

## A species added to the *Hylaeus* fauna of Nippon and some notes (Hymenoptera: Colletidae)

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**Abstract.** A species of the genus *Hylaeus*, *H. chasanensis* known from the Russian Far East, was discovered from the central part of Nippon. The population of Nippon is newly described here as a subspecies, *H. chasanensis negoroi*. And *H. munageus* is proposed as a new name for *H. thoracicus* Ikudome, 1989. With 9 figures.

**Key words:** new subspecies, homonym, *Hylaeus* fauna, Nippon, taxonomy.

### Introduction

The bee genus *Hylaeus* of Nippon was revised by Ikudome in 1989, and its fauna was reported to consist of 23 species. After that another species, *H. maetai*, was found from the Ryukyu Islands by Ikudome in 1998, and was added to the *Hylaeus* fauna of Nippon. This time, furthermore another species was discovered from the central part, Mt. Tateyama, Toyama Pref., of Nippon. It is *H. chasanensis* Romankova, 1995, that is hitherto known from the Russian Far East. And on the specific name of a known species, *H. thoracicus* Ikudome, 1989, was preoccupied by Fabricius, 1793. Therefore, a new name, *H. munageus*, is proposed in this paper.

The terminology follows Ikudome (1989) and Michener (2000). On the relative dimension the value 1 of measurements is equivalent to 25 micron.

### Description

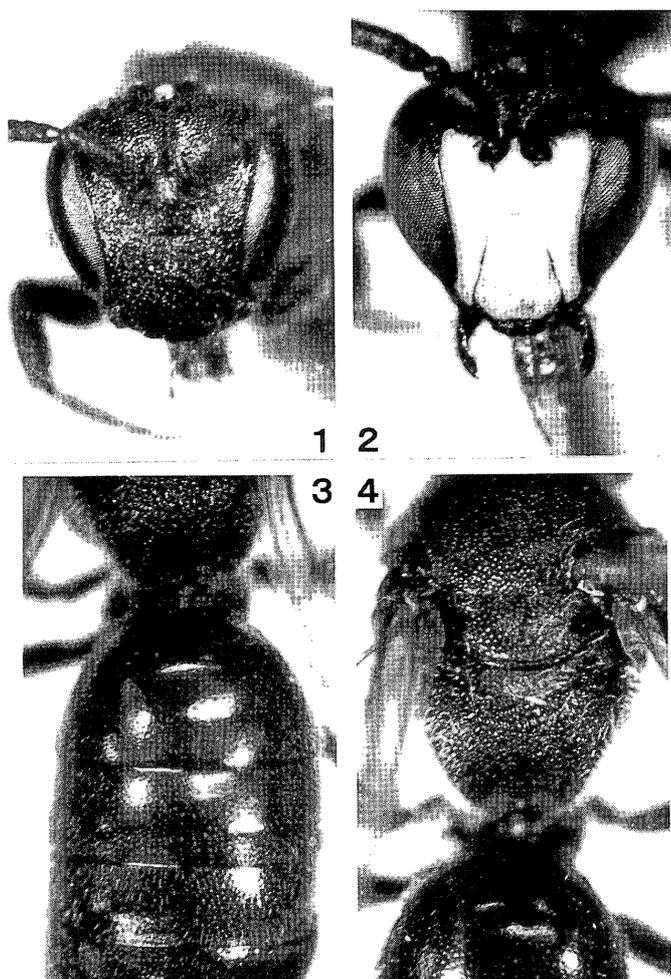
***Hylaeus (Hylaeus) chasanensis negoroi* ssp. nov.**  
[Common name in Nippon: negoro-men-hanabachi]  
(Figures 1-9)

*Prosopis chasanensis*: Romankova, 1995: 486-488  
(female and male in the key).

**Diagnosis.** This species is characterized by the face without any maculation in the female, by the face with rich yellow mark enlarged to the level of the upper margin of antennal sockets in the male, by the malar area comparatively elongated in the male, and by the propodeal enclosure well rounded and not defined any carina in both sexes (Figures 1-4).

**Male.** Body length 5.0-5.5 mm.

**Coloration.** Body black except for the following maculations or portions: yellow marks on lateral faces well developed, reached to the level of the upper margin of antennal sockets; yellow mark filling up clypeus and supraclypeal area; apical



Figures 1-4. *Hylaeus chasanensis negoroi* (1, 3 female and 2, 4 male, holotype, from Nippon). 1, 2 head in frontal view; 3 propodeum and metasoma in dorsal view; 4 thorax and metasoma in dorsal view.

portion of mandible reddish; 2nd flagellar segment and succeeding ones fulvous beneath; yellow mark on apical portion of pronotal lobe; yellow spot on anterior portion of tegula; faint yellowish mark on outer portion of fore tibia; faint yellow spot on basal portion of mid tibia; yellow mark on basal one-third portion of hind tibia; tarsi fuscous; tarsal claw reddish; wing subhyaline, slightly darkened; vein, stigma and tegula fuscous.

*Relative dimensions.* Length of head, 56; width of head, 58; lower interocular distance, 26; upper interocular distance, 38; interocellar distance, 8; ocellocular distance, 12; antennocular distance, 10;

clypeocular distance, 5; clypeoantennal distance, 11; length of clypeus, 24; length of malar area, 6; basal width of mandible, 7; length of 1st flagellar segment, 4.5; length of 2nd f. s., 4.0; length of 3rd f. s., 5.0.

*Structure.* Clypeus convex rounded in the median portion, sculptured microscopically with longitudinal lineolate-reticulation; paraocular area and lower portion of supraclypeal area sculptured as in clypeus more or less, but upper portion of supraclypeal area narrowed ridge-likely between antennal sockets; frontal line distinct; frons somewhat shining, closely punctated, its punctures

strong but small; occiput well slanting posteriorly; genal area two-thirds as broad as width of compound eye as seen in profile; antennal scape somewhat swollen, bent to the backward; mandible distinctly bidentate.

Punctures on mesoscutum, scutellum and mesepisternum moderately dense but not so dense as those in female; propodeum well rugose irregularly, somewhat shining, its enclosure well rounded, not defined any carina; propodeal transverse or oblique carina absent.

First metasomal tergum polished, scattered with acupunctures but becoming denser and denser towards lateral portions, with apical margin impunctated on the median portion; 2nd and the following terga moderately shining, microscopically with transverse lineo-reticulation, with punctures denser and smaller than those on 1st tergum, with latero-apical portion well depressed; 3rd metasomal sternum with weak transverse protuberance on the medio-apical portion.

*Pilosity.* Hairs on vertex short, sparse, suberect to erect, glistening pale fulvous in some light; hairs on thorax suberect to erect, glistening pale fulvous in some light, very short but those on mesepisternum slightly longer than those on mesoscutum; hairs on abdominal terga very short, sparse, appressed to subappressed, glistening pale fulvous in some light, becoming denser and longer than those on 1st tergum towards latero-apical portions or the following terga, however not formed hair band even latero-apical portions.

*Terminalia.* See Figures 5-9.

**Female.** Body length 5.0-5.5 mm.

*Coloration.* Body almost black except for the followings: apical portion of mandible piceous; 2nd

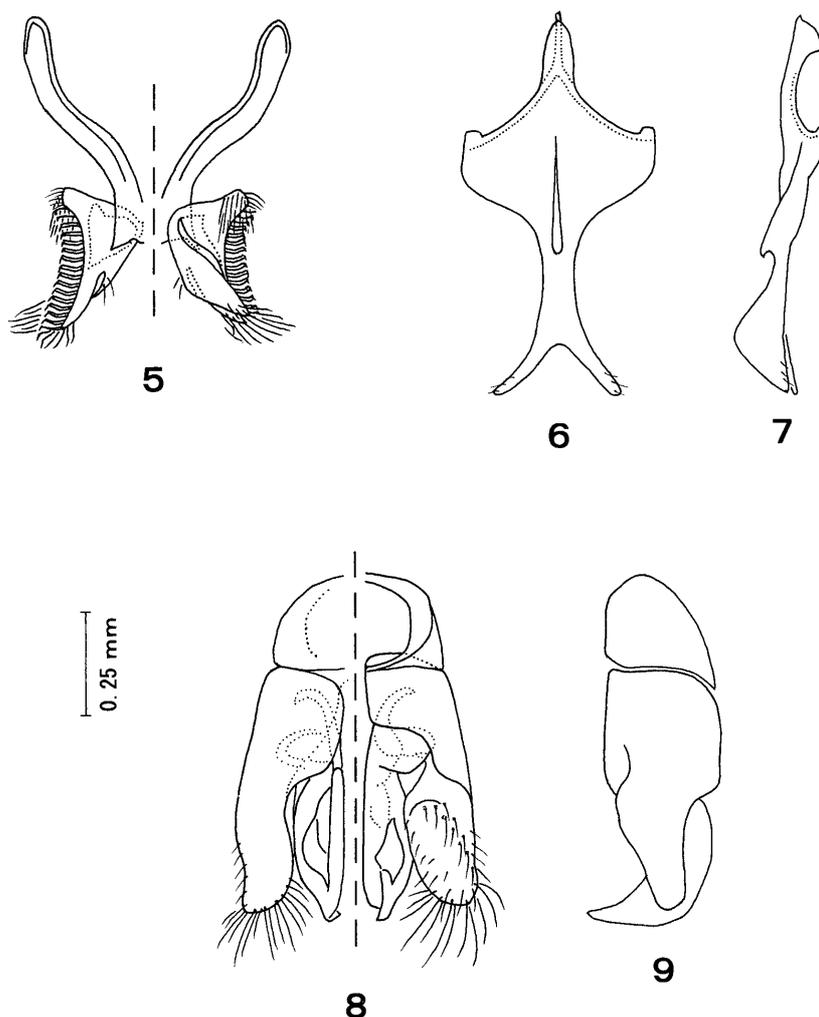
flagellar segment and succeeding ones flavotestaceous beneath; fore and hind tibiae with faint yellowish mark only on the basal portion of outer surface; distitarsus and tarsal claw brownish; wing and tegula as in male.

*Relative dimensions.* Length of head, 62; width of head, 42; lower interocular distance, 32; upper interocular distance, 43; interocellar distance, 10; ocellocular distance, 12; antennocular distance, 11; clypeocular distance, 6.5; clypeoantennal distance, 8; length of clypeus, 26; length of malar area, 4; basal width of mandible, 8; length of 1st flagellar segment, 5.2; length of 2nd f. s., 3.4; length of 3rd f. s., 3.7.

*Structure.* Clypeus somewhat shining, with sparse, shallow punctures, sculptured as in male; paraocular area and lower portion of supraclypeal area as in male; upper portion of supraclypeal area well convex, slightly dilated laterally in near the top, becoming narrow above, with punctures formed in line on near the edge; frontal line distinct; frons and occiput sculptured as in male; the ratio of width of genal area to compound eye as in male; mandible weakly bidentate.

Pronotum not well developed, lower than mesoscutum as seen in profile; mesoscutum convex roundly, somewhat shining, with distinct, dense punctures; scutellum nearly flat, punctated slightly sparser than those on mesoscutum; metanotum sculptured roughly, nearly dull; mesepisternum sculptured as in scutellum but punctated slightly smaller; propodeum and metasomal terga sculptured as in male more or less;

*Pilosity.* Hairs on vertex as in male; hairs on mesoscutum rather short, appressed to subappressed on the anterior and lateral portions, suberect to erect



**Figures 5-9.** Male terminalia of *Hylaeus chasanensis negoroï* from Nippon. **5** 7th sternum, left half in ventral view, right half in dorsal view; **6** 8th sternum in ventral view; **7** 8th sternum in lateral view; **8** genitalia, left half in dorsal view, right half in ventral view; **9** genitalia in lateral view (omitted hairs).

on the central and posterior portions, and sparsely intermixed with somewhat longer hairs; hairs on abdominal terga as in male more or less; 6th sternum with comparatively long, suberect hairs on the postero-median portion.

**Type series.** *Holotype*: ♂ (deposited in the Laboratory of Biology, Kagoshima Women's Junior College) approximately 2,500 m alt., higashi-ichinokoshi, Mt. Tateyama, Toyama Pref., Nippon, 23. VII. 1998. *Paratypes*: 1 ♂ same locality as holotype, 7. VIII. 1996 (in LBKWJC), 2 ♀ same

locality as holotype, 23. VII. 1998 & 25. VII. 1998 (in LBKWJC), 1 ♀ same locality as holotype, 25. VII. 1998 (in Toyama Science Museum).

All specimens in the holotype and paratypes were collected by Mr. H. Negoro who made a survey there by permission of the Environment Agency. (環中部許第215号; 平成8年5月28日付)

**Other specimens examined.** N nominate subspecies: 1 ♂, paratype (in Far Eastern Branch of Russian Academy of Sciences, Vladivostok); 1 ♂, Anisimovka, Primorsky Region, Russian Far East,

5. VI. 1992, A. S. Lelej leg. (the label in Russian).

**Variation.** Not especially.

**Distribution.** Nippon (Honshu) .

**Floral association.** Rosaceae: *Potentilla matsu-murae* Thunberg.

**Remarks.** Though I examined 2 Russian specimens of the male (including a paratype) mentioned above, I do not yet have an opportunity to examine a holotype (♂) and the female of a paratype. According to Romankova (1995), the female pronotum is almost totally yellow. Such yellow maculation does not, however, appear in any specimens from Nippon. And punctures on the first metasomal tergum in the specimens from Nippon are slightly sparser than those from the Russian Far East in the male at least. But I could not find the morphological difference in the male terminalia between a specimen from Nippon and that from the Russian Far East (Primorsky Region).

On the other hand, this species seems to be very closely allied to *H. aborigensis* known from East Siberia. However, depending on the description and figures by Dathe (1994), the subspecies occurring in Nippon is, maybe, distinguished from the latter by having characters as follows at least: the malar area is comparatively elongate, but its length is distinctly shorter than the basal width of mandible in the female; the gonostylus of male genital capsule is not elongate beyond the apex of penis valve in dorsal view.

Therefore, I concluded the population in Nippon should be treated as a subspecies of *H. chasanensis* in the present study.

This species is recorded as new to Nippon. Mt. Tateyama, is located in the northwest part of the Chubu Sangaku National Park which has a series of

mountains over 3,000 m high situated in the central part of Honshu.

**Etymology.** This new subspecies is dedicated to Mr. Hisashi Negoro who collected it for the first time.

#### On the known species in Nippon

##### *Hylaeus (Paraprosopis) munageus*, new name

[Common name in Nippon: munage-men-hanabachi]

*Hylaeus (Paraprosopis) thoracicus*: Ikudome, 1989: 233-240 (female and male).

The specific name of *H. thoracicus* Ikudome, 1989, was preoccupied by Fabricius, 1793. Therefore, a new name, *H. munageus*, is proposed here.

**Etymology.** The specific name, *munageus*, is a latinized adjective of a noun of Nippon, *munage*, meaning hairs on the thorax in reference to the mesoscutum with erect hairs in both sexes.

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### References

- Dathe, H. H., 1994. Studien zur Systematik und Taxonomie der Gattung *Hylaeus* F. (Apidae, Colletinae). 1. *Hylaeus annulatus* (L.) eine Holarktische, *Hylaeus aborigensis* sp. n. eine neue sibirische Art. *Beitr. Ent.*, **44** (1994) 2: 441-445.
- Fabricius, J. C., 1793. *Entomologia systematica emendata et aucta. Secundum. Classes, ordines, genera, species. Adjectis. synonymis, locis, observationibus, descriptionibus. Vol. 2*, viii + 519 pp. (*Hylaeus* pp. 302-307.) Hafniae: Proft.
- Ikudome, S., 1989. A revision of the family Colletidae of Japan (Hymenoptera: Apoidea). *Bulletin of Institute of Minami-kyushu Regional Science, Kagoshima Women's Junior College*, (5): 43-314.
- Ikudome, S., 1998. The bee genus *Hylaeus* of the Ryukyu Islands, Japan, with description of a new species (Hymenoptera: Colletidae). *Entomological Science*, **1** (4): 589-595.
- Michener, C. D., 2000. *The bees of the world*. xiv + 913 pp., Johns Hopkins Univ. Press, Baltimore and London.
- Romankova, T. G., 1995. Colletidae. pp. 480-489. In P. A. Lehr (ed.). *Key to the insects of Russian Far East in six volumes. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Part 1*. 606 pp., Nauka, St. Petersburg.