INSECTS OF MICRONESIA

Diptera: Bibionidae and Scatopsidae

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The following symbols indicate the Museums in which specimens are stored: US (United States National Museum), CM (Chicago Natural History Museum), and BISHOP (Bernice P. Bishop Museum).

FAMILY BIBIONIDAE

Previously Bibionidae have been unrecorded from either Micronesia or Polynesia. Numerous species occur in all of the fringe areas of the Pacific but have been completely lacking in that part of Oceania inside a line from New Zealand, through New Caledonia, the New Hebrides, New Guinea, the Philippine Islands, Formosa, and Japan. A single species of Plecia is represented in the collection from the Palau Islands. It shows affinity with Plecia from Indonesia, and it is most probable that it originally came from there.

Genus Plecia Wiedemann


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This genus is distinguished from other Bibionidae by the short, nearly vertical vein $R_{5+6}$. The male genitalia are strikingly developed and present the only reliable characters for separating most of the species.

Genotype: *Hirtaca fulvicollis* Fabricius.

![Diagram of Plecia palauensis](image)

**Figure 1.** *Plecia palauensis*: a, antenna; b, wing; c, male genitalia, dorsal view; d, male genitalia, ventral view.

1. **Plecia palauensis** Hardy, n. sp. (fig. 1, a–d).

*Male.* Head all black, eyes bare. Antenna eight-segmented; basal segment of flagellum nearly three times as long as second segment. Terminal portion consists of two closely joined segments, the apical one very tiny; often not clearly seen in situ (fig. 1, a). Ocellar triangle is well developed; it is nearly one-third as long as junction of compound eyes. Rostrum is not produced. Thorax entirely opaque black (dark brown in some specimens), nearly devoid of pile. Extreme bases of halteres are yellow, the remainder dark brown to black. A moderately deep furrow down each dorsocentral area and a faint indication of a median furrow is present on the anterior half of the mesonotum. Posterior median portion of mesonotum is depressed. Legs dark brown to black, faintly tinged with rufous in ground color. Segments are slender, the hind basitarsi about one-third as long as tibiae. Wings dusky fumose throughout, no stigma present, all veins black. Vein $R_{5+6}$ arises just before middle of that portion of radius from r-m to wing tip and is almost vertical in position. Both of the anal veins evanesce before reaching wing margin. Costa extends about halfway between tips of $R_{5+6}$ and $M_1$ (fig. 1, b). Abdomen and genitalia opaque brown to black; in two alcoholized specimens abdomen is tinged with yellow; these may be teneral. Ninth tergum is deeply cleft, almost to base, on hind margin; lateral lobes are gradually tapered and obtuse at apices (fig. 1, c). (In *P. jauensis* each side of tergum is bilobate, with a narrower, more V-shaped cleft on hind margin.) Aedeagus lacks the strong rodlike supporting structures characteristic of *P. jauensis*. Ninth sternum is two-fifths times wider than long, posterior lateral margins are produced into rather elongate slender lobes which extend beyond apices of claspers; also median portion of sternum is very narrow measuring less than half length of a clasper. Claspers are rather simple, obtuse at apices, with a partial secondary lobe developed on lateral margins and a narrow sclerotized bridge con-
necting them on their inner anterior margins (fig. 1, d). (In *P. javensis* median portion of tergum is much broader, lateral lobes end before apices of claspers, and claspers are differently developed.)

Length: body, 3.0-3.8 mm.; wings, 3.8-4.5 mm.

Female unknown.

Holotype, male (US), Palau Is., Koror I., Limestone Ridge, south of inlet, Jan. 21, 1948, H. S. Dybas. Seven paratypes (US, CM, BISHOP, Univ. Hawaii), Ngergoi (Garakayo) I., five of them Aug. 7, 1945, Dybas, and two Aug. 8, 1945, E. Hagen. One additional paratype (BISHOP), same data as for holotype.

Distribution: Western Caroline Is. (Palau).

This species fits into the complex of dark brown to black species, but by its male genital characters it appears related to *P. javensis* Edwards (*fulvicolis* complex: thorax entirely rufous). As in *P. javensis* the claspers are joined by a narrow sclerotized bridge, the ninth sternum is very broad, the median portion is narrow, and the posterior lateral margins are acutely pointed [fig. 1, d, and Hardy, 1952, Beitr. zur Ent. 2 (4-5): 431 fig. 4]. It differs from *P. javensis* and from other known *Plecia* in the details of the male genitalia (fig. 1, c and d) and in the characters discussed above. Furthermore, it has only six segments in the flagellum of the antenna (fig. 1, a). The ocellar triangle is not reduced in size as in *P. javensis*. This species is also much smaller, and the wing venation differs (fig. 1, b).

**Family Scatopsidae**

The Scatopsidae in Micronesia previously have been known from two species described from Guam by Johannsen (1946, B. P. Bishop Mus., Bull. 189: 187-188). Five species, including Johannsen’s species, are in the collections which I have studied. It is also probable that a sixth species may be present; Johannsen apparently had before him a specimen, or specimens, of *Scatops fuscipes* Meigen, accidently included in his series of *Holoplagia guamensis* (Johannsen). (See discussion under *Holoplagia guamensis* or *Scatops fuscipes*.

I had previously followed Edwards (1925, Ann. Applied Biol. 12: 268-275) and Duda (1929, IN Lindner, Die Fliegen der Palaearktischen Region 5:1-62) in considering most of Enderlein’s genera of Scatopsidae as synonyms of *Scatops s. l.* These were all based upon rather trivial differences in the wing venation which show intergrades in so many species that only the extreme examples of the various groups can be clearly delimited. Edwin F. Cook, of the University of Minnesota, has recently undertaken a thorough study of this family and, based upon a restudy of Enderlein’s type species, has found that except for *Reichertella* his genera are good in spite of the fact that “the characters that Enderlein cites are wholly useless.” Dr. Cook has placed
the taxonomy of this group on a sound basis by emphasizing the structural
differences in the genitalia and abdominal sclerites of both sexes; details of
chaetotaxy of the thorax and wing veins and the shape and development of
the anterior spiracular sclerite, supported by the wing venation characters
used by Enderlein [Enderlein, 1912, Zool. Anzeiger 40:265 and 1936, Die
Tierwelt Mitteleur. 6 (3), Insekten 2; 55; Melander, 1916, State Coll. Wash-
ington, Agric. Exper. Sta. Bull. 130:4; and others]. Following Cook's
generic concepts, the six species from Micronesia belong in six different
genera; four of these—Psectrosciara brevicornis Johannsen, Holoplagia
guamensis (Johannsen), Rhegmocelema willistonii (McAtee), and Scatopsse
fuscipes Meigen—also occur in the Hawaiian Islands. Psectrosciara brevi-
cornis was described as a Sciariidae, but it is a true Scatopsidae.

Distributional List of Micronesian Scatopsidae

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<th>Micronesian Island Groups</th>
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Key to Micronesian Genera and Species

1. Head higher than long (fig. 6, a). Abdomen rather narrow at base, expanded
   posteriorly. Antennae 10-segmented. Vein Cu₅ curved down sharply toward
   hind margin of wing (fig. 7, a)................................................. 2

   Body elongate, head nearly two times longer than high (fig. 3, a). Antennae
   nine-segmented (fig. 3, b). Vein Cu₅ very gently curved (fig. 3, d)..............
   Psectrosciara brevicornis

2(1). Wings without setae on vein Cu₅. Pedicel of halter with setae................... 3

   Wings with setae on Cu₅. Pedicel of halter without setae. Seventh sternum
   of male shield-shaped. A distinct supraalar row of setae present. Anterior
   spiracular sclerite triangular. Vein Mₕ₊₂ very short, about one-fifth as
   long as Mₕ (cell Mₕ five times longer than stem; fig. 4, b).........................
   Rhegmocelema parvula

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2 Beyond the first couplet this key has been modified from a manuscript key sent to me by Edwin F. Cook.
3(2). Cross vein r-m lacking. R_{4+5} ends at or distinctly before middle of wing......... 4
Cross vein r-m present as an appendix near base of M_{1}. R_{4+5} extends to about
apical three-fifths of wing (fig. 2, b). ........................................... **Holoplagia guamensis**

4(3). Vein M_{4+5} shorter than M_{5} (cell M longer than its stem). Male with seven
visible abdominal segments .............................................................. 5
M_{4+5} very elongate, four times longer than M_{5} (cell M_{5} not one-fourth as
long as its stem) (fig. 7, a). Male with only six visible abdominal seg-
ments .................................................................................................. **Swammerdamella albimana**

5(4). Second section of costa (between tips of R_{1} and R_{4+5}) very short, less than
half as long as first (between humeral cross vein and R_{1}). Seventh tergum
of male not produced. Male genitalia very small, aedeagus simple. Female
genitalia with a pair of small lobes at apex of seventh tergum (fig. 5, f)
........................................................................................................... **Rhexoza magnipalpus**
Second section of costa equal to first. Seventh tergum of male produced (fig.
6, c). Male aedeagus highly modified in form. Female genitalia with a pair
of submedian lobes on eighth sternum (fig. 6, f) .................. **Scatops e fuscipes**

**Genus Holoplagia** Enderlein


As proposed by Enderlein, the genus was distinguished from *Scatops e* by having the r-m cross vein complete and Cu_{4} strongly arched. The wings have no setae on Cu_{4} and the pedicel of each halter is setulose. The thorax is rather broad and stout, nearly as wide as long, and the wings are often pubescent. The labellae are normal in size, and the anterior spiracular sclerite is rather small on the species at hand. The Micronesians representative of this group differs from typical *Holoplagia* in having the r-m cross vein extending only two-thirds the distance to R_{5+6} (fig. 2, b).

Genotype: *Scatops e transversalis* Loew, 1846.

1. **Holoplagia guamensis** (Johannsen), n. comb. (fig. 2, a-e).

*Scatops e guamensis* Johannsen, 1946, B. P. Bishop Mus., Bull. 189 : 187,
fig. 1, a-e.

This species appears more closely related to *S. albitarsis* Zetterstedt, of Europe, than to any other known species. The wing venation and most other details fit very closely but the male genitalia are very different. For comparison refer to Duda (1929, IN Lindner, Die Fliegen der Palaearktischen Region 5 : 13, fig. 2). Johannsen's figure F and his description of the wing of *guamensis* is very misleading. He apparently drew and described the wing of *Scatops e fuscipes* Meigen, not *guamensis*. His other figures are correct. I have studied the type series in the Cornell University collection and in the collection of the Hawaiian Sugar Planters' Association; and all the specimens studied are *guamensis*. The specimen which provided the wing Johannsen figured was not among those studied, or perhaps he made his drawing from a slide-mounted specimen and could not see the r-m cross vein or the courses of veins M_{4} and M_{4+5}.
Figure 2.—Holoplagia guamensis: a, palp; b, wing; c, male genitalia, end view; d, female genitalia, dorsal view; e, female genitalia, ventral view.

This species is differentiated from all other known species by the all yellow tarsi, by the wing venation (fig. 2, b), and by the genital characters of both sexes (fig. 2, c-e). These flies are moderately small and entirely opaque, dark brown to black except for the yellow tarsi; the apical portion of the pedicel of the antenna is also slightly yellow. The antennae are about equal in length to the thorax, the flagellum is gray pubescent and almost parallel-sided, except that the apical portion is slightly broadened; the apical portion is three times longer than the preceding segments. At the point of the junction of the eyes the eye bridge is about five facets wide. The palpi are short (fig. 2, a), about equal in length to the scape plus the pedicel. The dorsum of the thorax is covered with fine, closely appressed dark-colored hairs, the sides of the mesonotum have numerous short black bristles. The scutellum has 10 short black bristles on its hind margin and numerous black setae on the disc. The wings are hyaline. The costa and vein R₁+₄ extend just beyond the middle of the wing. The second costal section (that between tips of R₁ and R₁+₄) is equal in length to the first (between the humeral cross vein and R₁). Cross vein r-m is represented by an appendix extending about two-thirds the distance between veins M₁ and R₁+₄. M₁+₄ is about three-fifths as long as M₁. M₁ beyond the appendix is gently concave. M₁+₄ curves upward sharply in the outer third of the wing but evanesces before reaching the margin. Vein Cu₃ curves downward sharply to the hind margin (fig. 2, b). The abdomen is one-third to one-half longer than the remainder of the body,
the posterior portion is broadly expanded. The genitalia are dark brown and inconspicuous *in situ*. The seventh (visible) sternum of the male is evenly concave on the hind margin, the bottom of the concavity is almost flat. The seventh tergum is not produced on the hind margin. The penis is short and terminates in a thickened apex. A pair of well-developed claspers is present; these are expanded apically (fig. 2, c). In the female the hind margin of the seventh sternum is gently concave and the eighth sternum has a rather strong slender lobe on each posterior lateral margin and a small V-shaped concavity in the middle of the hind margin (fig. 2, e). The seventh tergum has a narrow V-shaped cleft in the middle of the hind margin (fig. 2, d). The body and wings are 1.5 mm. long.

**DISTRIBUTION:** Outside of Micronesia it is known only from Hawaii.

- **S. MARIANA IS. GUAM** (*type locality*): Piti, July 1921, Swezey, and Sumay, June 1922, Swezey. **SAIPAN**: Near Garapan, Jan. 1945, Dybas; As Mahetog area, under bark, Nov. 1944, Dybas; and Hagman Pt. area, Apr. 1945, Dybas.
- **PALAU. KOROR**: June 1953, at light (no collector given) and Nov. 1947, at light, Dybas.
- **TRUK. WENA** (Moen): June 1946, Townes.
- **CAROLINE ATOLLS. WOLEAI**: Utegal Is., Feb. 1953, Beardsley.

The type is in Cornell University.

**Genus Pssectrosciara** Kieffer


This very characteristic genus is recognized by the elongate head, slender, linear abdomen and by the wing venation (fig. 3, d). The head is one and one-half to two times longer than high and the portion behind the eye is equal or longer than the eye (fig. 3, a). The abdomen is nearly two times longer than the head plus the thorax. The elongate costa, the long second costal section, and the gently curved vein Cu₂ are distinctive. The costa extends to about the apical three-fourths of the wing. The second section of the costa (that portion from apex of R₁ to R+₁) is two times longer than the first (from humeral cross vein to tip of R₁). I find no evidence of vein M+₁ in the specimens I have studied.

Just one species (*P. brevicornis* Johannsen) is known to occur in Micronesia.

**Genotype:** *Pssectrosciara mahensis* Kieffer.

2. *Pssectrosciara brevicornis* Johannsen (fig. 3, a–d).

*Pssectrosciara brevicornis* Johannsen, 1946, B. P. Bishop Mus., Bull. 189: 188.—Bohart and Gressitt, 1951, B. P. Bishop Mus., Bull. 204: 65, fig. 4, c.
This species is characterized by the generic characters given above. The elongate head and body and the distinctive wing venation will separate it from any scatopsid known from Micronesia. It apparently is distinguished from all known species of *Psectrosciara* by having just nine segments in the antennae rather than 10. It appears to be related to *P. californica* (Cole) but the vertical portion of the radial sector is situated about half-way between the humeral cross vein and the apex of Rs, rather than near the basal one-fifth of this section.

![Figure 3](image)

**Figure 3.** *Psectrosciara brevicornis*: a, head; b, antenna; c, palpus; d, wing.

The head, thorax, and abdomen are predominantly dark brown to black. One Saipan specimen on hand, which is in alcohol, is almost entirely rufous; it may be tenenal. The posterior portions of the abdominal segments are sometimes pale brown to yellowish. The head is shaped as in figure 3, a; the eyes are much higher than long. The apical segment of the antenna is about one-third longer than wide and is just longer than the preceding two segments of the flagellum (fig. 3, b). Each palpus has a large sensory structure at the apex and another near the middle of the hind margin (fig. 3, c). The thorax is shining brown to black, the scutellum with but two short bristles on the specimens at hand (some may be broken off). The legs are all yellow, tinged with brown. The wings are hyaline, anterior veins yellow faintly tinged with brown. The costa and vein R+M extend nearly to the apical three-fourths of the wing (fig. 3, d). Johannsen (1946, p. 189, fig. 1, f), and also Bohart and Gressitt (1951, p. 62, fig. 4, c) show the base of vein M₁ present; the original description says it is distinct although weak. I find it very difficult to see on the specimens I have studied, and the base of M₁ also seems to fade out. M₁ likely measured from the fork to the vertical portion of Rs, is about two-thirds as long as M₄ and is directly in line with this vein. M₁ is gently
arched upward; apparently $M_{+\pm}$ is absent. The vein $Cu_{2}$ is just slightly curved (fig. 3, d). The abdomen is about two times longer than the remainder of the body, the sclerites are brown, the conjunctiva yellow. The genitalia have not been studied. The body and wings are 1.5 mm. long.

DISTRIBUTION: Mariana Is., Hawaiian Is.

S. MARIANA IS. GUAM: June 1936, Swezey; Pilgo River, swept from low-growing vegetation, May 1945, G. Bohart and Gressitt. SAIPA: One (CM), Mt. Tagpochau, Feb. 1945, Dybas.

I have specimens of $P$. brevicornis from Oahu and Maui, Hawaiian Islands.

The type is in the Cornell University collection. I have studied the paratype in the collection of the Hawaiian Sugar Planters' Association.

Genus Rhégmoclemina Enderlein

Régmoclemina Enderlein, 1936, Die Tierwelt Mitteleur. 6 (3), Insekten 2: 55.

Enderlein allied the genus to Swimmerdamella because of the rather Z-shaped (twice bent) vein $Cu_{2}$ and separated it by having vein $M_{+\pm}$ shorter than cell $M_{1}$. These characters are of no value in differentiating this group. Cook, in correspondence, designates the following characters for distinguishing Rhégmoclemina: wings with setae on vein $Cu_{2}$; pedicel of halter without setae; no setae on vein $M_{1}$ or $M_{2}$; vein $M_{1}$ always complete; seventh sternum of male shield-shaped; a distinct row of supraalar setae present and the anterior spiracular sclerite triangular.

Genotype: Scatopsë vaginata Lundström.

3. Rhégmoclemina parvula Hardy, n. sp. (fig. 4, a-d).

A very tiny, principally dark brown to black species easily distinguished from other known Pacific species by wing venation, the small size, and the pale-colored tibiae. The antennae are short, 10-segmented, and dark brown to black in color. Apical portion is three times longer than preceding segment. Thorax subshiny brown to black on dorsum; brownish tinged with yellow on sides. Scutellum with eight short marginal bristles. Spiracular plate as in figure 4, a, anterior thoracic spiracle tiny. Halteres brownish yellow. Femora are brownish yellow. Tibiae yellow with a narrow ring of brown near bases. Tarsi are yellow. Wings hyaline, the costa ending slightly before middle of wing. Second section of costa is about one-third as long as first. Vein $M_{+\pm}$ is very short, about one-fourth as long as $M_{2}$. Cell $M_{1}$ distinctly narrowed in median portion by curvatures of veins $M_{1}$ and $M_{3}$. Veins $M_{+\pm}$, $Cu_{1}$ and $Cu_{2}$ evanesce before reaching wing margin. Vein $Cu_{3}$ is strongly sinuate (fig. 4, b). Abdomen about one-half longer than wide, dull brown on dorsum, with hind margins of apical segments brownish yellow, and tinged with rufous on venter. Genitalia are yellow. In female, sclerites of seventh segment are straight on their hind margins. Eighth segment is reduced to a very narrow ring extending over dorsum. A pair of well-developed triangular-shaped plates extend around anal region (fig. 4, c). Sternum has a pair of shorter, rectangular-shaped sclerites (fig. 4, d). The male genitalia have not been studied.

Length: body and wing, 1.0 mm.

Male unknown.

DISTRIBUTION. Western Caroline Is. (Palau, Yap), Hawaii.

Figure 4.—Rhagmocleina parvula: a, anterior spiracular plate; b, wing; c, female genitalia, dorsal view; d, female genitalia, ventral view.

In the literature this species fits the description of Rhagmocleina willistoni (McAtee)—change of name for Scatops pygmaea Williston, 1896, nec S. pygmaea Loew, 1864, except that R. parvula is apparently about half the size (1.0 mm.) of willistoni (2.0 mm.). Dr. Cook has informed me that there are two North American and two or three Central American and Caribbean species which have identical wing venation and which would fit Williston's description of pygmaea (West Indies). It is quite unlikely that the specimens at hand are pygmaea and it is perhaps best to describe it as new.

The wing venation is rather similar to that of Rhagmoclema rufithorax Enderlein (1912, Zool. Anzeiger 40: 277) from the Seychelle Islands, but that species apparently has the second costal section more than two times longer than vein R₄ and the body is predominantly rufous.

Genus Rhexosa Enderlein

Rhexosa Enderlein, 1936, Die Tierwelt Mitteleur. 6 (3), Insekten 2: 55.

The wing characters used by Enderlein to distinguish this group are rather trivial and probably are not of more than specific importance. Cook (in correspondence) has pointed out that this fits near Scatops s. str. by lacking setae on vein Cu₄, by having setae on the bases of the halteres, and by the male
abdomen having seven segments externally visible. He separates it from *Scatopse* by its having the anterior spiracular sclerite large and triangular (fig. 5, b), by the male genitalia being small with aedeagus simple, and by the females having no appendages on the eighth segment.

Genotype: *Rhexosa zachera* Enderlein.

4. *Rhexosa magnipalpus* Hardy, n. sp. (fig. 5, a-f).

Small, predominantly black species. **Male.** Head entirely black, shining on vertex. Entire front between antennae and lower ocellus is covered by eye bridge. It is six to eight facets broad at its narrowest point. Antenna is dark brown to black, except for the yellow-brown apex of the second segment and is distinctly capitate; basal segments are rather narrow, apex is broad; apical portion is equal to nearly four of preceding flagellar segments (fig. 5, a). Palpi are yellow brown and are equal to combined length of scape, pedicel, and three to four flagellar segments. Thorax subshining black on dorsum, dark brown on sides. Anterior spiracular sclerite is well developed, rather triangular, enlarged on the anterior end (fig. 5, b). Scutellar bristles are well developed. Wings hyaline, anterior veins yellow brown. Costa and vein R1+4 end distinctly before middle of wing. Second costal section is about one-third as long as first. Vein M; is about one-fourth longer than M1+2 and is directly in line with stem of cell M. Vein M2 fades out just before wing margin. M3+4 is very faint and curves upward slightly at its apex. Vein Cu is distinctly curved (fig. 5, c). Abdomen subshining black, about one-fourth longer than remainder of body, apical portion not noticeably produced. Genitalia are yellow brown and are inconspicuous, hidden within apical segments of abdomen. Seventh tergum forms a ring which extends around most of genitalia. Its hind margin is straight or nearly so. Ninth sternum is about one-half wider than long and has a pair of small lobes developed in middle of hind margin (fig. 5, d). A heavily sclerotized dark-brown hooklike structure protrudes from ventral portion of genitalia; this is visible in situ and is probably part of the aedeagus or may possibly be a development of the eighth segment (fig. 5, e).

**Length:** body, 1.3 mm.; wings, 1.2 mm.

**Female.** Fits description of male except for genital characters. Also, abdomen seems to be more opaque, not so subshining as in male. Seventh tergum is produced into a pair of small lobes in middle of hind margin (fig. 5, f).


**DISTRIBUTION:** Caroline Is.

This species runs to couplet 37 in Duda's key (1929, IN Lindner, Die Fliegen der Paläarktischen Region 5: 12), but is very different from *Scatopse cingulipes* Strobl and *S. hungarica* Duda. The most striking differences
are in the wing venation, in the genitalia, and in the development of the palpi. Vein $M_{3}$ is three times longer than $M_{4+5}$ in the two European species; these sections are about equal in *Rhexoxa magnipalpus*. Also, in the latter the male genitalia are as shown in figure 5, d and the palpi are greatly developed, compared to other species which I have studied (fig. 5, a). In Melander's revision (1916, State Coll. Washington, Agric. Exper. Sta. Bull. 130: 12) it runs to *Rhegnocelema aetrum* Melander except that it has eight bristles on the hind margin of the scutellum, not two. From the original description, *R. aetrum* apparently differs from *Rhexoxa magnipalpus* by the short setae on the scutellum and by having only six visible segments on the abdomen of the female; the last not excised. In *Rhegnocelema aetrum* vein $M_{3}$ is at an angle with $M_{4+5}$ rather than in direct line with it; the second costal section is at least half as long as the first, rather than one-third as long, and vein $Cu_{2}$ is differently curved (compare fig. 5, c and Melander's fig. 15).
Genus Scatops Geoffroy

Scatops Geoffroy, 1762, Hist. Abreg. des Ins. 2: 450. 
Rhaebosa Enderlein, 1936, Die Tierwelt Mitteleur. 6 (3), Insekten 2: 55.

Scatops is distinguished from other genera by the fully developed wings; rather short body and head; lack of spurs on front tibiae; antennae with 10 well-defined segments; petiole of median vein arising opposite transverse portion of radial sector; costa ending at or near tip of vein R_{4+5}; veins M_{1} and M_{2} not interrupted at their bases; no macrochaetae present on wings; pedicel of halteres with setae; vein Cu_{A} usually sinuate; anterior spiracular sclerite very small (except in S. fusiceps); male genitalia with aedeagus large and highly modified in form. Female genitalia usually with one or two paired appendages.

Genotype: Tipula notata Linnaeus.

There is danger of the name Scatops, as well as some other well-established generic names of Diptera, being invalidated because of the decision of the International Commission on Zoological Nomenclature at the Paris Congress to substitute the word "binomial" for the word "binary" in the Code. Since the generic names of Geoffroy were not proposed in binomial combinations this ruling would necessitate their being discarded even though they have been used commonly throughout entomological literature dating back to Linnaeus' time. Dr. Alan Stone and others requested (1954) the Commission to use its plenary powers to preserve the generic names of Geoffroy by placing them on the Official List of Generic Names in Zoology. They also requested that the name Scatops Geoffroy (1762, p. 544; an incorrect spelling of Scatops Geoffroy, 1762, p. 450) be placed on the Official List of Rejected and Invalid Generic Names in Zoology. They further pointed out that the Geoffroy names have often been cited in the literature dating from 1764. They were actually first published in 1762.

5. Scatops fusiceps Meigen (fig. 6, a-f).


Entirely black except for yellow-brown tarsi. Superficially resembles Holoplagia guamensis, but details of wing venation and genitalia of both sexes are very different. Palpi are rather large; they are approximately equal to the combined length of the scape, pedicel, and two flagellar segments. At junction of eyes, eye bridge is six to eight facets wide. Antennae are nearly parallel-sided, slightly enlarged at apices. Apical portion is three to four times longer than penultimate segment (fig. 6, a). Wing is hyaline, costa extends just slightly beyond middle of wing and first two costal sections are approximately equal in length. Vein M_{4+5} is about three-fifths as long as M_{2}. M_{4+5} is simple, without an appendix; M_{4+5} is straight and evanesces well before wing margin. Vein Cu_{A} is rather strongly bent downward (fig. 6, b). Genitalia of both sexes are very characteristic, in male the seventh visible sternum is about two times wider than long, with a small V-shaped cleft in middle of hind margin and a rather well-developed lobe on each posterolateral margin (fig. 6, d). Seventh visible tergum has a well-developed slightly asymmetrical median projection from hind margin (fig. 6, c). Cole (1927, Calif. Acad. Sci., Proc. IV, 16: 418) suggests that this is a joining of two lobes. Penis is elongate and coiled. Seventh sternum of female has a broadly U-shaped concavity in middle of hind margin (fig. 6, f),
and hind margin of seventh tergum is straight, whereas apex of tergum is rather deeply concave (fig. 6, e). Eighth sternum has a pair of submedian lobes as in figure 6, f.

Length: body and wings, 1.75 mm.

**Figure 6.—** *Scatops fuscipes*: a, head; b, wing; c, seventh tergum of male; d, seventh sternum of male; e, female genitalia, dorsal view; f, female genitalia, ventral view.

**DISTRIBUTION:** This is a cosmopolitan species widespread throughout much of the world. It is known from Micronesia only by Johannsen’s inclusion of it in his type series of *Scatops guamensis*. He apparently had before him one or more specimens from Guam.

This species has never been recorded from Micronesia, but it appears that one or more specimens may have been included in the type series of *Scatops guamensis* Johannsen. The wing figured by Johannsen is quite obviously that of *S. fuscipes*, and the description of the wing would fit this species. Refer to my discussion under *Holoplagia guamensis* (Johannsen).

The status of the name *fuscipes* is somewhat questionable. It is possible that it is a synonym of *Scatops atrata* Say. Duda (1929, pp. 21-22) treats *Scatops atrata* Wiedemann, 1828 (*nec* Say) as a synonym of *S. fuscipes* Meigen but lists *S. atrata* Say as a sp. incerta, probably not the same as *fuscipes* but from the description possibly fitting in the genus *Ectaetia* Enderlein. Since Say’s type is lost and his species cannot be definitely recognized from his description, it is perhaps best to ignore it. *Scatops fuscipes* is the genotype of *Rhaeboa* Enderlein. This was based only on the amount of curvature of vein Cu₂, and the character is not of generic importance.
Genus *Swammerdamella* Enderlein


This genus is recognized by its having vein \( M_{1+2} \) very elongate, four or five times longer than \( M_2 \); cell \( M_4 \) not over one-fourth as long as its stem (fig. 7, a); and the male abdomen having only six abdominal segments externally visible.

Genotype: *Scatopsise brevicornis* Meigen, 1830.


Head black, shining on vertex, slightly gray on occiput. At junction of eyes, eye bridge is five facets broad. Mesonotum is subshining black, faintly gray pollinose. Pleura, scutellum, and humeri are brown tinged with yellow. Scutellum has eight to 10 moderately developed bristles on its hind margin. Legs chiefly dark brown to black, tarsi whitish yellow. Wings hyaline, anterior veins yellow brown. Costa and vein \( R_{1+2} \) end at about basal two-fifths of wing. First costal section is three or more times longer than second. Vein \( M_{1+2} \) is more than four times longer than \( M_2 \) (cell \( M_4 \) is less than one-fourth as long as its stem). Vein \( Cu_a \) strongly curved (fig. 7, a). Abdomen is subshining black, slightly grayish pollinose, just slightly longer than remainder of body; apical portion is produced into a triangular point above (this is apparently the seventh segment, although I can account for only six segments on the specimen at hand). This projection appears to be slightly asymmetrical as in *Scatopsise fuscipes*; from a dorsal view it is produced more to the right side on the specimen at hand (figs. 7, b, c). Apical sternum is approximately quadrate, hind margin very gently concave. Genitalia are yellow and are completely hidden within a hollow formed by apical segments on abdomen; they are visible in only direct end view. These have not been studied.

Length: body and wings 1.15-1.2 mm.

![Figure 7](image)

**Figure 7.** *Swammerdamella albimana*: a, wing; b, male genitalia, dorsal view; c, male genitalia, lateral view.
DISTRIBUTION: Eastern Micronesia. Previously known only from the Fiji Islands and Samoa.


CAROLINE ATOLLS. KAPINGAMARANGI: E. F. Cook has informed me that he has studied two specimens from Hare Islet and Machiro Islet, Kapingamarangi, central Carolines, collected Aug. 4, 1956, Townes.

The type is in the British Museum (Natural History).

One male specimen from Micronesia which appears to be this species is at hand. It fits Edwards' brief description well. This species is close to S. brevicornis Meigen, of Europe. Edwards says that it differs by having the antennae a little longer, with rather longer pubescence (the specimen at hand has the antennae broken); by having the tip of the last abdominal tergite of the male produced into a nearly equilateral, instead of a flattened, triangle; by having the tarsi wholly whitish ochreous instead of black; and by having the second costal division rather longer, one-third instead of only one-fourth as long as the first. I see no appreciable difference in the wing venation in the two species from the specimen at hand. The second costal section is between one-third and one-fourth as long as the first. The very short cell M, (fig. 7, a), combined with the peculiar shape of the apex of the male abdomen (fig. 7, b) and the yellow-white tarsi, will distinguish this from all known species from the Pacific and the Oriental Region.