

INSECTS OF MICRONESIA

Homoptera: Membracidae*

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INTRODUCTION

Through the courtesy of Dr. J. L. Gressitt, I have had the privilege of examining a series of Membracidae from Micronesia. The United States Office of Naval Research, the Pacific Science Board (National Research Council), the National Science Foundation, and Bernice P. Bishop Museum have made this survey and 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.

This study is based upon material from various parts of Micronesia collected during many insect surveys. The collections are in the following institutions: Bernice P. Bishop Museum, Chicago Natural History Museum (CM), California Academy of Sciences, United States National Museum (US), Federal Plant Quarantine Office, Honolulu, Trust Territory of the Pacific, Hawaiian Sugar Planters' Association, Kyushu University, National Institute of Agricultural Science, Tokyo, and Kato Entomological Laboratory, Tokyo.

This group of homopterous insects, remarkable for the unusual development of the pronotum, is rather poorly represented in Micronesia. Centrotinae is the only subfamily of Membracidae represented in Micronesia. In 1904 Dr. S. Matsumura listed *Centrotus* (*Gargara*) *genistae* Fabricius from the Bonin Islands (Ogasawarajima). Dr. O. H. Swezey listed *Leptocentrus taurus* (Fabricius) from Guam in 1942.

Distributional List of Micronesian Membracidae

1. *Gargara genistae*: Bonin Is.
2. *Tricentrus dubius*, new species: Caroline Is. (Palau, Ponape).
3. *Leptocentrus taurus*: S. Mariana Is.

* This represents, in part, Results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 106.

2. *Tricentrus dubius* Kato, n. sp., forms **a, b, c** (fig. 1).

Form a (fig. 1, *g-i*): Pronotum with distinct suprahumeral horns. Medium sized, robust, yellowish brown with dense golden-yellow pubescence; suprahumeral horns short, strong, broad, extending upward and slightly outward; posterior process heavy, straight, extending just beyond internal angles of tegmina; tegmina partly yellowish hyaline; legs and abdomen brown, sides of thorax chocolate brown.

Head subquadrate, shining brown, finely punctate, densely pubescent with golden-yellow hairs; base slightly high and somewhat sinuate; eyes large, grayish yellow; ocelli large, conspicuous, white, equidistant from each other and from the eyes and situated about on a line drawn through centers of eyes; genae broad, clypeus twice as long as wide, extending half the length below inferior margins of genae, tip round and pilose.

Pronotum yellowish brown, coarsely punctate, densely pubescent with short, golden-yellow pubescence; metopidium convex, broader than high, base shining brown, especially above each eye; median carina distinct; suprahumeral horns short, stout, strong, tip not pointed, extending upward and slightly outward, width between suprahumeral horns very slightly narrower than space between eyes; posterior process heavy, tectiform, blunt, straight, tip acute and brown, extending just beyond internal angles of tegmina; scutellum exposed, with grayish pubescence.

Tegmina yellowish hyaline, with irregular brownish markings in front of discoidal cells, base thickened, opaque, brown, coarsely punctate; veins pale brown, with short, golden-yellow pubescence; anterior marginal tip subacute, fuscous, limbus narrow; five apical and three discoidal cells.

Sides of thorax chocolate brown and densely pubescent; abdomen and legs yellowish brown with femora brown.

Length including tegmina 4 mm.; width between tips of suprahumeral horns 1.5 mm.; width between humeral angles 1.8 mm.

Form a appears in females only.

Form b (fig. 1, *d-f*): Suprahumeral horns not developed, showing only a strong carina on each side of median carina. This form appears in females only.

Form c (fig. 1, *a-c*): Suprahumeral horns absent. This form appears in males only.

Holotype, form *a*, female (US 65090), Koror I., limestone ridge, Palau Is., Caroline Is., Jan. 16, 1948, Dybas. Allotype, form *c*, male (CM), Peleliu I., east coast, Palau Is., Aug. 2, 1945, Dybas.

Other specimens, all Palau. Ngaiangl: Three, May 1957, Sabrosky. Babelthuap: One, Imeliik, Netkeng, June 1957, Sabrosky; one, Ngerehelong, May 1957, Sabrosky; male, Iwang, 8 m., Dec. 19, 1952, Gressitt. Koror: Female, limestone ridge, Jan. 16, 1948, and female, Nov. 18, 1947, both Dybas; four females, Aug. 18, Sept. 18, 22, 1952, Beardsley; two females on *Morinda citrifolia*, Sept. 22, 1952, Beardsley; male, five females, Sept. 1952, Krauss; four, Apr. 1957, Sabrosky; female, May 15-25, 1948, Maehler. Malakal: One, May 1957, Sabrosky. Ulebsehel (Auluptagel, Aurapushekaru): Female, Sept. 1952, Krauss. Ngarmalk (N. W. Auluptagel): One, Apr. 1957, Sabrosky. Ngerkabesang: Two, Apr., May 1957, Sabrosky. Ngurukdabel: Female, northeast, 160 m., Ngaremediu, Dec. 5, 1952, Gressitt. Peleliu: Six females, Aug. 2, 1945, Jan. 29, 1948, Dybas; three females, four males, east coast, Aug. 1-3, 1945, Dybas; three females, three males, Mt. Amiangal, Dec. 23, 1952, Gressitt; three females, male, Akarakoru-Ngasias, Mar. 6, 1936, Feb. 22, 1938, Esaki. Angaur: Female, Feb. 26, 1938, Esaki.

Other specimen, Ponape: Female, form *b*, Jokaj, Feb. 1948, Dybas.

DISTRIBUTION: Caroline Is. Form *a*: Palau (Koror). Form *b*: Palau (Ngaiangl, Koror, Ulebsehel, Ngarmalk, Ngerkabesang, Ngurukdabel, Peleliu, Angaur) and Ponape (Jokaj). Form *c*: Palau (Ngaiangl, Babelthuap, Koror, Malakal, Peleliu).

HOST: *Morinda citrifolia*.

The generic position of this species appears to be between *Tricentrus* and *Gargara*, but some male individuals appear to be *Gargara* sp. In the male of *Tricentrus akonis* (Matsumura) from Formosa, the suprahumeral horns are absent, while the females of *Gargara femellacornis* Kato from Japan and *G. pseudocornis* Funkhouser from China have small suprahumeral horns.

Genus *Leptocentrus* Stål

Leptocentrus Stål, 1866, Hemipt. Africana 4: 90.

Genotype: *Centrotus altifrons* Walker.

3. *Leptocentrus taurus* (Fabricius). (Figure 2.)

Cicada taurus Linnaeus, 1740, Syst. Nat. 1: 3, 2095, 68 (*nom. nud.*).

Membracis taurus Fabricius, 1775, Syst. Ent., 676.

Leptocentrus taurus, Stål, 1866, Hemipt. Africana 4: 90, 94.—Swezey, B. P. Bishop Mus., Bull. 172: 19.

DISTRIBUTION: Oriental Region and S. Mariana Is.

S. MARIANA IS. SAIPAN: Two females, on *Ricinus communis*, July 1940, Matusita; male, Mar. 1946, Hadden; male, Aug. 1951, Bohart; three males, three females, Jan. 20, 1945, Hagen; three males, two females, Nov. 1944, Edgar; Chalan Laulau, female, Apr. 1946, Krauss; Garapan-Sadog Tasi, female, May 1940, Yasumatsu and Yoshimura; Halaihai-As Teo, female, Feb. 1945, Dybas; Susupe, male, Apr. 1946, Krauss; 2 km. east of Tanapag, male, three females, young nymph, Dec. 1944, Jan. 1945, Dybas; As Mahetog, female, Dec. 1944, Dybas; near Garapan, four females, three males, Dec. 1944, Jan. 1945, Dybas; Mt. Tagpochau, two males, Jan. 1945, Dybas; Papago area, male, Jan. 1945, Dybas. TINIAN: Three females, two males, Nov. 1952, Beardley; two males, female on pigeon pea, male, two females ex corn borer, male, female on legume, another female, all Feb. 1946, Hadden; Mt. Magpi (Marpi), male, female, one on eggplant, Feb.-Mar. 1946, Hadden; central section, male, Mar. 1945, Dybas; Lake Hagoi, three females, Mar. 1945, Dybas; ridge one mile north of Tinian harbor, two females, Mar. 1945, Dybas; Mt. Lasso, male, Mar. 1945, Dybas. AGIGUAN: Female, May 1952, Kondo. ROTA: Three males, two females, full-grown nymph, July 1925, Hornbostel; three males, female, July 1949, Kondo; female, Apr. 1951, Bohart; Sonson, female, on *Ricinus communis*, Aug. 1940, Matusita; Sonson-Taipingot, female, Feb. 1936, Esaki.