

Two New Crab Hole Mosquitoes of the Genus *Uranotaenia*
(*Pseudoficalbia*) from the Ryukyu Islands
(Diptera, Culicidae)¹

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ABSTRACT

Uranotaenia (Pseudoficalbia) ohamai and *U. (P.) yaeyamana* are described as new species from Yaeyama Guntô, southern Ryukyu Islands.

INTRODUCTION

Bohart and Ingram (1946) described *U. stonei* from Okinawa Is., central Ryukyu Islands. Bohart (1959) recorded it from Ishigaki Is. Peyton (1972) synonymized *stonei* with *jacksoni* Edwards, 1935. We made extensive surveys on Yaeyama Guntô including Ishigaki, Iriomote, Hateruma and Yonaguni Islands, finding 2 new species of *Uranotaenia* closely resembling *jacksoni* but no specimens of *jacksoni*. We describe these 2 new species here. Mr. E. L. Peyton will clarify the identity of Bohart's *stonei* from Ishigaki Is. in a later paper.

The holotypes of these 2 new species are to be deposited in the National Science Museum, Tokyo; paratypes will be distributed to the United States National Museum, Washington, D. C., and the National Science Museum, Tokyo, after completion of this project.

Uranotaenia (Pseudoficalbia) ohamai sp. nov.
(Figs. 1 & 3; Table 1)

FEMALE. Wing length: 2.4-2.7 mm. *Head.* Eyes contiguous above and below. Vertex covered with dark greyish brown broad scales and with large, pale or dark brown, erect forked scales, the broad scales showing diverse colors according to direction of light; eye margin bordered with white or pale ochereous broad scales, tempora covered with pale ochreous or greyish brown broad scales; usually 3 pairs of dark vertical bristles, an additional brownish fine pair located beneath the very long median pair; 2 or 3 dark temporal bristles on each side accompanied by several fine bristles down to underside of head. Clypeus dark brown, about as long as wide. Antenna longer than proboscis; pedicel light brown on outer side, dark brown on inner side which bears a few fine bristles and scales; flagellomere I 1/5 as long again as II. Proboscis shorter than fore femur, slightly broadened toward apex, dark scaled. Palpus unsegmented, 1/7 - 1/9 as long as proboscis

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excluding labella, dark scaled. *Thorax*. Anterior pronotal lobe yellowish brown, darker above, with very dark grey broad scales above, translucent scales on lower part, bearing 3 dark stout bristles; posterior pronotal lobe dark brown, with a few translucent, rather broad scales, bearing 1 (rarely 2 on one side) dark bristle near upper posterior corner. Scutum with integument light brown, partly greyish, roughly covered with greyish brown narrow curved scales, a few rather broad pale scales along anterior margin; all scutal bristles well developed, dark, acrostichals relatively short except for anterior ones, dorsocentrals and supraalars very long and stout, anterior dorsocentral series doubled in posterior part, 1 stout humeral accompanied by 1-3 shorter ones, 1 or 2 bristles near scutal angle, 1 posterior fossal close to dorsocentral series. Scutellar lobes covered with dark brown broad scales, both lateral lobes bearing 3 dark stout bristles, median lobe bearing 4 such bristles, each lobe with 3-4 additional small bristles; postnotum bare, brown. Pleura dark brown on postspiracular area and upper sternopleuron, otherwise quite pale; sternopleuron sparsely covered with white subhyaline, rather broad scales, a few dark grey scales intermixed; upper mesepimeron with translucent scales; 1 stout propleural bristle accompanied by several fine yellowish ones, 2 spiraculars (rarely 1 or 3), 1 stout prealar; sternopleurals forming a continuous row along upper and posterior margins, upper 3-6 dark, ⁹⁻¹² others brownish or yellowish, stout or fine, but 1 rather stout brown bristle always present just above level of lower margin of mesepimeron; 4-7 fine upper mesepimerals, 1 dark stout lower mesepimeral. Upper margin of mesomeron well above that of hind coxa. *Wing*. Squama bare; alula fringed with dark, rather broad scales. Veins dark scaled. Cell R_2 $2/5 - 1/2$ as long as R_{2+3} . Apex of α either scarcely or not reaching level of cubital fork. Halter with pale stalk and dark scaled knob. *Legs*. Coxae and trochanters pale; fore coxa with pale grey scales on anterior surface basally, hind coxa with a few translucent scales. Femora, tibiae and tarsi dark scaled; lower posterior surface of femora pale toward base. Mid femur a little swollen basally. Tarsomere I of hind leg as long as or a little longer than tibia. Claws simple and equal or sometimes anterior claw a little wider than posterior claw. *Abdomen*. Terga covered with blackish brown scales; tergum I hirsute, laterotergite with pale ochreous scales; III-VI each with a complete pale ochreous basal band; VII sometimes with an indistinct basal pale band. Sterna covered with pale ochreous scales, VI and VII often with an indistinct basal band or patches of darker scales. Segment VIII hardly visible.

MALE. Wing length: 2.1-2.4 mm. Palpus $1/10$ as long as proboscis. Cell R_2 usually shorter than in female. Anterior claw of mid tarsus longer than posterior claw and well arcuate; no other sexual dimorphism in legs. *Genitalia*. Tergum IX poorly sclerotized, fairly large, apical margin simple, with neither lobe nor seta. Sternum IX rounded, triangular, membranous, with basal edge well sclerotized. Basistyle short, narrowed toward apex, $1/2$ as long again as wide (length measured from sternal base), bristled over entire surface except for tergal apex, with an outstanding bristle at center of tergal side; basal tergomeres a little protrudent, bearing 2 long setae and a number of bristles, usually 2 bristles mesal to the setae a little stouter than others; neither apical lobe nor claspette present. Dististyle only a little shorter than basistyle, rather stout, gently curved, tapering

toward apex, bearing 10 or more small setae near apex; claw short. Paraproct poorly sclerotized; tergite X fairly long, with falciform apices which are moderately separated though appearing to be connected by a membranous bridge; 2 cercal setae. Aedeagus a little wider than long, with base usually as wide as apex, well sclerotized, composed of a pair of lateral pieces connected by a joint at apical 1/3 on tergal side and by a moderately sclerotized bridge on sternal side, apex of each piece with 2 large dorsal teeth directed lateroapically and with 3 or 4 recurved ventral teeth, the basalmost largest, middle 1 or 2 not much smaller than it; paramere moderately sclerotized, longer than aedeagus.

4TH INSTAR LARVA. Width of head: 0.66-0.75 mm. *Head*. Lightly pigmented, approximately as long as wide; 1-C very stout, short, incurved, 4-5 times as long as wide, shorter than distance between bases; 4-C and 5-C on the same level and a little posterior to 7-C; 6-C thickened, a little anterior to 7-C and slightly laterad of or almost tandem with 5-C; 8- and 9-C on eye-level; 8-C usually single; 14-C close to articulation with maxilla. *Antenna* 0.19-0.23 mm long, lightly pigmented; 1-A single, fine, inserted a little distad of middle, not reaching apex of shaft. *Labrum* deeply concave at apical margin, with a process at base of 1-C, the process a little longer than basal width, rounded at apex. *Mentum plate* with 14-16 teeth. *Thorax*. Setae 14-P, 1-M, 14-M and 1-T stiff and stellate; 3-T often fairly stiff; 5-T stiff; 1- and 9-P usually double; 1-M usually 4 branched. *Abdomen*. Setae 1- and 11-I, 2-I and -II, 5-III-VI and 9-II-V markedly stiff and pigmented; 6-I with 2 subequal branches; 7-I equal to 6-I; 6-II 1.1-1.6 times as long as 2-II, with 2 equal branches, 3/5 - 2/3 as long as 6-I, a little shorter than 6-III, and equal to 7-II; 2- and 13-I, 5-II, 8-III, 3- and 10-IV, 10-V, 12-VI, 11-, 12- and 14-VII usually single; 11-I, 4-II, 6- and 12-III, 4-, 6- and 11-IV, 4- and 12-V, 4- and 11-VI and 10-VII usually double; 12-I, 1- and 6-VI usually triple; 13-IV and -V usually 4 branched. Segment VIII with a poorly sclerotized plate bearing a comb of 13-17 scales; each scale rather long and slender, of about equal width from base to apex, fringed with minute spicules; 1- and 2-VIII on a common, narrow, sclerotized callus. *Siphon* slightly sinuate, lightly pigmented, with distinct acus; length 0.72-0.90 mm, index 3.5-4.0; pecten reaching basal 40-48 (\bar{x} : 45)% of siphon, of 14-24 evenly spaced teeth, sometimes with 1 or 2 basal abortive ones, each tooth fringed with minute spicules along apical and anterior margin; 1-S longer than width of siphon, usually placed a little distad of pecten at middle of siphon, sometimes just at apex of pecten. *Saddle* complete, spinulate on apical margin, spinules of middle part a little smaller; 1-X shorter than saddle, usually 3 branched; 4-X of 10 cratal tufts (12 in one specimen out of 20 examined), each 3-7 branched, 8th tuft longest of all, 3-4 branched. Gills longer than saddle, tapering apically, equal.

TYPE-LOCALITY. Yaeyama Guntô, the Ryukyu Islands.

TYPE SERIES. Holotype male (K-1028-7) with associated slides of genitalia, P-sk and L-sk, Yashigawa, Iriomote Is., 18 XI 1971, crab hole, K. Mizusawa leg. Paratypes: 28 males, 32 females, associated 17 P-sk and 17 L-sk, 66 LL in total. Paratypes from Iriomote Is. ---Funaura: (K-0925) 1 female, 31 X 71, net, Mizusawa, Shinonaga and Kikuchi; (K-1010) 1 female, 16 XI 71, net, Mizusawa; (K-1016, 1018) 1 male, 3 females, associated 2 P-sk,

2 L-sk, 17 XI 71, crab hole, Mizusawa; (K-1099) 1 L, 28 XI 71, crab hole, Mizusawa; (K-1119) 1 female, associated P-sk, L-sk, 1 XII 71, crab hole, Mizusawa; ---Itokawa-rindô; (K-0726) 2 males, 14 IV 71, net, Mizusawa and Nishikawa; (K-0730) 7 males, 1 female, 17 IV 71, net, Mizusawa and Nishikawa; (K-0946) 1 male, 5 XI 71, net, Mizusawa and Shinonaga; ---Shirahama: (K-0731) 3 males, 8 females, 19 IV 71, net, Mizusawa and Nishikawa; ---Sonai: (K-0732) 2 males, 20 IV 71, net, Mizusawa and Nishikawa; ---Uehara: (K-0924) 1 female, 30 X 71, net, Mizusawa, Shinonaga and Kikuchi; (K-1084, 1086) 2 males, 2 females, associated 3 P-sk, 3 L-sk, 27 XI 71, crab hole, Mizusawa; (K-1379) 2 LL, 12 XII 72, crab hole, Mizusawa and Imamura; ---Yashigawa (K-1026-1031) 9 males, 7 females, associated 10 P-sk, 10 L-sk, 18 XI 71, crab hole, Mizusawa. Paratypes from Ishigaki Is. ---Arakawa: (K-1466) 6 LL, 1 I 73, crab hole, Mizusawa and Imamura; ---Mt. Banna: (K-0724) 1 male, 22 IV 71, net, Mizusawa and Nishikawa; ---Mt. Maeshi: (K-0722) 1 female, 12 IV 71, net, Mizusawa and Nishikawa; (N-1002) 2 females, 13 XI 71, net, Tanaka and Mizusawa; ---Yoshiwara: (K-1128, 1129, 1130) 4 females, 18 LL, associated 1 P-sk, 1 L-sk and 3 mouth part slides, 5 XII 71, crab hole, Mizusawa; (K-1321) 13 LL, 4 XII 72, crab hole, Mizusawa and Imamura; (K-1408) 26 LL, 17 XII 72, crab hole, Mizusawa and Imamura.

SPECIMENS EXAMINED OTHER THAN TYPES. 143 males, 81 females, Iriomote Is.: Funaura, Itokawa-rindô, Mt. Goza, Shirahama, Sonai, Uehara and Yashigawa, Apr., Oct-Dec.; 36 males, 18 females, Ishigaki Is.: Kabira, Mt. Banna, Mt. Maeshi, Yarabu and Yoshiwara, Apr., Nov.-Dec.

DISTRIBUTION. Known only from the type locality.

BIOLOGICAL NOTES. The larvae of this species occur in fresh water crab holes along shaded streamlets in lowlands or at the foot of mountains, very often found associated with *U. yaeyamana* sp. nov. and *Culex* (*Lophoceraomyia*) *tuberis*. Occasionally, *C. (L.) minor*, *C. (L.) infantulus* and *C. (Culicio-myia) ryukyensis*, and rarely *Aedes* (*Stegomyia*) *albopictus*-group and *U. (U.) macfarlanei* were found together. Bohart (1959) obtained his *stonei* in cave springs and rock holes as well as in crab holes on Ishigaki Is. The adults are commonly found in shrubbery or crab holes. They have not been observed to attack man.

TAXONOMIC DISCUSSION. *U. ohamai* belongs to the *recondita*-series of Peyton (1973, personal communication) and is most closely allied to *koli* Peyton and Klein, 1970, of which we examined 5 paratypes (2 male, 2 female, 1 larval) and 1 whole mount larva from Thailand. *U. ohamai* may be distinguished from *koli* in that the vertex has no pale scales, the anterior pronotal lobe, propleuron, middle sternopleuron and mesepimeron are pale; the upper mesepimeron has scales; abdominal terga II and VIII have no pale basal bands. In the larva, *ohamai* differs from *koli* in the following 3 points. Seta 4-C has 2-4 branches in *ohamai*, 5-6 in *koli*; 1-A is single in *ohamai*, double in *koli*; 14-P is fairly stiff and 5-12 branched in *ohamai*, not very stiff, having more than 20 branches in *koli*. In addition, in *ohamai*, 0- and 8-P are shorter and 1-S is more weakly barbed; *ohamai* has, in general, fewer branches in 5-C, 13-T, 1-VIII and 1-S; but these differences should be confirmed with more material of *koli*. *U. ohamai* also appears close to *stricklandi* Barraud, 1926, of which we examined 1 male, 2 females and 2 LL from

Thailand. *U. ohamai* is distinct from it in the restricted dark area of the pleura and the upper scale patch of the mesepimeron; in *stricklandi*, most of the pleural sclerites have dark areas and the mesepimeron has scales at the middle. In the larva, *ohamai* can be discriminated by the long labral process, single 1-A, 2-3 branched short 11-C, single 14-C, 14-16 toothed mentum plate, shorter 0- and 8-P, 5-12 branched stouter 14-P, 3-6 branched 13-T, equal branches of 6-I and in that 6-II is as long as 7-II. In *stricklandi*, the labral process is very small; 1-A double, 11-C with 6 fairly long branches, 14-C 5-6 branched, mentum plate with 19 teeth; 14-P about 20 branched; 13-T 7-10 branched, 6-I with dorsal branch longer than ventral one; 6-II shorter than 7-II.

Uranotaenia (Pseudoficalbia) yaeyamana sp. nov.
(Figs. 2 & 4; Table 2)

FEMALE. Wing length: 2.7-3.1 mm. *Head.* Eyes contiguous above and below. Vertex covered with dark greyish brown scales and large dark-brown erect forked scales, the color of the broad scales varying according to light; eye margin and tempora covered with pale greyish broad scales; 3 or 4 pairs of black vertical bristles, an additional pair of small brown bristles located beneath the median long pair; usually 3 temporal bristles on each side followed by several finer brown bristles down to underside of head. Clypeus rather dark brown, about as long as wide. Antenna longer than proboscis; pedicel yellowish brown, inner side infusate, with several fine bristles and a few small grey scales. Proboscis shorter than fore femur, a little broadened apically, dark scaled. Palpus unsegmented, about 1/10 as long as proboscis, dark scaled. *Thorax.* Pronotal lobes with brown integument and dark grey scales; anterior pronotal lobe bearing 3 dark stout bristles, posterior pronotal lobe bearing 1 or 2 dark bristles. Scutum with integument brown, partly greyish, roughly covered with rather greyish brown narrow scales, sometimes pale grey, rather broad scales on anterior promontory; all scutal bristles well developed, black, acrostichals rather small except anterior ones, dorsocentrals and supraalars very long, anterior dorsocentral series doubled in posterior part, 1 stout humeral accompanied by 1-3 shorter bristles, 1-3 bristles near scutal angle, 1 posterior fossal close to anterior dorsocentral series. Scutellar lobes covered with dark broad scales, both lateral lobes bearing 3 dark bristles, median lobe bearing 4, each lobe with 2-6 additional small bristles. Postnotum brown, bare. Pleura rather dark brown on postspiracular area, upper and middle sternopleuron and whole or upper and lower mesepimeron, otherwise pale; sternopleuron and mesepimeron sparsely covered with translucent, rather broad scales; 1 dark stout propleural bristles accompanied by several small brown ones, 1 spiracular, 1 dark stout prealar; a fairly stout dark brown sternopleural bristle always present just above level of lower margin of mesepimeron; above this, about 10 black or dark brown, mostly stout bristles form a continuous row along upper and upper posterior margins of sternopleuron, fine yellowish bristles along lower posterior margin; 5-13 fine upper mesepimerals and 1 (rarely 2) dark stout mesepimeral. Upper margin of mesomeron well above that of hind coxa. *Wing.* Squama bare; alula fringed with dark broad scales. Veins dark scaled. Cell R_2 2/5 as long as r_{2+3} ; apex of α either scarcely or not reaching level of

cubital fork. Halter with pale stalk and dark scaled knob. *Legs.* Coxae pale, with dark grey scales on fore coxa, pale scales on mid and hind coxae; trochanters pale. Femora, tibiae and tarsi dark scaled; lower posterior surface of femora pale. Mid femur a little swollen basally; hind tibia of approximately the same length as tarsomere I. Claws equal and simple. *Abdomen.* Terga covered with dark brown scales, without pale bands, tergum I hirsute, scales of laterotergite rather pale. Sterna covered with pale ochreous scales. Segment VIII barely visible.

MALE. Wing length: 2.3-2.6 mm. Anterior claw of fore tarsus a little longer than posterior one; anterior claw of mid tarsus distinctly longer than posterior one and well curved; no other sexual dimorphism in legs. *Genitalia.* Tergum IX poorly sclerotized, fairly large, with apical margin simple. Sternum IX rounded triangular, membranous, with basal edge well sclerotized. Basistyle short, narrowed apically, $1/2$ as long again as wide (length measured from sternal base), bristled over entire surface, with an outstanding bristle at center of tergal side; basal tergomesal lobe a little protrudent, bearing 2 long setae and a number of bristles, 1 bristle proximal to the setae and usually 2 bristles mesal to the setae fairly stout; neither apical lobe nor claspette present. Dististyle only a little shorter than basistyle, rather stout, gently arcuate, tapering toward apex, bearing 10 or more small setae near apex; claw short. Paraproct poorly sclerotized, tergite X fairly long, with falciform apices which are separated at middle though appearing connected by a membranous bridge; 2 cercal setae. Aedeagus slightly wider than long, well sclerotized, with base usually narrower than apex, composed of a pair of lateral pieces connected by a joint at apical $1/3$ on tergal side and by a moderately sclerotized bridge on sternal side, apex of each piece armed with 2 large dorsal teeth directed lateroapically and with 2-4 (usually 3) recurved ventral teeth, the apicalmost largest, middle one or two very small and occasionally reduced; paramere moderately sclerotized, longer than aedeagus.

4TH INSTAR LARVA. Width of head: 0.65-0.75 mm. *Head.* Lightly pigmented, as long as or a little longer than wide; 1-C stout, incurved, about 6 times as long as wide, shorter than distance between bases; 4-C and 5-C on the same level and posterior to 7-C; 6-C thickened, tandem with 5-C and anterior to 7-C; 8-C and 9-C on eye-level; 9- and 13-C usually double; 14-C close to articulation with maxilla. *Antenna* 0.23-0.25 mm long, lightly pigmented; 1-A single or 2 branched, rarely 3 branched, inserted a little distal to middle, usually not reaching apex of shaft. *Labrum* deeply concave at apical margin with a process at base of 1-C, the process longer than basal width, pointed at apex. *Mentum plate* with 14-17 teeth. *Thorax.* Setae 1-M, 1-T, and 3-T stiff and stellate, their longest branch as long as antenna; 5-T stiff; 14-P fairly stiff and very strongly barbed; usually, 11-M single and 9-T 6 branched. *Abdomen.* Setae 2- and 11-I, 2-II, 9-II-V and 5-IV-VI noticeably stiff and pigmented; 2-I and -II longer than antenna; 1-I and 5-III stiff but very small; 6-I with dorsal branch a little longer than ventral one and equal to 7-I; 6-II with dorsal branch a little longer than ventral one, subequal to 7-II and 2.4-2.9 times as long as 2-II; 1-I, 7-II, 0- and 3-III, 0- and 10-IV, 0-, 3- and 10-V, 0-, 12- and 14-VI, 11-

and 12-VII usually single; 9-VII usually single, often with a tiny barb-like branch; 10-II, 6-III, 3-, 4-, 6- and 11-IV, 1-and 11-V, 1-and II-VI, 1-, 7- and 10-VII usually double; 12-I and 3-VII usually triple. Segment VIII with a small, very poorly sclerotized plate bearing 13-20 comb scales; individual scales subparallel-sided, fringed with spinules laterally and apically, apical spinule slightly larger than others; 1- and 2-VIII on a sclerotized pigmented callus; usually, 1-VIII single, 2-VIII double and 14-VIII single. *Siphon* slightly sinuate, lightly pigmented, with distinct acus; length 0.77-0.98 mm, index 3.2-4.0; pecten reaching apical 36-45 (\bar{x} :41)% of siphon, of 15-24 teeth, apical 2-4 detached, sometimes 1-3 abortive teeth at base, each tooth fringed with spinules apically, detached teeth simple and distinctly larger than others; 1-S beyond pecten at apical 32-39 (\bar{x} :36)% of siphon, as long as width of siphon; 2-S on apical margin, shorter than apical pecten tooth. *Saddle* incomplete, with irregularly arranged spines of various sizes on apical margin; 1-X shorter than saddle; 2- and 3-X usually double; 4-X of ten cratal tufts, 8th tuft longest and usually 2-3 branched, others 4-8 branched. Gills subequal, narrow, tapering apically, a little longer than or as long as saddle.

TYPE-LOCALITY. Yaeyama Guntô, the Ryukyu Islands.

TYPE-SERIES. Holotype male (K-1094-28) with associated slides of genitalia, P-sk and L-sk, Funaura, Iriomote Is., 28 XI 1971, crab hole, K. Mizusawa leg. Paratypes: 62 males, 43 females, associated 15 P-sk and 15 L-sk, 74 LL in total. Paratypes from Iriomote Is. ---Funaura: (K-0925) 2 males, 31 X 71, net, Mizusawa, Shinonaga and Kikuchi; (K-1010) 3 males, 16 XI 71, net, Mizusawa; (K-1094, 1096, 1098, 1099) 15 males, 25 females, associated 14 P-sk and 14 L-sk, 9 LL, 28 XI 71, crab hole, Mizusawa; ---Itokawa-rindô: (K-0730) 3 males, 1 female, 17 IV 71, net, Mizusawa and Nishikawa; (K-0739) 1 female, 14-15 IV 71, light trap, Mizusawa and Nishikawa; (K-1328) 2 males, 6 XII 72, net, Saugstad, Mizusawa and Imamura; ---Mt. Goza: (K-1337) 7 males, 2 females, 7 XII 72, net, Saugstad, Mizusawa and Imamura; ---Shirahama: (K-0731) 7 males, 1 female, 19 IV 71, net, Mizusawa and Nishikawa; ---Sonai: (K-0732) 1 male, 20 IV 71, net, Mizusawa and Nishikawa; ---Uehara: (K-0919) 1 female, 29 X 71, net, Mizusawa, Shinonaga and Kikuchi; (K-0924) 2 females, 30 X 71, net, Mizusawa, Shinonaga and Kikuchi; (K-1078) 2 females, 27 XI 71, net Mizusawa; (K-1085) 2 LL, 27 XI 71, crab hole, Mizusawa; (K-1224) 5 LL, 11 XI 72, crab hole, Mizusawa; (K-1373, 1375, 1377) 4 LL, 12 XII 72, crab hole, Mizusawa and Imamura. Paratypes from Ishigaki Is. ---Arakawa: (K-1465, 1467, 1470) 45 LL, 1 I 73, crab hole, Mizusawa; ---Mt. Banna: (K-0724) 1 male, 1 female, 22 IV 71, net, Mizusawa and Nishikawa; ---Mt. Maeshi: (K-0722) 1 male, 12 IV 71, net, Mizusawa and Nishikawa; (k-1002) 3 males, 3 females, 13 XI 71, net, Tanaka and Mizusawa; (K-1065) 4 males, 2 females, 22 XI 71, net, Mizusawa; ---Mt. Omoto: (K-0941) 1 female, 3 XI 71, net, Mizusawa and Shinonaga; ---Yoshiwara: (K-1126) 1 male, 5 XII 71, net, Mizusawa; (K-1247, 1249) 8 LL, 27 IX 72, crab hole, Mizusawa; (K-1317, 1320, 1321) 10 males, 1 female, associated 1 P-sk and 1 L-sk, 4 XII 72, crab hole, Mizusawa and Imamura; (K-1324) 1 male, 4 XII 72, net, Mizusawa and Imamura; (K-1407) 1 L, 17 XII 72, crab hole, Mizusawa and Imamura.

DISTRIBUTION. Known only from the type locality.

BIOLOGY. Not different from *ohamai*. One female was trapped by light at Itokawa-rindô, Iriomote Island.

TAXONOMIC DISCUSSION. This species also belongs to the *recondita*-series of Peyton (l.c.); but in the superficial characters of the adult, it most resembles *maculipleura* Leicester, 1908, of the *bimaculata*-series of Peyton (l.c.). We examined 2 males, 2 females and 1 L of *maculipleura* from Malaya. *U. yaeyamana* may be distinguished from it in that the sternopleuron has 2 dark areas and the mesepimeron has scales. In *maculipleura*, the sternopleuron has only one large dark area covering the upper half of the sclerite, and the mesepimeron lacks scales. The male genitalia and the larval characters of *maculipleura* are of the *bimaculata*-series and quite different from *yaeyamana*. In the male genitalia and larvae, *yaeyamana* will be most easily confused with *jacksoni*, from which the adult of *yaeyamana* is easily separated by the dark middle sternopleuron, dark mesepimeron and the abdominal terga entirely lacking pale basal bands. The difference in the male genitalia of these 2 species is only in the ventrolateral teeth of the aedeagus; in *yaeyamana* the middle 1 or 2 teeth are much smaller than the apical or basal tooth, occasionally reduced; in *jacksoni*, it is (usually one, rarely 2) not markedly smaller than the apical or basal tooth though still smaller than them. In the larva, the labral process at the base of 1-C is pointed and longer than the basal width in *yaeyamana*, rounded and as long as the basal width in *jacksoni*. The detached apical pecten teeth are much larger than the basal fringed teeth and more widely spaced in *yaeyamana*, only a little larger and not very widely spaced in *jacksoni*; 1-S is as long as the siphon diameter and located at the apical 0.32-0.39 (\bar{x} :0.36) in *yaeyamana*, longer than the siphon diameter and located at apical 0.40-0.46 (\bar{x} :0.43) in *jacksoni*. Setae 1-M and 1-T are a little longer and stiffer in *yaeyamana*; 2-I-II are longer than the antenna in *yaeyamana*, equal to the antenna in *jacksoni*; 1-II-IV have more branches in *yaeyamana*: \bar{x} : 1.9, 1.9, 2.1 in *yaeyamana*; 1.0, 1.1, 1.2 in *jacksoni*, respectively.

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TABLE 1. CHAETOTAXY OF THE 4TH INSTAR LARVA OF *Uranotaenia (Pseudoficalbia) ohamai* sp. nov.

HAIR No.	A B D O M E N												
	HEAD	T H O R A X			A B D O M E N								
	PRO-	MESO-	META-	I	II	III	IV	V	VI	VII	VIII		
0	5-13	-	-	1	1	1	1	1	1	1	1		
1	1-2(L,B)	3-7(sf)	4-6(sf)	1-4(sf)	2-4	1-4	2-4	2-4	2-4	2-4	2-3		
2	1(L,B)	1	1-2	1-2(sf)	1(sf)	1	1	1	1	1	1		
3	5-10(L,B)	1	2-3(sf)	1	1	1	1-2	1	1-2	3(b)	6-9(B)		
4	4-9(B)	2-3	2-4	2-3(sf)	1-3	1-3	2-3	2-3	1-2	1	1-3		
5	1(L,B)	1(L,B)	1(sf)	2-3	1-2	1(sf)	1(sf)	1(sf)	1(sf)	1-2	2-5		
6	1(L,B)	1(L,B)	1	2(L,B)	2-3(L,B)	1-3(L,b)	2-3(L,b)	2-3(L,b)	2-3(L,b)	2-4	1-S		
7	3-4(L,B)	1(B)	8-14(L,B)	1(L,B)	1(L,B)	2-4	2-4	2-4	2-4	1-2	4-7(b)		
8	1-2	5-11	7-10(L,B)	m(d)	1-2	1-2	1-2	1-2	1-3	3-6	1-X		
9	1-2	2-3	6-10(L,B)	1-3	1(sf)	1(sf)	1(sf)	1(sf)	1	1-2	2-3		
10	1-3	1(L,b)	1(L,B)	2-4	1-3	1-2	1-2	1-2	1-3	1-2	2-X		
11	2-3	1-3	1	2-3(sf)	1-3	1-3	1-2	1-2	1-3	1-2	2(L)		
12	1-3	2-5	1(L,B)	1	2-5	2-3	1-3	1-3	1-2	1-2	3-X		
13	1-3	-	m(d)	3-6	1-2	2-4	3-4	3-4	3-7	2-4	2(L)		
14	1	5-12(sf,B)	4-8(sf)	-	-	1	1	1	1	1-2	1		
15	3-5	-	-	-	-	-	-	-	-	-	-		

B: barbed; b: weakly barbed; d: dendritic; L: large sized; m: multiple (with more than ten branches); sf: stiff.

TABLE 2. CHAETOTAXY OF THE 4TH INSTAR LARVA OF *Uranotaenia (Pseudoficalbia) yaeyamana* sp. nov.

HAIR No.	T H O R A X			A B D O M E N									
	HEAD	PRO-	MESO-	META-	I	II	III	IV	V	VI	VII	VIII	
0	1	4-8	-	-	-	1	1-2	1-2	1-2	1-2	1-2	1	
1	1	1-3(L,B)	3-6(sf)	2-5(sf)	1-2	1-3	1-3	1-3	1-3	1-3	1-3	1-2(b)	
2	-	1(L,B)	1	1-2	1(sf)	1(sf)	1	1	1	1	1	1-2	
3	1	7-13(L,B)	1-3	2-3(sf)	1-2	1-2	1-2	1-3	1-2	1-3	2-3	6-9(B)	
4	2-5	8-12(L,B)	1-4	2-4	4-9	2-4	1-3	1-3	3-6	1-4	1-2	1-4	
5	3-6	1(L,B)	1(L,b)	1(sf)	1-4	1-4	1-3	1(sf)	1(sf)	1(sf)	1-2	2-4	
6	1	1(L,B)	1(L,b)	1	2(L,B)	2(L,B)	1-3(L,B)	2-3(L,b)	2(L,b)	2(L,b)	4-7	<u>1-S</u>	
7	7-10	3-6(L,B)	1(b)	8-12(L,B)	1(L,B)	1-2(L,B)	3-7	3-8	3-6	3-7	1-2	5-9(B)	
8	1	7-14	6-9(L,B)	4-10	-	1	1-3	1-3	1-3	1-5	3-10	<u>1-X</u>	
9	1-2	3-4	4-8(L,B)	5-7(L,B)	1	1(sf)	1(sf)	1(sf)	1(sf)	1	1-2	1-3	
10	1-4	1(L)	1(L,B)	1(L,B)	1-3	1-3	1-2	1-2	1-2	1-3	1-2	<u>2-X</u>	
11	4-7	1-4	1-2	1	1-3(sf)	1-4	1-3	1-2	1-2	1-2	1-2	1-3(L)	
12	2-5	1-5	1(L,B)	1	2-3	1-3	2-6	2-4	2-3	1-2	1-2	<u>3-X</u>	
13	1-3	-	m(d)	5-11	1-2	2-6	2-5	2-5	2-4	5-9	2-4	1-2(L)	
14	2-4	9-20(sf,B)	5-10	-	-	-	1	1	1	1-2	1-2	1-2	
15	2-4	-	-	-	-	-	-	-	-	-	-	-	

B: barbed; b: weakly barbed; d: dendritic; L: large sized; M: multiple (with more than ten branches); sf: stiff.

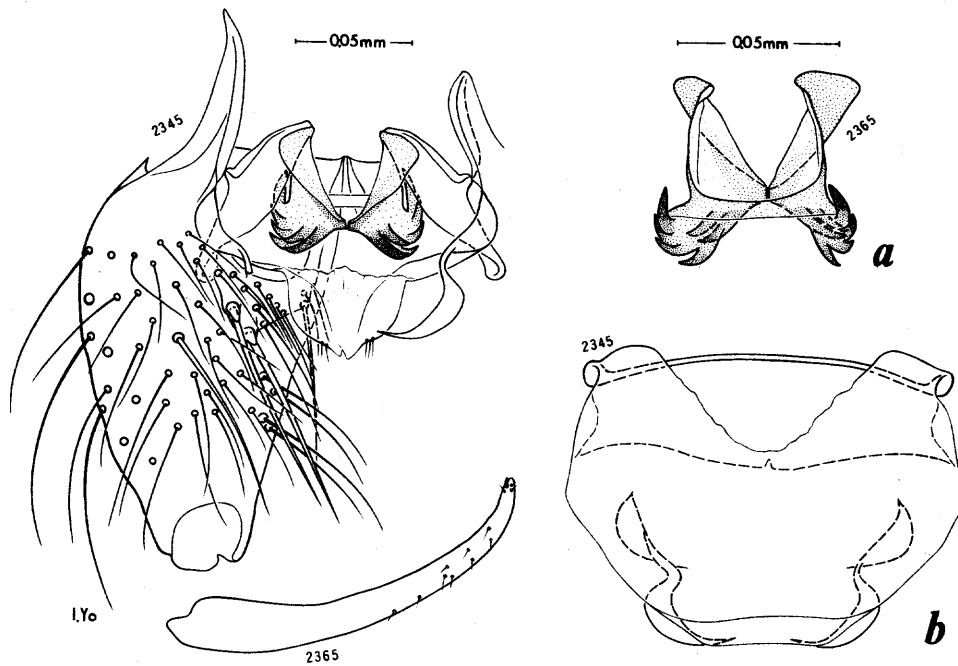


Fig. 1. *Uranotaenia (Pseudoficalbia) ohamai* sp. nov., male genitalia. a, aedeagus (sternal aspect); b, segment IX with tergite X.

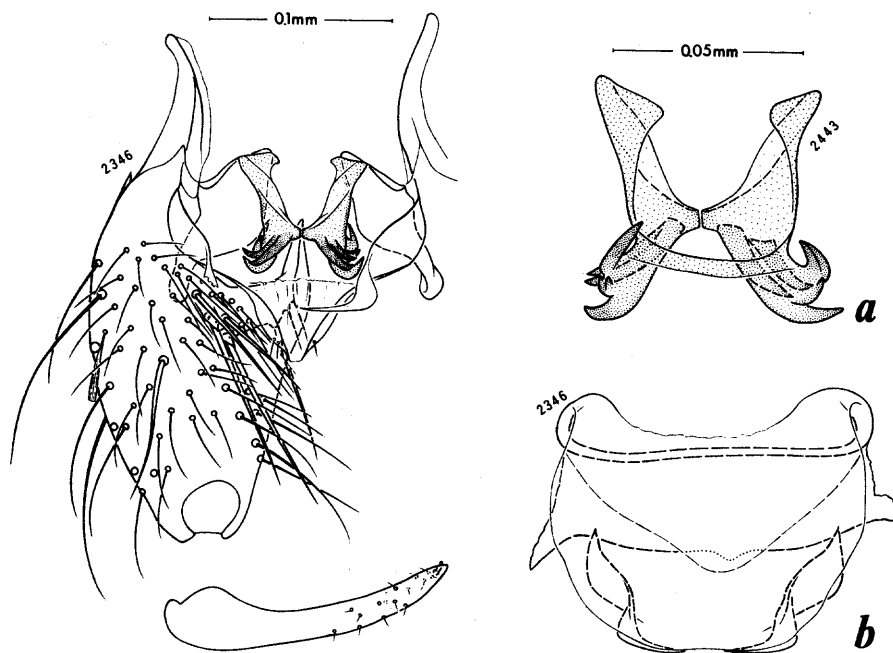


Fig. 2. *Uranotaenia (Pseudoficalbia) yaeyamana* sp. nov., male genitalia. a, aedeagus (sternal aspect); b, segment IX with tergite X.

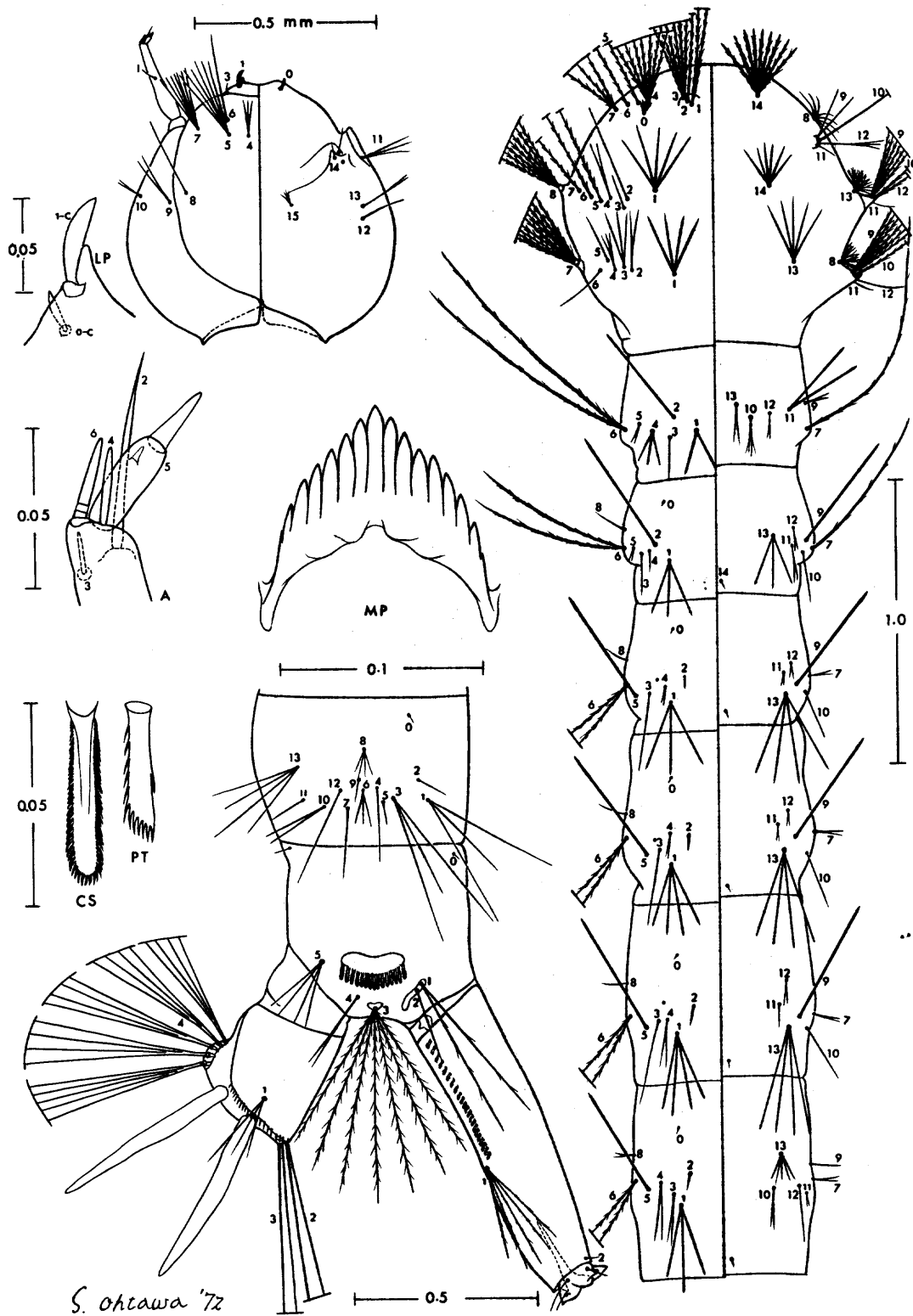


Fig. 3. *Uranotaenia (Pseudoficalbia) ohamai* sp. nov., 4th instar larva. A, apex of antenna; CS, comb scale; LP, labral process; MP, mentum plate; PT, pecten tooth.

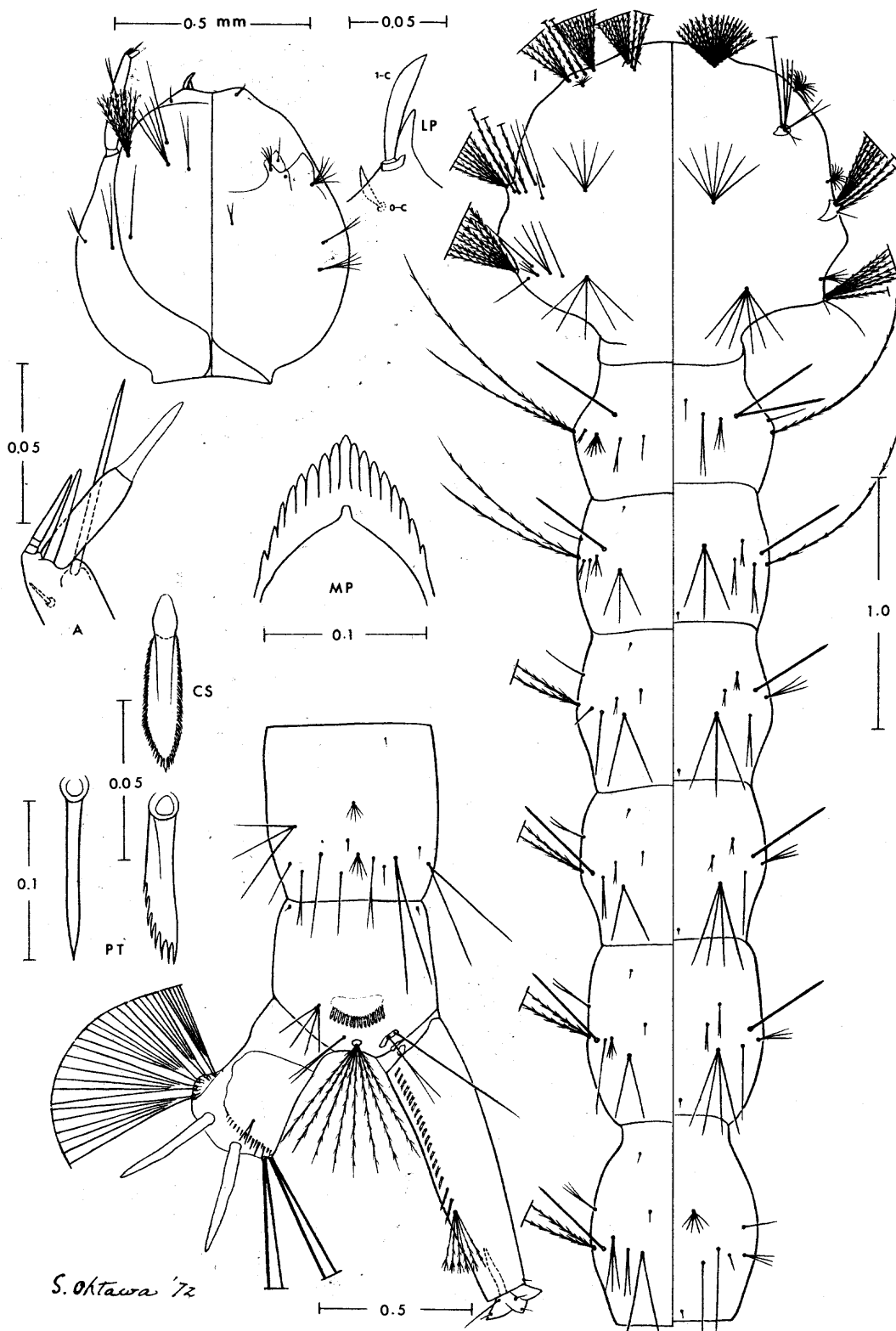


Fig. 4. *Uranotaenia (Pseudoficalbia) yaeyamana* sp. nov., 4th instar larva.
 A, apex of antenna; CS, comb scale; LP, labral process;
 MP, mentum plate; PT, pecten teeth.