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<https://doi.org/10.5109/12495>

出版情報 : ESAKIA. 48, pp.37-40, 2008-11-10. Entomological Laboratory, Faculty of Agriculture, Kyushu University
バージョン :
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A New Species of the Subgenus *Evyllaesus* of the Genus *Lasioglossum* from Northern and Central Japan (Hymenoptera, Halictidae)

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Abstract. A new species of the subgenus *Evyllaesus* of the genus *Lasioglossum* (Hymenoptera, Halictidae) is described from northern and central Japan. This new species is recognized to belong to the *atroglaucom* species-group. Taxonomic remarks, geographical distribution, flight and flower records are given.

Key words: taxonomy, Hymenoptera, Halictidae, *Lasioglossum*, *Evyllaesus*, new species, Japan.

Introduction

The subgenus *Evyllaesus* Robertson belongs to the genus *Lasioglossum* Curtis of the subfamily Halictinae, and contains about 400 species in the world. From Japan, 46 species have been recorded up to now. Through the courtesy of Mr. Hisashi Negoro of Toyama Science Museum, we had an opportunity to examine specimens of *Evyllaesus*, which preserved in his museum. We found a new *Evyllaesus* species in the collection and then found the specimens corresponding to this new species both in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University and the late Dr. S. F. Sakagami. In this paper, we describe a new species based on 17 male specimens in these collections.

Materials and methods

This study is based on the specimens preserved in the Toyama Science Museum, Toyama, Japan (TSM), the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, Japan (ELKU), and the late Dr. Shôichi F. Sakagami's Collection, Museum of Nature and Human Activities, Hyogo, Japan (SCMH).

The terminology and style of description follow Murao & Tadauchi (2007). The terms and their abbreviations used are as follows: Fn= nth flageller segment; Tn, Sn= nth metasomal tergum and sternum; PP= punctures; IS= interspaces between punctures.

Lasioglossum (Evyllaesus) negoroii Murao et Tadauchi sp. n.

(Figs. 1. A-I; 2. A-C, E, G, H)

Description

Female. Unknown.

Male. Body length 5.6-7.0 mm, wing length 5.0-5.6 mm (n= 11).

Color. Head dimly greenish; lower half of clypeus with distinct yellow spot; labrum black or blackish brown; mandible basally and medially black, apically reddish brown; antenna nearly black excluding flagellum beneath; flagellum beneath blackish brown, brown, or yellowish brown. Mesosoma with weak blue-green metallic luster except as follows: lateral lobe of pronotum blackish brown or brown; tegula blackish brown; all legs black or blackish brown; tibial spur yellow. Metasoma nearly black. Wings nearly transparent; veins and pterostigma blackish brown.

Pilosity. Body hairs pale yellowish brown to whitish. Head and mesosoma with sparse fine branched hairs; lower paraocular area mixed with sparse tomentum. T₁ medially with sparse simple and short hairs. T₂₋₃ same hairs with T₁, moderately dense. Basal hair bands and apical fimbriae on metasomal terga absent. S₂₋₃ medially with sparse short fine branched hairs. S₄ (Figs. 1. I; 2. H) basally with sparse long fine branched hairs. S₅ without distinct hairs. S₆ (Fig. 1. I) apically with a pair of appressed hair tuft, but somewhat indistinct.

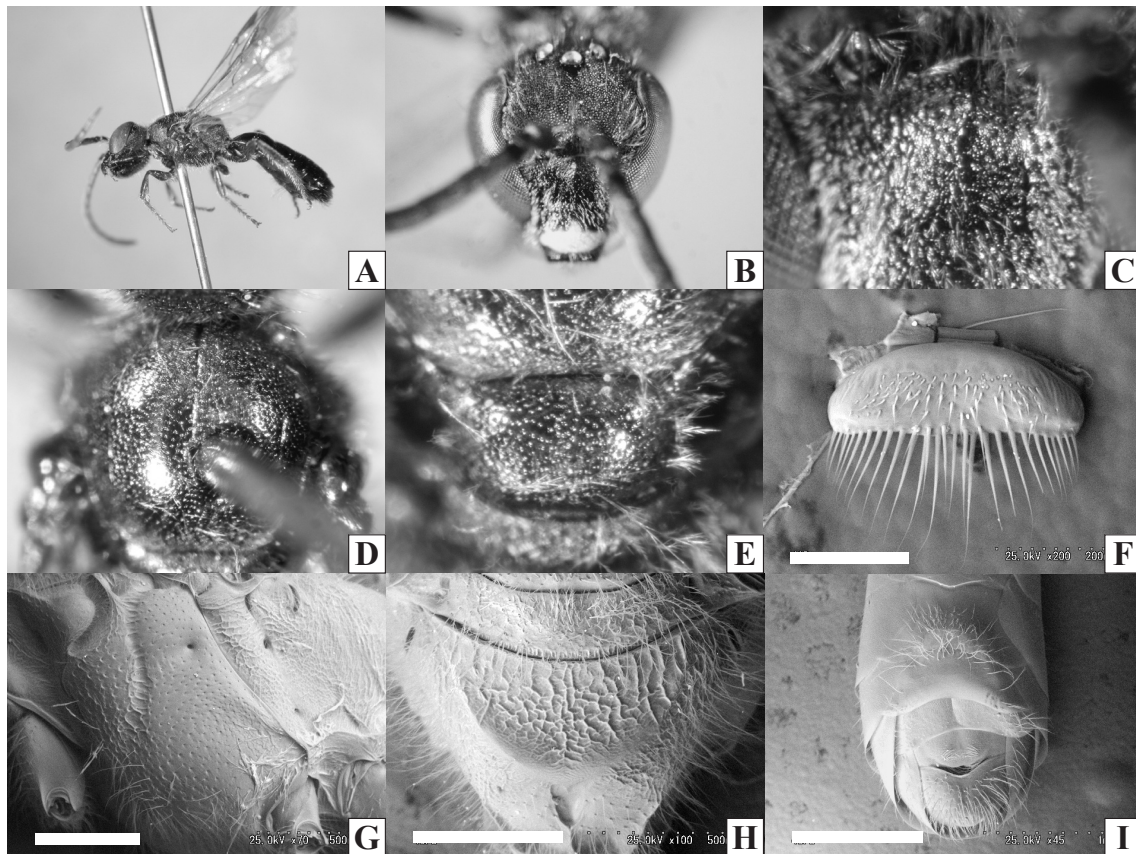


Fig. 1. *Lasioglossum (Evylaeus) negoroi* Murao et Tadauchi sp. n. A-E: male, holotype. F-I: male, paratype. A: general habitus in lateral view. B: head in frontal view. C: supraclypeal area. D: mesoscutum. E: mesoscutellum. F: labrum. G: mesepisternum. H: propodeal dorsum. I: distal part of metasomal sterna. Scale: F, 0.2mm; G, H, 0.5mm; I, 1mm.

Structure. Head length distinctly longer than width; head length/width ratio 1.06-1.14 ($n=12$). Vertex nearly flat on top in frontal view, and behind ocelli with rugulae. Distance between lateral ocelli as long as the distance between lateral ocellus and compound eye. Frons and paraocular area dimly shiny, with reticulate PP. Supraclypeal area (Fig. 1. C) slightly convex in lateral view, dimly shiny, with moderately dense granular PP over the surface; IS with distinct reticulation. Clypeal length about 1.3 times the distance between lower rim of antennal socket and upper margin of clypeus. Clypeus nearly flat, dimly shiny, with moderately dense granular PP on upper half, and with sparse shallow PP on lower half; IS with distinct reticulation over the surface. Basal area of labrum about 2.8 times as wide as long; basal elevation and distal process absent; labral fimbria acutely pointed at apex. Mandible edentate. Hypostomal carina moderately developed; its anterior angle obtuse. Occiput not carinate. Postgena with weak longitudinal striation. Scape length 0.36-0.4 mm ($n=12$), F₂ length 1.7-2.3 times F₁ ($n=12$).

Pronotum with dorsolateral angle obtuse; lateral sulcus weak. Mesoscutum (Fig. 1. D) moderately shiny, anteriorly with dense granular PP, PP on medially and posteriorly more sparser than anteriorly; IS anteriorly with weak reticulation, medially and posteriorly without reticulation. Mesoscutellum (Fig. 1. E) moderately shiny, with moderately dense granular PP over the surface; IS without reticulation. Metanotum with weak rugulae. Mesepisternum (Fig. 1. G) moderately shiny, with sparse granular PP on upper area, and with moderately dense granular PP on lower area; IS without reticulation over the surface. The length of propodeal dorsum nearly as long as that of mesoscutellum, and about 1.7 times that of metanotum; propodeal dorsum (Fig. 1. H) with irregular sinuate ridges not exceeding posterior margin except dorsolaterally; transverse and oblique, and upper 1/3 of lateral carinae absent; propodeal side with rugulae; shield with weak reticulation. Basitibial plate of hind leg without carina marginally. Inner hind tibial spur without distinct teeth.

Metasomal terga weakly shiny. T₁ without striation

over the surface, and medially with sparse fine PP or pores. T₂₋₃ basally and medially with moderately pores; T₂ without striation over the surface; T₃ with very weak transverse striation over the surface. T₄₋₅ with sparse pores and weak transverse striation over the surface. S₇₋₈ (Fig. 2. G): S₇ with slender, apically rounded median process; S₈ without median process.

Male genitalia (Fig. 2. A-C, E). Gonobasal ventral arm ring-shaped, and connected with each other at upper ends in ventral view; the bottom nearly flat. The surface of gonocoxite smooth. Gonostylus square-shaped in ventral and lateral views, with sparse long bristles on dorsal and lateral surfaces. Ventral retrorse lobe short, with moderately dense short bristles on left-lateral

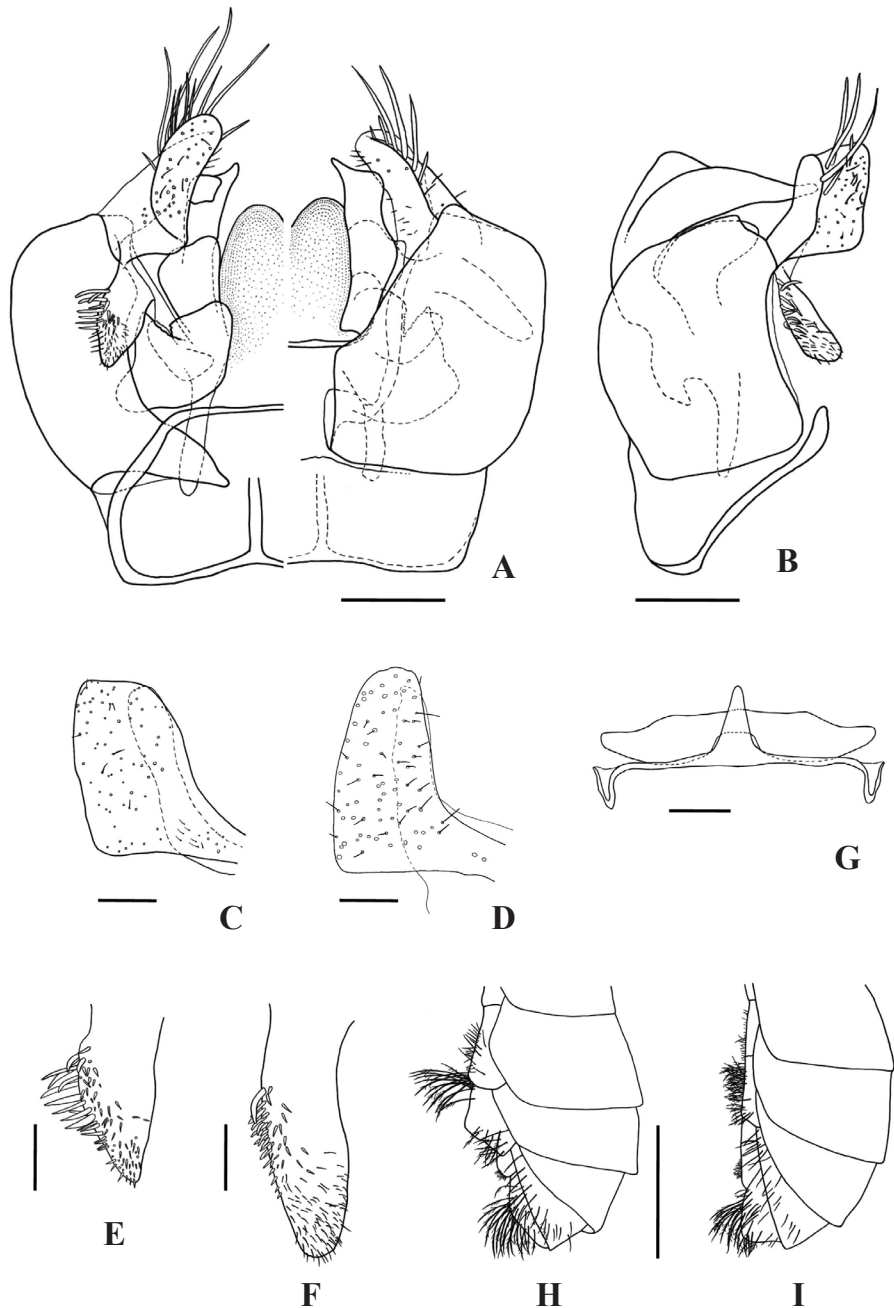


Fig. 2. A-C, E, G, H: *Lasioglossum* (*Evylaeus*) *negoroi* Murao et Tadauchi sp. n., paratype. D, F, I: *Lasioglossum* (*Evylaeus*) *virideglaucum* Ebmer et Sakagami. A-F: male genitalia. G: S₇₋₈. H, I: metasoma in lateral view. A: left, ventral view; right, dorsal view. B: lateral view. C, D: gonostylus in ventral view. E, F: ventral retrorse lobe. Scale: A, B, G, 0.2mm; C-F, 0.1mm; H, I, 1mm.

surface, and with sparse short hairs on apical surface. The upper ends of penis valve moderately convex in lateral view.

Remarks. This species belongs to the *atroglaucum* species-group mainly in having the head and mesosoma with green-blue metallic luster, the mesepisternum with sparse PP over the surface, and the length of propodeal dorsum as long as that of mesoscutellum. This group comprises 15 known species at the present (Ebmer, 2002; Murao *et al.*, 2006), and is known from Eastern Asia. In the member of this group, both female and male of nine species are described. Judging from the figures of male S₄₋₆ or genitalia in some papers (Ebmer *et al.*, 1994; Ebmer, 2002; Murao *et al.*, 2006), this species is easily separated from the other members excluding *Lasioglossum* (*Evylaeus*) *virideglaucum* Ebmer et Sakagami by the hair pattern on S₄₋₆ or the shape of S₅ and genitalia. It can be separated from *L. (E.) virideglaucum* by the following characters: hairs on S₄ present only on basal area (Fig. 1. I); hairs on S₄ longer (Fig. 2. H); gonostylus truncated apically in ventral and lateral views (Fig. 2. B, C); ventral retrorse lobe shorter (Fig. 2. E).

Etymology. The specific name is dedicated to Mr. Hisashi Negoro (Toyama Science Museum), who is a collector of the material.

Distribution. Japan (Hokkaido, northern and central parts of Honshu).

Flight record. Male: August to October.

Flower record. *Aster microcephalus* var. *ovatus* (Asteraceae).

Type material. Holotype (Type No. ELKU 3261): male, Kobo, Tateyama, Toyama Pref., Honshu, JAPAN, 10. ix. 1997 (H. Negoro, TSM). Paratypes. [JAPAN] [Hokkaido] 1 male, Koganeyu, Minami-ku, Sapporo-shi, 18. ix. 2004 (K. Kinota, ELKU); 2 males, Akanuma, Hakodate, 13. ix. 1959 (M. Munakata, ELKU). [Honshu] Iwate Pref.: 1 male, Mt. Hayachine, 29. viii. 1972 (M. Honda, ELKU). Shizuoka Pref.: 1 male, Shinnigome, Gotenba-shi, 13. viii. 1973 (T. & H. Suda, ELKU). Yamanashi Pref.: 1 male, Mt. Kushigata, 22. ix. 1991

(SCMH, paratype of *L. virideglaucum*). Nagano Pref.: 1 male, Asama, Karuizawa, 24. viii. 1967 (T. & H. Suda, ELKU); 1 male, Kazawa, 17. viii. 1972 (Y. Yoshiyasu, ELKU). Toyama Pref.: 3 males, same date as the holotype; 1 male, Arimine, Ôyama-machi, 6. x. 1993 (H. Negoro, TSM); 1 male, Tateyama-Midagahara, 16. x. 1995 (H. Negoro, TSM); 1 male, Tateyama, Kuroyondam, 22. ix. 1989 (H. Negoro, TSM); 1 male, Kurobe-ko, Tateyama-cho, 24. viii. 1998 (H. Negoro, TSM).

Type depository. The holotype and 7 paratypes are deposited in the Entomological Laboratory, Faculty of Agriculture, Kyushu University (Fukuoka, Japan), 8 paratypes in the Toyama Science Museum (Toyama, Japan), and 1 paratype in the late Dr. S. F. Sakagami's Collection (Hyogo, Japan).

Acknowledgement

We wish to express our thanks to Mr. Hisashi Negoro (Toyama Science Museum) for loan or offering of valuable specimens. This is a contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 6, No. 57).

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