

INSECTS OF MICRONESIA

Microlepidoptera: Gelechioidea

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Abstract: Three species of Oecophoridae, belonging to the genus *Elaeonoma* are described as new to science. Two species of Agonoxenidae are also treated; both are pests of coconut.

In the introduction to the Microlepidoptera series (Clarke, 1976), I discussed the paucity of material available at that time and the poor condition of most of it, and noted that only specimens from Guam, Kusaie and Palau were moderately represented. Recent material that became available include the S. Issiki collection acquired by the Smithsonian Institution, and specimens collected in December, 1976, when my wife and I spent nearly two weeks on Ponape, one of the previously poorly collected islands. Although we collected several hundred specimens, the high altitudes of Ponape still need collecting. The Issiki collection contains material from some of the northern islands which will be incorporated in future papers.

The drawings for this paper were made by Elaine R. Snyder Hodges, and the photographs were produced by Victor Krantz, both of the Smithsonian staff.

FAMILY OECOPHORIDAE

Only three species in this family have thus far been recognized in Micronesia and all belong to one genus.

Genus *Elaeonoma* Meyrick

Elaeonoma Meyrick, 1914, *Exotic Microlepidoptera* 1: 238. (Type-species: *Eulechria piodes* Meyrick, 1902, *Trans. R. Soc. S. Aust.* 26: 148 [by original designation].)

1. *Elaeonoma moira* Clarke, n. sp. (Fig. 1; Plate 1, fig. a).

Alar expanse 11-15 mm.

Labial palpus fuscous black on outer side, inner side grayish buff; extreme tip of 3rd segment grayish buff. Antenna blackish brown. Head blackish brown. Thorax blackish brown;

	MICRONESIAN ISLAND GROUPS										OTHER LOCALITIES	
	Caroline											
	Bonin	N. Mariana	S. Mariana	Palau**	Yap	Caroline Atolls	Truk	Ponape	Kusaie***	Marshall	Gilbert****	
Oecophoridae												
1. <i>Elaeonoma moira</i> *								X				
2. <i>E. adeneia</i> *									X			
3. <i>E. swezeyi</i> *			X									
Agonoxenidae												
4. <i>Agonoxena argaula</i>			?					?	?			Fiji, Tonga, Ellice Is., Samoa, Futuna, Wallis Is., Palmyra, Hawaiian Is., New Hebrides
5. <i>A. pyrogramma</i>			X						X			

* n. sp. ** Now Belau. *** Now Kosrae. **** Western Sector of Kiribati

base and apex of tegula slightly lighter. Forewing ground color blackish brown; from base to outer $\frac{2}{3}$, between cell and costal edge, fuscous black; in cell, at basal $\frac{1}{2}$, in fold and at end of cell, fuscous-black spots, mixed with grayish buff scales; cilia blackish brown. Hindwing fuscous black, slightly lighter basally; cilia fuscous black basally, paler distally. Foreleg fuscous black; tips of tibia and tarsal segments grayish buff; midleg similar but grayish buff on inner side; hindleg grayish buff suffused fuscous on outer side; tarsal segments fuscous black on outer side. Abdomen blackish brown dorsally, grayish buff ventrally.

♂. Genitalia slide USNM 24374. Harpe about 3× as long as wide; costa and sacculus about parallel; sacculus terminating in a spine; sacculus broadly and moderately sclerotized. Gnathos long, slender, curved; posteriorly at base, roughened. Uncus broadly triangular, pointed distally. Vinculum rounded. Tegumen short and broad. Anellus anchorshaped. Aedeagus long and slender, curved; vesica armed with a single long cornutus.

♀. Genitalia unknown.

Holotype ♂ (US 76071). Type-locality: Ponape, 2.5 mi. (4 km) E. of Colonia.

DISTRIBUTION: Eastern Caroline Is.

PONAPE: 2.5 mi. (4 km) E. of Colonia, 50 m, 4 ♂♂, 15, 16 Dec. 1976, J.F.G. & Thelma M. Clarke.

Food plant: Unknown.

Described from the ♂ holotype and 3 ♂♂ paratypes as listed above.

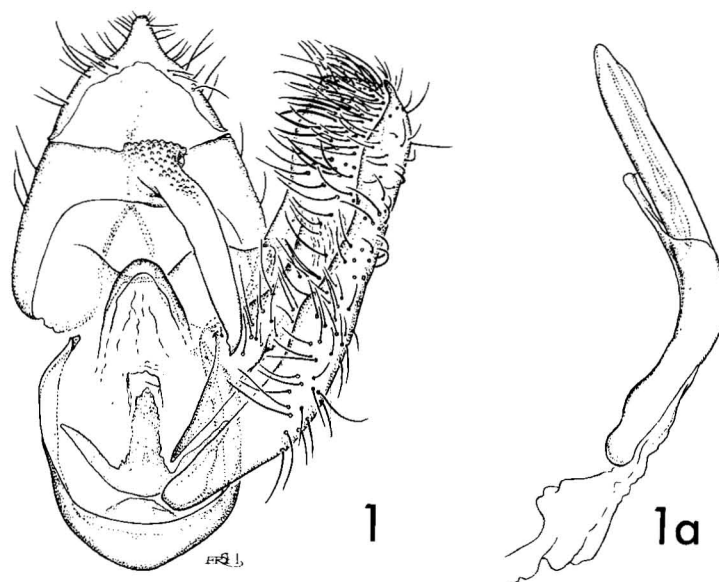


FIGURE 1. *Elaeonoma moira*, n. sp.: 1, ventral view of ♂ genitalia with left harpe and aedeagus omitted; 1a, aedeagus.

Unquestionably, *moira* will be found to be a refuse feeder. The ♂ genitalia of *moira* are similar to those of *adeneia*, but the harpe of *moira* is much longer than that of *adeneia*, and the spine at end of cucullus of *moira* is twice as long as that of *adeneia*. Superficially, *moira* is easily distinguishable from *adeneia* by its much darker color.

2. *Elaeonoma adeneia* Clarke, n. sp. (Fig. 2; Plate 1, fig. d, e).

Alar expanse 12-18 mm.

Labial palpus light buckthorn brown; outer sides of 2nd and 3rd segments fuscous except apex of latter. Antenna light buckthorn brown, outer edge of each segment darker. Head buckthorn brown. Thorax buckthorn brown, suffused grayish fuscous; tegula grayish fuscous basally. Forewing ground color light buckthorn brown with darker, grayish fuscous suffusion along costa; at basal $\frac{1}{3}$, in cell, a blackish fuscous spot followed obliquely on fold with a similar spot; beyond these 2 spots a grayish fuscous suffusion followed at end of cell by a small blackish fuscous spot; before termen, and parallel to it, a series of 6 or 7 small grayish fuscous spots; cilia mixed grayish fuscous and buckthorn brown. Hindwing grayish, slightly paler basally; cilia mixed grayish and buff. Foreleg buff, outer sides of segments blackish fuscous; tarsal segments narrowly annulated buff; midleg similar but dark markings grayish fuscous; hindleg buff to grayish fuscous; spurs marked with grayish fuscous. Abdomen grayish fuscous dorsally, buff to grayish buff ventrally.

♂. Genitalia slides 24381, 24382, 24383. Harpe rather broad but narrowed toward cucullus; cucullus rounded; sacculus entirely sclerotized, terminating in a short spine. Gnathos long and

slender terminating in a sharp point, basally denticulate. Uncus broad basally, triangular. Vinculum rounded. Tegumen broader than long. Anellus anchorshaped. Aedeagus long, slender, curved; vesica armed with a long, slender, weak cornutus.

♀. Genitalia unknown.

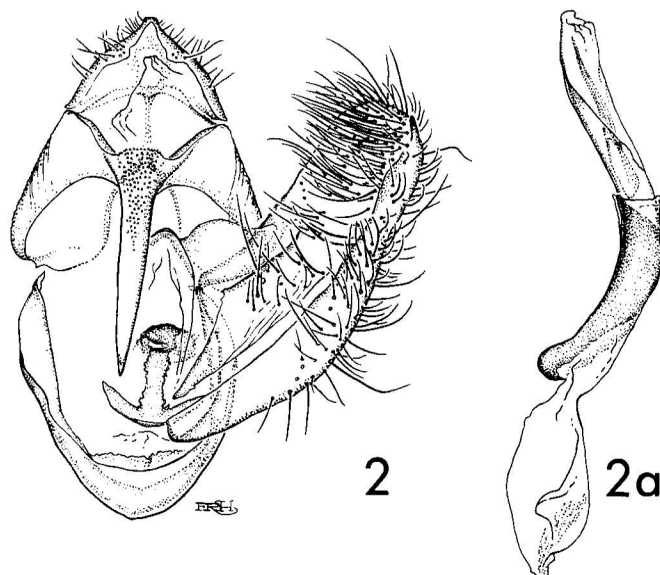


FIGURE 2. *Elaeonoma adeneia*, n. sp.: 2, ventral view of ♂ genitalia with left harpe and aedeagus omitted; 2a, aedeagus.

Holotype ♂ (US 76072). Type-locality: Kusaie, Hill 541, 165 m.

DISTRIBUTION: Eastern Caroline Is.

KUSAIE: Hill 541, 165 m, 10 ♂♂, 25 Mch., 29 Apr. 1953; Hill 1010, 300 m, 2 ♂♂, 13 Apr. 1953; Malem River, 30 m, 13 ♂♂, 27 Apr. 1953; S. slope Mt. Matante, 310 m, 3 ♂♂, 11 Feb., 23 Apr. 1953; Mutunlik, 22 m, ♂, 21 Mch. 1953, all collected by Clarke.

Food plant: Unknown.

Described from the ♂ holotype and 29 ♂♂ paratypes as listed above.

Although none of the specimens was reared we can assume that *adeneia* has similar habits as *swezeyi*. The ♂ genitalia indicate that *adeneia* is closely related to *autogramma* Meyrick of Sri Lanka (Ceylon) but the sacculus of *autogramma* lacks the small terminal spine. Moreover, the aedeagus of *adeneia* is longer than that of *autogramma*. This species is quite variable as can be seen by the figures (Plate 1d, e). Some specimens exhibit much pale ground color while others are heavily overlaid or suffused by grayish fuscous.

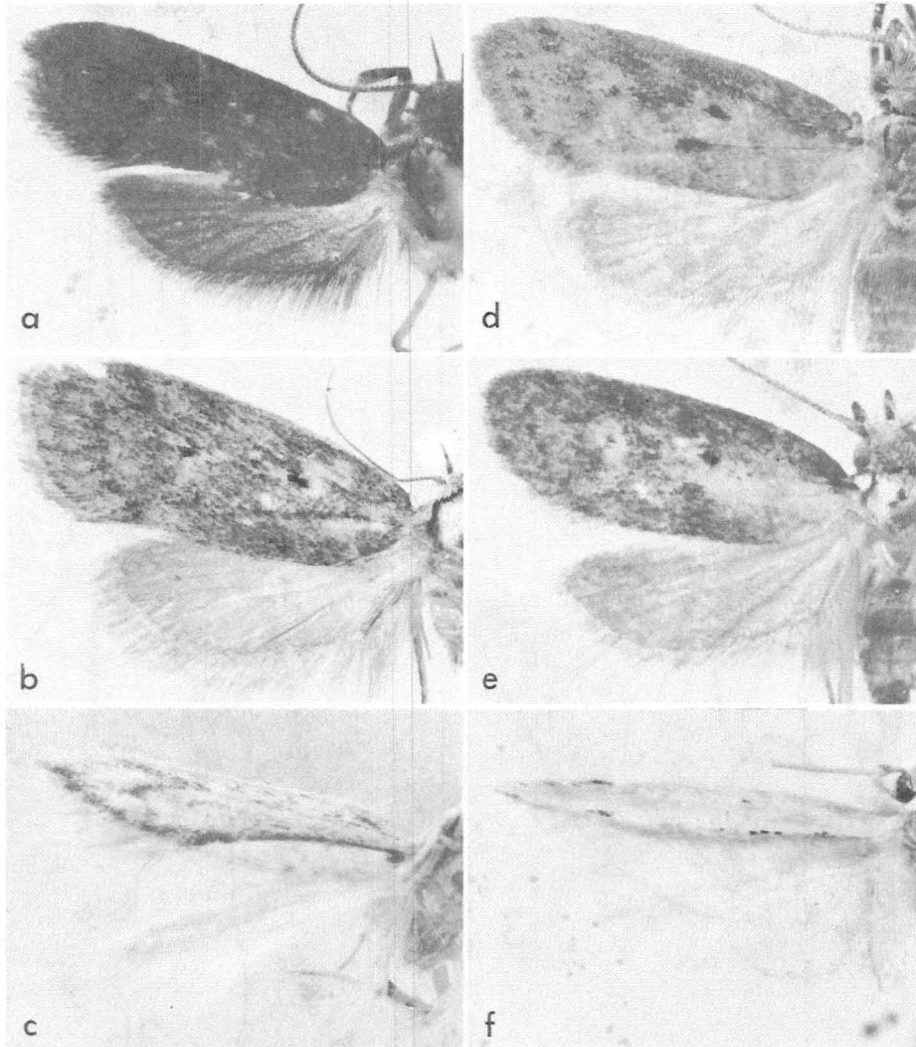


PLATE 1. a, *Elaeonoma moira*, n. sp., ♂ holotype; b, *Elaeonoma swezeyi*, n. sp., ♀ paratype; c, *Agonoxena argaula* Meyrick, ♂; d, *Elaeonoma adeneia*, n. sp., ♂ holotype; e, *Elaeonoma adeneia*, n. sp., ♂ paratype; f, *Agonoxena pyrogramma* Meyrick, ♂.

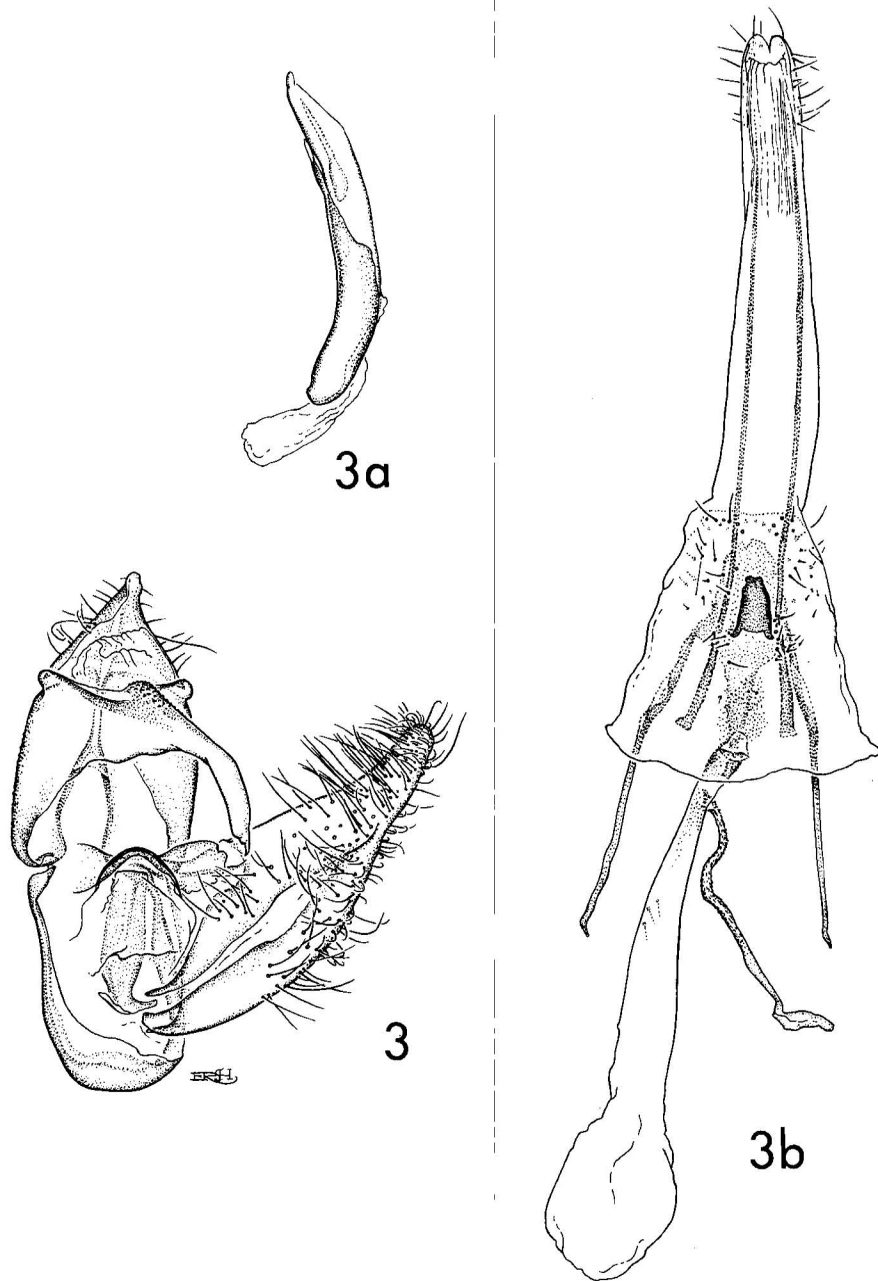


FIGURE 3. *Elaeonoma swezeyi*, n. sp.: 3, ventral view of ♂ genitalia with left harpe and aedeagus omitted; 3a, aedeagus; 3b, ventral view of ♀ genitalia.

3. *Elaeonoma swezeyi* Clarke, n. sp. (Fig. 3; Plate 1, fig. b.).

Alar expanse 13-22 mm.

Labial palpus light ochraceous buff; outer side of 2nd segment suffused brownish. Antenna light ochraceous buff, faintly annulated brownish. Head light ochraceous buff. Thorax light ochraceous buff irrorate with buffy brown, tegula light ochraceous buff, darker basally. Forewing ground color light ochraceous buff, strongly overlaid buffy brown; in cell, at basal $\frac{1}{8}$, a fuscous discal spot followed at end of cell by a similarly colored mark; in fold in some specimens a slender fuscous streak; inside termen, and parallel to it, a series of small fuscous spots, obsolete in some specimens; cilia a mixture of light ochraceous buff and buffy brown. Hindwing grayish; paler basally; cilia grayish. Foreleg light ochraceous buff; femur and tibia overlaid buffy brown on outer sides; tarsal segments fuscous on outer sides, narrowly annulated light ochraceous buff; midleg and hindleg similar but hindleg paler. Abdomen buffy brown dorsally, light ochraceous buff ventrally, suffused brownish.

♂. Genitalia slides 24517, 24518 (♂). Harpe broad, and split basally, narrowed distally; cucullus narrowly rounded. Gnathos long, curved, terminating in a sharp point; base roughened. Uncus broadly triangular, pointed posteriorly. Transtillar lobe fleshy, unarmed; median curved ridge between lobes. Vinculum U-shaped. Tegumen slightly longer than broad. Anellus a long, narrow sclerotized plate with small lateral projections basally. Aedeagus moderately long, curved; vesica armed with one long cornutus.

♀. Genitalia slides 24516, 24518 (♀). Ostium small, transverse. Lamella postvaginalis a small, but strongly sclerotized plate. Antrum sclerotized. Inception of ductus seminalis well before antrum. Ductus bursae membranous. Bursa copulatrix membranous. Signum absent.

Holotype ♀ (US 76073). Type-locality: Guam, Piti.

DISTRIBUTION: Southern Mariana Is.

SOUTHERN MARIANA IS. GUAM: Piti, 2 ♂♂ and 4 ♀♀, Aug. and Sept. 1936, reared from dead *Barleria* or at light.

Food plant: dead *Barleria*.

Described from ♀ holotype, 2 ♂♂ and 4 ♀♀ paratypes as listed above.

This species is probably closely related to *nephelissa* of Sri Lanka (Ceylon) but *swezeyi* has a more evenly colored forewing. The lamella postvaginalis of *swezeyi* is strongly sclerotized by the lamella postvaginalis of *nephelissa* lacks the sclerotized plate. Named for the late O.H. Swezey who contributed so much to Pacific entomology.

FAMILY AGONOXENIDAE

Of the four species in this family, only one is definitely recognized from Micronesia.

Genus *Agonoxena* Meyrick

Agonoxena Meyrick, 1921, Exotic Microlepidoptera 2: 471. (Type-species: *Agonoxena argaula* Meyrick, *ibid.*, 472. [by monotypy])

4. *Agonoxena argaula* Meyrick (Fig. 4; Plate 1, fig. c).

Agonoxena argaula Meyrick, 1921, Exotic Microlepidoptera 2: 472; 1927, Insects Samoa, 3(2): 84. — Swezey, 1942, Proc. Hawaii. Entomol. Soc. 11(2): 212. — O'Connor, 1949, Agric. J. Dep. Agric. Fiji Isl. 20(2): 49. — Singh, 1952, *ibid.* 23(3-4): 106. — Krauss, 1954, Proc. Hawaii. Entomol. Soc. 15(2): [263], 269. — Dumbleton, 1954, South Pac. Comm. Tech. Pap. No. 79: 100. — Clarke, 1955, Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick 1: 52. — Weber, 1957, Proc. Hawaii. Entomol. Soc. 16(2): 194, 313. — O'Connor, 1957 Agric. J. Dep. Agric. Fiji Isl. 28(3-4): 79; 1960, 30(2): 50. — Paine, North Queensl. Nat. 29(130): 6, 7. — Hinckley, 1961, Agric. J. Dep. Agric. Fiji Isl. 31: 39; 1965, Bull. Agric. Sci. Fiji Dept. Agric. 44(1): 12. — Bradley, 1966, Bull. Entomol. Res. 56(3): 453-472, fig. 1; 5; 9a-9b; 13-19; 24a-c; 25; 29; 31; 35.

Holotype: British Museum (Nat. Hist.). Type-locality: Fiji, Lautoka.

DISTRIBUTION: Fiji, Tonga Ellice Is., Samoan Is., Futuna Group, Wallis Is., Palmyra, New Hebrides, Southern Mariana Is. (?), Eastern Caroline Is. (?).

Food plants: *Cocos nucifera* L., *Clinostigma onchorhyncha* Becc., and other palms.

Parasites: *Apanteles agonoxenae* Fullaway, *Brachymeria agonoxenae* Fullaway. O'Connor (1957:79) lists also *Bracon* sp., and *Agathis* sp.

A complete treatment of the species of this genus occurs in Bradley (1966). Of the four species known in this family, only *argaula* and *pyrogramma* have been reported from Micronesia. There are no specimens of *argaula* from Guam in the British Museum (Nat. Hist.) and none in the U.S. National Museum of Natural History, but Bradley (1966: 454) lists it from Guam, as does Dumbleton (1954: 100), and Gressitt (1954: 178) has this to say about it: "The coconut moths *Agonoxena pyrogramma* Meyrick and *A. argaula* Meyrick have been recorded from Guam or the Carolines, but they may be misidentifications." Judging from specimens in the U.S. National collection, the record of *argaula* from Guam resulted from the misidentification of specimens of *pyrogramma*.

I have included *argaula* in this paper in the event that it is discovered later, and have included illustrations to aid in its identification.

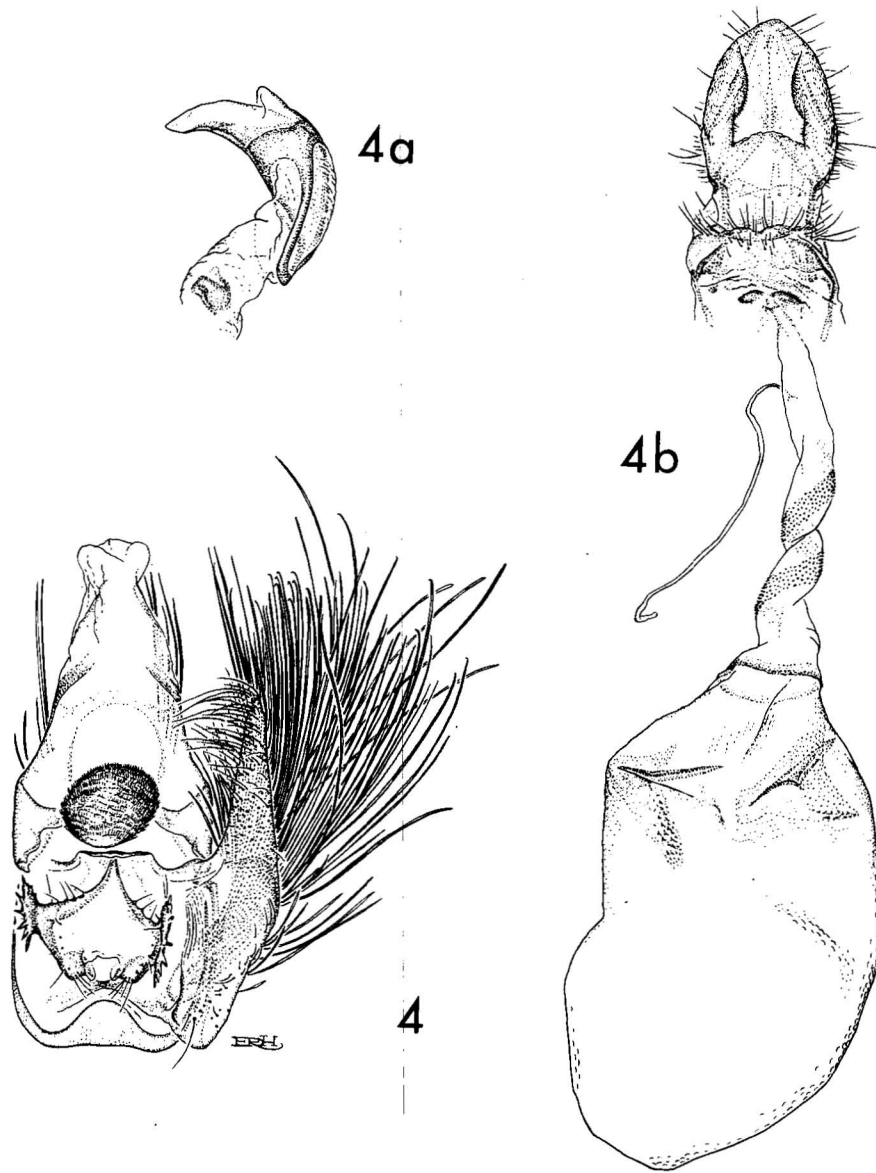


FIGURE 4. *Agonoxena argaula* Meyrick: 4, ventral view of ♂ genitalia with left harpe and aedeagus omitted; 4a, aedeagus; 4b, ventral view of ♀ genitalia.

5. *Agonoxena pyrogramma* Meyrick (Fig. 5; Plate 1, fig. f).

Agonoxena pyrogramma Meyrick, 1924, Exotic Microlepidoptera 3: 84. — Swezey, 1946, Insects Guam - II, B.P. Bishop Mus. Bull. 189: 212. — Gressitt, 1954, Insects Micronesia 1: 178. — Dumbleton, 1954, South Pac. Comm. Tech. Pap. 79: 100. — Clarke, 1955, Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Nat. Hist.) described by Edward Meyrick 1: 266. — O'Connor, 1960, Agric. J. Dep. Agric. Fiji Isl. 30(2): 50. — Bradley, 1966, Bull. Entomol. Res. 56(3): 455, figs 2; 6; 10a; 10b; 14; 20; 26; 32; 36.

Holotype: British Museum (Nat. Hist.). Type-locality: Solomon Is., Guadalcanal.

DISTRIBUTION: Solomon Is., New Guinea, Southern Mariana Is., Eastern Caroline Is.

SOUTHERN MARIANA IS. GUAM: Tumon, ♂, Nov. 1936; Yona, ♂, ♀, May 1936; Yigo, ♂, 2 ♀♀, Nov. 1936; Tarague, ♀, May 1936; Mt. Alifan, ♀, May 1936, Swezey; (no specific locality), 16 ♂♂, 14 ♀♀, Sept., Oakley.

KUSAIE: Mutunlik, 26 ♂♂, 5 ♀♀, Feb., Mch., Apr. 1953; Mt. Wakap, 1300 ft. (400 m), ♂, Apr. 1953; Lele I., ♂, Feb. 1953; Innem River, ♀, Jan. 1953, Clarke.

Food plants: *Cocos nucifera* L. (coconut); *Nipa fruticans* Thunb. (Nipa Palm).

Parasites: *Brachymeria hammari* (Crawford) and *Macrocentrus pallidus* Fullaway.

My notes from Kusaie are as follows: "KU66. Lelu Id., 24 Feb. 1953. Larvae on Nipa palm feeding singly on undersides of the leaves; the feeding takes place under a light web, and the injury is in the form of a longitudinal strip about 1/4" to 3/4" long and about 1/16" to 5/16" wide. Pupation occurs under a compact, but thin shining white web placed longitudinally against the midrib or where the leaf is slightly folded . . . Pupa not extruded at time of emergence . . ."

LITERATURE CITED

- Bradley, J.D. 1966. A comparative study of the coconut flat moth (*Agonoxena argaula* Meyr.) and its allies, including a new species (Lepidoptera, Agonoxenidae). Bull. Entomol. Res. 56(part 3): 453-472, Figs. 1-38.
- Clarke, J.F. Gates. 1976. Microlepidoptera: Tortricoidea. Insects Micronesia 9(1): 1-144, figs. 1-65, pl. 1-13.
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- Gressitt, J. Linsley. 1954. Introduction. Insects Micronesia 1: 1-257, figs. 1-70. Bishop Museum, Honolulu, Hawaii.

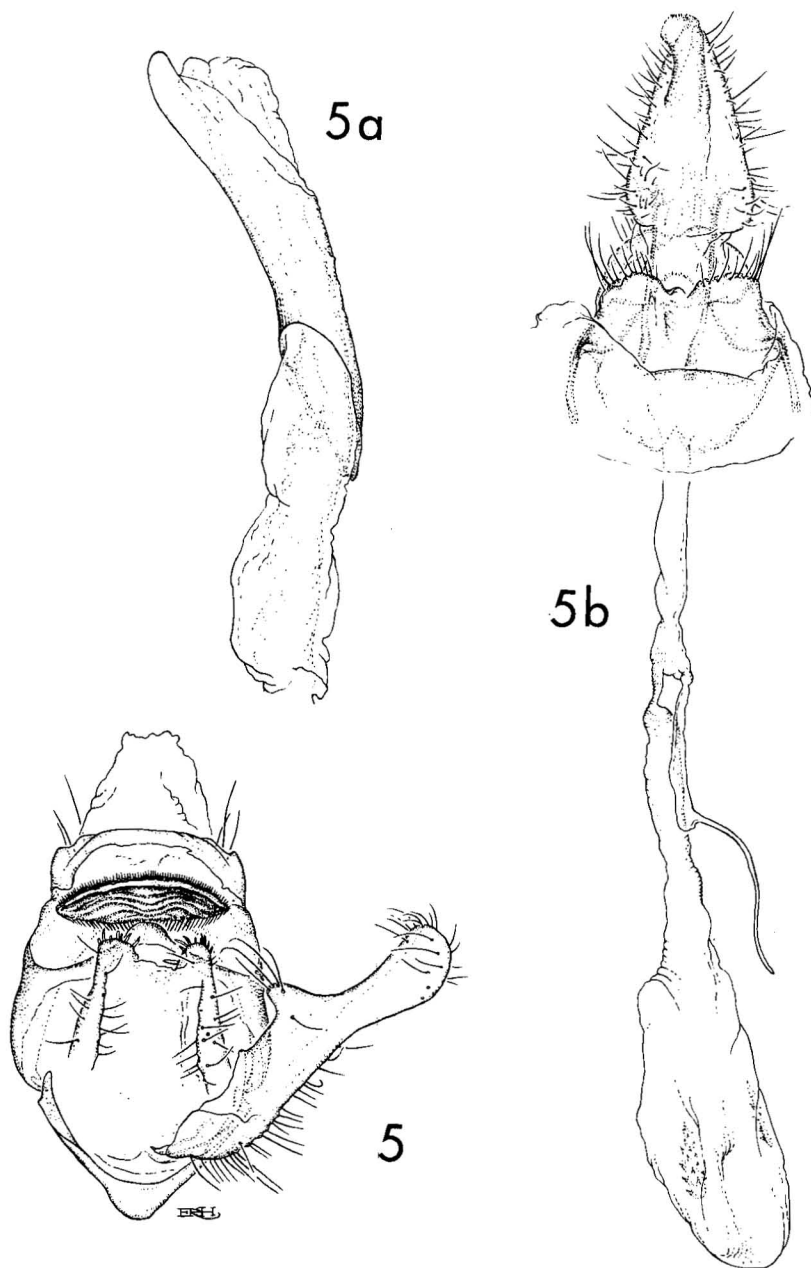


FIGURE 5. *Agonoxena pyrogramma* Meyrick: 5, ventral view of ♂ genitalia with left harpe and aedeagus omitted; 5a, aedeagus; 5b, ventral view of ♀ genitalia.

