

Insects of Micronesia, Volume 14, no. 9 Diptera: Lauxaniidae

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Abstract—The Micronesian fauna of the genus *Homoneura* (Diptera: Lauxaniidae), comprising 18 species, is presented. Seven new species, *H. bibaculigera*, *carolinensis*, *denticulimentula*, *longisetosa*, *notabilis*, *palauensis* and *prisca*, are described, and six Oriental, one Polynesian and one Australian species are recorded for the first time. A key to the species is given.

Introduction

The genus *Homoneura* van der Wulp (1891) is the largest genus in the Lauxaniidae and widespread throughout the Oriental Region. Up to the present, only four species, *Homoneura acrostichalis* (de Meijere, 1915), *anuda* Curran (1936), *signatifrons* (Kertész, 1900) and *spiculata* (Frey, 1917), have been known to occur in Micronesia (Evenhuis and Okadome, 1989). In this paper, 15 species of the subgenera *Homoneura* s. str. and *Minettioides* Malloch, 1929, are recorded, of which seven species are new to science and eight are new records.

Materials and Methods

About 1,500 dried specimens collected mainly by the staffs of the Bishop Museum, Honolulu, and U. S. National Museum, Washington, D. C. (USNM), and a small collection of the Kyushu University, Fukuoka (KU), in 1935–70, were examined. The male genitalia dissected were stored in a short polyethylene tubule with glycerol after the examination. The holotypes of the new species are deposited in the collection of the Bishop Museum (BPBM) and U. S. National Museum (USNM).

The following abbreviations for certain setae, abdominal tergites, legs and collectors are used.

Chaetotaxy: acr, acrostichal setae; dc, dorso-central bristles; ia, intra-alar bristle; ipa, inner post-alar bristle; oc, ocellar bristle; oh, orbital hairs; or, fronto-orbital bristles; pm, peristomal setae; prsc, pre-scutellar bristles; stpl, sternopleural bristle.

Abdomen: T3–6, third to sixth tergites, respectively; S7+8, seventh and eighth sternites.

Legs: f_{1–3}, fore to hind femora; t_{1–3}, fore to hind tibiae; a, anterior setae; pd, postero-dorsal setae; pv, postero-ventral setae.

Wing: C-index, second costal section divided by the third; 4V-index, ultimate section of M₁ divided by the penultimate; 5V-index, ultimate section of CuA₁ divided by the penultimate.

Collectors: PA, P.A. Adams; MA, M. Ali; MB, M. Bates; JB, J.W. Beardsley; GB, G.E. Bohart; RB, R.M. Bohart; EB, E.H. Bryan; CC, C.F. Clagg; JC, J.F.G. Clarke; HD, H.S. Dybas; SE, S.A. Edgar; JE, J.W. Enke;

TE, T. Esaki; RG, R.J. Goss; JG, J.L. Gressitt; EH, E. Hagen; SH, S. Hatsushima; YK, Y. Kondo; NK, N.L.H. Krauss; IL, Ira LaRivers; ML, M. Lundgren; TL, T. Lyons; KM, K.L. Maehler; AM, A.R. Mead; SM, S. Murakami; WN, W.A. Niering; ZO, Z. Ono; RO, R.P. Owen; BP, B.D. Perkins; RP, R.W.L. Potts; CS, C.W. Sabrosky; PS, P. Snyder; OS, O.H. Swezey; HT, H.K. Townes; LT, L.D. Tuthill; RU, R.L. Usinger; HW, H.S. Wallace; MW, M.R. Wheeler; KY, K. Yasumatsu.

Systematics

The genus *Homoneura* van der Wulp, 1891, comprises five subgenera, *Chaetohomoneura* Malloch, *Euhomoneura* Mall., *Homoneura* s. str., *Minettioides* Mall. and *Neohomoneura* Mall. (Sasakawa, 1992). In Micronesia 19 species, belonging to two subgenera: *Homoneura* and *Minettioides*, are distributed.

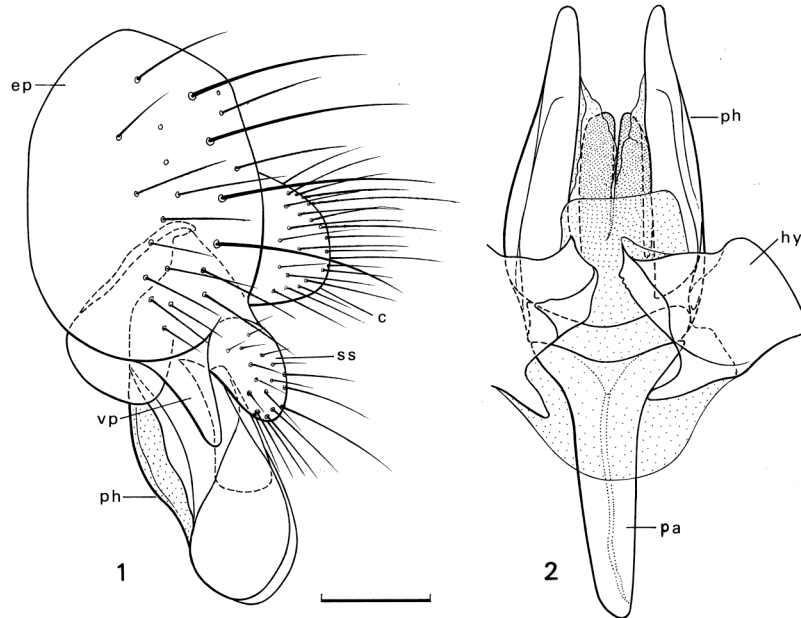
Key to Micronesian species of *Homoneura*

1. Mesoscutum with a short postsutural ia (subgenus *Minettioides*) 2
 - . Mesoscutum without ia (subgenus *Homoneura*) 10
2. Arista plumose 3
 - . Arista pubescent or short-haired 5
3. Abdominal tergites with at least a pair of black spots; mesoscutum with a sa only; wing length less than 3.2 mm 4
 - . Tergites without spots; mesoscutum with two setae before sa; wing longer than 3.8 mm *grossa* (de Meijere)
4. T4-5 each spotted; cercus with long distal setae (Fig. 6).. *longisetosa* n. sp.
 - . Only T5 spotted; cercus normally setose *forcipata* (Kertész)
5. Mesoscutum black, densely grayish pollinose; coxae and femora brownish black, tibiae and tarsi yellowish *anuda* Curran
 - . Mesoscutum fulvous yellow to fuscous; legs entirely yellowish 6
6. Parafacialia with two pale brown, small markings laterad of antennal base and below eye; surstylus cylindrical (Fig. 10) *prisca* n. sp.
 - . Parafacialia without markings; surstylus small (Fig. 3) or lobate (Fig. 12)..... 7
7. Epandrium with conical process before base of lobate surstylus (Fig. 1)..... 8
 - . Epandrium without ventral process; surstylus small, claw-like and bare (Fig. 3) *denticulimentula* n. sp.
8. T3-6 each with a pair of black spots..... *setulosa* Malloch
 - . T5-6 spotted 9

9. T5-6 each with a pair of black spots..... *parvinotata* (de Meijere)
 -. Only T5 with a pair of dark brown spots *bibaculigera* n. sp.
10. Thorax and abdomen brown to black 11
 -. Thorax and abdomen yellow to fulvous yellow 13
11. Mesoscutum with whitish gray median vitta extending to
 scutellum; abdominal tergites with fuscous markings
 *discoglauca* (Walker)
 -. Mesoscutum and scutellum without gray vitta; abdomen
 entirely black 12
12. Abdomen strongly shining; phallus without spinulae
 on ventral membrane *nigra* Kim
 -. Abdomen weakly shining, sparsely brownish-gray dusted;
 phallus spinulose at middle of dorsal side *signatifrons* (Kertész)
13. Wing hyaline 14
 -. Wing pale brown along anterior margin and brownish-
 clouded over m-cu *laticosta* (Thomson)
14. Arista plumose 15
 -. Arista pubescent 17
15. First antennal flagellomere brownish-black apically *affinis* Malloch
 -. First antennal flagellomere entirely yellow 16
16. T4-6 each with three black spots *palauensis* n. sp.
 -. Only T5 with a pair of black spots *spiculata* (Frey)
17. Mesoscutum with only a pair of strong postsutural acr 18
 -. Mesoscutum with 3 or 4 pairs of strong postsutural acr; male
 T5-6 with black spinulae along ventro-lateralmost margins
 *acrostichalis* (de Meijere)
18. First antennal flagellomere yellow; T4-5 each with brown
 median and lateral spots; postgonite with two teeth (Fig. 16)
 *notabilis* n. sp.
 -. First antennal flagellomere brown; T4-6 each with black median
 fascia and lateral spots; postgonite with 6-8 teeth
 (Fig. 14) *carolinensis* n. sp.

Subgenus *Minettioides* Malloch

Only one species, *Homoneura (Minettioides) anuda* Curran, has been known from Guam, Marshall Is. and Solomon Is. Curran (1936) described the presence of ia which is poorly developed, and stated that *anuda* does not belong to the genus *Minettia* Robineau-Desvoidy, 1830, but certainly to



Figs 1-2. Male genitalia of *Homoneura (Minettioides) bibaculigera* n. sp. (holotype)
 1, Epandrium and phallus, lateral view; 2, hypandrium and phallus, ventral view. c, cercus; ep, epandrium; hy, hypandrium; pa, phallapodeme; ph, phallus; ss, surstylus; vp, ventral process of epandrium. Scale= 0.1 mm.

Homoneura. At present the following eight species including four new species occur in Micronesia.

1. *Homoneura (Minettioides) anuda* Curran

Homoneura anuda Curran, 1936: 39.

Homoneura (Homoneura) anuda, Malloch, 1940 : 143 (as *H. hawaiiensis*);
 Evenhuis and Okadome, 1989: 585.

This species belongs to the subgenus *Minettioides* by the presence of a weak ia. It is readily distinguished from its congeners by the gray-dusted blackish mesoscutum and scutellum except for the yellow scutellar margin (confirmed by photos of the holotype male taken by S. D. Gaimari).

Distribution: Micronesia (Guam, Marshall Is.); Solomon Is.

2. *Homoneura (Minettioides) bibaculigera* Sasakawa, n. sp. (Figs 1-2)

Male. Fulvous yellow; head very sparsely pruinose; occiput with dorso-median setulose part black; gena and postgena yellow; antenna fulvous; palpus yellow; thorax sparsely pruinose, posterior margin of mesoscutum, scutellum and pleura yellowish; T5 with a pair of dark roundish spots; legs yellow. Wing hyaline, very faintly tinged with brownish yellow, without dark markings; calypter with margin and fringe pale yellowish brown; halter yellow.

Frons narrower than long, slightly narrower than eye, almost parallel-sided, sparsely scattered with pale brown setulae on lateral sides (below level of upper or) and ventral one-third; parafrontalia linearly projecting above eye-margin in profile; or two, equal in length; oc slender but long; face flat; gena about 1/8 of eye height; pm seven or eight; first antennal flagellomere 1.5 times as long as wide; arista missing. Mesoscutum with 0+3 dc, 10-12 rows of acr; ia and prsc long. Wing: C-index 3.8, r-m at middle of discal cell, 4V-index 2.4, 5V-index 0.25. Legs: f_1 with ctenidium and four or five pv, f_2 with four or five a, f_3 with one a; all tibiae with pd, stout on t_2 ; t_2 with two long and one short spurs. Protandrium almost circular but not entirely fused on ventral side, slightly longer than epandrium in dorsal side and with a row of marginal setae dorsally. Genitalia: Epandrium (Fig. 1) with a conical process before base of lobate surstylus; hypandrium (Fig. 2) only well-developed on lateral sides, gonites lacking; phallus with lateral sclerites longer than dorso-median ones, phallapodeme shorter than phallus.

Body length 3.8 mm, wing length 3.4 mm.

Female. Unknown.

Holotype male (USNM), Federated States of Micronesia, Yap, Ngulu Atoll, Ngulu I., 3.x.1952 (NK); abdomen and genitalia in a polyethylene tubule.

Distribution: Micronesia (Caroline Is.).

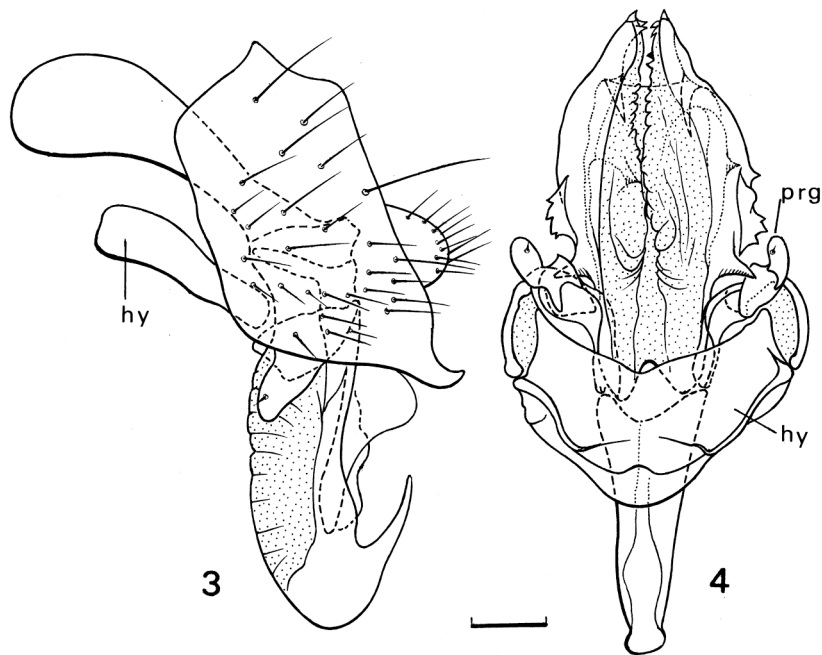
Remarks. This species is similar to Oriental *H. (M.) orientis* (Hendel, 1908) in having the two-spotted T5, but is easily distinguishable by the presence of the conical ventral processes on the epandrium in addition to the surstylus (see Sasakawa, 1992, fig. 10, genitalia of *orientis*) and the absence of the gonites. This epandrial process is quite similar to those of *parvinotata* (de Meijere) and *setulosa* Malloch in the shape, but the differences in the abdominal maculation and the structure of phallus are striking among them.

Etymology. The specific name refers to the phallus with a pair of rod-like dorsal sclerites (Latin, *bi-*, two; Latin, *baculum*, rod; Latin, *gera*, to bear).

3. *Homoneura (Minettioides) denticulimentula* Sasakawa, n. sp. (Figs 3-4)

Male. Fulvous yellow; parafacialia whitish pruinose; palpus and legs yellow; thorax and abdomen weakly shining, the latter pale brown and with a pair of black spots on T6. Wing hyaline, faintly tinged with brownish yellow.

Frons longer than wide, almost as wide as eye, with minute setulae below level of upper or; oc about 2/3 length of lower or which is slightly shorter than the upper; face flat but antennal grooves distinct; eye 1.2 times as high as broad; gena 1/6 height of eye; parafacialia with seven or eight setulae along ventral margin; pm three or four; first antennal flagellomere 1.5 times as long as wide; arista slightly shorter than eye height, pubescent. Mesoscutum with 0+3 dc, six rows of acr, one pair of median acr-rows at level of second dc almost equal to or slightly shorter than prsc which is almost equal to or slightly shorter than first dc, ia about 1/3 length of first dc, ipa slightly shorter than opa; katepisternum with a short seta before stpl. Wing: C-index 3.7-3.8, r-m at middle of discal cell, 4V-index 1.8, 5V-index 0.17-0.20. Legs: f_1 with three pv, f_2 with four or five a; t_2 with three spurs, of which outer one



Figs 3-4. Male genitalia of *Homoneura (Minettioides) denticulimentula* n. sp. (paratype)
See Figs 1-2. prg, pregonite.

shorter than inner two and middle one longest; pd on t_3 weakest. Protandrium semicircular in caudal view, shortly extended ventrally. Genitalia: Surstylus small, pointed apically; hypandrium broad but weakly sclerotized; pregonite small, with one or two sensory setulae near apex; postgonite membranous, only sclerotized marginally; phallus sclerotized laterally, ending in a pair of claw-like processes, and with many denticulate processes on dorsal, lateral and apical parts; phallapodeme shorter than phallus.

Body length 3.7-4.2 (3.8 in holotype) mm, wing length 3.2-3.5 (3.5 in holotype) mm.

Female. Unknown.

Holotype male (USNM), Federated States of Micronesia, Pohnpei, Kapingamarangi Atoll, Hare I., 9.viii.1954 (WN). Paratypes: 2♂, same data as holotype, swept on *Vigna* and *Ipomoea* along lagoon shore.

Distribution: Micronesia (Caroline Is.).

Remarks. This species is unique in the presence of a pair of black spots on T6 only and many denticules on the phallus, thus differing from all the known Oriental-Pacific species.

Etymology. The specific name refers to the denticulate phallus (Latin, *denticulatus*, with small teeth; Latin, *mentula*, penis).

4. *Homoneura (Minettioides) forcipata* (Kertész)

Lauxania (Minettia) forcipata Kertész, 1913: 100.

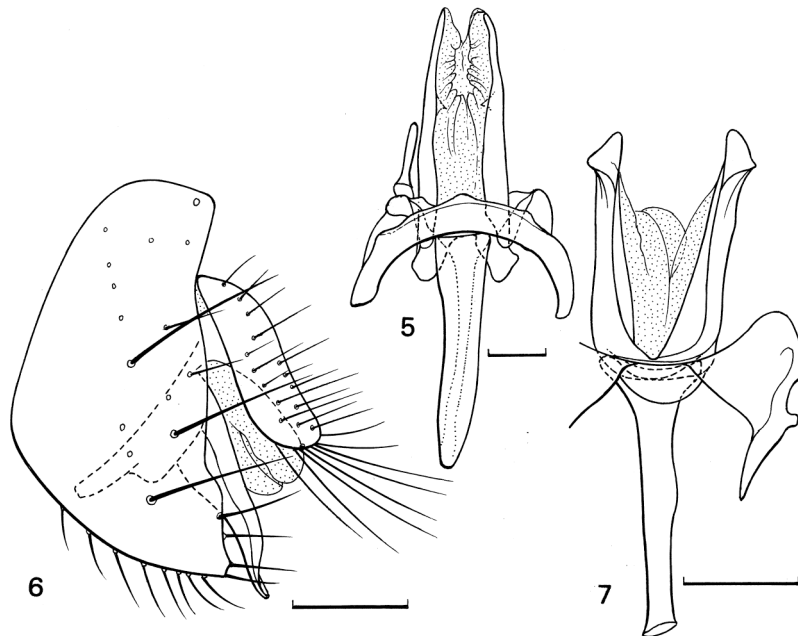
Homoneura (Homoneura) forcipata, Shewell, 1977: 203

This yellow to fulvous yellow species is characterized by having the plumose arista (dorsal longest hair almost as long as width of first flagellomere) and a pair of black, round spots on T5 (rarely on T4 too). Other main characters are as follows: thorax shiny, mesoscutum with eight rows of acr and ia 1/2-4/5 length of prsc; wing length 2.5 (2.2-2.8) mm; male genitalia: see Sasakawa, 1992, fig. 19.

Variation: In the Chuuk population, only T5 is mostly spotted, while in the Pohnpei population T4-5 or -6 (paler on T4 and smaller on T6) are more frequently spotted than on T5 only, especially in females.

Specimens examined: FEDERATED STATES OF MICRONESIA: CHUUK (Truk): 9♂18♀, Moen I., Civ. Ad. Area, 1-26.iii. & 1.iv.1949 (RP) (USNM); 1♂, Moen I., Mt. Tonaachau, 25.iv.1949 (RP); 1♂2♀, Moen I., Mt. Teroken (80 m), 6.ii.1953, (JG, light trap) (BPBM); 3♂5♀, Tol I., Oleij, 3-11.iv.1940 (KY) (KU); 1♂1♀, Tol I., Mt. Uniböt (32 m), 30.xii.1952 (JG, light trap); 2♀, Pata I., Sabote-Epin, 10.iv.1940 (KY) (KU); POHNPEI (Ponape): 5♀, Kolonia, 28-29.xii.1937 & 8.i.1938 (TE) (KU); 1♀, Kolonia, 4.viii.1939 (SH) (KU); 7♂15♀, Pohnpei, Agric. Exp. Stat., vii-ix. 1950 (PA) & 7-20.i.1953 (JG, light trap) (BPBM); 1♂2♀, Pohnpei, Mt. Tamatamansakir (180 m), 11. & 17.i.1953 (JG); 1♂4♀, Kolonia, 20.i.1953 (JC) (BPBM); 1♂, Kolonia, vii-viii.1959 (MW) (USNM).

Distribution: Micronesia (Caroline Is.); Taiwan, Malaysia (Pen.). New to Micronesia.



Figs 5-7. Male genitalia of *Homoneura (Minettioides) grossa* (de Meijere) (5) and *H. (M.) longisetosa* n. sp. (6-7) (holotype)

5. *Homoneura (Minettioides) grossa* (de Meijere) (Fig. 5)

Lauxania grossa de Meijere, 1914: 229.

Homoneura (Homoneura) grossa, Malloch, 1929a: 51.

This large, fulvous yellow species is characterized by the large size with wing 4.28 (3.8-4.6) mm in length, plumose arista (dorsal longest hair about 1.5 times as long as width of first flagellomere), and the presence of 10 dense rows of acr and two setae just in front of sa (longer one usually 1/3, rarely 1/2 length of sa).

Male genitalia are distinctive: epandrium with surstylus was figured characteristically by Malloch (1929a, fig. 83); protandrium ringed; S7+8 narrow but slightly projected anteriorly at middle or entirely separated into two lateral sclerites; hypandrium U-shaped; pregonite slender cylindrical and bare; postgonite lacking; phallus sclerotized laterally and with a pair of strong teeth dorsally; phallapodeme almost equal to phallus in length.

Specimens examined:

BELAU (Palau Is.): 1 ♀, Babeldaob I., Ulimang, 14.xii.1949 (HD) (USNM); 1 ♂ 2 ♀, Koror I., 7.ix.1952, 25.iii. & 16.iv.1953, (JB, light trap) (BPBM); 1 ♀, Peleliu I., 29.i.1948 (HD) (USNM); 1 ♀, Ulebsehel I., 24.iv.1957 (CS) (USNM).

YAP: 1 ♀, Colonia, viii.1952 (NK) (USNM); 1 ♀, Weloy, 15.vi.1957 (CS) (USNM); 1 ♀, Map, vii-viii.1950 (RG) (USNM).

Distribution: Micronesia (Palau Is., Caroline Is.); Indonesia (Java, Maluku). New to Micronesia.

Remarks. Although this species has a distinct seta before sa as seen in species of the subgenus *Chaetohomoneura*, it does not have the typical row of posterior bristles on the mid tibia. Therefore it belongs to *Minettioides* based on the presence of postsutural ia.

6. *Homoneura (Minettioides) longisetosa* Sasakawa, n. sp. (Figs 6-7)

Male. Fulvous yellow; first antennal flagellomere and palpus yellow, arista pale brown; mesoscutum weakly shining, darker than scutellum and pleura; T4-5 each with a pair of brown, round spots on sublateral sides; legs yellow, two distal tarsomeres brown-tinged. Wing hyaline, very faintly tinged with yellow; calypter yellowish, with margin pale yellowish brown; halter yellow.

Frons as wide as eye; lower or shorter than the upper; first antennal flagellomere almost as long as wide; arista distinctly plumose, with dorsal longest hair as long as width of first flagellomere (frons and face in bad condition). Mesoscutum with 0+3 dc, eight rows of acr, prsc shorter than first dc, ia about 1/4 length of third dc; katapisternum with a seta before stpl. Wing: C-index 4.0, r-m before middle of discal cell, 4V-index 1.5, 5V-index 0.16. Legs: f₁ with ctenidium and two pv, f₂ with four or five a; t₂ with three spurs almost equal in length; all tibiae with pd. Protandrium as long as epandrium in dorsal side, horseshoe-shaped but connected ventrally with narrow membranous stripe, with two setae around spiracle. Genitalia: Epandrium weakly projected on postero-ventral apex, without surstylus; cercus

with six long setae ventro-distally; hypandrium only well-developed on lateral side, gonites lacking; phallus with lateral sclerites almost as long as phallopodeme, membranous between sclerites.

Wing length 2.7 mm.

Female. Unknown.

Holotype male (BPBM No. 16627), Federated States of Micronesia, Pohnpei, Kolonia, Agric. Exp. Stat., alt. 16 m, 8.i.1953 (JG, light trap); distal abdomen and genitalia in a polyethylene tubule.

Distribution; Micronesia (Caroline Is.).

Remarks. This new species differs from Oriental *H. (M.) forcipata*, *sexmaculata* Sasakawa, 1992 and *spiculata* (Frey, 1927) in number of dark spots on the abdominal tergites (on T5 only in *forcipata* and *spiculata*, and T4-6 in *sexmaculata*). The male genitalia of this species are very simple in the structures as in *forcipata* and *sexmaculata* without the surstylus and gonites, but the postero-ventral apex of epandrium is more or less projected posteriorly and the cercus is provided with the extremely long ventro-distal setae.

Etymology. The specific name refers to the long setae on the cercus.

7. *Homoneura (Minettioides) parvinotata* (de Meijere) (Fig. 8)

Lauxania parvinotata de Meijere, 1914: 231.

Homoneura (Minettioides) parvinotata, Malloch, 1929: 65.

This fulvous yellow species is distinct in the following characteristics: arista sparsely pubescent (longest pubescence distinctly longer than basal thickness of arista, although Malloch stated that the hairs are not much longer than basal thickness); T5-6 each with a pair of black spots but very small on T6; wing length 3.0-3.1 mm; protandrium horseshoe-shaped; epandrium with a pair of conical processes just before bases of lobate surstyli; hypandrium largely membranous except for narrow lateral sclerites, pregonite papillate and with a seta near apex.

Specimens examined: GUAM: 1 ♀, Mariana Is., Guam, Pago Bay, 2.vi.1945 (HD) (USNM); 1 ♀, Metizo, x.1957 (NK) (USNM).

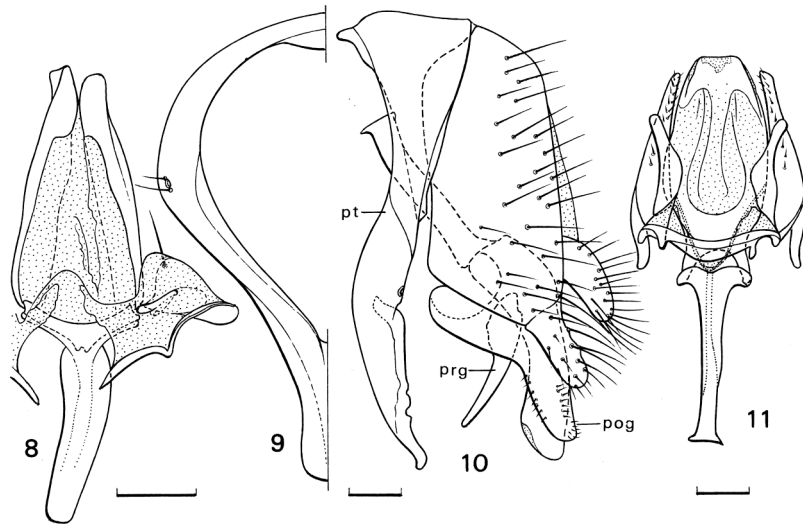
BELAU (Palau): 1 ♂, Pulo Anna, 13.ix.1952 (NK) (USNM); 1 ♀, Sonsorol, 13.ix.1952 (NK).

FEDERATED STATES OF MICRONESIA: CHUUK: 1 ♀, Dublon I., 1.ii.1948 (KM) (BPBM); 7 ♂ 12 ♀, Moen I., Mt. Tinaachan and Civ. Ad. Area, iii-iv.1949 (RP) (USNM); 1 ♂ 2 ♀, Moen I., Mt. Teroken, 6.ii.1953 (JG) (BPBM); 2 ♀, Pata I., Sabote-Epin, 10.iv.1940 (KY) (KU); 3 ♂ 8 ♀, Tol I., Olej, 3-11.iv.1940 (KY) (KU) & Tol I., Mt. Unibot, xii.1952 (JG) (BPBM); POHNPEI: 2 ♂ 2 ♀, Pohnpei, xii.1937-i.1938 (TE) (KU); 2 ♂ 3 ♀, Mt. Tamatamasakir, i.1953 (JG) (BPBM); 8 ♂ 16 ♀, Agric. Exp. Stat., i.1953 (JG).

Distribution: Micronesia (Mariana Is., Palau Is., Caroline Is.); India (Assam), Indonesia (Java), Philippines (Mindanao). New to Micronesia.

8. *Homoneura (Minettioides) prisca* Sasakawa, n. sp. (Figs 9-11)

Male. Head fulvous, slightly dusted with grayish white; ocellar triangle



Figs. 8-11. Male genitalia of *Homoneura (Minettioides) parvinotata* (de Meijere) (8) and *H. (M.) prisca* n. sp. (9-11) (paratype) 9, protandrium, left half, posterior view. pog, postgonite; pt, protandrium.

brown; frontalia laterally, and face transversely at middle and along ventral margin or on ventral half more or less browned, more darkened at lateral ends of median transverse band; ventral margin of frontalia, parafacialia and gena yellowish; setulose area of occiput faintly brown-tinged; parafacialia densely grayish-white pollinose, with pale brown, small triangular spot laterad of antennal base and the other large one on gena just below ventralmost margin of eye; antenna and palpus orangish to brownish yellow, arista brown except for base. Thorax brown in ground color but lateral side of mesoscutum and scutellum paler, densely whitish gray dusted, humerus and lateral margin of scutellum yellow. Abdomen fulvous, slightly shining, sparsely pollinose, T1-2 laterally and T3-4 entirely browned except for yellowish posterior margins, T5 with a pair of blackish spots extending almost throughout whole length of tergite, T5-6 narrowly blackish along lateralmost margins; protandrium and epandrium pale brown, gray-whitish pollinose. Wing hyaline, slightly tinged with yellow, faintly or not clouded around both cross veins; halter yellow. Legs fulvous, tibiae and tarsi yellow.

Frons 1.2-1.3 times as long as wide, as wide as or narrower than eye, slightly diverging ventrally, setulose below level of upper or; parafrontalia slightly projecting above eye in profile, upper or longer than lower or; oc 1/2 length of lower or; face slightly convex at ventro-median half; eye 1.3-1.4 times as high as broad, with very sparsely minute hairs; gena 1/6-1/9 height of eye; pm three, slightly longer than 5-8 parafacial setae; first antennal flagellomere 1.5-2 times as long as wide, slightly narrowed apically; arista shorter than eye height, pubescent, with longest pubescence approximately

1/4 as long as width of first flagellomere; palpus densely setulose. Mesoscutum with 0+3 dc, six rows of acr, prsc about 2/3 length of third dc, ia about 1/3 length of third dc, ipa almost equal to opa in length; anterior stpl slightly shorter than the posterior. Wing: C-index 3.0 (2.8-3.4), r-m before midpoint of discal cell, 4V-index 1.42 (1.3-1.6), 5V-index 0.14 (0.12-0.16). Legs: f_1 with ctenidium and 4-6 pv, f_2 with 6-8 a, f_3 with 6-8 av; t_2 with three spurs, of which outer one shortest; pd on t_3 weaker than those on t_{1-2} . Protandrium ringed, with distinct process projected ventrally and two setae around spiracle. Genitalia: Epandrium with surstylus distinctly projected, cylindrical and setose; hypandrium narrow, pregonite long and bare, postgonite longer than pregonite and setulose distally; phallus sclerotized on lateral sides, as long as phallapodeme.

Body length 3.3-4.0 (3.5 in holotype) mm, wing length 2.9-3.5 (3.5 in holotype) mm.

Female. Similar to male, but T5-6 each with a pair of large spots and T5-7 blackish along lateralmost margins; body length 3.5-4.8 mm, wing length 3.0-4.0 mm.

Variation. The dark bands on T3-4 are sometimes interrupted broadly at middle, and rarely quite absent.

Holotype male (BPBM No. 16377), Federated States of Micronesia, Chuuk, Wela, 29.vii.1939 (TE). Paratypes: GUAM: 2♂1♀, Mt. Alifan, iv.1940 (NK) (USNM); 1♀, Pago Bay, 2.vi.1945 (HD) (USNM); 1♀, Pt. Oca, 23.vi.1945 (GB) (BPBM); 2♂, 1 mil. SE of Asan, 13.x.1947 (HD) (USNM); 1♂, Pt. Ritidian, x.1952 (NK) (USNM); 1♀, Mt. Balanos, viii.1957 (NK). BELAU (Palau): 1♂, Koror I., Arabakatsu, 9.iv.1939 (S. Miyake) (KU); 13♂ 10♀, Koror I., 30.viii.1951, 9 & 18.xii.1952, 2-10.i.1953, 24-25.iii.1953, 6-18.iv.1953, 24-26.iv.1957 (JB, JG, CS) (BPBM, USNM); 1♀, Babeldaob I., 19.xii.1947 (HD) (USNM); 1♀, Babeldaob I., Ngerehelong, 6.v.1957 (CS) (USNM); 1♀, Malakal I., 2.v.1957 (CS) (USNM); 2♀, Ngaiangl Atoll, 9.v.1957 (CS) (USNM); 2♂1♀, Ngarmalk I., 23.iv.1957 (CS, light trap) (USNM); 1♀, Sonsorol I., 13.ix.1952 (NK) (USNM); 1♀, Tobi I., 12.ix.1952 (NK) (USNM).

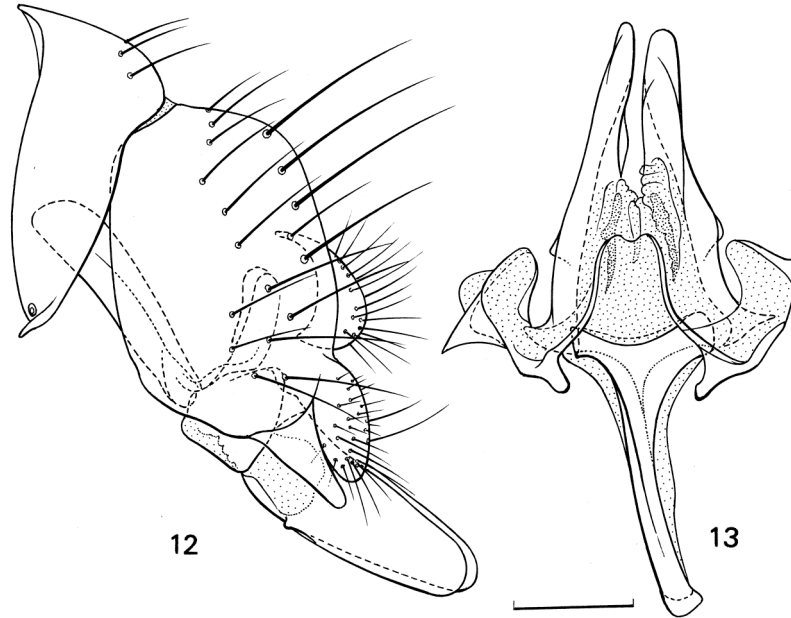
FEDERATED STATES OF MICRONESIA: YAP- Yap I., 6♂6♀, Colonia, vii-viii.1950 (RG) (USNM); 4♂6♀, Kanif Dist., Ruul Dist. & Tomil Dist., vii-viii.1950 (RG) & 13.vi.1957 (CS) (USNM); 2♂3♀, viii. & x.1952 (NK) (USNM); 1♀, Mt. Matade, 2.xii.1952 (JG) (BPBM); 1♂1♀, Dinay, 24.v. & 7.vii.1976 (ML); 1♂, Nif-Guilifez, 7.ix.1939 (TE) (KU); 1♂ 1♀, Rul-Nif, 8.ix.1939 (TE) (KU); 1♀, Mokil Atoll, 27.i.1953 (JG) (BPBM); 5♂1♀, Fais I., 5.x.1952 (NK) (USNM); CHUUK- 1♀, Dublon I., 25.xii.1935 (ZO) (KU); 1♂, Toloas-Erin, 2.iv.1940 (KY) (KU); 1♂, Tol Netutu, 10.iv.1940 (RP) (USNM); 3♂3♀, Moen I., 1-7.iii.1940, x.1952. & 6.ii.1953 (JB, JG, RP) (BPBM, USNM); 1♂, Faraulap Atoll, Faraulap I., 4.ii.1953 (JB) (BPBM); 1♀, Faraulap Atoll, Pigue I., 21.ix.1952 (NK) (USNM); 4♂1♀, Ifaluk Atoll, Ifaluk I., 4-9.ix.1953 (MB); 1♂1♀, Satawal I., 22.ix.1952 & 6.ii.1953 (NK & JB) (USNM, BPBM); 2♂4♀, Woleai Atoll, Falalis I. & Utegal I., 20.ix.1952 & 3.ii.1953 (NK & JB) (USNM, BPBM); 16♂19♀, Kapingamarangi Atoll, Hare I., Machiro I., Ringutoru I., Tariha I. & Werua I., 2-16.vii. & 25.viii.1954 (WN & HT) (BPBM);

POHNPEI- 1♂1♀, Kolonia, 1. & 21.i.1938 (TE & K. Kuya) (KU); 13♂11♀, Kolonia, 16.iii.1948, 9.i.1953, 20.i.1953 & 4.xi.1953 (HD, JC, JG & JB) (BPBM, USNM); 2♀, Kosrae (Kusaie) I., Lelo, 2.xii.1937 (TE) (KU); 1♀, Kosrae, Malem, 14.xii.1937 (TE) (KU); 6♂2♀, Kosrae, Matunlik (22 m), 6-18.ii. & 1-21.iv.1953 (JC) (USNM); 2♂, Kosrae, Matanluk (Yepan), 23-24.i.1953 (JG) (BPBM); 2♀, Kosrae, Lelu I., 8.ii.1953 (JC); 1♂, Kosrae, Weye Cave, 10.iii.1953 (JC) (USNM); 1♂, Kosrae, Hill 1010 (300 m), 13.iv.1953 (JC) (USNM); 1♀, Kosrae, Mt. Matante (380 m), 23.iv.1953 (JC) (USNM); 1♂2♀, Majuro Atoll, Uliga I., 24.ix.-2.xi.1953 (JB) (BPBM); 2♂7♀, Lib I., 23.x.1953 (JB) (BPBM); 2♂2♀, Alinglapalapa Atoll, Wotje I., 26.x.1953 (JB) (BPBM). MARSHALL IS.: 1♀, Arno Atoll, 21.vi.1950 (IL) (BPBM); 1♀, Enewetak Atoll, Japtan I., 11.x.1944 (SE) (USNM); 3♂1♀, Enewetak Atoll, Igurin I., 20.viii.1956 (CC) (USNM); 1♀, Jaluit Atoll, Jabor I., 1.x.1958 (JG) (BPBM); 1♀, Jaluit Atoll, Majurirek I., 26.iv.1958 (JG) (BPBM); 7♀, Jaluit Atoll, Pinlep I., 25-28.iv.1959 (JG) (BPBM); 2♂, Jaluit Atoll, Elizabeth I., 11.xi.1964 (BP) (BPBM); 1♂, Koror, 7.ix.1952 (JB, light trap) (BPBM); 1♀, Kili I., 2.x.1953 (JB) (BPBM); 2♂, Kwajalein Atoll, 9.ix.1956 (CC) (USNM); 1♂1♀, Kwajalein Atoll, Big Buster I., 27.x.1964 (BP) (BPBM); 1♂, Kwajalein Atoll, Ennubirr I., 28.x.1964 (BP) (BPBM); 1♂3♀, Kwajalein Atoll, Carlson I., 31.x.1964 (BP) (BPBM); 5♂7♀, Kwajalein Atoll, Little Buster I., 2.xi.1964 (BP) (BPBM); 1♂2♀, Lae Atoll, Lae, 14.x.1953 (JB) (BPBM); 2♂2♀, Namu Atoll, Namu I., 24.x.1953 (JB) (BPBM); 1♂, Ujelong Atoll, Ujelong I., 18.x.1953 (JB) (BPBM); 3♂5♀, Wotho Atoll, Wotho I., 20.x.1953 (JB) (BPBM). KIRIBATI: Tungaru (Gilbert) Is.: 1♂, Abemama Atoll, 25-30.v.1944 (JE) (BPBM); 2♀, Abemama Atoll, Kariatebike I., i.1970 (NK) (USNM); 1♀, Abemama Atoll, Kenna I., 17.i.1970 (NK) (USNM); 5♂9♀, Abemama Atoll, Tebanga I., i.1970 (NK) (USNM); 5♂2♀, Makin Atoll, Butaritari I., 13-15.xi.1964 & xii.1957 (BP & NK) (BPBM, USNM); 2♂3♀, Tarawa Atoll, Bairiki I., xii.1957 (NK) (USNM); 1♂1♀, Tarawa Atoll, Banraeaba I., xii.1957 (NK); 8♂11♀, Tarawa Atoll, Bikenibeu I., xi.1957 & i.1970 (NK); 1♀, Tarawa Atoll, Bonriki I., 30.i.1970 (NK); 4♂6♀, Tarawa Atoll, Eret I., xii.1957 (NK); 2♂1♀, Tarawa Atoll, Marenanuka I., xii.1957 (NK); 3♂3♀, Tarawa Atoll, Naanikai I., xii.1957 (NK); 2♂7♀, Tarawa Atoll, Teoraereke I., xii.1957 (NK) (USNM).

Distribution: Micronesia (Palau Is., Caroline Is., Marshall Is., Gilbert Is.).

Remarks. This new species is distinct in the presence of two brownish spots on the parafacialia, two brownish transverse bands on the face, the facial ventro-median convexity, and the long protandrial ventral process, pregonite and postgonite, differing from all the known Oriental-Pacific species.

Etymology. The specific name refers to the plesiomorphic character states (Latin, *priscus*) in the male genitalia.



Figs 12-13. Male genitalia of *Homoneura (Minettioides) setulosa* Malloch.

9. *Homoneura (Minettioides) setulosa* Malloch (Figs 12-13)

Homoneura (Minettioides) setulosa Malloch, 1929b: 210.

This yellowish species was described by only a single male (BPBM Type No. 532, not female) from Tau, Samoa. It is widespread in Micronesia, and is easily recognizable by three or four pairs of black round spots on T3-6 (spots on T3 pale, small and sometimes absent, those on T4-6 about 1/2 as long as tergal length) and the short-haired arista (dorsal longest hair nearly 1/2 as long as width of first flagellomere). Body length 2.6-3.8 mm, wing length 2.5-3.2 mm (body length 5 mm in the original description was measured inaccurately). The presence of the ctenidium on the fore femur as described in the original description (derivation of the specific name) is not peculiar, because it is usual feature in the species of *Homoneura*.

The male genitalia of this species are similar to those of *parvinotata* in the presence of conical ventral process on the epandrium, but its surstylus is narrow and hypandrium is provided with the distinct median lobe projected dorsally.

Specimens examined: MARIANA IS.: 1 ♀, Saipan, Mahetog area, 5.v.1945 (HD, light trap) (USNM); 2 ♀, Agiguan, 25.v-4.vi.1952 (YK) (BPBM); 1 ♂ 1 ♀, Rota, 22.vi.1952 (YK); 6 ♂ 16 ♀, Guam, Pt. Oca, Pt. Pati, Pt. Ritidian & Pago Bay, v-viii.1945 (GB, HD, JG & NK) (BPBM, USNM); 1 ♀, Guam, Metizo, x.1957 (NK) (USNM); 1 ♂, Guam, Yigo, ii.1958 (NK).

BELAU: 1 ♂ 1 ♀, Sonsorol I., 13.ix.1952 (NK) (USNM); 1 ♂ 1 ♀, Pulo Anna, 13.ix.1952 (NK).

FEDERATED STATES OF MICRONESIA: 1♂2♀, Yap, Ngulu Atoll, Ngulu I., 3.x.1952 (NK) (USNM); 1♀, Pohnpei, Woleai Atoll, Falalis I., ix.1952 (NK) (USNM); 1♂1♀, Pohnpei, Kolonia, 29.i.1948 (HD) (USNM).

Distribution: Micronesia (Mariana Is., Palau Is., Caroline Is.); American Samoa. New to Micronesia.

Subgenus *Homonura* van der Wulp

10. *Homoneura* (*Homoneura*) *acrostichalis* (de Meijere)

Lauxania acrostichalis de Meijere, 1915: 51.

Homoneura acrostichalis, Malloch, 1929b: 207; 1940: 143; Curran, 1936: 38; Shewell, 1977: 200; Sasakawa, 1982: 346; Evenhuis, 1985: 384; Evenhuis & Okadome, 1989: 585.

Homoneura dimorpha Malloch, 1932: 35. **syn. nov.**

This is one of the commonest species in the Oriental-Pacific area. This species is distinctive in the presence of three or four pairs of strong postsutural acr in both sexes and numerous black spinulae along the lateralmost margins of T5-6 in male, and in having the forwardly hairpin-bended tip of the phallus and three spermathecae (140x120, 150x130, 200x150 µm). Wing length 3.3-3.8 mm.

Specimens examined: The adults occur throughout the year on the following islands; numerous males and females collected on: BONIN IS.: Ani Jima, Chichi Jima, Haha Jima, Hitomaru Jima, Muko Jima, Ototo Jima.

VOLCANO IS.: Iwo Jima.

MARIANA IS.: Agriguan, Agrihan, Anatahan, Guam, Pagan, Rota, Saipan, Tinian.

BELAU (PALAU IS.): Angaur, Auluptagel, Babeldaob, Koror, Malakal, Merir, Ngaiangle, Ngarmalk, Ngerkabesang, Ngesebus, Ngurukdabel, Peleliu, Pulo Anna, Sonsorol, Tobi, Ulebsehel.

FEDERATED STATES OF MICRONESIA: Chuuk, Elato, Fais, Faraulep, E. Fayu, Ifalik, Kapingamarangi, Kosrae, Lamotrek, Losap, Moen, Mokil, Ngulu, Nomwin, Pigue, Pohnpei, Satawal, Ulithi, Woleai, Yap.

WAKE: Peale I.

MARSHALL IS.: Ailinglapalap, Arno, Buster, Ebon, Enewetak, Ennubirr, Enybor, Igurin, Jaluit, Japtan, Kili, Kwajalein, Lib, Majuro, Mili, Namorik, Namu, Ujae, Ujelang, Wotho, Wotje.

KIRIBATI (GILBERT IS.): Betio, Bonaba, Butaritari, Eita, Tarawa.

Distribution: Micronesia; American Samoa, Western Samoa, Solomon Is., Cocos Is., Sri Lanka, Indonesia (Irian Jaya), Taiwan, Japan (Ryukyus).

Remarks. Malloch (1932) described *H. dimorpha* with the sexual dimorphism on the abdominal maculation, based on the specimens from Indonesia (Weim I., N. Misool, Irian Jaya). Although he noticed that this character is the difference in appearance from *acrostichalis*, it is not significant. Because the maculation of *acrostichalis* is very much variable among the individuals in both sexes as follows: usually only fasciated mesally on T5 in male (rarely in female; not on T4 as stated by Malloch) and spotted on the lateral sides in addition to median fascia in female T5 (as in *dimorpha*); sometimes not fasciated and spotted, or fasciated on T4 and T5 in male, or fasciated and spotted on T5 in male as in female; fasciated on T4,

and fasciated and spotted on T5 in male and female; fasciated and spotted on T5 and only fasciated on T6 in female; rarely fasciated and spotted on male and female T4(3)-6, fasciated and spotted on female T4-5. Other external characters including the epandrium given by Malloch are typical of *acrostichalis*. Therefore, *dimorpha* is synonymized with *acrostichalis*.

11. *Homoneura (Homoneura) affinis* Malloch

Homoneura (Homoneura) affinis Malloch, 1929a: 81.

This small, fulvous yellow species, with clear wings (2.1-2.6 mm in length), is characterized by the brownish-black apex (apical 1/3-1/2) of first antennal flagellomere, plumose arista, silvery whitish pruinose parafacialia, and short prsc. Male genitalia are characteristic of the claw-like surstylus and broadly membranous ventral side of the phallus; see Sasakawa, 1992, fig. 14.

Specimens examined: The adults are found commonly in March to October; many males and females collected in:

MARIANA IS.: Guam: 40♂44♀, Barrigada, Inarajan, Metizo, Nimitz Beach, Padang, Pago Bay, Pilgo River, Piti, Pt. Oca, Pt. Orote, Pt. Ritidan, Santa Rita, Talofoto, Tumon Bay, Umatac, Yigo, Ylig Bay, Yona, Mts. Alifan, Lamlam, iii, v-vi, viii-x. (GB, RB, HD, JG, NK, FS, OS, RU) (BPBM, USNM); 3♂1♀, Guam, Piti, 2. & 23.v.1936 (RU) (USNM) (det. By Malloch).

BELAU: 38♂43♀, Angaur I., Babeldaob I. (Ngardmau, Ngerehelong, Ulimang), Koror I., Malakal I., Ngaiangle Atoll, Ngesebus I., Peleliu I., iii-v, viii. xii (HD, EH, ML, CS) (USNM).

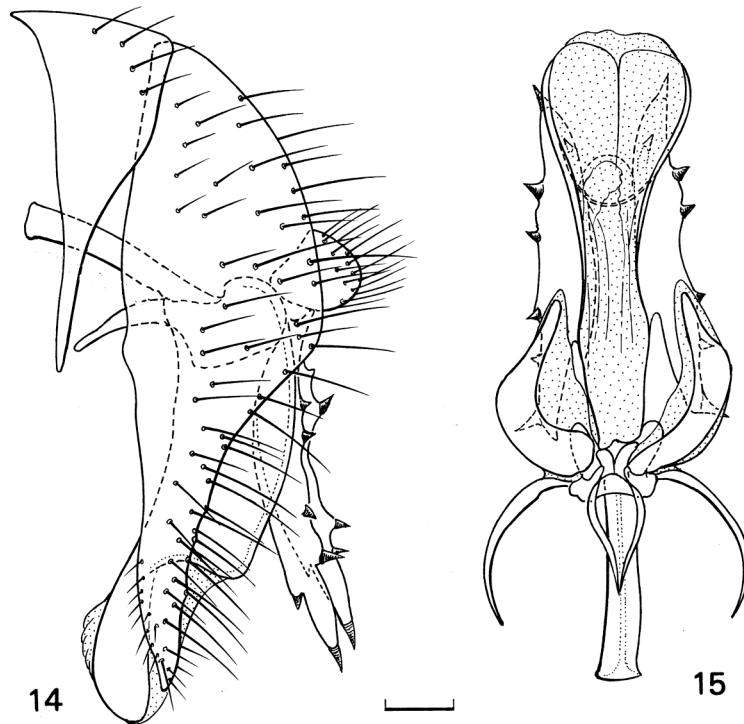
FEDERATED STATES OF MICRONESIA: Yap: 40♂43♀, Colonia, Dugor, Gagil Dist., Rull Dist., Tomil Dist.), iii, vii-viii, x (JB, RG, NK, CS) (BPBM, USNM); 1♂3♀, Map I., vii-viii (RG, NK) (USNM); 7♂5♀, Rumung I., vii-viii, x (RG, NK, CS) (USNM).

Distribution: Micronesia (Mariana Is., Palau Is., Caroline Is.); Cocos I., Indonesia (Java), Malaysia (Pen., Sabah), Viet Nam, Singapore, Philippines. New to Micronesia.

12. *Homoneura (Homoneura) carolinensis* Sasakawa, n. sp. (Figs 14-15)

Male & female. Fulvous yellow; ocellar triangle, setulose area of occiput and arista brown; parafacialia weakly shining; face, parafacialia and gena yellowish, slightly pruinose; first antennal flagellomere brown except for ventral margin and base; palpus yellow; mesoscutum mat, slightly grayish pollinose; abdomen weakly shining, T3-6 each with a pair of brownish black, round, postero-lateral spots, T4-6 each with a black median fascia extending almost throughout entire length of tergite. Wing hyaline, faintly tinged with yellow anteriorly, not clouded around cross veins; halter yellow. Legs yellow.

Frons only a little longer than wide, slightly wider than eye (1.2-1.3 : 1), almost parallel-sided, with minute setulae sparsely on ventral half; oc 2/3-4/5 length of lower or which is situated distinctly closer to anterior margin of frons than to upper or; oh one or two between or; face flat; eye slightly higher than broad; gena 1/6-1/8 height of eye; pm two or three, longer than 5-7 parafacial setulae; first antennal flagellomere 1.3-1.5 times as long as



Figs 14-15. Male genitalia of *Homoneura (Homoneura) carolinensis* n. sp. (paratype)

wide; arista slightly longer than eye height, pubescent. Mesoscutum with 0+3 dc, six rows of acr but four sparse rows behind level of second dc, a pair of median acr-rows at level of second dc always strong (almost equal to prsc in length), ipa 2/3 length of opa; katapisternum with a seta before stpl. Wing: C-index 4.0-4.5, r-m almost at middle of discal cell, 4V-index 1.5-2.4, 5V-index 0.16-0.18. Legs: f_1 with ctenidium and usually two pv distally, f_2 with 3-5 a, t_2 with one long and one short spurs, pd on t_1 and t_3 weaker than that on t_2 . Protandrium horseshoe-shaped, well-extended ventrally and connected with a membranous ventral bridge. Male genitalia: Epandrium with extremely long surstylus which is slightly incurved and pointed on tip; hypandrium narrow at middle and with a pair of curved narrow sclerites laterally, pregonite distinctly narrowed apically, postgonite black and with 6-8 teeth; phallus 690 μm long, membranous on dorso-apical one-third and ventral side entirely; phallapodeme distinctly shorter than phallus.

Body length 2.73 (2.5-3.0, 2.6 in holotype) mm, wing length 2.5 (2.1-2.8, 2.7 in holotype)mm.

Holotype male (BPBM No. 16374), Federated States of Micronesia, Yap I., Giliman, 11.vi.1957 (CS). Paratypes: YAP, 1 σ^7 , Rul-Nif, 3.ix.1939 (TE) (KU); 1 σ^7 , Ruul Dist., vii-viii.1950 (RG) (USNM); 1 σ^7 , Yap, x.1952 (NK) (USNM); 2 σ^7 1 f , Dinay, 14.vii. & 15.xi.1976 (ML); BELAU: 1 σ^7 , Ngarmalk I., 23.viii.1957 (CS) (USNM); 1 σ^7 , Ulebesehal I., 24.iv.1957 (CS) (USNM); 1 f , Malakal I., 2.v.1957 (CS) (USNM); 2 f , Ngerkabesang I.,

13.v.1957 (CS) (USNM); 1 ♀, Babeldaob I., Ngerehelong, 8.v.1957 & 1 ♀, Ngarsung, 16.v.1957 (CS) (USNM).

Distribution: Micronesia (Caroline Is., Palau Is.).

Variation: Face is sometimes infuscated on dorsal halves of antennal grooves; mesoscutum is rarely provided with a pair of brown median vittae on anterior 2/3 of scutum, and usually with 1-3 pairs of postsutural acr (1/2-1/3 length of prsc) before usual strong one at level of second dc; lateral spots on T3-4 and median fasciae on T4-6 are rarely absent in both sexes.

Remarks. This species is related to Oriental *H. acrostichalis* and *philippinensis* Malloch, 1929a, and New Caledonian *subnuda* Malloch, 1940, with the clear wings, some long postsutural acr and spotted posterior tergites. However, the infuscated first flagellomere of antenna, elongate surstylus, and denticulate postgonite should readily distinguish it from all its allies. The characters of the surstylus and postgonite of this species are seen in the Australian *H. appendicula* Kim, 1994, but the numbers of dark spots on T4-5 and postsutural strong acr are quite different from each other.

13. *Homoneura (Homoneura) discoglauca* (Walker)

Ochthiphila discoglauca Walker, 1860: 147.

Homoneura (Homoneura) discoglauca, Shewell, 1977: 202; Evenhuis & Okadome, 1989: 586.

Lauxania viatrix de Meijere, 1910: 123; Curran, 1936: 37..

This fuscous species is unique in having a broad, whitish-gray pruinose vitta extending from frontalia to scutellum across mesoscutum, three whitish-gray pruinose stripes below level of prs and sa, along dorsal and ventral margins of anepisternum, and the silvery white pruinose, fulvous median fasciae and posterior margins on T2-6. Male genitalia are specific in the short and narrow surstylus projected posteriorly, and the presence of a tooth at middle of lateral sclerite of the phallus; see Sasakawa, 1992, fig. 11 and Kim, 1994, fig. 26.

Specimens examined: BELAU: 1 ♂1 ♀, Auluptagel I., i. & ix. (HD, NK) (USNM); 21 ♂8 ♀, Koror I., 2.xii.1947 (HD) (USNM), 30.vii.1951 (JG) (BPBM), 9.xii.1952 (JG) & 19.iv-3.v.1957 (CS) (BPBM, USNM); 15 ♂9 ♀, Malakal I., 2.v.1957 (CS) (USNM); 9 ♂10 ♀, Ngaiangle (Kayangel) I., 9.v.1957 (CS); 1 ♂, Ngarmalk I., 23.iv.1957 (CS); 8 ♂5 ♀, Ngerkabesang (Arakabesan) I., 13.v.1957 (CS); 6 ♂5 ♀, Babeldaob I., Ulimang, 10-25.xii.1947 (HD) (USNM); 46 ♂31 ♀, Babeldaob I., Ngerehelong, 6-8.v., Ngardmau, 10.v., Ngiwal, 21.v., Ngardok, 22.v., Melekeiok, 23.v., Airai, Ngarimal R., 26.v., Ngaremlengui, 2-3.vi. & Imeliik, Notkeng, 5.vi.1957 (CS) (USNM); 2 ♂1 ♀, Babeldaob I., E. Ngatpang (65 m), 10.iii.1952 (JG) (BPBM).

FEDERATED STATES OF MICRONESIA: YAP: 3 ♂10 ♀, Yap I. & Rumung I., vii-viii.1950, x. & 22.xi.1952 (RG & NK) (USNM); 1 ♂1 ♀, Yap I., Mt. Madaade (Matade) (80 m), 2.xii.1952 (JG) (BPBM); CHUUK: 2 ♀, Tol I., Sabote-Epin, 5.iv.1940 (KY) (KU); 8 ♂5 ♀, Moen I., 31.vii.1946 (HT) & 26.iii.1949 (RP) (USNM); 5 ♂3 ♀, Mt. Teroken, 27.xii.1952 (JG) (BPBM); POHNPEI: 2 ♀, Nihpiti (Nipiti), 20.vii.1939 (TE) (KU); 4 ♂3 ♀, Nanipil (Nampir), 25.ii.1948 (HD) (USNM); 10 ♂10 ♀, Kolonia, Agric. Exp.

Stat. & Mt. Tamatamansakir (180 m), 6-20.i. & 29.i.1953 (JG) (BPBM); Kosrae: 1♂ 1♀, Lele (Lelo) I., 12.xii.1937 (TE) (KU); 2♀, Matanluk (Yepan) & Mt.Fenkni, 23. & 24.i.1953 (JG); 5♂8♀, Wakap (390 m), Hill 1010 (300 m), Mt. Matante (380 m), 7-23.iv.1953 (JC) (USNM).

Distribution: Micronesia (Palau Is., Caroline Is.); Solomon Is., Australia (Qld, NT), Indonesia (Java, Krakatau, Lombok, Sulawesi), Malaysia (Pen.), Viet Nam, Taiwan, Japan (Ryukyus). New to Micronesia.

14. *Homoneura (Homoneura) laticosta* (Thomson)

Geomyza laticosta Thomson, 1869: 598.

Homoneura (Homoneura) laticosta, Malloch, 1929a: 80, 1940: 141; Curran, 1936: 37; Shewell, 1977: 204; Evenhuis & Okadome, 1989: 586.

Sapromyza singaporensis Kertész, 1900: 261.

This fulvous species is characterized by the plumose arista, the wing brownish on anterior half (usually between veins C and R₄₊₅) and at apical margin (about 1/5 length of wing), and with brownish marking around m-cu, and the presence of the extremely long and erect marginal bristles on T5-6. Male genitalia are characteristic of the phallus curved dorsally on its distal one-third and provided with a minute tooth just distad of lateral protuberance on the sclerite (not drawn in both figures by Sasakawa, 1992, fig. 25 and Kim, 1994, fig. 172).

Specimens examined: BELAU: 10♂6♀, Koror I., 4.i.1953 (JB) (BPBM) & 17.iv.-3.v.1957 (CS) (USNM); 2♂6♀, Malakal I., 2.v.1957 (CS); 1♂3♀, Ngerkabesang I., 25.iv.1957 (CS).

Distribution: Micronesia (Palau Is.); Solomon Is., Australia (Qld), Indonesia (Java, Maluku, Sulawesi, Irian Jaya), Malaysia (Pen., Sabah, Sarawak), Singapore, Thailand, Viet Nam, Philippines. New to Micronesia.

15. *Homoneura (Homoneura) nigra* Kim

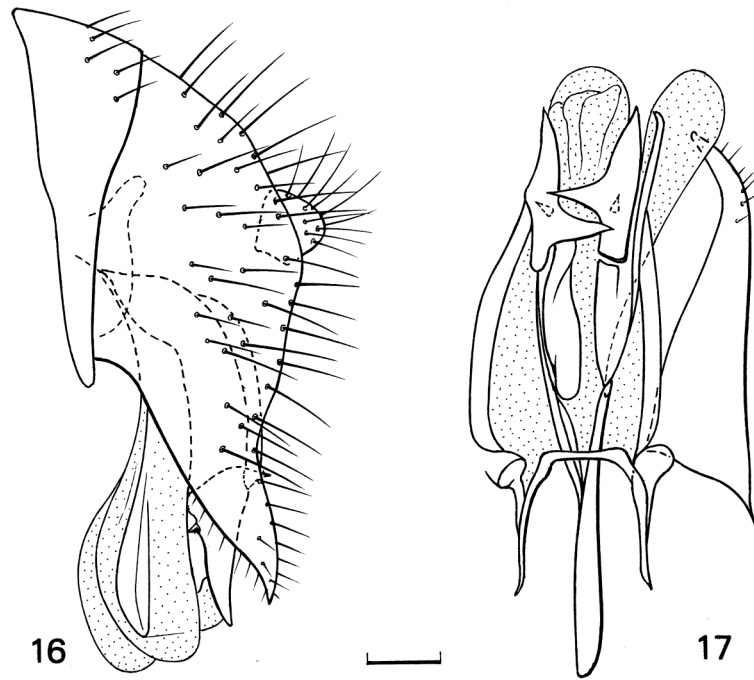
Homoneura (Homoneura) nigra Kim, 1994: 59.

This species, *discoglauca* and *signatifrons* have the plesiomorphic characters: blackish body, long-plumose arista, immaculate wing, annular protandrium and well-developed hypandrium. It is easily distinguishable from *discoglauca* by the absence of whitish gray median vitta on the mesoscutum, and from *signatifrons* by its fulvous anterior margin of frontalia and yellowish to dark brown antenna.

Specimens examined: BELAU: 1♂1♀, Ngurukdabel I., Ngaramediu, 24.iv.1957 (CS) (USNM).

FEDERATED STATES OF MICRONESIA: CHUUK: 1♂, Moen I., 1.iv.1949 (RP) (USNM); 1♂, Tobi, 12.ix.1952 (NK) (USNM); POHNPEI: 1♀, Kolonia, Agric. Exp. Stat., 6.i.1953 (JG, light trap, alt. 16 m) (BPBM); 1♀, Pohnpei, Mt. Tamatamansakir (180 m), 17.i.1953 (JG, light trap) (BPBM).

Distribution: Micronesia (Palau Is., Caroline Is.); Australia (Qld, NSW, NT). New to Micronesia.

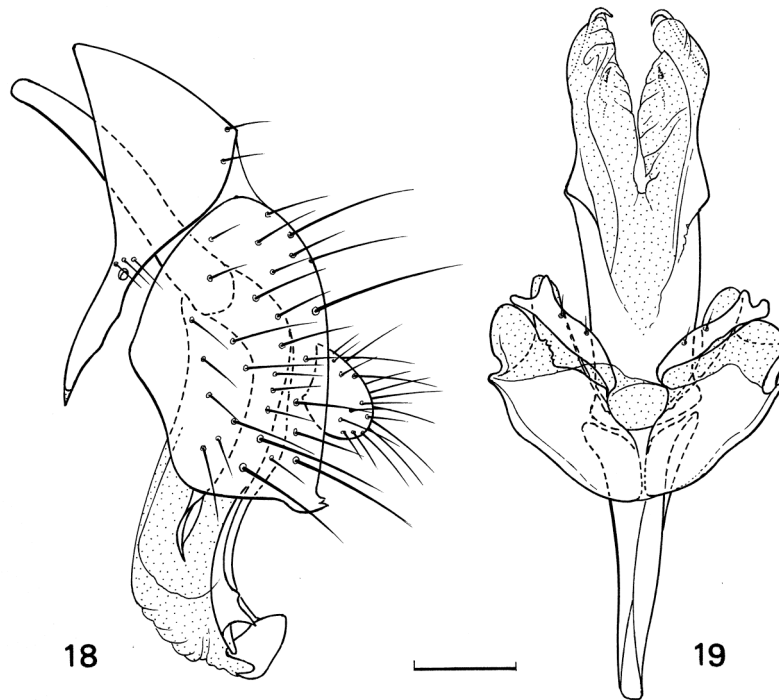


Figs 16-17. Male genitalia of *Homoneura (Homoneura) notabilis* n. sp. (holotype)

16. *Homoneura (Homoneura) notabilis* Sasakawa, n. sp. (Figs 16-17)

Male. Yellow; ocellar triangle and first antennal flagellomere faintly tinged with brown; parafrofrontalia shiny along central line; arista pale brown; palpus yellow; face and thorax slightly whitish gray dusted, mesoscutum weakly shining when viewed from front; abdominal tergites weakly shining, T3-6 each with a pair of brown spots, of which those on T3-5 large (almost as long as tergal length and just before row of marginal bristles) and quadrate in outline but those on T6 very small and circular (about 1/3 as long as tergal length), T5 with oval median spot (as long as tergal length), T4 with pale, small spot at middle; epandrium yellow, surstylus brownish on tip. Wing hyaline, veins yellowish; halter yellow. Legs yellow, distal tarsomeres slightly brownish.

Frons nearly 1.5 times as wide as eye, almost parallel-sided; oc shorter than or; or two, equal in length; oh two between or; eye slightly higher than broad; gena about 1/5 height of eye; pm 5; first antennal flagellomere 1.5 times as long as broad; arista minutely pubescent. Mesoscutum with 0+3 dc, six rows of acr and one pair at level of second dc distinctly longer than others; katepisternum with a seta before stpl. Wing: 2.5 mm long; C-index 4.0, r-m at middle of discal cell, 4V-index 2.0, 5V-index 0.18. Legs: f_1 with ctenidium and two pv, f_2 with four or five a, t_2 with one spur, all tibiae with pd but those on t_1 and t_3 very short. S6 about thrice as wide as long, with shallow emargination posteriorly, bearing two long latero-apical setae.



Figs 18-19. Male genitalia of *Homoneura (Homoneura) palauensis* n. sp. (paratype)

Protandrium horseshoe-shaped. Genitalia: Surstylus elongated, incurved at ventral apex; cercus small; hypandrium narrow, U-shaped, postgonite long and with one strong and one minute teeth near apices of dorsal and ventral sides; phallus with lateral sclerite weakly sclerotized.

Female. Unknown.

Holotype male, Belau (Palau Is.), Peleliu I., 1935 (T.Yoshino) (KU); abdomen and genitalia in polyethylene tubule.

Distribution. Micronesia (Palau Is.).

Remarks. This species is closely related to *H. (H.) carolinensis* n. sp., with the pubescent arista, only one pair of strong postsutural acr, the three-spotted posterior tergites and the ventrally projected surstylus, but is distinguishable by its pale first antennal flagellomere and simple structure of the postgonite. The elongate surstylus is similar to that of Melanesian *H. (H.) sikaiana* Curran, 1936, but this species is easily recognized by its more spotted abdominal tergites and fewer strong postsutural acr.

Etymology. The specific name refers to the 'noteworthy' dotted abdominal tergites, and long and toothed postgonite.

17. *Homoneura (Homoneura) palauensis* Sasakawa, n. sp. (Figs 18-19)

Male & female. Fulvous yellow; ocellar triangle, setulose area of occiput and arista pale brown; face weakly shining, linearly brown along lateral margins; frons, parafacialia and gena whitish pruinose; thorax shiny, very

sparsely pollinose, pleura yellowish ventrally; abdomen shiny, T4-6 each with three black spots, of which median one somewhat equilateral-triangular, extending almost throughout entire length of tergite, and lateral ones suborbicular. Wing hyaline, faintly tinged with yellow, cross veins unclouded. Legs yellow, distal two or three tarsomeres faintly brown-tinged.

Frons narrower than long, almost as wide as eye and parallel-sided; oc short, 1/3-1/2 length of lower or which is slightly shorter than the upper; frontalia with setulae on ventral part; face flat; eye 1.25 times as high as wide; gena 1/7-1/8 height of eye; pm two, longer than 5-7 parafacial setae; first antennal flagellomere 1.5-1.7 times as long as wide; arista almost equal to eye height in length, short-haired, with dorsal longest hair less than 1/2 width of first flagellomere. Mesoscutum with 0+3 dc, eight rows of acr, one strong pair (2/3 length of prsc) of median acr-rows at level of second dc, prsc nearly equal to or shorter than first dc; katepisternum with anterior seta 2/3 length of stpl. Wing: C-index 3.9-4.0, r-m at middle of discal cell, 4V-index 1.5-1.72, 5V-index 0.13-0.16. Legs: f_1 with ctenidium and two or three pv, f_2 with four or five a, t_2 with two long and one short spurs, all tibiae with pd. Protandrium semicircular in posterior view, with lateral sclerites united ventrally with each other by membrane, setose around spiracle. Genitalia: Epandrium with surstylus slightly projected, bearing one or two minute teeth on tip; hypandrium well-developed on lateral sides; pregonite slender but well-sclerotized, with two setae at middle; postgonite membranous; phallus with a pair of teeth before apex and claw-like processes on tips of lateral sclerites; phallapodeme shorter than phallus.

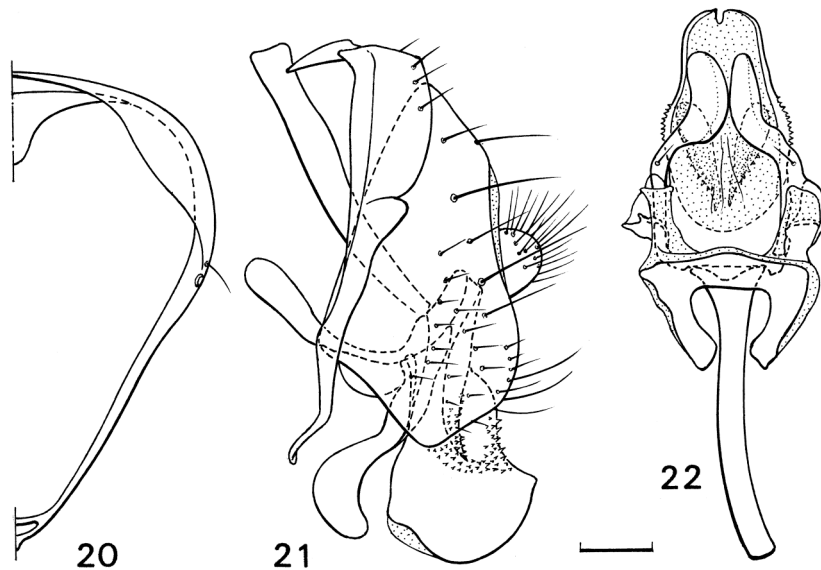
Body length 3.5-4.2 (3.8 in holotype) mm, wing length 2.9-4.0 (3.3 in holotype) mm.

Holotype male (BPBM No. 16375), Belau, Koror I., 9.xii.1952 (JB, light trap). Paratypes: Belau: 3♂4♀, Koror I., 5 & 9-10.v.1953, 10-12.vii.1953 (JB, light trap) (BPBM); 1♀, Babeldaob I., Ngardok, 22.v.1957 (CS) (USNM); 1♀, Babeldaob I., Ngaremlengui, 1.v.1957 (CS) (USNM); 1♂, Babeldaob I., E. Ngatpang (65 m), 10.xii.1952 (JG, light trap) (BPBM).

Distribution. Micronesia (Palau Is.).

Variation. T3 rarely with a pair of pale brown, small spots; T6 rarely without median fascia.

Remarks. This species is characterized by the presence of three black spots on T4-6, respectively, minute teeth on tip of the surstylus, and claw-like apical processes on the lateral sclerites of phallus. It is closely related to Oriental *H. (H.) trifasciata* (de Meijere, 1910) and New Caledonian *subnuda* Malloch, 1940, with the short oc, clear wing and three-spotted posterior abdominal tergites, but is distinguishable by its fewer rows of acr, only one pair of strong postsutural acr and unclouded cross vein m-cu from *trifasciata*, and by its longer hairs on arista and middle situation of r-m in the discal cell from *subnuda*. Also, this species superficially resembles Oriental *H. (H.) parvibifida* Sasakawa, 2001, in structures of the male genitalia, especially surstylus and phallus, from which it differs distinctly in the thoracic and abdominal maculations.



Figs 20-22. Male genitalia of *Homoneura (Homoneura) signatifrons* (Kertész)

18. *Homoneura (Homoneura) signatifrons* (Kertész) (Figs 20-22)

Sapromyza signatifrons Kertész, 1900: 264.

Homoneura (Homoneura) signatifrons., Malloch, 1929a: 48, 1940: 139; Curran, 1936: 37; Shewell, 1977: 208; Evenhuis & Okadome, 1989: 587.

This brownish black species is recognized by the yellowish ventral margin of brown frons, brownish yellow antenna and yellowish tibiae and tarsi. The first antennal flagellomere is darkened on dorsal and apical parts and twice as long as wide; arista is black except for yellowish base, with longest dorsal hairs distinctly longer than width of the first antennal flagellomere. Male genitalia are distinctive in having the spinulose phallus and the club-shaped pregonite.

Specimens examined: BELAU: 1♂, Angaur I., 5.ii.1948 (HD, USNM); 2♂ 16♀, Auluptagel I., ix.1952 (NK) (USNM) & 12-13.xii.1952 (JG) (BPBM); 5♂ 3♀, Babeldaob I., Airai, Ngerimal River, 26.v.1957 (CS) (USNM); 2♂ 3♀, Babeldaob I., Imeliik, Netkeng, 5.vi.1957 (CS); 6♂ 11♀, Babeldaob I., Melekeiok, 22-24.v.1957 (CS); 3♂ 4♀, Babeldaob I., Ngaremlengui, 1-4.vi.1957 (CS, light trap); 2♂ 1♀, Babeldaob I., Ngatpang, 8-12.xii.1952 (JG, light trap) (BPBM); 5♂ 11♀, Babeldaob I., Ngerehelong, 6-8.v.1957 (CS) (USNM); 2♂ 5♀, Babeldaob I., Ngiwal, 20-21.v.1957 (CS); 3♂ 2♀, Babeldaob I., Ulimang, 15.xii.1947 (HD) (USNM); 10♂ 17♀, Koror I., 8-11.vi.1953 (JB) (BPBM) & 26.iv.-3.v.1957 (CS) (USNM); 8♂ 2♀, Malakal I., 2.v.1957 (CS); 2♂ 3♀, Ngarmalk I., 23.iv.1957 (CS); 1♂ 1♀, Ulebsehel I., 24.iv.1957 (CS).

FEDERATED STATES OF MICRONESIA: CHUUK: 1♂, Pata I., Sabote-Epin, 5.iv.1940 (KY) (KU); 1♂ 2♀, Moen I., Quarantine Pear, 5-9.ii.1948 (KM) (BPBM); 2♀, Moen I., Civ. Ad. Area, 13.ii. & 5.iii.1949 (RP) (USNM); 1♂ 1♀, Moen I., Mt. Teroken, 27.xii.1952 (JG, light trap)

(BPBM); 4♂³♀, Tol I., Mt. Uniböt (390 m), 1-2.i.1953 (JG, light trap)
(BPBM); 5♂, Tobi I., 12.ix.1952 (NK) (USNM).

Distribution. Micronesia (Palau Is., Caroline Is.); Solomon Is., Papua New Guinea, Indonesia (Java, Krakatau, Sumatra), Malaysia (Sabah), Viet Nam, Philippines.

19. *Homoneura (Homoneura) spiculata* (Frey)

Lauxania (Minettia) spiculata Frey, 1917: 21.

Homoneura (Homoneura) spiculata, Shewell, 1977: 208; Evenhuis & Okadome, 1989: 587.

No specimens of this species are available in the Micronesian lauxaniid collection of the BPBM. The record by Shewell needs verification.

Distribution. Caroline Is.; Ceylon, Philippines.

Faunistic account

Eighteen species, excluding *H. spiculata*, of the genus *Homoneura* are recorded from Micronesia. Characteristics of the Micronesian fauna are summarized as follows:

- (1) Eighteen species of two subgenera, *Minettioides* Malloch and *Homoneura* s. str., are distributed in Micronesia. No species of other Oriental subgenera, *Chaetohomoneura* Malloch and *Neohomoneura* Mall., and Oriental-Australian *Euhomoneura* Mall. are known to occur at present, as would be expected.
- (2) *Homoneura acrostichalis*, *affinis* and *prisca* are the most dominant species among the homoneurine flies, and the former two are widespread in the Oriental Region, Melanesia and Polynesia, while *prisca* restricted within Micronesia.
- (3) *H. affinis*, *discoglauca*, *forcipata*, *grossa*, *laticosta*, *parvinotata* and *signatifrons* are also widely distributed throughout the Oriental-Pacific area; *H. anuda* occurs in Micronesia-Melanesia, *setulosa* in Micronesia-Polynesia and *nigra* in Micronesia-Australia.
- (4) Seven species, representing 39% of the total, *H. bibaculigera*, *carolinensis*, *denticulimentula*, *longisetosa*, *notabilis*, *palauensis* and *prisca*, are endemic to Micronesia, although some of the species will in due course be found to occur elsewhere.
- (5) Among the island group, Belau (Palau Is.) has the richest fauna.
- (6) There has been a high degree of specialization at the species level in three species, *H. bibaculigera*, *parvinotata* and *setulosa*, in having the ventral process on the epandrium, which is considered apomorphic, in addition to the surstylus.

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with photographs of the holotype male of *Homoneura anuda* Curran, which is deposited in California Academy of Sciences.

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