkaldy, 1908, Linn. Soc. New South Wales, Proc. 33: 357, pl. 4, fig. 1-3.

*Pachybrachius pacificus*, Usinger, 1946, B. P. Bishop Mus., Bull. 189: 29 (Guam).

*Pachybrachius vincta*, Zimmerman, 1948, Insects of Hawaii, 3: 118, fig. 42.

DISTRIBUTION: Widely distributed through Southeast Asia and islands of the South Pacific, Mariana, Caroline, and Marshall Is.

N. MARIANA IS. AGRIHAN: Two, July 1949, Mead.

S. MARIANA IS. SAIPAN: Charanka, one, Oct. 1937, Esaki; Oleai-Hinashiu-Charanka, one, Nov. 1937 and Matansha-Calabera, one, May 1940, Yasumatsu and Yoshimura; five, Nov. 1944, Edgar; one, June 1945, Ducoff; As Mahetog, four, Jan.-Dec. 1945, Tukuran, Laulau Bay, one and northeast coast, one, Jan. 1945, Dybas; Ants Valley, 95, June 1946, Oakley; one, Jan. 1945, Hagen. TINIAN: Central district, two, Oct. 1945, Dybas; four, June 1946, Townes; and four, Nov. 1952, Beardsley. AGIGUAN: Seventy-five, from Bermuda grass, Aug. 1954, Davis. ROTA: Sonson-Taipingot, two, Nov. 1937, Esaki; one, June 1951, R. Bohart. GUAM: One, July 1945, Chaffee; Pt. Riti-dian, two, Aug. 1945, at light, Gressitt and one, Oct. 1952, Krauss; Tarague, one, May 1936, Swezey; north Guam, seven, Apr. 1946, Krauss; Mt. Santa Rosa, four, May, June 1945, Bohart and Gressitt; Haputo Pt., two, Mar. 1948, Maehler; Pt. Oca, two, May, Aug. 1945, Bohart and Gressitt; Barrigada, ten,

Aug. 1945, Wallace; Agana, two, and Yona, one, Oct. 1952, Krauss; one, at light, Nov. 1952, Gressitt; Asan, two, Dec. 1945, Gressitt; Pt. Taguan, one, July 1945, Gressitt and Bohart; Agat, one, Mt. Alifan, seven, Apr. 1946, Krauss; Nimitz Beach, two, Aug. 1952, Krauss; near Harmon Airfield, two, Jan. 1945, Baker; Talofoto, two, Apr. 1946, three, Aug. 1952, Krauss; Tutujan, five, Nov. 1952, Gressitt.

PALAU. NGAIANGL (Kayangel): Four, Dec. 1952, Gressitt; one, Dec. 1952, Beardsley; 11, May 1957, Sabrosky. BABELTHUAP: Kaishar-Ngardok-Ngiwol, one, Aug. 1939, Esaki; Gakipp, eight, July 1946, Townes; Ulimang, 12, Ngerehelong, one, Dec. 1947, and Airai, one, Jan. 1948, Dybas; east Ngatpang, one, and Ngaremeskang, one, Dec. 1952, Gressitt; Ngaremlengui, one, June 1957, Sabrosky; Melekeiok, one, May 1957, Sabrosky; Imeliik, Netkeng, one, June 1957, Sabrosky. KOROR: Arabaketsu, two, June 1938, Murakami; northeast corner, three, July 1946, Townes; nine, Nov. 1947, Dybas; two, July, Nov. 1951, southwest Koror, two, light trap, Dec. 1952, Gressitt; four, Jan., one, May, and one, Sept. 1953, Beardsley; three, Sept. 1952, Krauss. NGERKABESANG: One, July 1956, McDaniel; five, July 1946, Townes. ULEBSEHEL (Auluptagel): One, Dec. 1952, Gressitt. MALAKAL: Three, May 1957, Sabrosky. PELELIU: Five, Jan., west coast, four, Feb. 1948, Dybas; Amiangel, one, Dec. 1952, Gressitt. ANGAUR: Five, Feb. 1948, Dybas.

YAP. YAP: Ruul-Nif, one, Sept. 1939, Esaki; Ruul, 37, Kolonia, 10, Kanif, one, Dugor, four, Yap, 15, south Yap, nine, central Yap, 11, north Yap, one, Gagil, 61, July-Aug. 1950, Goss; Kolonia, one, June 1957, Sabrosky; two, Aug. and 15, Oct. 1952, Krauss; one, July 1951, Dugor-Rumu, two, Mt. Madaade, one, Nov.-Dec. 1952, Gressitt; one, Mar. 1954, Beardsley; Giliman, five, June 1957, Sabrosky. RUMUNG: Three, Oct. 1952, Krauss; north Rumung, three, east Rumung, 13, and south Rumung, 17, July-Aug. 1950, Goss. MAP: North Map, 16, east Map, 25, west Map, 16, and south Map, 32, July-Aug. 1950, Goss.

CAROLINE ATOLLS. TOBI: Five, Sept. 1952, Krauss. PULO ANNA: One, Sept. 1952, Krauss. ULITHI: Two, Falalop, three, Fassarai, four, Oct. 1952, Krauss; Falalop, 12, Nov. 1956, McDaniel. FAIS: One, Oct. 1952, Krauss. WOLEAI: Two, Sept. 1952; one, Feb. 1953, Beardsley. NAMOLUK: One, Nov. 1952, Beardsley. LUKUNOR: One, Nov. 1952, Beardsley.

TRUK. TONOAS (Dublon): Two, Dec. 1935, Ono; two, Oct. 1952, Beardsley; Toloas-Erin, one, Nov. 1937, Esaki, one, Apr. 1940, Yasumatsu and Yoshimura, one, Jan. 1938, Yoshino. TON: Pata Sabote, four, Tol-Olej, five, Apr. 1940, Yasumatsu and Yoshimura; Mt. Unibot, two, May 1946, Townes; one, Dec. 1952, Gressitt. WENA (Moen, Wela): One, July 1940, Esaki; 28, May 1946, Townes; Civ. Ad. Area, two, Feb., Mar. 1949, Potts; Mt. Teroken, one, Jan. 1953, Gressitt; Wena, seven, Oct. 1952, Beardsley.

CAROLINE ATOLLS. TOBI (Tokobei) : Four, Jan. 1938, Murakami. ULITHI : Fassarai, one, Oct. 1951, Krauss ; one, Nov. 1956, McDaniel. FARAU-LEP : One, Feb. 1953, Beardsley.

TRUK. WENA (Moen) : Four, Jan. 1952, Beardsley ; Mt. Teroken, one, Jan. 1953, Gressitt ; Civ. Ad. Area, five, Mar. 1949, Potts. TON (Tol) : Olej, three, Olej-Foup, one, and Pata-Sabote-Epin, one, Apr. 1940, Yasumatsu and Yoshimura. TONOAS (Dublon) : Erin, one, Nov. 1937, Esaki ; one, Apr. 1940, Yasumatsu and Yoshimura ; one, Feb. 1948, Maehler.

PONAPE. One, Mar. 1936, Ono ; Colonia, two, Dec. 1937, Esaki ; two, Aug. 1939, Hetsushima ; six, June-Sept. 1950, Adams ; six, Jan. 1953, Clarke ; three, Nov. 1953, Beardsley ; Agric. Exper. Sta., six, June-Sept. 1950, Adams ; three, light trap, Jan. 1953, Gressitt ; Mt. Tolenkiup, two and Matalanim Plantation, one, June-Sept. 1950, Adams.

KUSAIE. Lelo, three, Nov. 1937, Esaki ; Matanluk (Yepan), two, Jan. 1953, Gressitt ; five, Dec. 1952, Feb. 1953, Clarke.

MARSHALL IS. ENIWETOK : Japtan I., 84, Aug., Sept. 1956, Jan. 1957, Tuthill. KWAJALEIN : Eleven, Dec. 1952, Clarke ; one, Nov. 1956, Clagg ; Ebeje, one, Oct. 1953, Beardsley. LIKIEP : Loto (Lato), 12, Dec. 1952, Fosberg (331). MAJURO : Three, June-July 1950, La Rivers ; one, Nov. 1953, Beardsley. NAMU : Three, Oct. 1953, Beardsley. JALUIT : Sydney Pier, Aug. 1946, Oakley. Also reported by Usinger.

GILBERT IS. MAKIN : One, June 1944, Enke. TARAWA : Two, Mar. 1951, Catala.

### 23. *Pachybrachius chinai* Usinger.

*Pachybrachius chinai* Usinger, 1946, B. P. Bishop Mus., Bull. 189 : 30 (Guam).

Very closely related to *Orithaea ventralis* China as stated by Usinger. In the long series there are some color markings. The head and anterior lobe of pronotum dark castaneous ; antennae and legs ochraceous, apex of third and base and apex of terminal segment of antenna fuscous, fourth segment broadly pale on basal half. Posterior lobe of pronotum ferruginous with lateral margin in part and two rather obscure spots on posterior margin, ochraceous. Scutellum with an obscure pale spot on each side of middle. Anterior tibia gently curved and with small postmedian spine.

Dr. Usinger has kindly presented two paratypes of his species.

DISTRIBUTION : S. Mariana and Caroline Is.

S. MARIANA IS. SAIPAN : Garapan, one, Feb. 1936, one, July 1939, Esaki ; Donni-Sadog-Tasi, one, May 1940, Yasumatsu and Yoshimura. GUAM : Pt. Oca, 32, May-July 1945, Bohart and Gressitt ; Agana, three and Mt. Santa Rosa, one, May 1945, Bohart and Gressitt ; Talofoto, one, Jan. 1936, Bryan.

PALAU. BABELTHUAP : Ngarard, one, Aug. 1939, Esaki ; Ngatkip (Gakipp), one, July 1946, Oakley ; E. Ngatpang, light trap, 17, Ngiwal, one and Ngaremeskang, one, Dec. 1952, light trap, Gressitt ; Ngaremlengui, one, June 1957, Sabrosky. KOROR : Two, Nov. 1947, Dybas ; Ngarbaged (Arubaketsu),

one, Aug. 1929, Miyaki; southwest Koror, six, light trap, Dec. 1952, Gressitt.

YAP. YAP: Ten, Kolonia, five, July-Aug. 1950, Goss; hill near Yaptown, 51, light trap, Dugor-Rumu, six, Mt. Gillifitz, one and Mt. Mataade, two, Dec. 1952, Gressitt; seven, Oct. 1952, Krauss, Giliman, two, June 1957, Sabrosky.

CAROLINE ATOLLS. KAPINGAMARANGI: Werua, two, July 1954, Niering.

TRUK. WENA (Moen): Olej-Foup, two, Sabote-Epin, one, Apr. 1940, Yasumatsu and Yoshimura; one, Feb. 1948, Dybas; 60, Feb.-Apr. 1949, Mt. Chukumong, five, Feb. 1949, Potts. TON (Tol): Netutu, seven, Apr. 1949, Potts.

PONAPE. Ponape, one, Mar. 1936, Ono; Colonia-Jokaj, one, Nov. 1937, Nampir-Sankakuyama, one, Jan. 1938, Esaki; Matalanim, one, Aug. 1946, Oakley and one, June-Sept. 1950, Adams; Colonia, four, Feb.-Mar. 1948, Dybas, one, June-Sept. 1950, Adams; Agric. Exper. Sta., nine, light trap, and Nanpohnmal, one, Jan. 1953, Gressitt.

KUSAIE. Lele, one, Malem, one, Dec. 1937, Esaki; one, Aug. 1946, Oakley; Mt. Fuinkol, two, Matanluk, two, Jan., Pukusrik, one, Sensrik, three, Malem River, one, Mwot, one, Apr. 1953, Clarke.

#### 24. *Pachybrachius nietneri* (Dohrn).

*Plociomerus nietneri* Dohrn, 1860, Stett. Ent. Zeitung 21: 404 (Ceylon).

*Plociomerus javanus* Motschulsky, 1863, Soc. Nat. Moscow, Bull. 36: 80.

*Pamera nietneri*, Stål, 1874, Enumeratio Hemipterorum 4: 151.—Distant, 1903, Fauna of India, Rhynch. 2: 53.—Banks, 1909, Philippine Jour. Sci. 4 A: 575.

*Orthoëa nietneri*, Kirkaldy, 1908, Linn. Soc. New South Wales, Proc. 33: 358.—China, 1930, Insects of Samoa 2(3): 130.

*Pachybrachius nietneri*, Usinger, 1946, B. P. Bishop Mus., Bull. 189: 30 (Guam).

Head, pronotum and scutellum black. Pronotum sparsely pilose, posterior lobe often ferruginous. Terminal segment of antenna with basal half pale. Anterior tibia of male slightly curved toward base, with a median spine. Corium dark brown or fuscous conspicuously marked with pale as follows: Narrow costal margin expanded before apical margin sometimes with a pale spot near inner angle.

DISTRIBUTION: Ceylon, Java, Sumatra, Burma, Thailand, Philippine Is., Australia, Fiji, Samoa, Mariana, Caroline, and Bonin Is.

BONIN IS. CHICHI JIMA: Six, June 1949, Mead; 12, July 1949, Kondo; one, June-July 1949, Langford.

S. MARIANA IS. SAIPAN: One, Jan. 1945, Hagen; near Tanapag, five, light trap, July 1945, Dybas. TINIAN: One, Nov. 1952, Beardsley. ROTA: Sabana-Kirisuto, one, Feb. 1936, Songsong-Sabana, one, Nov. 1937, Esaki. GUAM: One, Jan. 1945, Grether; Pt. Oca, one, Dec. 1945, Gressitt.

towards apical region of clavus, continued along posterior margin, thus inclosing a small pale spot at inner angle and a large preapical costal spot.

Head much wider than long, very finely punctate; interocular space over three times wider than eye; ocelli widely separated, over three times further apart than each is removed from eye; antenna rather long, proportionate lengths of segments; 25, 45, 50 and 70; rostrum extended to intermediate coxae, basal segment longer than first antennal segment. Pronotum a little wider than long (75 × 70); anterior lobe impunctate, one-fourth longer than posterior lobe which is pruinose in front and sparsely punctate. Anterior femora with two longer spines, one about the middle, the other midway between this and apex, the latter preceded by two or three smaller spines. Anterior tibia of male mutic. Scutellum much longer than wide (50 × 35), closely coarsely punctate along sides, sparsely punctate at base. Corium with two parallel rows of fuscous punctures along claval suture, very sparingly punctate elsewhere. Membrane fuliginous, mottled with pale apically. Length 5 mm.

Holotype, male (US 63535) Palau Is., Peleliu, Mt. Amiangal, Dec. 22, 1952, Gressitt.

#### 28. *Pachybrachius* sp.?

A single female specimen labeled Chichi Jima, Bonin Islands, Aug. 9, 1934, is determined as *Pamera boniniensis* (Uhler) by Dr. Esaki. This determination seems very doubtful as it does not agree with Uhler's description of the species from the Bonin Islands. Uhler, 1861, described *Aphanus boniniensis* as pitchy black and finely pubescent. The Chichi Jima specimen has the head black, but the pronotum and scutellum are castaneous and the body glabrous. It is very closely related to *Pachybrachius nigriceps* which occurs in Chichi Jima but it is devoid of any vestiture. Also, the anterior collar of pronotum is distinctly wider and the posterior margin is less concavely arcuate before base of scutellum. Under the circumstances, it seems best to leave this specimen unnamed until more material is obtained.

#### Genus *Exptochiomera* Barber

*Exptochiomera* Barber, 1928, New York Ent. Soc., Jour. 36:175 (type: *Ptochiomera minima* Guérin-Méneville).

#### 29. *Exptochiomera japonica* (Distant). (Figure 7, a.)

*Plociomera japonica* Distant, 1883, Ent. Soc. London, Trans. 1883:437 (Japan).

Head fuscous, finely punctate and sparsely covered with short, decurved hairs, one-fourth wider than long; ocelli red; antenna with basal segment extended beyond apex of tylus by much less than one half its length; proportionate lengths of the segments: 17, 30, 25 and 25. Pronotum much wider than long, two lobes subequally long, anterior lobe castaneous, sparsely, finely punctate; posterior lobe ochraceous, closely finely punctate with five obscure fuscous vittae; humeral angles pale. Scutellum castaneous, longer than wide, carinate apically and finely punctate, apex pale. Antenna, legs, corium and membrane as described by Distant. Length 3.5 to 4 mm.

DISTRIBUTION: Japan, Okinawa (US), Bonin Is.

BONIN IS. CHICHI JIMA: July 1940, Ikeda, a single defective male.

Genus *Nesopamera* Barber, n. gen.

Head as wide as long, preocular part equal to remainder; eyes rather large, nearly one-half as wide as interocular space; lateral margins of antenniferous tubercles parallel to each other, subequal to postocular margin; ocelli set just behind a line drawn across posterior margin of eyes, farther apart than each is removed from eye and each preceded by a smooth curved line; antenna long and slender, basal segment subequal to first rostral segment, exceeding apex of head by more than half its length. Pronotum much wider than long, two lobes subequal, anterior collar wide and flat; posterior margin straight. Scutellum longer than wide, feebly carinate apically. Costal margin of corium feebly concavely arcuate opposite apex of scutellum. Abdominal venter longitudinally carinate. Anterior femora not very strongly incrassate, spined beneath. Anterior tibia straight, mutic; basal segments of tarsi very long.

Type species: *Nesopamera vicina*, n. sp., by present designation.

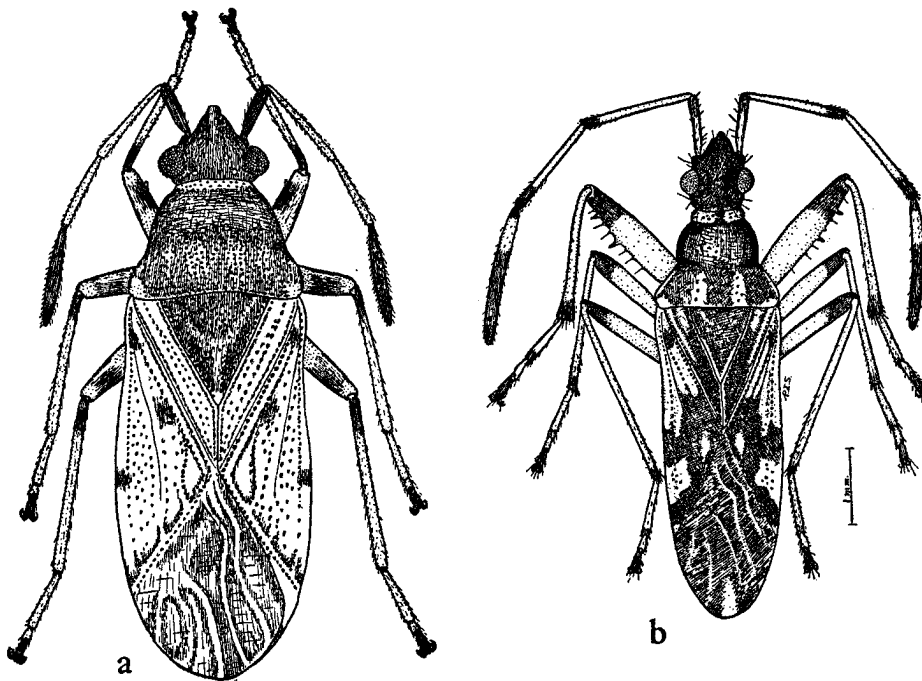


FIGURE 7.—a, *Exptochiomera japonica*; b, *Nesopamera vicina*.

*Nesopamera* is most closely related to *Pachybrachius* from which it differs in the following respects: Head much more produced anteriorly, with pre-ocular curved lines, scarcely contracted behind eyes; antenna long and slender, basal segment much longer than preocular part of head and subequal to basal segment of rostrum; ocelli farther apart than each is removed from eye; anterior femora less incrassate; venter longitudinally carinate.

*Nesopamera* is also related to *Pamerana* Distant, described from India, but judging from Distant's figure of *P. cuneata*, *Nesopamera* is relatively narrower, the antenniferous tubercles are neither flaring nor furnished with apical spine and the pronotal collar is wider and more flattened, not dentate outwardly; the costal margin of corium is not straight but gently concavely arcuate opposite the scutellum. The character of the head and fore femora will separate *Bedunia* from *Nesopamera*.

**30. *Nesopamera vicina* Barber, n. sp. (fig. 7, b).**

Head, anterior lobe of pronotum, scutellum, and beneath black; posterior lobe castaneous; collar except at middle point, posterior lobe with lateral margins interrupted in the middle and two longitudinal fascia on middle of disc, ochraceous. Antennae testaceous, apices of basal three segments, and apical half of terminal segment fuscous; the latter broadly pale at base. Legs stramineous, apices of femora faintly fuscous. Hemelytra stramineous, clavus fuscous posteriorly; corium with a postmedian irregular, transverse fuscous band, narrower at the costal margin, expanded within toward inner apical angle and continued along posterior margin, inclosing a large subquadrate, sparsely punctate pale spot, a much smaller spot near inner angle; fuscous punctures on basalf half arranged somewhat in linear series. Lateral margins of venter pale. Membrane fuliginous, a small spot at outer basal angle, veins towards base and triangular apical mark, sordid white.

Head as long as wide, shorter than pronotum, finely and closely punctate, interocular space not quite twice as wide as eye; margins of the two antenniferous tubercles parallel subequal to length of postocular margin.

Antenna long and slender, basal segment equal to length of basal segment of rostrum, exceeds apex of head by over half its length, second little longer than third, terminal segment little longer than second. Proportionate lengths of segments: 50, 80, 80, 100. Rostrum extended nearly to posterior coxa. Pronotum much wider than long (100 x 80), including collar, the two lobes equal; collar wide and flat, anterior lobe faintly, very sparingly punctate; posterior lobe very sparingly but more coarsely punctate. Scutellum longer than wide, sparingly punctate, posterior lateral margins and extreme apex, ochraceous. Clavus sparingly punctate in irregular series. Anterior femora with a large preapical and a premedian spine, between which are several small spines. Length 7.0 mm.

Holotype, male (US 63536) Truk Is., Ton (Tol), Mt. Unibot, light trap, Jan. 4, 1953, Gressitt; paratypes, male, May 1946, Townes; female, Wena (Moen) I., Mt. Teroken, Dec. 1952, light trap, Gressitt; Wena I., two males and one female, Mar.-Apr. 1949, Potts; male, Mt. Chukumong, Feb. 1949, Potts.

**31. *Nesopamera notatipes* Barber, n. sp. (fig. 8).**

Size and general shape, punctation and color pattern of head, pronotum, scutellum and hemelytra much the same as in *vicina*; however, fuscous markings of corium not so conspicuous on a sordid stramineous surface. Basal segment of antenna spotted with fuscous, apices of second, third and apical half of terminal segment fuscous, the latter broadly pale at base. Legs stramineous, femora with two wide fuscous bands, one at apex, the other separated from it by its own width, basally spotted with fuscous; apices of tibiae fuscous.

Antennae much longer than in *vicina*, with second segment much longer than third and nearly equal to terminal segment; proportionate lengths of segments: 60, 105, 85 and 100.

Holotype, male (US 63537) Ponape I., Mt. Kupwuriso, Mar. 1948, Dybas. Paratypes: Two males and one female with same data as type; one male, three



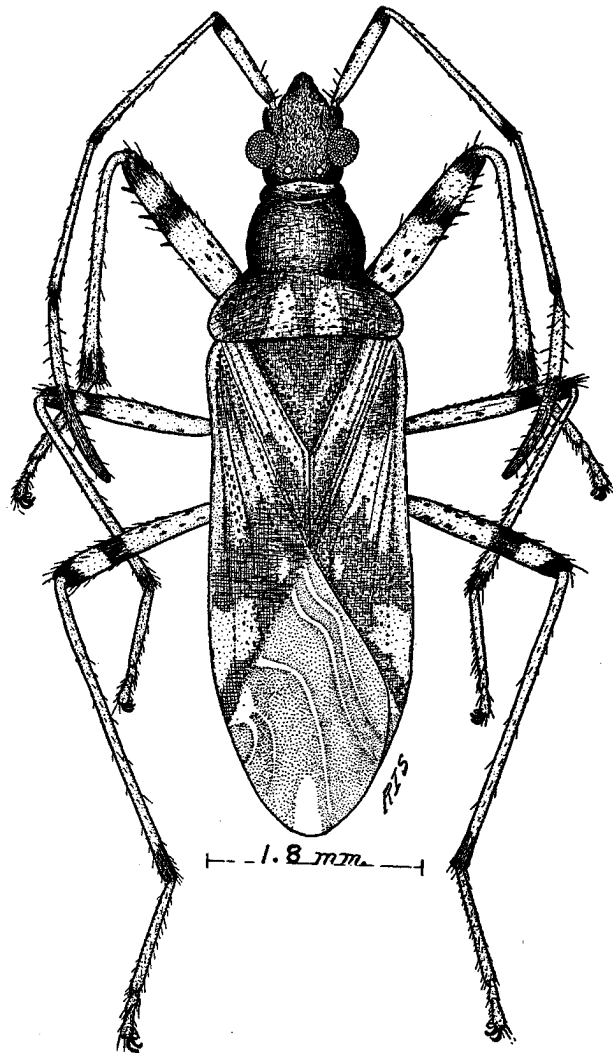


FIGURE 8.—*Nesopamera notatipes*.

females and one nymph, Nanpil, Nett District, Feb. 1948, Dybas; two females, southeast Nanpohnmal, Jan. 1953, Gressitt; two males, three females, Mt. Temwetemwensekir, Jan. 1953, Gressitt; male and female, Mt. Nanalaut, Mar. 1948, Dybas; one male, Jan. 1953, Gressitt; one male, Colonia-Nampir, Jan. 1938, Esaki.

Genus *Bedunia* Stål

*Bedunia* Stål, 1874, *Enumeratio Hemipterorum* 4: 144, 146.

*Bedunia* is characterized by having strongly exserted head, projected tylus, ocelli preceded by smooth, curved lines, long and slender antenna, strongly incrassate fore femur with double row of acute tubercles.

KEY TO MICRONESIAN SPECIES OF *BEDUNIA*

1. Tylus projected anteriorly in a distinct spine. Posterior angle of sixth abdominal segment projected in acute tooth.....*cuspidatus*  
Tylus not projected in a spine and posterior angle of sixth abdominal segment acute, not projected in a spine..... 2
- 2(1). Hemelytra unicolorous, without transverse postmedian fuscous band. Postocular margin of head equal to width of interocular space. Basal segment of antenna subequal to length of head.....*insularis*  
Hemelytra with conspicuous, wide transverse fuscous band. Postocular margin of head much shorter than interocular space. Basal segment of antenna shorter than head..... 3
- 3(2). Terminal segment of antenna pale except at extreme base and apex. Preocular part of head twice as long as postocular margin. Antenna shorter; basal segment shorter than third, third and terminal segments subequal. Large preapical pale spot of corium extended to apical margin.....*nesiotes*  
Terminal segment of antenna entirely fuscous. Preapical part of head not twice as long as postocular margin. Antenna longer, basal segment equal to third, terminal segment shorter than third. Large preapical spot of corium not extended to apical margin.....*pagana*

32. *Bedunia cuspidata* Stål.

*Bedunia cuspidata* Stål, 1874, *Enumeratio Hemipterorum* 4: 146 (Philippine Is.).

Tylus projected anteriorly in a spine-like process. Lateral margin of pronotum and two rather vague transverse spots on basal margin, ochraceous. Corium with conspicuous broad transverse band behind middle and apex fuscous, membrane fuliginous, veins towards base and apex pale. Posterior lobe of the pronotum occasionally ferruginous.

A long series from Yap shows very little variation in the markings.

DISTRIBUTION: Philippines, western Caroline Islands.

PALAU. BABELTHUAP: Ngaremlengui, three, May 1957, Sabrosky; Ngaremeskang, one, Dec. 1952, Gressitt. KOROR: One, Feb. 1948, Dybas; seven, Jan.-May 1953, at light, Beardsley, southwest Koror, two, light trap, Dec. 1952, Gressitt.

YAP. YAP: One, Oct. 1952, Krauss; Tomil District, 22, Kolonia, 83, Kanif, 59, Dugoi, 11, Gagil, 12, north Yap, 83, and south Yap, 37, all July-Aug. 1950, Goss; hill near Yaptown, two, Nov. 1952, Gressitt; Ruul, three, Nov. 1939, Esaki. RUMUNG: Two, July-Aug. 1950, Goss. MAP: East Map, one, July-Aug. 1950, Goss.

**33. *Bedunia insularis* Stål.**

*Bedunia insularis* Stål, 1874, Enumeratio Hemipterorum 4: 146 (Samoa).

—China, 1930, Insects of Samoa 2(3): 134.

Head, anterior lobe of pronotum, scutellum, and pleurites black. Ocelli red. Antenna and legs sordid stramineous; fore femur fuscous. Antenna with apices of first, second and all of third segment fuscous; terminal segment pale at base. Pronotum with the collar ferruginous, posterior lobe castaneous with lateral margins, and two vague transverse spots on basal margin ochraceous. Scutellum very narrowly pale at apex. Hemelytra more castaneous than ferruginous with markings as stated by Stål. Membrane fuliginous with a small, sordid white spot at outer basal angle and veins pale. Length 7.50 mm.

DISTRIBUTION: Samoa, Mariana, and western Caroline Is.

S. MARIANA IS. AGIGUAN: Two, May 1952, Kondo. GUAM: Pt. Ritidian, one, Aug. 1945, at light, Gressitt.

PALAU. BABELTHUAP: One, Apr. 1957, Sabrosky; one, Dec. 1947, Dybas and one, Dec. 1952, Gressitt; east Ngatpang, one, Dec. 1952, light trap, Gressitt. KOROR: One, Nov. 1947, Dybas; two, Oct. 1952, at light, Beardsley. ANGAUR: One, Feb. 1948, Dybas.

**34. *Bedunia nesiotes* Kirkaldy.**

*Bedunia nesiotes* Kirkaldy, 1908, Linn. Soc. New South Wales, Proc. 33: 357 (Fiji).

Head, anterior lobe of pronotum and pleurites, dark castaneous; ocelli red; apex of tylus and basal three segments of antenna testaceous, terminal segment white at base. Pronotum with collar ferruginous; posterior lobe castaneous, lateral margin, and two vague spots on basal margin yellow. Legs with anterior femora castaneous; anterior tibia, intermediate and hind legs sordid stramineous. Hemelytra dark castaneous, narrow costal margin before middle, a short streak within this, and a large preapical spot which attains costal margin and extends in a narrow arm to apical margin pale yellow. Membrane fuliginous with apical portion more dusky; veins obscure. Abdominal venter castaneous with lateral margins yellow. Length 5.80 mm.

DISTRIBUTION: Fiji, Caroline Is.

PALAU. BABELTHUAP: Ulimang, one, Dec. 1947, Dybas. KOROR: Southwest Koror, one, Dec. 1952, light trap, Gressitt and one, Mar. 1954, Osborn.

TRUK. WENA (Moen): One, Feb. 1949; Civ. Ad. Area, eight, Mar. 1949, 18, Apr. 1949, Potts; one, Oct. 1952, Beardsley; Mt. Teroken, one, Feb. 1953, light trap, Gressitt; one, May 1946, Oakley. ToL (Ton): One, Apr. 1949, at light, Potts; Mt. Unibot, three, Dec. 1952, light trap, Gressitt.

PONAPE. Colonia, one, Dec. 1937, Esaki; one, June 1953, Clarke; one, Mar. and Nanpil, Nett District, one, Feb. 1948, Dybas; Mt. Temwetemwensekir, two, Jan. 1953, Gressitt.

KUSAIE. Two, Mar.-Apr. 1953, Clarke.

**35. *Bedunia pagana* Barber, n. sp. (fig. 9).**

Very similar to *nesiotes* in coloration and markings, with these differences: terminal segment of antenna entirely fuscous; markings of pronotum more orange yellow with the two spots on basal margin more conspicuous; scutellum with apex more broadly pale yellow; corium with an additional streak along the claval suture opposite the commissure;

preapical costal spot subquadrate and not quite attaining apical margin; antenna shorter. Proportionate length of segments: 80, 100, 80 and 70. Length 7.00 mm.

Holotype, male (US 63538), Guam, Pt. Oca, July 1945, Gressitt and G. E. Bohart. Paratypes: Eight with same data as type; 11, June and two, Aug. 1945, Gressitt, Bohart; three, Dec. 1945, Gressitt; Com. Mar. Hill, one, Mar. 1948, Maehler; Agana, five, May 1945, Gressitt and Bohart. Agiguan: Three, Aug. 1954, Davis, one, May and one, July 1952, Kondo; one, May 1949, Owen. Tinian: One, Nov. 1952, Beardsley. Pagan: One, Aug. 1954, Corwin. Rota: One, June 1952, Kondo.

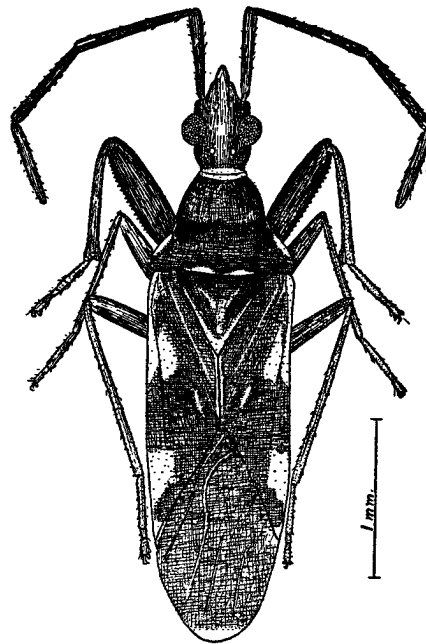


FIGURE 9.—*Bedunia pagana*.

#### TRIBE RHYPAROCHROMINI

##### Genus *Cligenes* Distant

*Salacia* Stål, 1874, Enumeratio Hemipterorum 4: 157 (Div. "a").

*Cligenes* Distant, 1893, Biol. Centr. Amer., Rhynch. Heteropt. 1: 405.—

Bergroth, 1895, Rev. d'Ent. 14: 142-143; 1913, Soc. Ent. Belg., Ann. 57: 152-153.

Body glabrous. Head wider than long, imbedded to eyes; ocelli and antennae set close to eyes, basal segment of the latter exceeds apex of tylus by half or more than half of its length. Pronotum transverse; lateral margin very lightly carinate and sinuate near

middle; slightly transversely impressed near middle; apical margin straight; basal margin concavely arcuate before base of scutellum. Scutellum nearly equilateral. Clavus with three rows of punctures. Commissure very short, one-fourth to one-fifth as long as scutellum. Inner apical margin of corium sinuate. Small species.

## KEY TO MICRONESIAN SPECIES OF CLIGENES

1. Pronotum with narrowly impressed anterior margin; lateral margin strongly concavely arcuate; anterior lobe very sparsely, finely punctate. Antennae long and slender, subequal to combined length of head, pronotum, and scutellum; second and terminal segments subequal. Preocular part of head longer than eye.....**longicornis**  
 Pronotum with anterior margin not impressed; lateral margin slightly concavely arcuate or straight; disc nearly uniformly, more densely punctate. Antennae much shorter than combined length of head, pronotum and scutellum, second and terminal segments unequal. Preocular part of head equal to length of eye..... 2
- 2(1). Antenna quite short, about one-fourth shorter than combined length of head and pronotum. Head, pronotum, and scutellum unicolorous, castaneous. Corium with spot at inner angle and apex castaneous; costal margin without postmedian spot.....**flavicornis**  
 Antenna longer and more slender, over one-fourth longer than combined length of head and pronotum. Scutellum with yellow mark on disc. Costal margin of corium with postmedian spot and apex castaneous..... 3
- 3(2). Scutellum with a large V-shaped mark on disc.....**marianensis**  
 Scutellum with apical half yellow.....**marianensis scutellatus**

36. *Cligenes flavicornis* (Signoret).

*Tropostethus flavicornis* Signoret, 1880, Mus. Civ. Stor. Nat. Genoa, Ann. 15: 538 (Celebes).

*Cligenes flavicornis* Bergroth, 1895, Rev. d'Ent. 14: 142.

Head, pronotum, scutellum, and beneath castaneous; pronotum more testaceous posteriorly. Antenna and legs stramineous. Hemelytra stramineous; corium with a spot near inner angle and apex castaneous. Lateral margin of pronotum slightly sinuate near middle. Punctations rather dense on the pronotum and corium.

DISTRIBUTION: Celebes, Java, Borneo, Philippine Is. and Caroline Is.

PALAU. KOROR: One, Nov. 1947, Dybas; four, Jan., four, Apr. and one, June 1953, Beardsley.

YAP. YAP: One, Mar. 1954, Beardsley; two, July-Aug. 1950, Goss; south Yap, one, Kolonia, five, Kanif, seven, July-Aug. 1950, Goss; hill near Yaptown, two, light trap, Dec. 1952, Gressitt; Giliman, five, June 1957, Sabinosky.

37. *Cligenes marianensis* Usinger.

*Cligenes marianensis* Usinger, 1946, B. P. Bishop Mus., Bull. 189: 32, fig. 2 (Guam).

DISTRIBUTION: Mariana Is.

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

DISTRIBUTION: Philippine Is., Java, Solomon and Caroline Is.

PALAU. BABELTHUAP: Ulimang, one, Dec. 1947, Dybas; one, Ollei, May 1953, Beardsley. KOROR: Five, Apr., June 1953, Beardsley. PELELIU: Ashiasu, one, Mar. 1936, Esaki; two, Aug. 1945, Hagen.

YAP. YAP: North Yap, one, Dugoi, one, Aug. 1950, Goss.

TRUK. WENA (Moen): Nantaku (Civ. Ad. Area), 173, Feb.-Apr. 1949, Potts.

PONAPE. Mt. Temwetemwensekir, two, Jan. 1953, light trap, Gressitt.

#### 41. *Aphanus sordidus* (Fabricius).

*Cimex sordidus* Fabricius, 1787, Mant. Ins. 2: 302 (India).

*Aphanus sordidus*, Distant, 1903, Fauna of India, Rhynch. 2: 79, fig. 62.—  
Hoffmann, 1932, Lingnan Sci. Jour. 11(1): 130-134, pl. 2 (biology).

Anterior lobe of pronotum and explanate pale lateral margin before middle castaneous; posterior lobe stramineous, closely punctate with fuscous. Scutellum with a large pale, punctate patch on each side. Hemelytra stramineous, surface closely punctate, with a row along costal margin fuscous. Anterior femur with a row of six or seven equidistant acute tubercles beneath; tibia with rows of long setae.

DISTRIBUTION: Philippine Is., India, Thailand, Burma, S. China, Okinawa and Mariana Is.

S. MARIANA IS. GUAM: Pt. Oca, 11, May 1945, Bohart and Gressitt.

#### TRIBE DIEUCHINI, NEW STATUS

A new division, Dieuchini, has been erected to contain several genera having distinctive characters in common separating them from Stål's Division Beosini. At least these four genera belong to the new tribe: *Narbo*, *Dieuches*, *Porta*, and *Tachytatus*. The last named was placed in error by Bergroth in the Myodochini. Principal characters of the tribe: Head is strongly exserted; antenna long and slender, basal segment nearly as long as head and in some cases longer than head and often longer than first rostral segment. Hypopygium of male in *Narbo* and *Dieuches* has a small tubercle. *Narbo* is the only genus represented in Micronesia.

#### Genus *Narbo* Stål

*Narbo* Stål, 1866, Hemipt. Africana 2: 153; 1874, Enumeratio Hemipterorum 4: 159, 162.

Body elongate. Head porrect, postocular margin quite short, gradually contracted posteriorly. Antenna long and slender; basal segment subequal to length of head, longer than first rostral segment. Pronotum constricted midway, lateral margin lightly carinate, more or less distinct notch at humeral angle. Legs long and slender, anterior femora not strongly incrassate, a row of short spines beneath. Scutellum carinate apically. Abdominal venter longitudinally subcarinate; hypopygium of male with a small tubercle.

42. *Narbo metochoides* Bergroth (fig. 11, a).

*Narbo metochoides* Bergroth, 1918, Philippine Jour. Sci. 13 D: 82 (Philippine Is.).

Head, anterior lobe of pronotum, scutellum, and pleurites dull black. Antenna, rostrum, and legs sordid testaceous. First antennal, apices of second, third, and base of terminal segments fuscous; the latter broadly pale at base. Carinate lateral margin of pronotum before humeral angle, two spots midway on either side of scutellum and apex, costal margin of corium to beyond middle, small spot opposite middle point of commissure, and large preapical spot ochraceous. Membrane fuscous with triangular shape mark at apex pale. Venter fuscous. Antenna with second segment nearly twice as long as basal, subequal to third, terminal subequal to second segment. Rostrum extended nearly to intermediate coxae. Fore femur with row of four or five short, setigerous spines and row of small tubercles.

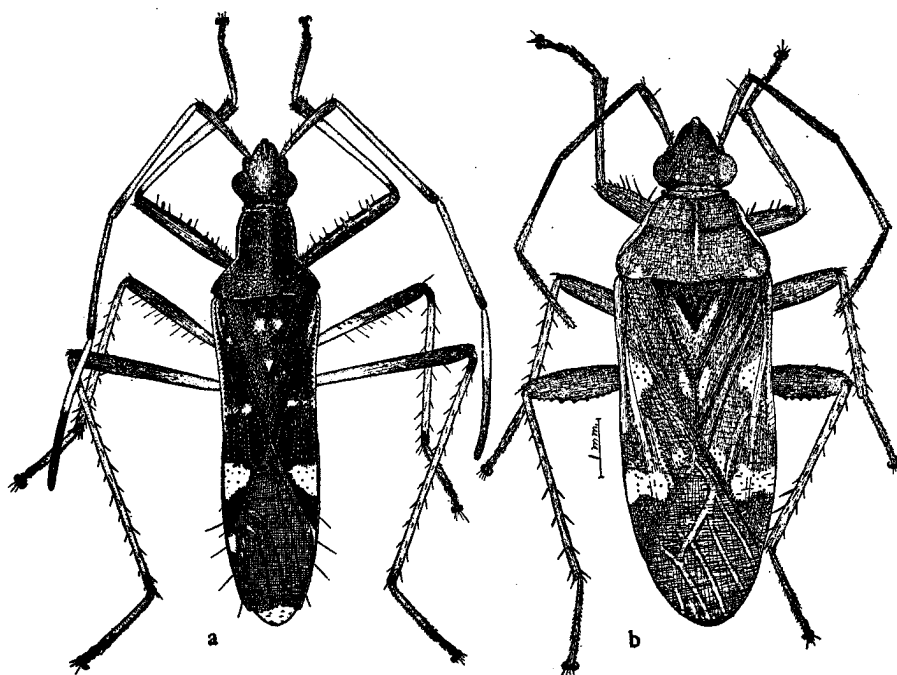


FIGURE 11.—a, *Narbo metochoides*; b, *Lethaeus descriptus*.

DISTRIBUTION: Philippine Is., Australia, Samoa, and Caroline Is.

PALAU. BABELTHUAP: E. Ngatpang, 13, Dec. 1952, light trap and Ngiwal, one, Aug. 1951, Gressitt; Ulimang, four, Dec. 1947, Dybas; Ngarard, one, Aug. 1939, Esaki; Ngaremlengui, five, Apr. 1957, Sabrosky. KOROR: Two, Dec. 1952, light trap, Gressitt; five, Mar.-July 1953, at light, Beardsley. PELELIU: Akarokuru, one, Aug. 1939, Esaki.

## TRIBE LETHAEINI

Genus *Lethaeus* Dallas

*Lethaeus* Dallas, 1852, List Hemipt. Brit. Mus. 2: 532, 557.—Distant, 1903, Fauna of India, Rhynch. 2: 87.—Stål, 1874, Enumeratio Hemipterorum 4: 164, 165.

*Orbellis* Distant, 1913, Linn. Soc. London, Trans. Zool. II, 16: 156.

Membrane with basal transverse plica and two basal cells from which arise four principal veins. Eyes large. Antennae long and slender. Pronotum transverse, narrowed anteriorly, not constricted transversely; anterior margin narrowly depressed; lateral margin narrowly expanded. Scutellum longer than wide. Clavus with four regular rows of punctures. Femora nearly equally incrassate or sometimes posterior pair more incrassate; anterior femora with short setigerous tubercles; posterior pair with two rows of small tubercles; tibiae setose.

43. *Lethaeus descriptus* (Walker). (Figure 11, b.)

*Rhyparochromus descriptus* Walker, 1872, Cat. Hemipt. Heteropt. Brit. Mus. 5: 103 (India).

*Lethaeus descriptus*, Distant, 1903, Fauna of India, Rhynch. 2: 89.

Head, pronotum, scutellum, and beneath black. Ocelli red. Antenna with basal segment castaneous, as long as head; second and apex of third segment testaceous; terminal segment fuscous. Rostrum extended well behind posterior coxa. Pronotum with narrow expanded lateral margin, spot on each side of basal margin within the humeral angles ochraceous. Hemelytra fusco-castaneous with ochraceous markings as follows: Median vein anteriorly, a small spot just within this, narrow costal margin before middle and a large preapical spot; clavus with preapical pale spot, sometimes preceded by a smaller spot. Femora and coxae castaneous; tibiae testaceous. Length 9 mm.

DISTRIBUTION: India, Ceylon, Tenasserim, Borneo, Philippine Is., China, Solomon Is., Caroline Is.

PALAU. BABELTHUAP: Ngarekeai, two, Nov. 1956, Fehlmann; Ngarem-lengui, 10, May 1957, Sabrosky; Ngiwal, two, May 1957, Sabrosky; Ulimang, nine, Dec. 1947, Dybas; east Ngatpang, 31, Dec. 1952, light trap, Gressitt. KOROR: Two, Nov.-Dec. 1947, Dybas; four, Apr.-May 1949, Langford; four, Jan.-Sept. 1953, Beardsley.

YAP. YAP: One, Sept. 1939, Esaki; Dugor, four, July-Aug. 1950, Goss; Gagil, Gachapar, five, June 1957, Sabrosky.





