

Discovery of the Female of *Heteronychia nipponensis* Shinonaga & Matsudaira (Diptera, Sarcophagidae)

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Abstract The previously undescribed female of *Heteronychia nipponensis* Shinonaga & Matsudaira (Diptera, Sarcophagidae) was discovered from Kyushu, Japan. Illustration of the female genitalia is given for the first time. Redescriptions of the male and female are also given on the specimens collected in Kyushu, a new locality for the species. A key is provided to four Japanese species for identification.

Key words: *Heteronychia nipponensis*, redescription, female genitalia, new locality.

Since Shinonaga and Matsudaira (1970) described *Heteronychia nipponensis* based on a single male specimen collected in Goshiki-numa, Honshu, no further investigation has been made on this species. Recently, the second author collected a series of male and female materials of this rare species. We also had an opportunity to examine the collections made by our colleagues, Dr. H. Shima, Graduate School of Social and Cultural Studies, Kyushu University and Dr. K. Nishida, Public Health Research Institute of Kobe City and found this interesting fly in their collections. *Heteronychia nipponensis* Shinonaga & Matsudaira, 1970 is similar to *H. bajkalensis* (Rohdendorf, 1925) in having a bare first longitudinal vein and a pair of strong median marginal bristles on tergite 3, but differs from it in the shape of cerci and aedeagus. Four species of this genus, *H. abramovi* (Rohdendorf, 1938), *H. obscurata* (Rohdendorf, 1937), *H. vagans* (Meigen, 1826) and *H. nipponensis* Shinonaga & Matsudaira, 1970 have hitherto been recorded from Japan (Kano et al., 1967; Shinonaga & Matsudaira, 1970; Verves, 1986). *Heteronychia nipponensis* can be distinguished from the former three species by the characteristics given in the following key:

Key to the Japanese species of *Heteronychia*

1. First longitudinal vein (r_1) setulose on dorsal surface; tergite 3 with or without median marginal bristles 2
- First longitudinal vein (r_1) bare on dorsal surface; tergite 3 with median marginal bristles..... 3
2. Tergite 3 with a pair of median marginal bristles *H. obscurata* (Rohdendorf)

- Tergite 3 without median marginal bristles *H. abramovi* (Rohdendorf)
3. Epandrium in ♂ reddish orange; thoracic squama wholly whitish
 *H. vagans* (Meigen)
- Epandrium in ♂ black shining; thoracic squama more or less fuscous on disc
 *H. nipponensis* Shinonaga & Matsudaira

***Heteronychia nipponensis* Shinonaga & Matsudaira**

(New Japanese name: Nihon-kuronikubae)

(Fig. 1)

Heteronychia nipponensis Shinonaga & Matsudaira, 1970: 87. Type locality: Goshiki-numa, Fukushima-ken [Japan].

♂.—*Head*: eyes bare, dichoptic, separated at vertex by 3 times the width of ocellar triangle; frons index 0.17–0.19, narrowest at 10th pair of *ori*; frontal stripe black, broad, widened anteriorly and posteriorly, narrowest at the level of proclinate *ors*, $1.3\times$ the width of 1 of parafrontalia just in front of ocellus; parafrontalia densely silver grey dusted, darkened toward vertex, entirely black setulose, provided with ca 11 pairs of *ori*; *ors* 0+1, 1 reclinate *ors* strongly developed; *oc* weakly developed; *acoc* weakly developed; *pooc* weakly developed, parallel; *poc* of 2 pairs, divergent; *iv* well developed, *ov* less developed, usually shorter than $1/2$ the length of *iv*; *occ* 1, rather strong; parafacialia densely silver grey dusted, with yellowish brown tinge on lower portion, with 1–2 rows of black setulae on posterior half; face black, dark grey dusted, without median carian; facialia black, dark grey dusted, setulose on lower $1/3$; medianae narrow, blackish, bare; vibrissaria very narrow, black, with black hairs; vibrissae well developed; epistome blackish, not projecting forward; genae black, dark grey dusted, clothed with black hairs; postgenae concolorous with genae, largely clothed with black hairs except for yellowish brown ones on inner posterior margins; occiput concolorous with genae, largely clothed with black hairs except for yellowish brown ones on limited central portion; 2nd antennal segment black, submetallic, with 1 strong setula and several black setulose hairs; 3rd antennal segment black, pubescent, $2.2\times$ as long as second; arista blackish except for yellowish brown median portion, long plumose on basal $2/3$; palpi black, with black setulae.

Thorax: black, grey to dark grey dusted on anterior parts of prescutum, humei, notopleura, and postalar calli; one broad median, two fine submedian and one broad lateral longitudinal stripes distinguishable on prescutum, median and lateral broad ones not interrupted by transverse suture, but submedian fine one disappeared behind the suture, clothed with black ground hairs; humeri and postalar calli concolorous; scutellum concolorous with thoracic dorsum; prosternum bare; propleura bare; supraspiracular convexity bare; hypopleural hairs black, present along the row of *hp*, other pleural hairs also black; mesothoracic spiracle blackish; metathoracic one rather small in size, blackish; postalar declivity with several black setulae in central circle;

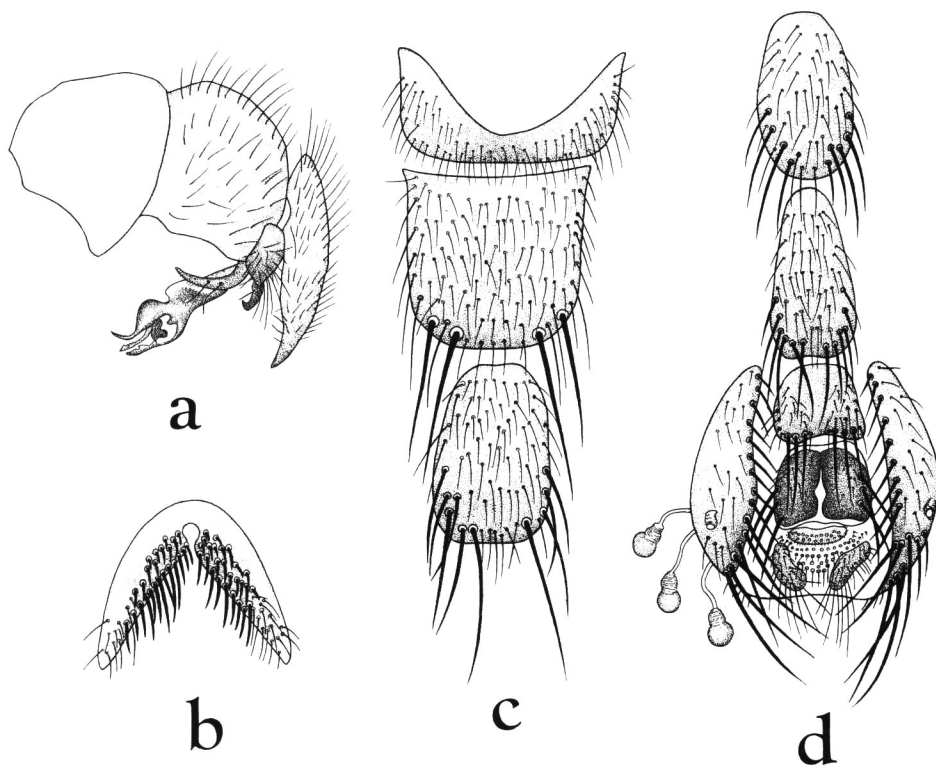


Fig. 1. *Heteronychia nipponensis* Shinonaga & Matsudaira, male and female sternites and genitalia. — a, Epandrium, cercus, paralobus, anterior and posterior parameres and aedeagus, lateral view; b, male 5th sternite, ventral view; c, female sternites 1-3, ventral view; d, female sternites 4-6, ventral view, and female genitalia, caudal view.

tympanic tuft absent; anterior parasquamal tuft absent; Chaetotaxy: *ac* 2-4+2-3, two posterior pairs of postsutural *ac* usually developed; *dc* 3+3, 2 additional presutural *dc* often developed in front of anterior presutural one; *ia* 0+2; *h* 3; *ph* 1-2; *prs* 1; *sa* 3; *pa* 2; *st* 1+1+1; *sc* 3+1, apical marginal *sc* less developed than lateral 2; *n* 4; *pp* 3; *pst* 2.

Wings: slightly infuscated entirely; veins blackish; epaulet black; basicosta orange; subcostal sclerite brown, pubescent; first longitudinal vein bare; node of 2nd and 3rd longitudinal veins several black setulae below; 3rd longitudinal vein setulose on 3/4 way from node to anterior cross vein r-r above; 4th longitudinal vein bent with sharp angle; section of 4th vein from bend to wing edge nearly straight; *R*₅ open; alar squama pale brown, with pale brownish hairs on inner ventral margin; thoracic squama brownish, bare on dorsal surface, usually pale on basal, lateral and posterior margins, margin and fringe pale in colour. Halteres brownish, darkened on stalk.

Legs: black, dark grey dusted, clothed with black hairs; fore tibia with 3 *ad* on basal 1/2 and 1 *pv* at apical 1/3; mid tibia with 2 *ad*, 3 *pd*, 1 *p* and 1 *v*; hind tibia with 3 *ad*, 2 *pd* and 1–2 *av*, short fringe developed on anteroventral and posteroventral surfaces, long fringe also on apical 1/2 of posteroventral surface; hind coxa haired behind.

Abdomen: black, more or less dark grey to brownish grey dusted, tessellated, clothed with black hairs; tergites 1+2 with several lateral marginal bristles and some additional in front of marginal row; tergites 3–4 with a pair of erect median marginals and several strong lateral marginals; tergites 5 with row of strong erect marginals; sternites concolorous with tergites; hairs on sternites and lateral sides of tergites black. Hypopygium black shining, male genitalia as showing in Fig. 1 a–b.

♀–*Head:* eyes dichoptic; frons index 0.27; frontal stripe blackish, broad, narrowest at the level of proclinate *ors*, 1.5× the width of 1 of parafrontalia just in front of anterior ocellus; parafrontalia provided with ca 9 pairs of *ori*; *ors* 2+1; *oc* well developed; *acoc* weakly developed; *pooc* weakly developed; *ov* and *iv* well developed; 2 pairs of *poc* weakly developed; *occ* 1.

Thorax: *ac* 2–3+1–2, 1 prescutellar *ac* usually developed; *h* 4–5; *ph* 3.

Wings: thoracic squama more broadly pale margined.

Legs: fore tibia with 4 *ad* on basal 1/2; mid tibia with 3 *ad*, 3 *pd*, 1 *p* and 1 *v*; hind tibia with 4–5 *ad*, 2 *pd* and 3 *av*, without fringe.

Abdomen: more darkened than that of male; tergite 3 with a pair of decumbent median marginal bristles; tergite 4 with row of erect marginal bristles. Ovipositor short, as shown in Fig. 1 c–d. Otherwise same as for ♂.

Length: 8.0–10.5 mm.

Specimens examined. KYUSHU: 2♂ 4♀, Nagasaki Pref., Mt. Myoken-dake, 1,333 m, 6–7. ix. 1989, H. Kurahashi (NIID); 5♂, Nagasaki Pref., Mt. Unzen, 1,333 m, 23–25. v. 1990, H. Kurahashi (NIID); 1♂, Fukuoka Pref., Mt. Kanayama, 15. v. 1984, H. Shima (NSMT); 1♂, Oita Pref., Mt. Sobo, 21. vii. 1974, K. Nishida (NSMT).

Bionomics. Adults are found in montane forests.

Distribution. Japan (Honshu, Kyushu n. loc.).

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