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## Study on the Tribe Blondeliini from Japan (Diptera, Tachinidae) VI. A Revision of the Genus *Uromedina* TOWNSEND

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**Abstract** The Oriental genus *Uromedina* is revised. *Uromedina rufipes* sp. nov. is described and illustrated from Japan. Three known species, *atrata*, *caudata* and *eumorphophaga*, are redescribed and illustrated. Females of *atrata* and *caudata* are described for the first time. A key to the 4 species of the genus is provided.

*Uromedina* TOWNSEND, 1926 has been known from 3 species from tropical or subtropical Asia (CROSSKEY, 1976). Since the original descriptions these species have not been studied in detail and only males have been known. In this paper I describe a new species from Japan and redescribe and illustrate the 3 other known species of the genus. Females of 2 known species, *atrata* and *caudata*, are described for the first time. A diagnostic key to the 4 species is also provided.

*Uromedina* is oviparous but little else is known about the general biology of the species. A host is known only for the Oriental species *eumorphophaga* which is recorded from an endomychid beetle, *Eumorphus marginatus* (Coleoptera, Endomychidae) (BARANOV, 1934).

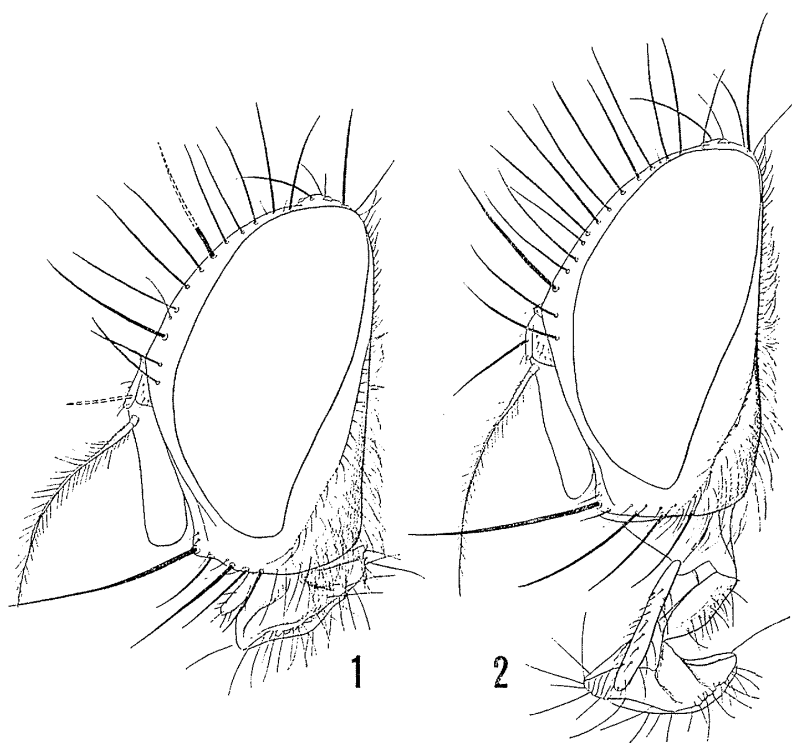
Material has been studied from the following collections: Biological Laboratory, College of General Education, Kyushu University, Fukuoka (BLKU); British Museum (Natural History), London (BMNH); Osaka Museum of Natural History, Osaka (OMNH); U. S. National Museum of Natural History, Washington, D. C. (USNM); Zoölogisch Museum, Universiteit van Amsterdam, Amsterdam (ZMA).

### Genus *Uromedina* TOWNSEND

*Uromedina* TOWNSEND, 1926: 18. Type-species: *Uromedina caudata* TOWNSEND, 1926, by original designation.

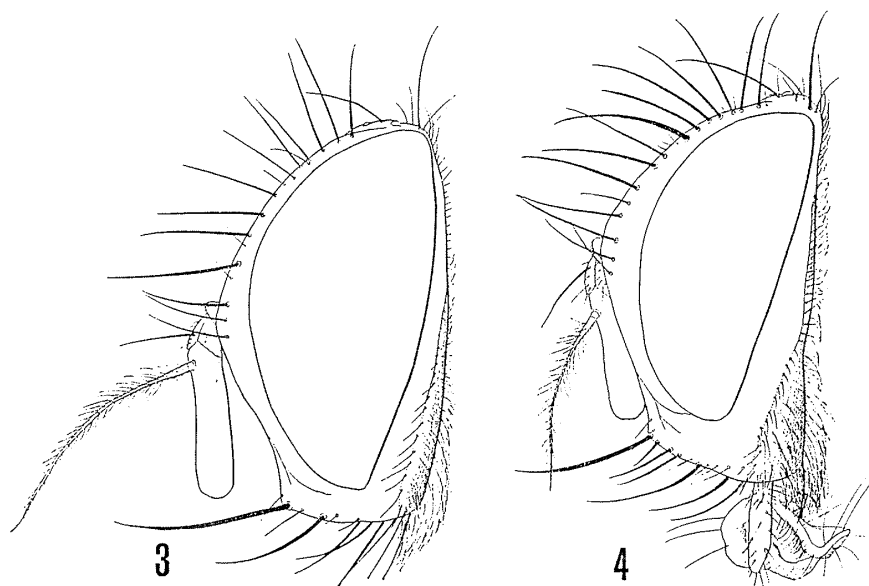
*Arrhinodexia* TOWNSEND, 1927: 282. Type-species: *Arrhinodexia atrata* TOWNSEND, 1927, by original designation.

**Diagnosis.** Slender blackish or reddish yellow flies; legs in some species very long; prosternum bare; 2+3 *dc*; last section of wing vein  $M_3$  much shorter than discal crossvein; fore tibia with 1 *p* seta; mid-tibia with 0-1 *ad* seta. In general appearance closely resembling *Uroeuantha* TOWNSEND and *Eophyllophyla* TOWNSEND, but differing from the former in having 2+1 *stpl* setae and normally arranged mesopleural setae and from the latter in the bare prosternum and absence of discal setae on the abdominal terga.



Figs. 1-2. Male head in profile. — 1, *U. caudata*; 2, *atrata*.

♂♀. Head: Vertex narrow, less than 1/5, sometimes 1/10, of head width in ♂, 1/5-1/4 in ♀; interfrontal area narrow, widened anteriorly; face rather weakly concave, epistoma not produced forwards; parafacial narrowed below; gena usually less than 1/4 of eye height; occiput flat; ocellar seta fine but distinct; 1 fine post-vertical seta; 2 fine postocellar setae; about 10 or more fine frontal setae in ♂, 4-6 in ♀, lowest seta nearly level with middle of 2nd antennal segment; no distinct reclinate orbital seta in ♂, 1 strong seta in ♀; proclinate orbital seta absent in ♂, 2 strong setae in ♀; parafrontal at most with very sparse fine hairs on inner portion; parafacial bare; facial ridge not produced forwards, bare; vibrissa level with lower margin of face; base of antenna level with middle of eye height; 2nd antennal segment with a long seta and many fine hairs, 3rd segment 3-5× as long as 2nd; arista plumose, basal 2 segments short, 3rd segment thickened at most on basal 1/5; proboscis short, less than 1/2 of eye height; labella large; palpus nearly cylindrical to apex, more or less dorsoventrally flattened to apex in ♀; eye bare. Thorax: Prothorax, propleuron and mediotergite bare; 2-3 humeral setae; 1-2+0-1 *ac*; 2+3 *dc*; 0+3 *ia*, foremost seta sometimes very fine and indistinct; pre-alar seta very fine, sometimes indistinct; 1 propleural seta; 1 prostigmatic seta; pteropleural seta rather weak, not surpassing posterior margin of upper calypter; 2+1 *stpl*; preapical scutellar seta absent; lateral and apical scutellar setae at most weakly developed. Wing: Long, narrow in ♂ of some species, rather broad in ♀; tegula and basicosta

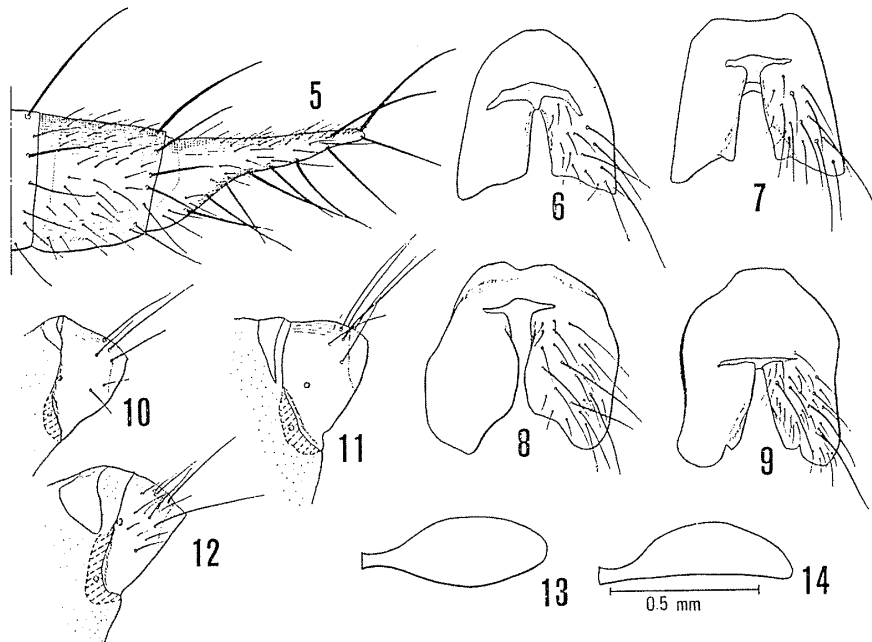


Figs. 3-4. Male head in profile. — 3, *U. eumorphophaga*; 4, *rufipes* sp. nov.

black; costigial setae long; costal spine at most  $2\times$  as long as costal setae; 2nd costal sector bare ventrally; cell  $R_{1+5}$  open before wing tip; bend of vein  $M_1$  gentle, very close to wing margin; last section of vein  $M_3$  distinctly shorter than discal cross-vein. Legs: In some species very long in ♂; fore tibia with 1 *p* seta; mid-tibia with 0–1 *ad* and 2–6 *pd* setae, *v* seta sometimes absent; hind tibia with 2 preapical *d* setae, without apical *pv* seta; claws and pulvilli elongate in ♂, short in ♀. Abdomen: Long and narrow in ♂; syntergum 1+2 excavated only at base dorsally; 2nd tergum with or without median marginal setae; 3rd tergum with 2 median marginal and 1–2 lateral marginal setae; 4th and 5th terga each with a row of marginal setae; median discal setae absent on 3rd to 5th terga; in ♂ of 1 species 5th tergum produced to form an elongate “tail.”

♂ genitalia: 6th tergum entire or constricted at middle, free from or narrowly fused with synsternum 7+8, without hair; 6th sternum articulated with synsternum 7+8 on left side, broadly separated from it on right side; dorsal arms of hypandrium separated from each other; pregonite with a row of several hairs on posterior portion; cerci completely fused with each other, strongly narrowed from base to mid length in dorsal view, apical portion rather cylindrical; surstylus in lateral view wide, with fine hairs; epiphallus present or absent; distiphallus expanded laterally on upper middle portion of ventral sclerite. ♀ genitalia: 6th tergum at least narrowly divided into 2 hemitergites; 6th and 7th abdominal spiracles both on ventral portion of 6th tergum; 6th and 7th sterna rounded and free from intersegmental membrane on ventrodistal portion; 8th tergum and sternum absent; epiproct present, without hair.

*Remarks.* The genus *Uromedina* as here defined entirely corresponds to that



Figs. 5-14. Male abdominal apex in lateral view (5), 5th abdominal sternum in ventral view (6-9, hairs omitted on left side), 6th abdominal tergum and synsternum 7+8 in lateral view (10-12), and egg in dorsal view (13) and ventral view (14). — 5-6, 10, *U. caudata*; 7, 11, 13-14, *atrata*; 8, *eumorphophaga* (drawn from slide); 9, 12, *rufipes* sp. n. Scale only for egg.

treated by CROSSKEY (1976). CROSSKEY (l.c.) synonymized *Arrhinodexia* with this genus and I agree with him. In *atrata*, the type-species of *Arrhinodexia*, the hypoproct of the female postabdomen is modified into a peculiar piercing structure (Figs. 26-27), but other characteristics of the species, including the genitalia, correspond well to those of *caudata*, the type-species of *Uromedina*.

The phylogenetic affinities of this genus are not clear. In general facies *Uromedina* very closely resembles the monotypic Oriental genus *Uroeuantha* TOWNSEND, but the male genital structure seems to be different between them; in *Uromedina* the male cerci are completely fused with each other and the distiphallus is more or less expanded laterally at middle, while in *Uroeuantha* the cerci are narrowly separated from each other and the distiphallus is not laterally expanded. As the female of *Uroeuantha* is unknown, it is difficult to judge the true affinity between these genera. Another Oriental genus, *Eophyllophyla* TOWNSEND, also resembles *Uromedina* in general appearance, but the genital structures of *Eophyllophyla* seem to suggest that it is more closely allied to *Trigonospila* POKORNY. Ovipositing habits are, however, different between these two genera; *Eophyllophyla* is ovoviviparous and *Trigonospila* is oviparous.

*Uromedina caudata* TOWNSEND

(Figs. 1, 5-6, 10, 15-18, 25)

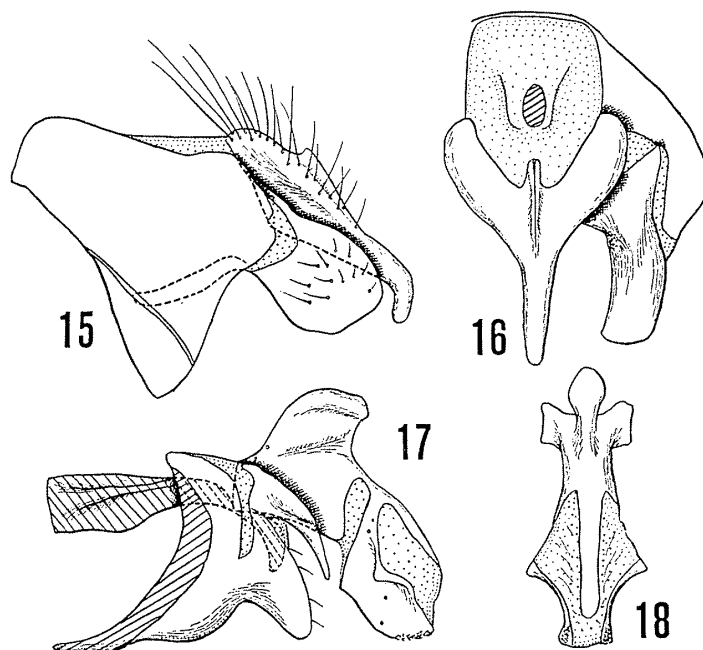
*Uromedina caudata* TOWNSEND, 1926: 19.

♂. Head whitish pollinose, upper parafrontal grayish white, postorbit black on upper 1/5 in profile, occiput dark gray; interfrontal area black; antenna brown, apex of 2nd segment and base of 3rd pale brown; arista pale brown on basal thickened portion and brown on apical portion; palpus yellow. Vertex 0.1-0.12 of head width; interfrontal area subequal in width to parafrontal at middle; parafacial about 1/2 as wide as 3rd antennal segment at middle height; gena 0.09-0.1 of eye height; postorbit very narrowed on upper 1/5 and postocular row set close to posterior margin of eye in that area. Inner vertical setae convergent apically, about 1/4 of eye height; outer vertical seta fine, about 1/2 as long as inner one; 14-20 subequally long frontal setae; ocellar seta slightly shorter than inner vertical seta; parafrontal without fine hairs on outside of frontal setae; occiput without black setulae. Third antennal segment about 4× as long as 2nd and about 3.5× as long as wide, apex reaching lower margin of face. Arista with total width in profile including plumosity subequal to width of 3rd antennal segment. Palpus about 5/6 as long as 3rd antennal segment.

Thorax shining black in ground color; dorsum densely whitish pollinose; prescutum with 4 broad black vittae not reaching transverse suture, inner and outer vittae fused with each other on anterior 1/2-2/3; scutum with 3 broad black vittae, median vitta very broad and outer vitta tapering posteriorly; scutellum without pollinosity; pleura rather thinly whitish pollinose. Hairs fine and short; 2+0 *ac*; 2 humerals; sternopleuron without row of hairs in front of mid-coxa, with several hairs on mid-ventral portion; scutellum flat, nearly triangular in shape, basal scutellar seta about 2× as long as scutellum, subapical scutellar seta about 3× as long as scutellum, distance between bases of two subapical setae slightly longer than 1/3 of that between basal and subapical setae of same side; lateral scutellar seta indistinct; apical scutellar seta absent.

Wing narrow and long, evenly tinged with brown; calypter pale brownish white. A row of 8-10 longish hairs present on anterodorsal portion of costa from base to basal costal break, the hairs about 2× as long as *r-m* crossvein; 2nd costal sector slightly longer than 1/2 of 3rd, slightly longer than 4th; basal node of vein  $R_{4+5}$  with 1 very fine hair dorsally and ventrally; vein  $M_1$  from discal crossvein to its bend subequal in length to that from the bend to apex, about 4× as long as distance between the bend and wing margin; last section of vein  $M_3$  about 1/2 as long as discal crossvein.

Legs long; dark brownish, tibiae sometimes pale brown medially; pulvilli dull yellowish. Fore coxa elongate, about 1/2 as long as fore femur; fore tibia without *ad* seta, with 1-2 fine short *pd*; mid-femur about 1.5× as long as fore femur, slightly shorter than hind femur; mid-tibia slightly shorter than mid-femur, with 0-1 *ad* and



Figs. 15–18. Male genitalia of *U. caudata* — 15, Epandrium, cerci and surstylus in lateral view; 16, same in dorsal view (hairs omitted); 17, hypandrium, pre- and postgonites and aedeagus in lateral view; 18, aedeagus in dorsal view.

4–6 *pd* setae, without *v* seta; mid-tarsus about  $1.3\times$  as long as mid-tibia; hind tibia subequal in length to mid-tibia, weakly sinuate at basal  $1/4$ , with 2–3 *ad*, 2 *pd* and 2 *v* setae; hind tarsus slightly longer than mid-tarsus; fore claw and pulvillus subequal in length to 5th tarsomere.

Abdomen brownish black, pale brown on venter of 2nd tergum and antero-lateral portion and venter of 3rd; densely whitish pollinose on anterior  $1/5$  of 3rd tergum,  $1/6$  of 4th and  $1/7$  of 5th. Fifth tergum elongate, about  $1.5\times$  as long as 4th, produced as a narrow elongate “tail” on posterior  $2/3$  of tergum. Second tergum with 2 median marginal and 1 lateral marginal setae; 5th tergum with several strong setae along ventral portion of “tail.” Genitalia: 5th sternum slightly longer than wide, with posterior lobe on posterior  $1/2$  of sternum; 6th tergum entire, free from synsternum 7+8; dorsal arm of hypandrium rather narrow; pregonite short; cerci in lateral view strongly curved ventrally near apex; surstylus in lateral view broad, rounded apically; basiphallus with large epiphallus; ventral sclerite of distiphallus broad.

Body length, 4.9–6.9 mm; wing length, 4.4–6.1 mm.

♀ (based on a single specimen). Differing from ♂ as follows: Vertex about  $0.22$  of head width; interfrontal area about  $1/2$  as wide as parafrontal; postorbit not markedly darkened on upper portion; inner vertical setae crossing, strong, about  $1/2$  of eye height; outer vertical seta about  $1/2$  as long as inner one; 2 subequally long proclinate orbital setae, slightly longer than reclinate one, anterior seta nearly level with middle of parafrontal in profile; 4 frontal setae, uppermost seta

weakly directed upwards; ocellar seta about  $3/4$  as long as outer vertical seta; 3rd antennal segment about  $3.5\times$  as long as 2nd, about  $2.5\times$  as long as wide; arista rather short plumose, total width in profile including plumosity slightly narrower than width of 3rd antennal segment; palpus slightly flattened and widened apically, about  $2/3$  as long as 3rd antennal segment; hairs on thorax shorter and sparser than in ♂; wing nearly hyaline, shorter and wider than in ♂; costa of wing without a row of long hairs basally; 2nd costal sector of wing about  $1/3$  as long as 4th; wing vein  $M_1$  from discal crossvein to its bend about  $3\times$  as long as distance between the bend and wing margin; last section of wing vein  $M_3$  about  $2/3$  as long as discal crossvein; legs distinctly shorter than in ♂, hind tibia not sinuate; claws and pulvilli distinctly shorter than 5th tarsomere; abdomen without tail, 5th tergum about  $3/4$  as long as 4th; narrow pollinose bands on 3rd and 4th terga appearing tessellate with direction of light, 5th tergum almost without pollinosity on dorsum. Genitalia: 6th tergum broadly divided into 2 hemitergites on mid-dorsal portion; 6th sternum subequal in length to 5th sternum; 7th tergum divided into 2 hemitergites, slightly shorter than 6th tergum; 7th sternum narrowly free from intersegmental membrane on distal portion; epiproct short, extending ventrally and fused with anterodorsal extension of hypoproct; hypoproct narrow.

Body length, ca. 3.5 mm; wing length, ca. 3.6 mm.

*Distribution.* Thailand, Indonesia (Sumatra), Papua New Guinea (New Guinea).

*Type material examined.* Holotype ♂, Fort de Kock, 920 m, Indonesia, 1925, E. JACOBSON (ZMA).

*Specimens examined.* THAILAND: 2 ♂♂, Doi Inthanon, 1700 m, 24. ii. 1979, H. SUZUKI; 1 ♂, Doi Saket, Chiang Mai, 16. xii. 1975, H. SHIMA; 1 ♀, Sai Yok, 500 m, 27–29. xii. 1975, H. SHIMA (BLKU). PAPUA NEW GUINEA: *New Guinea* — 2 ♂♂, Wau, 17. xii. 1981, S. SHINONAGA; 1 ♂, Regina Creek, Wau, 25. xii. 1981, S. SHINONAGA (BLKU).

*Remarks.* This species is peculiar in having the male 5th abdominal tergum elongate as a “tail” (Fig. 5), but in other features this species closely resembles *atrata*. The female genitalia of this species retain generalized structure in having an unmodified hypoproct.

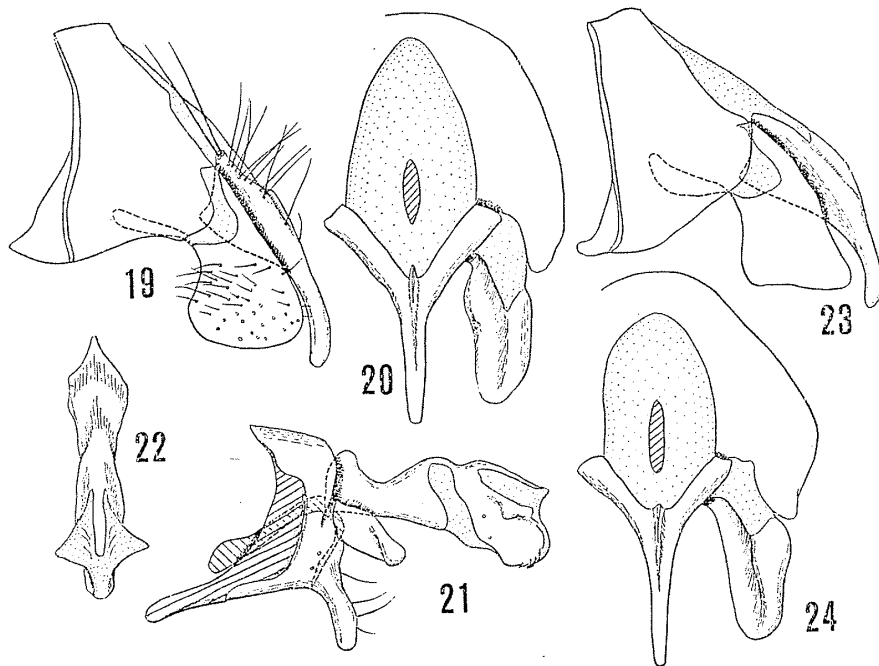
Though rather few specimens have been seen in this study, it is most likely that this species is widespread in tropical areas of southeast Asia eastwards to New Guinea.

### *Uromedina atrata* (TOWNSEND)

(Figs. 2, 7, 11, 13–14, 19–24, 26–27)

*Arrhinodexia atrata* TOWNSEND, 1927: 283.

♂. Closely resembling *caudata*, but differing as follows: Head: Postorbit narrowed and darkened on upper  $2/5$  in profile; 8–16 frontal setae; gena slightly



Figs. 19–24. Male genitalia of *U. atrata* from Taiwan (19–22) and from Hokkaido (23–24). — 19, 23, Epandrium, cerci and surstylus in lateral view (hairs omitted in 23); 20, 24, same in dorsal view (hairs omitted); 21, hypandrium, pre- and postgonites, aedeagus in lateral view; 22, aedeagus in dorsal view.

wider, 0.1–0.13 of eye height; arista with shorter plumosity, total width including plumosity about  $\frac{3}{5}$  as wide as width of 3rd antennal segment; palpus slightly darkened at base. Thorax: Prescutum with 4 black vittae, inner and outer vittae usually not fused with each other; scutum broadly blackish, with 2 longitudinal whitish pollinose stripes; sternopleuron with irregular rows of fine hairs in front of mid-coxa, in small specimens the rows of hairs sometimes interrupted; scutellum with fine but distinct lateral scutellar seta which is slightly shorter than scutellum; distance between bases of 2 subapical scutellar setae about  $\frac{2}{3}$  as long as that between subapical and basal setae of same side. Wing: Costa without remarkably long hairs on its base; 2nd costal sector  $\frac{2}{5}$ – $\frac{1}{2}$  as long as 3rd; basal node of vein  $R_{4+5}$  with 1–2 fine hairs dorsally and 1 hair ventrally; last section of vein  $M_3$   $\frac{3}{5}$ – $\frac{2}{3}$  as long as discal crossvein. Legs: Slightly shorter than in *caudata*; fore tibia without *ad* and *pd* setae; mid-tibia subequal in length to mid-femur and slightly shorter than mid-tarsus, with 1 *ad* and 2 *pd* setae; hind tibia more weakly sinuate. Abdomen: Slightly more thinly whitish pollinose than in *caudata*, pollinosity diffusing on posterior portion of each tergum; mid-dorsal longitudinal vitta distinct on 3rd and 4th terga; 2nd tergum without median marginal setae; 5th tergum without prolonged “tail,” about  $\frac{3}{4}$  as long as 4th. Genitalia: Posterior lobe of 5th sternum occupying posterior  $\frac{3}{5}$  of sternum, posteromedian margin of posterior lobe weakly swollen and shining; 6th tergum free from, or narrowly fused on mid-



dorsal portion with, synsternum 7+8; dorsal arm of hypandrium broad; cerci in lateral view weakly curved ventrally; surstylus in lateral view broad and truncate at apex; basiphallus without epiphallus; distiphallus with broad ventral sclerite.

Body length, 3.9–6.7 mm; wing length, 3.9–6.3 mm.

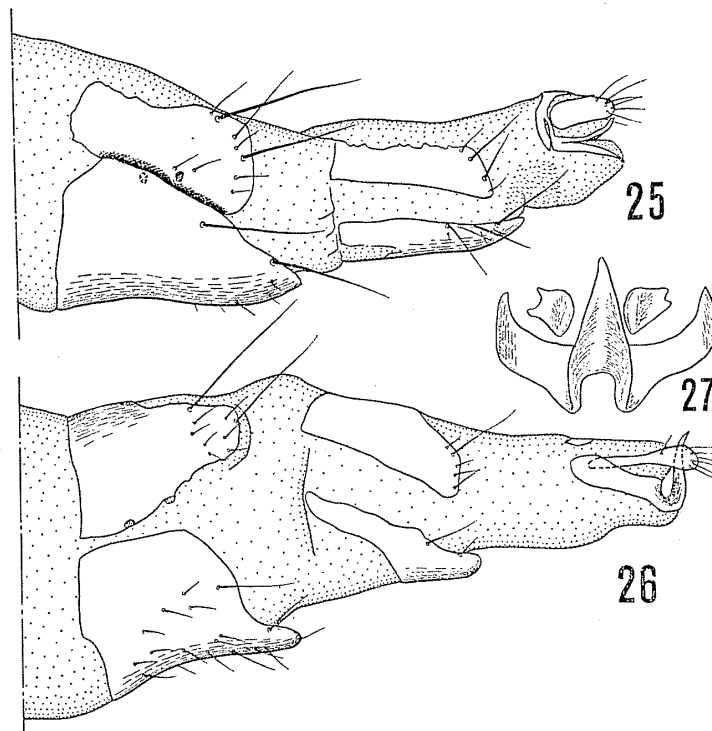
♀. Differing from ♂ as follows: Vertex 0.2–0.21 of head width; interfrontal area about 3/5 as wide as parafrontal at middle; postorbit narrowed and darkened on upper 1/3; inner vertical setae crossing, about 1/2 of eye height; outer vertical seta about 2/3 as long as inner one; ocellar seta fine, about 1/3 as long as inner vertical seta; 1 reclinate orbital seta slightly longer than outer vertical seta; 2 subequally long proclinate orbital setae, slightly longer than reclinate one, anterior seta nearly level with anterior 1/3 of parafrontal in profile; 5–6 frontal setae; 3rd antennal segment 4.2–4.5× as long as 2nd, 3× as long as wide; palpus about 2/3 as long as 3rd antennal segment, slightly widened and flattened apically; hairs on thorax shorter and sparser than in ♂; wing wider than in ♂, 2nd costal sector about 3/7 as long as 3rd and slightly shorter than 4th; last section of wing vein  $M_3$  about 3/4 as long as discal crossvein; legs shorter than in ♂, hind tibia not sinuate; claws and pulvilli distinctly shorter than 5th tarsomere; abdominal dorsum more thinly pollinose than in ♂. Genitalia: 6th tergum narrowly divided on mid-dorsal portion into 2 hemitergites; 6th sternum 2/3 as long as 5th sternum; 7th tergum broadly divided into 2 hemitergites; 7th sternum broadly membraneous on anteroventral portion; epiproct small; hypoproct strongly curved upwards at apical 1/2, apical portion modified into sharply pointed “piercer.”

Body length, 3.3–5.1 mm; wing length, 3.2–5.1 mm.

*Distribution.* Japan (Hokkaido, Honshu, Shikoku, Kyushu, Ryukyus); Nepal, Burma (after CROSSKEY, 1976), Thailand, Taiwan, Malaysia (Malaya, Sabah), Papua New Guinea (New Guinea).

*Type material examined.* Syntype 1 ♂, Tappani, 7. iv. 1910, H. SAUTER (USNM).

*Specimens examined.* JAPAN: *Hokkaido* — 3 ♂♂, Aizankei, Mts. Daisetsu, 7. viii. 1967, H. SHIMA & T. SAIGUSA; 1 ♀, Kiyokawa, Ashoro, 23. vii. 1967, A. NAKANISHI: *Honshu* — 1 ♂, Namidate, Aomori, 29. vi. 1979, S. FUKUSHI; 2 ♂♂, Minano, Saitama, 15. vi. 1974, K. HARA; 1 ♂, Minano, 30. ix. 1974, K. HARA; 1 ♂, Kamikawa, Saitama, 13. vi. 1974, K. HARA; 1 ♂, Ogano, Saitama, 10. x. 1974, K. HARA; 1 ♂, Yorii, Saitama, 28. v. 1972, K. HARA; 3 ♂♂, Mt. Takao, Tokyo, 8. vi. 1971, S. SHINONAGA; 1 ♂, Shimoda, Shizuoka, 29. vii. 1971, R. KANO; 1 ♀, Shiraike, Niigata, 18. vii. 1966, H. SHIMA; 5 ♂♂, Karuizawa, Nagano, 11. vii. 1966, H. SHIMA & Y. MIYATAKE; 1 ♀, Mt. Hakuba, Nagano, 16–17. viii. 1970, S. SHINONAGA; 1 ♂, Shimashima-dani, Nagano, 5. vii. 1966, H. SHIMA: *Shikoku* — 1 ♂ 1 ♀, Matsuyama City, Ehime, 25. v. 1967, H. SHIMA: *Kyushu* — 2 ♂♂, Meboro, Mt. Mitake, Tsushima, 15–18. vii. 1968, S. MIYAMOTO & A. NAKANISHI; 2 ♂♂, Mt. Inunaki, Fukuoka, 28. v. 1982, H. SHIMA; 1 ♂, Mt. Hakucho, Izumi-mura (1300 m), Kumamoto, 30. vii. 1977, K. OHARA: *Ryukyus* — 2 ♂♂, Yona, Okinawa



Figs. 25-27. Female genitalia in lateral view (25-26) and cerci and hypoproct in posterior view (27, hairs omitted). — 25, *U. caudata*; 26-27, *atrata*.

Is., 19. x. 1973, R. KANO (all in BLKU). TAIWAN: *Nantou Hsien* — 4 ♂♂, Tsiufeng, 28-29. v. 1972, R. KANO; 2 ♂♂, Tsiufeng, 13. vi. 1970, H. KURAHASHI; 19 ♂♂, Meifeng-Tsui Feng (2200-2300 m), 25. iv. 1981, K. OHARA & H. TAKEMOTO: *Taoyuan Hsien* — 1 ♂, Hsitun-Chihun (1000-1200 m), 18. iv. 1981, K. OHARA (BLKU). MALAYSIA: *Malaya* — 1 ♂, 30 mi N Tapah (300-600 m), 28. x. 1975, H. SHIMA; 1 ♀, Ulgomback Rd., 39 km E K.L., 30. x. 1975, S. SHINONAGA: *Sabah* — 2 ♂♂, Papar, 50 km SW of Kota Kinabalu, 13-15. xi. 1975, S. SHINONAGA & H. SHIMA (BLKU). THAILAND: 1 ♂, Ban Pong Din, 10 km NE Doi Saket, 7. ix. 1975, H. KURAHASHI; 2 ♂♂, Kao Yai, 30 km S of Pak Chong, 24-26. xii. 1975, S. SHINONAGA & H. SHIMA; 1 ♂, Kao Yai, 10. iv. 1963 (BLKU). NEPAL: 1 ♂, Lelep (1770 m)-Chiliwa (1350 m), 6. vi. 1972, H. SHIMA; 1 ♂, Lipshiba Kharka, 1900 m, 30. x. 1971, A. NAKANISHI (BLKU). PAPUA NEW GUINEA: *New Guinea* — 4 ♂♂, Mt. Kaindi, Wau, 10-13. i. 1974, S. SHINONAGA; 2 ♂♂ 1 ♀, Nami Creek, Wau, 1700 m, 19. vii. 1982, S. SHINONAGA; 2 ♂♂ 1 ♀, Nami Creek, 30. xii. 1981, S. SHINONAGA; 1 ♀, Wau, 22-31. xii. 1973, H. SHIMA (all in BLKU).

*Remarks.* No material has been seen from Indonesia, but this species must be widespread and common from Indian subcontinent eastwards to New Guinea and as far north as Hokkaido, Japan. Specimens from New Guinea listed above are slightly darker and their female palpi are slightly broader than those from Asia, but they are regarded as conspecific because of the genital structure.

The abdomen of a female of this species was dissected and contained short-petiolate planoconvex eggs (Figs. 13–14).

*Uromedina eumorphophaga* (BARANOV)

(Figs. 3, 8, 28)

*Arrhinodexia eumorphophaga* BARANOV, 1934: 48.

♂ (holotype). Head densely whitish pollinose; gena grayish white and occiput grayish pollinose; interfrontal area blackish brown; antenna brown, base of 3rd segment reddish; palpus yellow. Vertex about 0.12 of head width; interfrontal area narrowest near middle, about  $2/5$  as wide as parafrontal; parafacial about  $3/5$  as wide as 3rd antennal segment at middle height; gena about 0.11 of eye height. Inner vertical seta fine, about  $1/3$  of eye height; outer vertical seta still fine, about  $2/3$  as long as inner one; ocellar seta slightly shorter than inner vertical seta; 13 rather fine frontal setae, upper 3 setae directed upwards and others directed forwards; parafacial very sparsely haired on inner portion, almost bare on outer portion; occiput without black setulae. Antenna falling short of lower margin of face by about length of 2nd segment; 3rd segment about  $5.5\times$  as long as 2nd. Arista with total width including plumosity slightly narrower than width of 3rd antennal segment in profile. Palpus about  $3/4$  as long as 3rd antennal segment.

Thorax densely grayish white pollinose on dorsum, 4 longitudinal black vittae on prescutum, 1 longish outer vitta on scutum (inner portion of scutum damaged with pin); scutellum not distinctly pollinose; pleura thinly grayish white pollinose. Hairs rather dense and fine; 3 humeral setae nearly in a straight line; 1+? (damaged) *ac*; sternopleuron with 2–3 irregular rows of fine hairs in front of mid-coxa; basal scutellar seta about  $1.5\times$  as long as scutellum; lateral scutellar seta slightly shorter than scutellum; subapical scutellar setae missing; apical scutellar seta absent; distance between bases of 2 subapical scutellar setae about  $2/3$  as long as that between basal and subapical setae of same side.

Wing long and rather broad; hyaline, slightly tinged with pale brown on anterior portion. Costa without a row of remarkably long hairs at base; 2nd costal sector about  $3/7$  as long as 3rd, subequal in length to 4th; basal node of vein  $R_{4+5}$  with 1 fine hair dorsally and ventrally; vein  $M_1$  from discal crossvein to its bend subequal in length to that from the bend to apex and about  $2.5\times$  as long as distance between the bend and wing margin; discal crossvein about  $2.2\times$  as long as ultimate section of vein  $M_3$ .

Legs not much elongate; brown; pulvilli pale brownish yellow. Fore tibia without *ad* seta; mid-tibia missing; hind tibia with a row of *ad*, 3 *pd* and 3–4 *v* setae; fore claw and pulvillus longer than 5th tarsomere.

Abdomen broadly reddish yellow on side and venter of syntergum 1+2 and 3rd tergum and anterolateral portion and venter of 4th; median vitta from syntergum 1+2 to anterior 4th, posterior portion of 4th tergum and entire 5th brownish black;

dorsum of anterior 1/4 of 3rd tergum, 1/3 of 4th and 1/2 of 5th thinly whitish pollinose. Second tergum with 2 median marginal and 1 lateral marginal setae. Genitalia: 5th sternum with posterior lobe on posterior 5/8 of sternum; cerci in dorsal view narrowed to basal 1/3, then nearly parallel-sided towards apex, in lateral view curved ventrally at apex; surstylus in lateral view broad, weakly curved ventrally on apical portion, with fine short hairs; dorsal arm of hypandrium rather broad; pregonite rather long; epiphallus absent; distiphallus rather narrow with ventral sclerite elongate.

Body length, ca. 6.7 mm; wing length, ca. 6.8 mm.

♀. Unknown.

*Distribution.* Burma (after CROSSKEY, 1976), Malaysia (Malaya).

*Host.* *Eumorphus marginatus* (FABRICIUS) (Coleoptera, Endomychidae) (BARANOV, 1934).

*Type material examined.* Holotype ♂, Kuala Lumpur, Malaya, Malaysia, 5. ix. 1927, G. H. CORBET (BMNH).

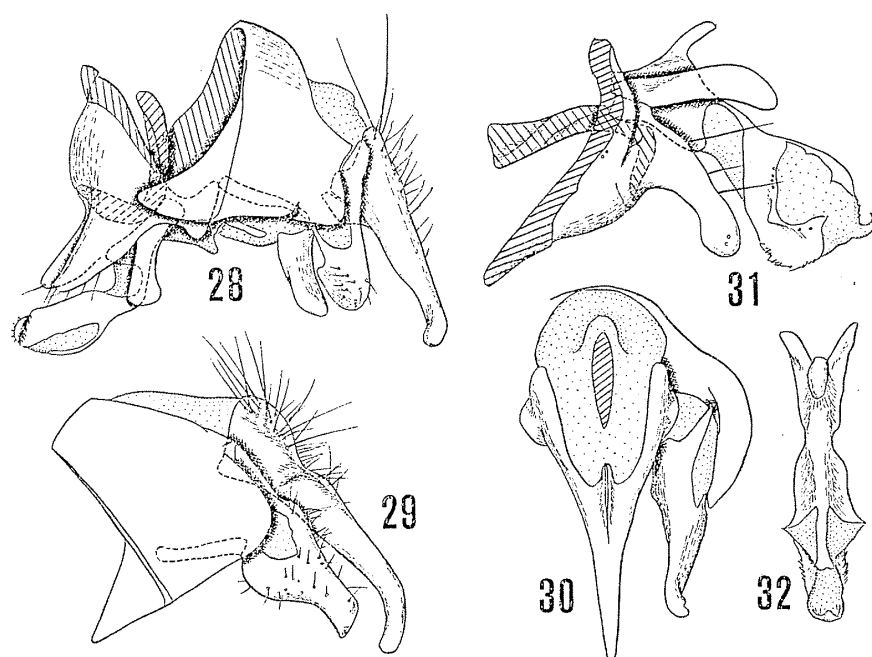
*Remarks.* In general appearance this species very closely resembles *rufipes* sp. n.

### *Uromedina rufipes* sp. nov.

(Figs. 4, 9, 12, 29–32)

♂. Head densely whitish pollinose, upper portion of parafrontal slightly yellowish, upper occiput grayish white; interfrontal area brownish black; antenna yellowish, apical portion of 3rd segment slightly darkened; arista yellowish on basal thickened portion, brownish on apical slender portion; palpus pale yellow. Vertex 0.15–0.17 of head width; interfrontal area subequal in width to parafrontal at middle; parafacial slightly wider than 3rd antennal segment at middle height; gena 0.23–0.26 of eye height. Inner vertical setae convergent or crossing apically, about 2/5 of eye height, outer vertical seta about 1/2 as long as inner one; ocellar seta about 3/4 as long as inner vertical seta; 12–15 frontal setae, upper 1–3 weakly reclinate and others directed forwards; parafrontal sparsely haired; upper occiput with an irregular row of several black setulae. Antenna falling short of lower margin of face by about 1/2 length of 2nd segment; 3rd segment weakly widened anteriorly, about 4× as long as 2nd and slightly shorter than 4× of width. Arista rather long plumose, total width including plumosity subequal to width of 3rd antennal segment in profile. Palpus weakly flattened apically, subequal in length to 3rd antennal segment.

Thorax densely pale yellowish white pollinose; prescutum with 4 longitudinal black vittae not reaching transverse suture; scutum with a broad median vittae and 2 lateral vittae, the latter tapering posteriorly; scutellum rather thinly grayish white pollinose. Hairs dense; 2 humeral setae; 1+1 *ac*; sternopleuron with irregular rows of fine hairs in front of mid-coxa; subapical scutellar seta about 1.5× as long



Figs. 28–32. Male genitalia of *U. eumorphophaga* (28, drawn from slide) and *rufipes* sp. n. (29–32). — 28, Male genitalia in ventro-lateral view; 29, epandrium, cerci and surstylus in lateral view; 30, same in dorsal view (hairs omitted); 31, hypandrium, pre- and postgonites and aedeagus in lateral view; 32, aedeagus in dorsal view.

as scutellum and slightly longer than basal one; lateral and apical scutellar setae slightly shorter than scutellum, apical setae divergent; distance between bases of 2 subapical scutellar setae about  $2/3$  as long as that between subapical and basal setae of same side.

Wing long and wide; weakly tinged with pale brown on anterior portion. Costa without remarkably longish hairs at base; 2nd costal sector slightly shorter than  $1/2$  of 3rd and slightly shorter than 4th; basal node of vein  $R_{4+5}$  with 3–4 fine hairs dorsally and ventrally; vein  $M_1$  from discal crossvein to its bend about  $4/5$  as long as that from the bend to apex, about  $4\times$  as long as distance between the bend and wing margin; discal crossvein sinuate, more than twice length of last section of vein  $M_3$ .

Legs not much elongate; reddish yellow, femora slightly darkened distally and tibiae darkened basally and distally; pulvilli dull yellowish. Fore tibia with a row of short fine *ad* and 1 fine *pd* setae; mid-tibia with 1 *ad*, 2 *pd* and 1 fine *v* setae; hind tibia with a row of irregular *ad*, 2–4 *pd* and 2 *v* setae. Fore claw and pulvillus longer than 5th tarsomere.

Abdomen brownish black in ground color, broadly reddish yellow on side and venter of syntergum 1+2 and 3rd tergum and on anterolateral portion of 4th; dorsum densely whitish pollinose on anterior  $1/2$  of 3rd and 4th terga and anterior  $2/3$  of 5th, the pollinosity becoming thinner on posterior portion of each tergum, mid-dorsal longitudinal black vitta distinct on 3rd tergum; venter evenly thin whitish

pollinose. Syntergum 1+2 with several strong hairs on lateral discal portion and with 2 median marginal and 2 lateral marginal setae. Genitalia: 5th sternum about as long as wide, posterior lobe occupying nearly posterior 1/2 of sternum, inner margin of posterior lobe weakly excavated at apical 1/3; 6th tergum constricted at middle; dorsal arm of hypandrium narrow; pre- and postgonites rather long; cerci in lateral view curved ventrally at apical 1/4; surstylus in lateral view widened near middle; basiphallus with narrow and rather long epiphallus; distiphallus widened apically, ventral sclerite rather narrow.

Body length, 7.6–9.2 mm; wing length, 7.9–9.4 mm.

♀. Unknown.

*Distribution.* Japan (Honshu).

Holotype ♂, Akakura, Mt. Iwaki, Aomori, Honshu, 21. ix. 1980, S. FUKUSHI (BLKU).

Paratypes: JAPAN: *Honshu* — 5 ♂♂, same data as holotype (BLKU); 1 ♂, Mt. Odaigahara, Nara, 9. viii. 1956, M. HAYASHI (OMNH).

*Remarks.* This species closely resembles the preceding one in general appearance, but may be easily distinguished from it by the wider vertex and gena and reddish yellow legs. This species differs from other members of this genus in its wide gena and vertex and in having a  $\nu$  seta on mid-tibia, but is well assignable to the genus in other features, such as the plumose arista, bare prosternum, mid-dorsal excavation of abdominal syntergum 1+2 not extending to hind margin and abdomen without discal setae.

#### Key to the Species of *Uromedina*

1. Abdomen broadly reddish yellow; thoracic dorsum densely whitish or pale yellowish white pollinose, longitudinal vittae rather narrow; upper postorbit not darkened; 2nd abdominal tergum with strong median marginal setae....2
- Abdomen blackish brown or black, at most pale brown on venter of syntergum 1+2 and 3rd tergum; thoracic dorsum with broad black vittae and appearing generally blackish; upper postorbit blackish at least in ♂; 2nd abdominal tergum with or without median marginal setae.....3
2. Legs brown-black; antenna brown, reddish at most on base of 3rd segment, 3rd segment about 5.5× as long as 2nd in ♂; apical scutellar seta absent; mid-tibia without  $\nu$  seta; gena about 0.11 of eye height; ♂ vertex about 0.12 of head width.....*eumorphophaga* (BARANOV)
- Legs reddish yellow; antenna yellowish, 3rd segment about 4× as long as 2nd in ♂; apical scutellar seta fine but distinct; mid-tibia with a  $\nu$  seta; gena about 1/4 of eye height; ♂ vertex 0.15–0.17 of head width.....*rufipes* sp. nov.
3. 2nd abdominal tergum without median marginal setae; postorbit black on upper 2/5 in ♂, 1/3 in ♀; ♂ abdomen without elongate “tail”; ♂ wing without a row of long hairs on basal portion of costa; ♀ anterior reclinate orbital seta

- nearly level with anterior 1/3 of parafrontal in profile. . . . . *atrata* (TOWNSEND)
- 2nd abdominal tergum with 2 median marginal setae; postorbit black on upper 1/5 in ♂, not remarkably black in ♀; ♂ 5th abdominal tergum produced as a long "tail"; ♂ wing with a row of long hairs on anterodorsal portion of costa from base to basal costal break; ♀ anterior proclinate orbital seta nearly level with middle of parafrontal in profile. . . . . *caudata* TOWNSEND

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