

Insects of Guam—II

ORTHOPTERA AND RELATED ORDERS

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These orders were not strongly represented in our Guam collection of 1936, although some of the species were very abundant. Some records of collections by D. T. Fullaway in 1911 are included. Besides the few species enumerated here, about 20 species were referred to James A. G. Rehn for determination, and have not yet been reported on.

ORTHOPTERA

FAMILY TETRIGIDAE

1. *Paratettix* species.

Piti, April 30, Swezey; Agana, May 3, 4, Bryan; Upi Trail, May 5, Swezey; Umatac, May 28, Usinger; Piti, May 31, Usinger; hills back of Piti, June 3, July 13, Swezey; Sumay, June 21, Swezey; Orote Peninsula, Sept. 27, Swezey; Fullaway (1284).¹

Common in low, grassy places, often near pools.

FAMILY ACRIDIDAE

2. *Aiolopus tamulus* (Fabricius).

Gryllus tamulus Fabricius, Ent. Syst., Suppl., 195, 1798.

Aiolopus tamulus, Chopard, Ins. Samoa 1(2): 56, 1929.

Agfayan, March 28, Bryan; Ritidian Point, April 15, Bryan; Merizo, April 24, Bryan; Piti, March 28, Bryan, June 1, Usinger, May 28, July 5, Aug. 10, Oct. 14, Swezey; Umatac, May 28, Usinger; Upi Trail, May 5, Swezey; Inarajan, May 14, on rice, Swezey; Machanao, June 30, on tobacco, Swezey; Orote, July 19, Swezey; Atantano, Sept. 3, on rice seedling plot, Swezey; Merizo, Oct. 2, Swezey.

A small grasshopper which is widely distributed from India and Japan to Australia and Samoa, and now recorded in Guam for the first time. It was common to abundant everywhere in grasslands.

This species was determined by F. X. Williams.

¹ Numbers in parentheses refer to collection numbers.

3. *Locusta danica* (Linnaeus).

Gryllus locusta danicus Linnaeus, Syst. Nat., 12th ed., 1(2): 702, 1767.

Locusta danica, Kirby, Fauna Brit. India, Orth., 146, 1914.

Umatac, March 28, Bryan; Mt. Tenjo, April 1, Bryan; Upi Trail, May 5, Swezey; Mt. Chachao, May 16, Swezey, Usinger; Mt. Alifan, May 26, Usinger, June 27, Swezey; Inarajan, May 14, July 25, on rice, Swezey; Piti, May 28, June 13, on sugar cane, Aug. 13, Swezey; Sumay, June 15, Swezey; Dandan, July 17, Swezey; Fullaway (1287).

A medium to large grasshopper, widely distributed in the Old World. Abundant in Guam in all grasslands.

4. *Valanga excavata* (Stål).

Acridium excavatum Stål, Freg. Eugenies Resa, Orthoptera, 326, 1861.

Valanga excavata, Uvarov, Ann. Mag. Nat. Hist. IX, 12: 356, 1923.

Agana, May 4, Swezey; Paasan, June 15, on banyan, Swezey; Talofoto, June 17, Swezey; Merizo, June 25, on cotton, Swezey; near Atao beach, June 25, Usinger; Inarajan, July 25, on *Thespesia populnea*, Swezey; Barrigada, Aug. 28, on corn, Swezey; Orote Peninsula, Sept. 29, on *Pipturus*, Swezey; Piti, Oct. 12, on *Ipomoea* and *Glochidion*, Swezey; Fullaway (1288). The species was determined by F. X. Williams.

This large grasshopper, described from a single male from Guam, has not been recorded elsewhere. It was rather common in 1936, often occurring on trees or bushes, rather than on grass.

FAMILY TETTIGONIIDAE

5. *Euconocephalus insulanus* (Redtenbacher).

Conocephalus insulanus Redtenbacher, Zool.-Bot. Ges. Wien, Verh. 41: 416, 1891.

Euconocephalus insulanus, Karny, Gen. Ins. 139: 35, 1912.

Inarajan, May 6, Usinger; Tarague, May 17, Swezey; Piti, May 19, Usinger; May 23, Swezey, Sept. 7, at light, Swezey; Mt. Alifan, May 26, Usinger; Barrigada, June 24, Usinger; Palae, Oct. 3, on sugar cane, Swezey; Fullaway (1295).

The species was described from Borneo and Singapore, and has also been recorded from the Philippines. The description gives the color as "testaceus", but that might be due to the normal green color having faded. (I cannot be sure that this is not *gracilis*.) It was not very common in Guam, occurring mostly in regions of sword grass.

6. *Xiphidium longipenne* (de Haan).

Locusta (Xiphidium) longipennis de Haan, Temminck, Verh. Orth., 188, 1842.

Xiphidion longipenne, Karny, Philippine Jour. Sci. 18: 608, 1921.

Piti, April 30, ex grass, Usinger; Inarajan, May 14, on rice, Usinger; Agana, May 25, Usinger; Yigo, Nov. 8, on corn, Swezey.

This species is distributed from India and Ceylon to China and the Philippines. It was common in Guam, being somewhat of a rice pest, feeding on the rice kernels in the heads before they were ripe.

7. *Salomona guamensis* Hebard, Acad. Nat. Sci. Philadelphia, Proc. 74: 232, pl. 22, fig. 1, 1922.

This large insect was described from Guam, and I know of no other records. Collected by Fullaway in 1911, one female is in the U. S. National Museum and one in Bishop Museum.

8. *Phaneroptera brevis* Serville, Ins. Orth., 418, 1839.

Ritidian Point, April 22, Bryan; near Agfayan, April 28, Bryan; Piti, April 30, ex grass, Swezey, May 10, Usinger, May 28, Sept. 17, Nov. 3, Swezey; Inarajan, May 14, on rice, June 8, on rice, Swezey; Orote Peninsula, Sept. 1, Swezey; Fullaway (1294).

This species is distributed from Java and Singapore to the Philippines and northern Australia. It was not previously recorded in Guam. We found it quite common and generally distributed.

FAMILY GRYLLIDAE

9. *Gryllotalpa africana* Beauvois, Ins. Rec. Africa and America, 229, 1805.

This widely distributed mole cricket was not previously recorded in Guam. We saw very little of it or its work. One came to light at Piti, May 9, Usinger; Fullaway (1304). It occurs in Hawaii.

10. *Gryllus conspersus* Schaum, Berlin Akad., 776, 1853.

One specimen in house at Piti, May 28, Swezey. It also occurs in Hawaii.

11. *Gryllus oceanicus* Le Guillou, Rev. Zool., Année, 293, 1841.

Widely distributed in the Pacific and Malaya, and is found in Hawaii. Collected in Guam by Fullaway in 1911 (1303).

12. *Gryllodes sigillatus* (Walker).

Gryllus sigillatus Walker, Cat. Dermapt., Saltat., Blatt., Suppl., Brit. Mus., 46, 1869.

Gryllodes sigillatus, Kirby, Syn. Cat. Orth., 42, 1906.

Piti, July 7, 11, Aug. 10, Sept. 9, Oct. 14, Swezey. Occurs in Hawaii.

This widely distributed cricket was abundant under rubbish and was also taken in the house at Piti.

BLATTARIA

FAMILY BLATTIDAE

Nine species of roaches are listed here, eight of which occur also in Hawaii.

1. *Supella supellectilium* (Serville).

Blatta supellectilium Serville, Ins. Orth., 114, 1839.

Supella supellectilium, Shelford, Ent. Mo. Mag. 2(22): 155, 1911.

One male specimen of this cosmopolitan house roach was taken in the house at Piti, Nov. 9, Swezey. Occurs in Hawaii.

2. *Graptoblatta notulata* (Stål).

Blatta notulata Stål, Freg. Eugenies Resa, Ins., 308, 1860.

Graptoblatta notulata, Hebard, B. P. Bishop Mus., Bull. 114: 117, 1935.

Piti, April 30, on *Hibiscus tiliaceus*, Swezey; Piti, July 9, in house, Swezey; Dededo, Aug. 11, in corn field, Swezey.

Widely distributed in the Pacific and Malaya. Occurs in Hawaii.

3. *Lupparia adimoniales* Walker, Cat. Blattidae, Brit. Mus., 66, 1868.

Talofofo plateau, June 18, Usinger; Piti, July 18, on pumpkin vine, Swezey; Piti, Aug. 13, 21, 31, in house, Swezey; Piti, Sept. 6, in house, Oct. 19, Swezey.

This little roach was described from the Philippines, and I have found no other record.

4. *Blattella germanica* (Linnaeus).

Blatta germanica Linnaeus, Syst. Nat., 12th ed., 1: 668, 1767.

Blattella germanica, Hebard, B. P. Bishop Mus., Occ. Papers 7(14): 330, 1922.

Merizo, June 11, in cornfield, Swezey; Mt. Alifan, June 27, on corn, Swezey; Piti, July 18, on pumpkin vine, Swezey; Yona, Nov. 18, in cornfield, Swezey; Fullaway (8001).

This cosmopolitan roach is also found in Hawaii.

5. *Symploce hospes* (Perkins).

Phyllodromia hospes Perkins, Fauna Hawaiiensis 2(1): 5, 1899.

Symploce hospes, Hebard, B. P. Bishop Mus., Occ. Papers 7(14): 330, 1922.

Collected in Guam by Fullaway in 1911 (1280). Occurs in Hawaii.

6. *Cutilia soror* (Brunner).

Polyzosteria soror Brunner, Nouv. Syst. Blatt., 219, 1865.

Cutilia soror, Hebard, B. P. Bishop Mus., Occ. Papers 7(14): 333, 1922.

Collected in Guam by Fullaway in 1911. Occurs in Hawaii.

7. *Neostylopyga rhombifolia* (Stoll).

Blatta rhombifolia Stoll, Spectres Blatt., 5, pl. 3, fig. 13, 1813.

Neostylopyga rhombifolia, Hebard, B. P. Bishop Mus., Occ. Papers 7(14): 333, 1922.

A single specimen of this large wingless roach was taken in the kitchen at Piti, Nov. 22, Swezey; Fullaway (1219). Occurs in Hawaii.

8. *Periplaneta americana* (Linnaeus).

Blatta americana Linnaeus, Syst. Nat., 10th ed., 424, 1758.

Periplaneta americana, Burmeister, Handb. Ent. 2: 503, 1838.

The American roach was a pest in our house at Piti. We saved only four specimens: May 7, July 5 and 11; Fullaway (1218). Occurs in Hawaii.

9. *Pycnoscelus surinamensis* (Linnaeus).

Blatta surinamensis Linnaeus, Syst. Nat., 12th ed., 1: 687, 1767.

Pycnoscelus surinamensis, Chopard, Ins. Samoa 1(2): 20, 1929.

Ritidian Point, April 22, Bryan; Umatac, May 14, Swezey; Agat, May 31, under bark, Usinger; Fadian, Aug. 19, Swezey; Piti, July 19 and Oct. 18, at light, Swezey. Occurs in Hawaii.

The Surinam roach was common, but we saved only a few specimens.

PHASMIDA

FAMILY PHASMIDAE

1. *Acanthograeffea denticulata* (Redtenbacher).

Graeffea denticulata Redtenbacher, Die Insektenfamilie der Phasmidae, 371, 1908.

Acanthograeffea denticulata, Günther, Zool. Mus. Berlin, Mitt. 17: 776, fig. 1, 1931.

Talofoto, April 1, Bryan; Piti, May 3, Usinger; Inarajan, May 7, on coconut, Bryan; Inarajan, June 8, on *Pandanus*, Swezey; Machanao, June 30, on *Pandanus*, Swezey.

This large walking-stick was described from Saipan, Marianas Islands, and I know of no other records. Fullaway reported it on coconut leaves in 1911 (1293) without name (merely "phasmid"). We saw coconut trees with ragged leaves, said to have been caused by the feeding of this insect when abundant. However, we found only an occasional specimen, and no significant injury being done. Some of the specimens that we collected were on *Pandanus* leaves.

DERMAPTERA

FAMILY LABIDURIDAE

1. *Euborellia annulipes* (Lucas).

Forficesila annulipes Lucas, Soc. ent. France, Ann. 2(5) : 84, 1847.

Euborellia annulipes, Hebard, B. P. Bishop Mus., Occ. Papers 7(14) : 312, 1922.

Collected in Guam by Fullaway in 1911 (4001). Occurs in Hawaii.

FAMILY LABIIDAE

2. *Labia curvicauda* (Motschulsky).

Forficesila curvicauda Motschulsky, Soc. Nat. Moscou, Bull. 36(3) : 2, pl. 2, fig. 1, 1863.

Labia curvicauda, Dohrn, Stett. Ent. Zeitung 25 : 428, 1864.

Upi Trail, May 5, Usinger; Mt. Alifan, May 26, ex papaya log, Usinger; Asan, Aug. 22, in rotten breadfruit on the ground, Swezey; Piti, Sept. 9, under bark, Sept. 21, in cow dung, Swezey; Yigo, Nov. 13, in rotten banana stem, Swezey.

Described from Ceylon, and widely distributed in the tropics. Occurs in Hawaii.

3. *Chelisoches morio* (Fabricius).

Forficula morio Fabricius, Syst. Ent., 270, 1775.

Chelisoches morio, Borm., Tierreich, Forf., 85, 1900.

Agana, May 4, ex *Pandanus* log, Usinger; Yona, May 12, Usinger; Machanao, June 4, 30, under bark, Swezey; Piti, July 20, in house, Swezey; Agana, Oct. 3, on royal palm, Swezey; Piti, Oct. 12, at light, Swezey; Yigo, Oct. 21, in dead coconut petiole, Swezey; Yigo, Nov. 8, on corn, Swezey; Fullaway (1290).

This large black earwig is widely distributed in the Pacific and to India. It occurs in Hawaii.