

# INSECTS OF MICRONESIA

## Coleoptera: Cryptophagidae and Mycetophagidae<sup>1</sup>

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Although many species of the families Cryptophagidae and Mycetophagidae are known from various areas of the world, not a single species has ever been recorded from Micronesia.

The present paper is the result of my study of a large collection from Micronesia, which is now preserved in various institutions. Specimens were collected by P. A. Adams, J. W. Beardsley, G. E. Bohart, J. F. G. Clarke, H. S. Dybas, S. Edgar, T. Esaki, R. J. Goss, J. L. Gressitt, E. Hagen, Y. Kondo, N. L. H. Krauss, K. L. Maehler, B. McDaniel, A. R. Mead, R. W. L. Potts, J. R. Stuntz, O. H. Swezey, R. L. Usinger, K. Yasumatsu, and S. Yoshimura.

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 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.

I wish to express my gratitude to Dr. J. L. Gressitt of Bishop Museum and Professor K. Yasumatsu of Kyushu University who kindly gave me an opportunity to become a research fellow of Bishop Museum. Further thanks are due to Dr. Carl M. Yoshimoto, Mr. G. Allan Samuelson, Miss Setsuko Nakata, Miss Amy Suehiro, and Mrs. Carol Y. Higa for their kind help.

### KEY TO SUBFAMILIES OF CRYPTOPHAGIDAE

1. Antennae inserted under acutely margined sides of front and remotely separated at base, maxillary palpus elongate and slender, segment 4 elongate and more or less acuminate towards apex, labial palpus short, with apical segment enlarged, more or less securiform; pronotum generally bifoveolate near base; anterior

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<sup>1</sup>This represents, in part, results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 130.

FAMILY CRYPTOPHAGIDAE

Distribution of Micronesian Cryptophagidae

	Micronesian Island Groups					Other Localities	
	S. Mariana	Caroline					
		Palau	Yap	Caroline Atolls	Truk		Ponape
1. <i>Hapalips samoensis</i>		×		×		×	Samoa
2. <i>H. taprobanae</i>	×						Ceylon
3. <i>Toramus taprobanae</i>	×	×	×	×	×	×	Ceylon, New Guinea

- coxal cavity broadly and completely opened behind..... 2
- Antennae inserted on front and more or less approximate at base, palpus short, stout and acuminate, apical segment small, narrow, and securiform; pronotum never bifoveolate at base while generally impressed; anterior coxal cavity always widely opened behind, tarsi invariably simple and filiform; eyes always basal, abdominal segment I never with radiating lines.....**Atomariinae**
- 2. Tarsi pentamerous in both sexes, with segment 4 small, 3 strongly, 2 less strongly or obsoletely, lobed beneath, lobes narrow and pubescent; eyes always basal; antennal segment I relatively small; last segment of labial palpi usually flattened, obtusely truncate or securiform; mesosternum flat or feebly concave between coxae..... **Telmatophilinae**
- Tarsi always filiform, simple and never lobed beneath, pentamerous in female and heteromerous in male, penultimate segment similar in form to the preceding; last segment of labial palpi oval, convex, narrowly truncate at tip; abdominal sutures straight throughout width; prosternal process acute, feebly passing over mesosternum which is generally concave; eyes variable in position; elytra never margined at base and never having distinctly-serial punctuation.....**Cryptophaginae**

All cryptophagid species which I examined belong to the Telmatophilinae. As cryptophagids are worldwide, I think that two other subfamilies, Cryptophaginae and Atomariinae will be found in this area in the future. The Micronesian Telmatophilinae are divided into two genera as follows.

KEY TO MICRONESIAN GENERA OF TELMATOPHILINAE

- Suboval, short, convex, much smaller, pronotum transverse rectangular, with long, striate and erect hairs on elytra, tarsi slender.....**Toramus**
- Elongate, subparallel-sided, subdepressed, much wider and longer, pronotum longitudinally rectangular, with very short rowed-pubescence on elytra, tarsi thick and stout .....**Hapalips**

Genus **Hapalips** Reitter

*Hapalips* Reitter, 1877, Verh. Nat. Ver. Brunn. 15 : 122.

## KEY TO SPECIES OF HAPALIPS

- Antennae reaching base of pronotum, pronotum transversely rectangular, scutellum transverse, very short pubescence on elytra, elytra a little wider than pronotum, front coxal cavity narrowly opened behind.....**samoensis**
- Antennae not reaching base of pronotum, pronotum longitudinally rectangular, scutellum triangular, long hairs in row on elytra, elytra as wide as pronotum, front coxal cavity widely opened behind.....**taprobanæ**

**1. Hapalips samoensis** Arrow (fig. 1, *a, b*).

*Hapalips samoensis* Arrow, 1927, Insects of Samoa **4** (1) : 53, 1 fig. (Samoa).

DISTRIBUTION: S. Mariana Is., Caroline Is., Samoa.

S. MARIANA IS. GUAM: One, Nov. 1947, Dybas.

PALAU. KOROR: One, Nov. 1947, Dybas.

CAROLINE ATOLLS. ULITHI: One, Nov. 1947, Dybas.

PONAPE. One, June-July 1950, Adams.

**2. Hapalips taprobanæ** Grouvelle (fig. 1, *c, d*).

*Hapalips taprobanæ* Grouvelle, 1902, Soc. Ent. France, Ann. **71** : 485 (as *Loberina* from Ceylon).—Schenkling, 1923, Coleopt. Cat. **76** : 8 (as *Hapalips* from Ceylon).

DISTRIBUTION: S. Mariana Is., Ceylon.

S. MARIANA IS. GUAM: One, Nov. 1936, ex dead papaya leaves, Swezey; 56, May 1945, in dry fibrous fruit stalk of *Pandanus*, Dybas; two, June 1945, beating vegetation, Dybas.

On this species, N. Bruce published his opinion (1953, Ann. Mag. Nat. Hist. VI, **12** (70) : 782) as follows: "The species *spgazzini* and *taprobanæ*<sup>2</sup> now included in *Hapalips* should be transferred to the Diphyllinae<sup>3</sup> in view of the structure of the aedeagus." But if his "Diphyllinae" is a misprint for Biphyllinae, *H. taprobanæ* may not be a member of the Biphyllinae, because this species has completely opened front coxal cavities and does not have any fine longitudinal ridges along the side edges of the pronotum which is the most remarkable specific character of this group.

Genus **Toramus** Grouvelle

*Toramus* Grouvelle, 1916, Mém. Ent. **1** : 26.

**3. Toramus taprobanæ** Grouvelle (fig. 1 *e, f*).

*Toramus taprobanæ* Grouvelle, 1919, Mém. Ent. **2** : 142 (Ceylon).—Schenkling, 1923, Coleopt. Cat. **76** : 14 (Ceylon).

DISTRIBUTION: S. Mariana Is., Caroline Is., Ceylon, New Guinea.

S. MARIANA IS. SAIPAN: Two, Jan. 1945, beating vegetation, Dybas;

<sup>2</sup>This species name seems to be a misprint of *taprobanæ*.

<sup>3</sup>This subfamily name seems to be a misprint of Biphyllinae

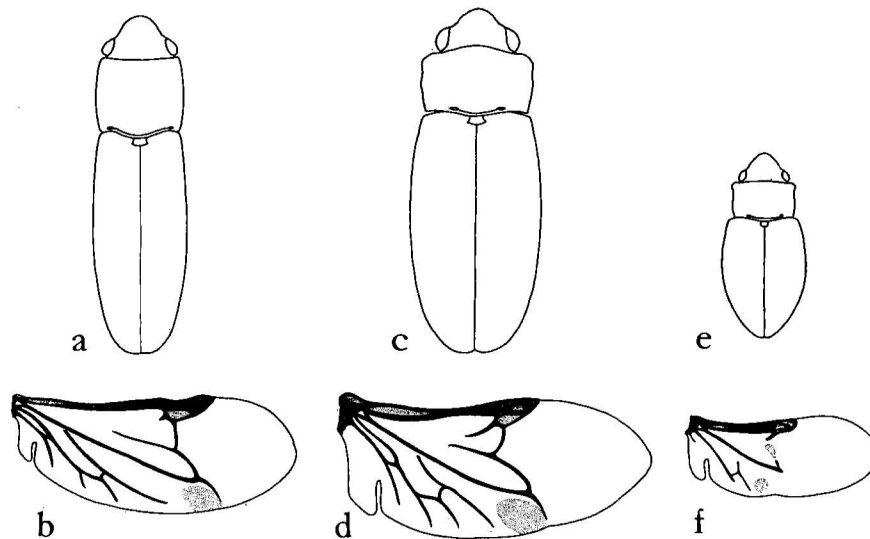


FIGURE 1.—**a**, *Hapalips samoensis*; **b**, wing venation. **c**, *H. taprobanae*; **d**, wing venation. **e**, *Toranus taprobanae*; **f**, wing venation.

eight, Feb, 1945, beating vegetation, Dybas; 39, Feb. 1945, Dybas; 119, May 1945, beating vegetation, Dybas; 41, June 1945, beating vegetation, Dybas. TINIAN: Nine, Mar, 1945, beating vegetation, Dybas; eight, Apr. 1945, beating vegetation, Dybas; 11, Apr. 1945, Dybas; three, Oct. 1945, Dybas. GUAM : 120, May 1945, beating vegetation, Dybas; 21, May 1945, Bohart and Gressitt; three, May 1945, at light, Bohart and Gressitt; 45, June 1945, beating vegetation, Dybas; one, June 1945, Bohart and Gressitt; seven, June, 1945, Dybas; four, Nov. 1945, Dybas; three, May 1948, Maehler; one, Oct. 1952 Krauss.

PALAU. KOROR: Five, Nov. 1947, Dybas; two, Dec. 1947, Dybas. ANGAUR: two, Feb. 1948, in crown of dead *Pandanus*, Dybas; one Feb. 1948, Dybas; seven, Aug. 1945, Dybas. PELELIU: seven, July 1945, sweeping air at dusk, Dybas; 13, Aug. 1945, beating vegetation, Dybas; one, Aug. 1945, sweeping air at dusk, Dybas; 11, Aug. 1945, Dybas. NGERGOI (Garakayo): three, Aug. 1945, beating vegetation, Dybas. BABELTHUAP: two, Dec. 1947, Dybas.

YAP. 175, July-Aug. 1950, Goss ; three, Aug. 1950, Berlese funnel, Goss; two, Dec. 1952, light trap, Gressitt.

CAROLINE ATOLLS : ULITHI : One, Oct. 1952, Krauss., SONSOROL : One, Sept. 1952, Krauss.

TRUK. One, Dec. 1952, light trap, Gressitt.

PONAPE. One, Jan. 1953, Gressitt.

Until now this species has been known only from of Ceylon (by A. Grouvelle), but in the collection of Bishop Museum there are many specimens of this species collected in Micronesia and New Guinea. This species seems to be widely distributed in the oceanic islands.

FAMILY MYCETOPHAGIDAE

Distribution of Micronesian Mycetophagidae

	Micronesian Island Groups									Other Localities
	Volcano	S. Mariana	Caroline						Marshall	
			Palau	Yap	Caroline Atolls	Truk	Ponape	Kusaie		
<i>Litargus T-littera</i>		×								New Caledonia
<i>L. vestitus</i>		×	×	×	×	×	×	×	×	Hawaii, Samoa
<i>Typhaea stercorea</i>	×	×	×							Cosmopolitan

KEY TO MICRONESIAN GENERA OF MYCETOPHAGIDAE

- Parallel-sided, clypeal suture distinctly impressed, apical segment of labial palpus oblong-oval, dorsum not maculate, tarsus flat and broad.....**Typhaea**
- Oblong-oval, clypeal suture obsolete or nearly so, apical segment of labial palpus securiform, dorsum maculate, tarsus slender.....**Litargus**

Genus **Litargus** Erichson

*Litargus* Erichson, 1846, Naturg. Ins. Deutsch. Col. **3** : 405, 415.

**1. Litargus T-littera** Grouvelle (fig. 2, a, b).

*Litargus T-littera* Grouvelle, 1903, Rev. d'Ent. **22** : 199 (New Caledonia).  
DISTRIBUTION: S. Mariana Is., New Caledonia.

S. MARIANA IS. SAIPAN: Five, Nov. 1944, beating vegetation, Dybas; 25, Jan. 1945, beating vegetation, Dybas; 58, Feb. 1945, under bark, Dybas; one, Mar. 1945, Dybas; 10, Apr. 1945, Dybas; 16, May 1945, at light, Dybas: TINIAN : 13, Mar. 1945, beating vegetation, Dybas; 42, Apr. 1945, beating vegetation, Dybas. GUAM : Five, May 1945, beating vegetation, Dybas; one, Apr. 1948, Maehler.

This species is very easily distinguished from *L. vestitus* by the T-shaped yellow macula on the elytra.

**2. Litargus vestitus** Sharp (fig. 2 c, d).

*Litargus vestitus* Sharp, 1879, Ent. Soc. London, Trans., 88 (Hawaii).—Scott,

1908, Fauna Hawaiiensis **3** (5) : 419 (Hawaii).—Zimmerman, 1939, Hawaiian Ent. Soc., Proc. **10** (2) : 324, 1 fig. (Hawaii; Samoa).

DISTRIBUTION : Hawaii, Samoa, S. Mariana Is., Caroline Is., Marshall Is.

S. MARIANA IS. AGIGUAN : One, July 1949, Mead; one, May 1952, Kondo. SAIPAN: One, Nov. 1937, Esaki; eight, May 1940, Yasumatsu and Yoshimura; 312, Nov. 1944, Dybas; 35, Dec. 1944, beating vegetation, Dybas; 118, Jan. 1945, Dybas; 45, Feb. 1945, Dybas; one, Mar. 1945, Dybas; two, Apr. 1945, Dybas; 11, May 1945, at light, Dybas. TINIAN: 27, Mar. 1945, beating vegetation, Dybas; one, Sept. 1945, beating vegetation, Dybas; two, Oct. 1945, Dybas. GUAM: One, Apr. 1936, Swezey; six, May 1936, sweeping, under bark, ex *Leucaena*; two, May 1936, papaya log, *Hernandia*; one, June 1936, dead leaves of fallen tree, Usinger; two, June 1936, ex *Adenanthera* pod, Swezey; one, July 1936, in house, Swezey; one, Sept. 1936, Swezey; four, Nov. 1936, dead papaya leaves, seed cluster of *Coccothrinax* palm, Swezey; 89, May 1945, beating vegetation, Dybas; 20, June 1945, beating vegetation, Dybas; four, June 1945, at light, Bohart and Gressitt; 39, Apr. 1946, Krauss; one, Dec. 1947, Maehler; eight, Oct. 1957, Krauss; one, Dec. 1958, Krauss.

PALAU. ANGAUR: Three, Feb. 1948, Dybas. AULUPTAGEL: Three, Sept. 1952, Krauss. BABELTHUAP: Eight, Dec. 1947, Dybas; three, Dec. 1947, beating vegetation, Dybas; two, Dec. 1952, light trap, Gressitt; 1, May 1953, Beardsley. KOROR: one, Feb. 1936, Esaki; five, Nov. 1947, Dybas;

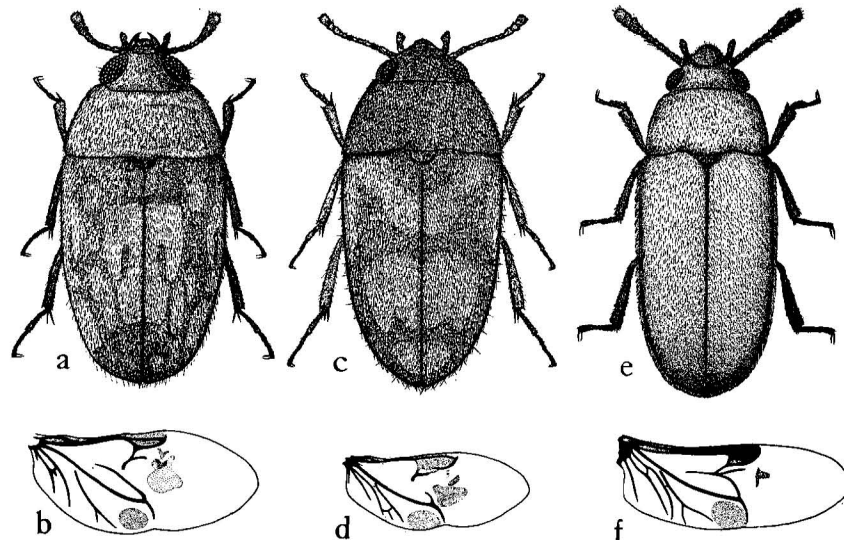


FIGURE 2.—**a**, *Litargus T-littera* (2.7 mm); **b**, wing venation. **c**, *L. vestitus* (2.0 mm); **d**, wing venation. **e**, *Typhaea stercorea* (2.8 mm); **f**, wing venation.

two, Nov. 1947, in old palm log, and under bark, Dybas; 12, Sept. 1952, Krauss; eight, Dec. 1952, light trap, Gressitt; two, Feb. 1953, at light, Beardsley; two, Apr. 1953, at light, Beardsley; one, May 1953, Beardsley; two, June 1953, Beardsley; six, Mar. 1954, sweeping, Beardsley; one, July 1956, McDaniel. PELELIU: two, Jan. 1948, Dybas; 14, Jan. 1948, beating vegetation, Dybas. ULITHI: three, Nov. 1947, Dybas. URUKTHAPEL: one, Nov. 1947, Dybas.

YAP. Six, July 1950, Goss; one, Aug. 1950, Berlese funnel, Goss; one, Aug. 1952, Krauss; two, Oct. 1952, Gressitt.

CAROLINE ATOLLS. ULITHI: Five, Oct. 1952, Krauss.

TRUK. Two, Feb. 1949, under bark, Potts; two, Apr. 1949, at light Potts; one, Aug. 1949, Mead.

PONAPE: 18, Feb. 1948, under bark of breadfruit (*Artocarpus incisa*), in decaying coconut crown, beating vegetation, Dybas; 15, Mar. 1948, beating vegetation, Dybas; 10, June-Sept. 1950, Adams; six, Jan. 1953, hill near mangrove, light trap in native forest, Gressitt; four, Jan. 1953, ex *Crotalaria* seeds, ex *Pithecelobium dulce*, Clarke.

KUSAIE. Three, Jan. 1953, light trap, Gressitt; three, Jan. 1953, Clarke; three, Feb. 1953, light trap, Clarke; 15, Mar. 1953, beating, Clarke; 10, Apr. 1953, light trap, at light, beating dead branches, Clarke.

MARSHALL IS. ARNO: Five, June 1950, dead *Scaevola*, Usinger. JALUIT 18, Apr. 1958, Gressitt; 12, May 1958, Gressitt.

This species is much smaller than *Litargus T-littera* Grouvelle and the maculae on the elytra are variable.

#### Genus **Typhaea** Stephens

*Typhaea* Stephens, 1830, I11. Brit. Ent. Mand. **3** : 58, 70.

#### **3. Typhaea stercorea** Linnaeus (fig. 2 e, f).

*Typhaea stercorea* Linnaeus, 1758, Syst. Nat., Ed. **10** : 357 (as *Dermestes* from Europe).—Arrow, 1927, Insects of Samoa **4** (1) : 47 (as *Typhaea* from Samoa).—Zimmerman, 1939, Hawaiian Ent. Soc., Proc. **10** (2) : 321, 1 fig. (Hawaii).

*Dermestes fumata* Linnaeus, 1767, Syst. Nat., Ed. **12** (2), 1 : 564.

*Typhaea variabilis* Herbst, 1792, Kaf. **4** : 141, pl. 41, fig. 5.

*Typhaea tomentosa* Stephens, 1830, I11. Brit. Ent. Mand. **3** : 71.

*Typhaea crenata* Melsheier, 1846, Proc. Acad. **2** : 114.

*Typhaea gilvella* Melsheier, 1853, Cat. Col. U.S.A.: 45.

*Typhaea obscura* Krauss, 1911, Riv. Col. Italy **9** : 109.

DISTRIBUTION: Cosmopolitan; Volcano Is., S. Mariana Is., Caroline Is.,

**Marshall Is.**

**VOLCANO IS. IWOJIMA:** Two, Sept. 1945, Dybas.

**S. MARIANA IS. SAIPAN:** 130, Nov. 1944, Dybas; 34, Nov. 1944, at light, Edgar; six, Dec. 1944, under bark. Dybas; eight, Jan. 1945, at light, Dybas; six, Feb. 1945, Dybas; three, May 1945, at light, Dybas.

**PONAPE.** One, Aug. 1945, Dybas.

**MARSHALL IS. ENIWETOK:** Five, Nov. 1944, in decaying coconut fruit, Edgar.