

Two New Species of the Genus *Stenus* Latreille (Coleoptera, Staphylinidae), with the First Record and Redescription of *S. bifoveolatus* Gyllenhal from Japan

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Abstract This is the 48th taxonomic study on the subfamily Steninae (Coleoptera, Staphylinidae) from Japan, with descriptions of 2 new species of the genus *Stenus* Latreille, and detailed illustrations of the taxonomically important characters including abdominal terminalia, aedeagus, endophallic structures and spermatheca. The new species of *Stenus* described herein are as follows: *S. aboblitus* (Hokkaido, Aomori, Fukushima, Tochigi, Tokyo and Chiba Prefs.) and *S. vernicosus* (Tottori Pref.). In addition, *Stenus bifoveolatus* Gyllenhal, 1827 is first recorded from Japan (Hokkaido); and it is redescribed and illustrated.

Key words: Coleoptera, Staphylinidae, *Stenus*, new species, new record, Japan.

Introduction

At present, the rove beetle genus *Stenus* (Coleoptera, Staphylinidae, Steninae) of Japan consists of 249 species and 8 subspecies (Naomi and Puthz, 2013). During the course of present study, we discovered 2 additional new species of *Stenus* from Hokkaido and Honshu, Japan. Thus we are to describe and illustrate them in this paper. The holotypes of the new *Stenus* species described are deposited in the National Museum of Nature and Science, Tsukuba (abbreviated as NMNS); and the paratypes are in Naomi Collection unless otherwise noted. In addition, we first record *S. bifoveolatus* Gyllenhal, 1827 from Japan, with its redescription and illustration of the taxonomic characters.

Stenus aboblitus sp. nov.

[New Japanese name: Hoso-ginge-medaka-hanekakushi]
(Fig. 1)

Stenus puberulus (not of Sharp, 1874): Puthz, 2012: 93
(see also p. 97, figs. 25–26). (*Partim.*)

Male and female. Macropterous species; body 2.7–3.0 mm in length, perfectly covered with short and silvery setae which arise from punctures. Body (including mouthparts and legs) entirely black and weakly shining, but antennae with basal segments piceous, lustrous, and apical segments dark red. Head with a pair of longitudinal depressions running in parallel, median longitudinal area between the depressions narrow; punctures round to elliptical, distinct, dense. Pronotum with punctures very dense, distinct, round, regular, without median longitudinal depression. Elytra similarly punctate as on pronotum, but punctures a little larger than those on pronotum.

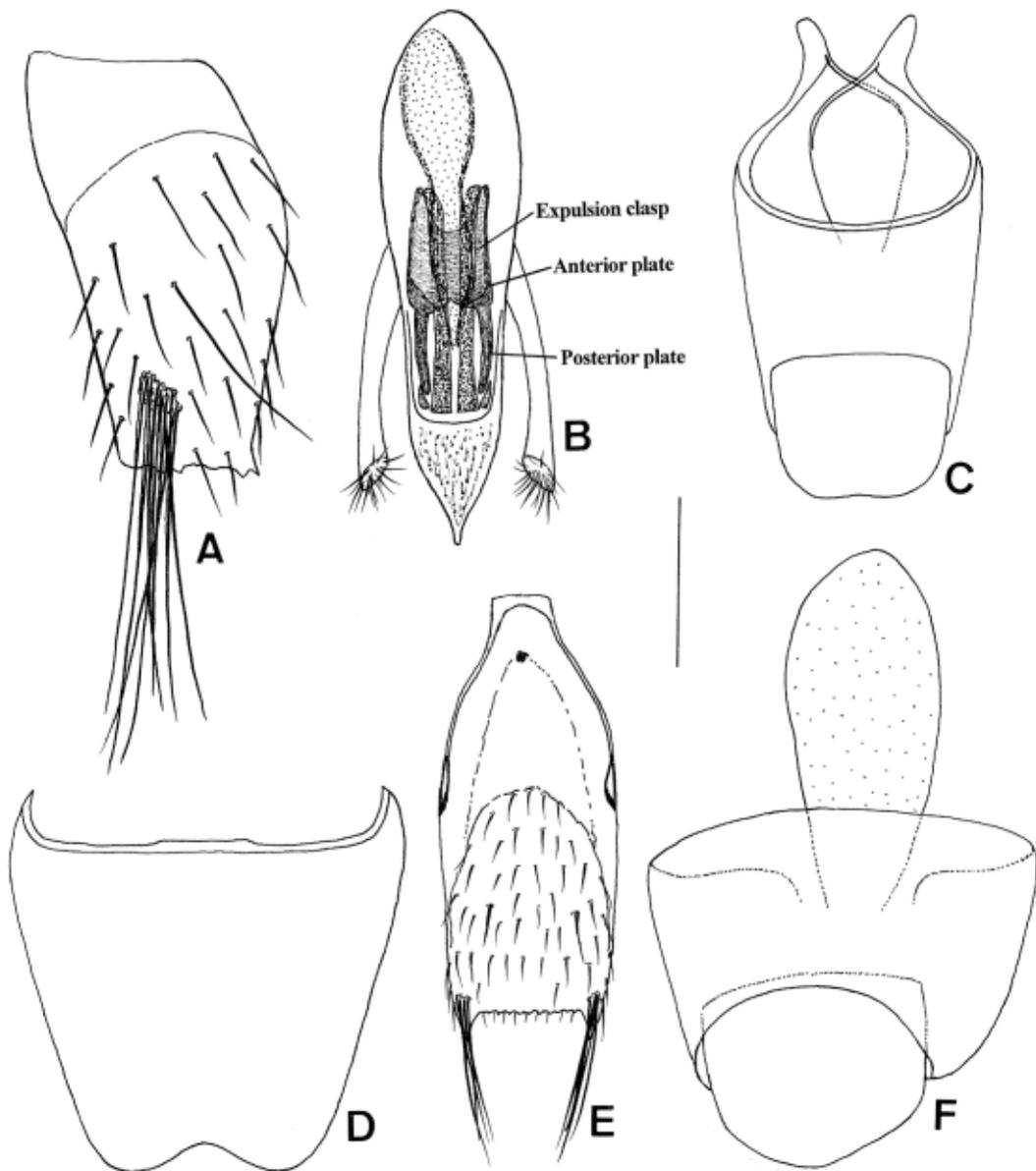


Fig. 1. *Stenus aboblitus* sp. nov. (A–C, E–F: Okuyagen; D: Hakken-zan). A, Gonocoxite; B, aedeagus of ventral view; C, 9th and 10th terga of male; D, 8th venter of male; E, 9th venter of male; F, 9th and 10th terga of female. Scale 1: 0.2 mm for B–F and 0.1 mm for A.

Abdomen with distinct paratergites; punctures dense, distinct and round in anterior segments, small and regular in posterior segments.

Male. Body elongate, subcylindrical; 7th venter posteromedially with a lustrous and semi-circular flat area, the flat area very shallowly emarginate; 8th venter (Fig. 1D) posteromedially

with a broad emargination; 9th tergum (Fig. 1C) with ventral apophyses rather short, thin; 9th venter (Fig. 1E) minutely serrate between apicolateral teeth, with the apicolateral teeth short, pointed; 10th tergum entire or very weakly emarginate (Fig. 1C). Aedeagus (Fig. 1B) with median lobe narrow in apical half, weakly bulbous in

basal half, gently rounded at apicolateral corners; apical sclerotized area long, acutely pointed posteromedially, with anterior margin arcuate. Endophallus with median longitudinal bands (Fig. 1B) very long, narrow, almost running in parallel; expulsion clasps (Fig. 1B) large, anterior plates completely connate to form a half longitudinal section of short duct, posterior plate baculiform, slender; basal tube (Fig. 1B) entirely membranous, with basal room large, elongate-ovoidal, tube body short, weakly swollen in the middle. Parameres (Fig. 1B) slightly incurved, thick, rather short, not reaching the apex of median lobe, obliquely truncate apically to form apical part of paramere which is very short, with more than 17 short setae.

Female. Body subcylindrical, with abdomen more or less impressed dorsally. Eighth venter gently rounded at posterior margin; 9th tergum (Fig. 1F) without ventral apophyses; gonocoxites (Fig. 1A) each almost truncate posteriorly, irregularly serrate at posterior margin, weakly produced apicomediaally, with a tuft of very long, straight setae; 10th tergum (Fig. 1F) entire.

Type series. Holotype (No. NSMT-I-C-200255 in NMNS): ♂, Okuyagen, Shimokita Peninsula, Aomori Pref., 2. viii. 1987, S. Nomura leg. Paratypes (Nos. NSMT-I-C-200256–200257 in NMNS): 1 ♂, Ikushina River, Ikushina, Shari-cho, Hokkaido, 11. vi. 2014, T. Kato leg. (Ito Col.); 1 ♂ 1 ♀, Mt. Hakken-zan, Hokkaido, 27. v. 1997, N. Nishikawa leg.; 1 ♂, Misumai, Sapporo, Hokkaido, 7. vii. 1977, S. Naomi leg.; 2 ♂ 3 ♀, same data as holotype; 1 ♂, Yugawa River, Wakamatsu, Fukushima Pref., 1. viii. 1948, Y. K. leg. (NMNS); 1 ♂, Shiobara, Tochigi Pref., 22. viii. 1976, T. Niisato leg.; 1 ♂, Ohme, Tokyo-to, 19. viii. 1976, Y. Kurosawa leg. (NMNS); 2 ♂, Yoro Valley, Ichihara, Chiba Pref., 9. v. 1993, K. Ohgi leg.

Distribution. Japan (Hokkaido; Honshu: Aomori, Fukushima, Tochigi, Tokyo and Chiba Prefs.).

Remarks. *Stenus aboblitus* sp. nov. belongs to the species group of *S. incanus* Erichson. This new species is closely allied to *S. puberulus*

Sharp, 1874, but it is clearly distinguishable from the latter by the following combination of characters: the undersides of femora are darker in coloration (while they are reddish brown to dark reddish brown in *S. puberulus*); the punctures on the abdomen are a little larger and denser; the aedeagus is distinctly narrower, and in general more acutely pointed apically (Fig. 1B); the parameres are shorter and do not reach the apex of median lobe (Fig. 1B); the fused anterior plate of expulsion clasp of endophallus is narrower (Fig. 1B); and the rod-like posterior plate of expulsion clasp is a little longer and less curved mesially (Fig. 1B).

Etymology. The specific epithet of this new species consists of the Latin suffix “ab-” (which means “apart from”) and the name of a *Stenus* species “oblitus”. We wish to name this new species *S. aboblitus* in the following reason: Both *S. oblitus* Sharp, 1874 and *S. aboblitus* inhabit the plains and low mountainous regions in Kanto district, and have similar small sizes. During the field surveys, entomologists think they collect such beetles as *S. oblitus* but sometimes notice it is not so when examining it under the binocular but *S. aboblitus*.

Stenus bifoveolatus Gyllenhal, 1827

[New Japanese name: Kita-ashibe-medaka-hanekakushi]

(Fig. 2)

Stenus bifoveolatus Gyllenhal, 1827: 500; Herman, 2001: 2083.

Male and female. Macropterous species; body 2.8–3.1 mm in length, moderately shining. Body and labrum black; antennae yellow to yellowish brown except for 1st segments which are black; maxillary palpi yellow; legs with dorsal sides black, ventral sides red to dark red. Head hardly concave dorsally, with the central part of vertex a little higher than eyes, and with a pair of shallow, longitudinal depressions between eyes; punctures round, distinct, dense and regular. Pronotum a little broader than long, weakly uneven laterally, without median longitudinal depres-

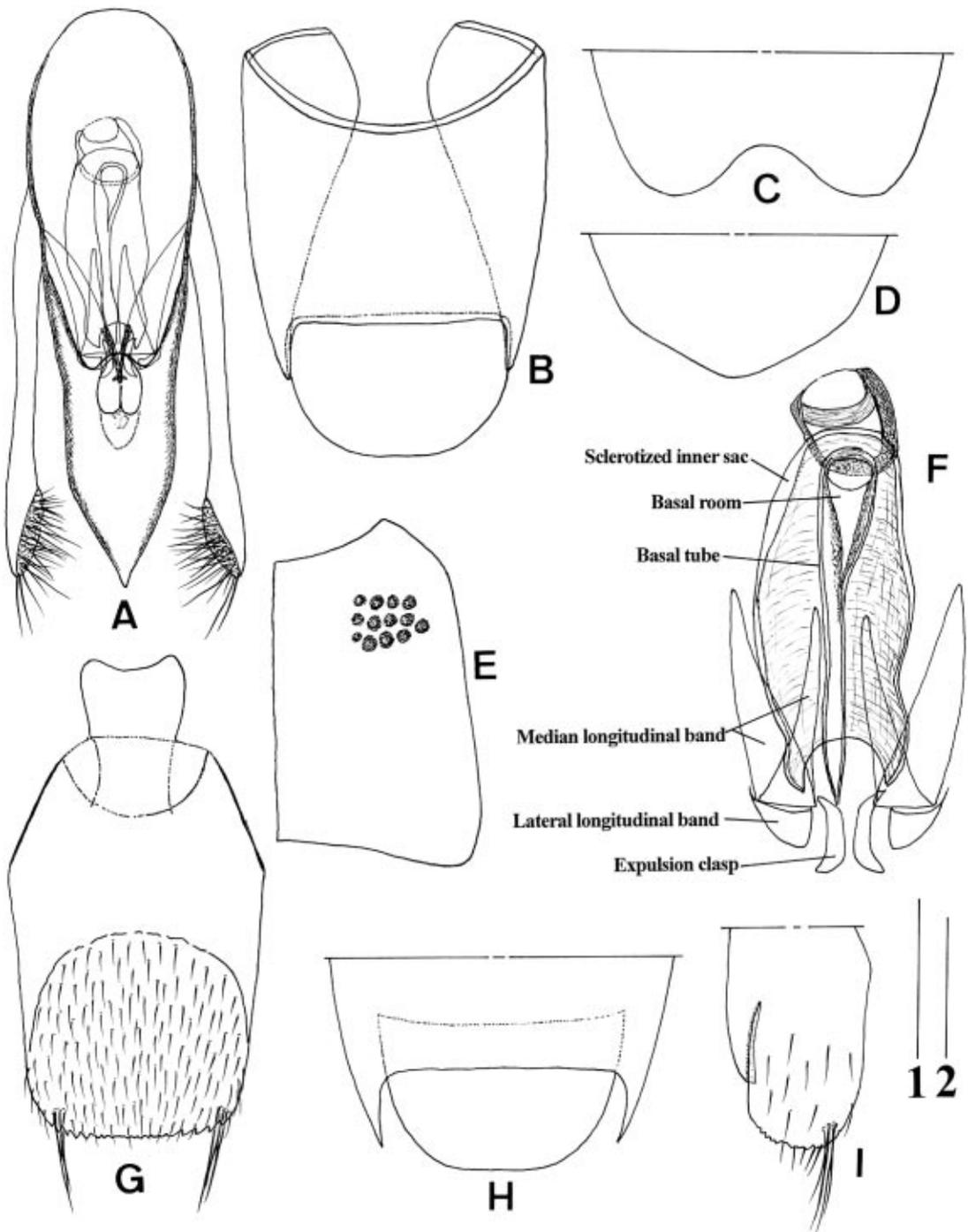


Fig. 2. *Stenus bifoveolatus* Gyllenhal, 1827. (A, E–F: Akan; B, D, I: Furuume; C, G–H: Tokachi). A, Aedeagus of ventral view; B, 9th and 10th terga of female; C, apical part of 8th venter of male; D, apical part of 8th venter of female; E, right elytron; F, endophallus; G, 9th venter of male; H, 9th and 10th terga of male; I, posterior part of gonocoxite. Scale 1: 0.2 mm for A–D, G–I and 0.1 mm for F and scale 2: 0.3 mm for E.

sion; punctures dense, distinct, round and regular. Elytra slightly uneven laterally, similarly punctate as on pronotum, but punctures a little larger than those on pronotum (Fig. 2E). Abdomen with narrow paratergites in 3rd to 6th segments; punctures moderately dense to dense, distinct and round in anterior segments, very small to small, sparse and regular in posterior segments.

Male. Sixth venter posteromedially with a shallow, narrow and semicircular depression, the depressed area shallowly emarginate; 7th venter medially with an elongate-elliptical depression, which does not reach the posterior margin; 8th venter (Fig. 2C) posteromedially with a large, broad emargination; 9th tergum (Fig. 2H) with ventral apophyses long; 9th venter (Fig. 2G) broad, rounded apicolaterally, substraight and minutely serrate at posterior margin; 10th tergum (Fig. 2H) entire. Aedeagus (Fig. 2A) with median lobe well-pigmented, weakly bulbous in basal part, narrowed posteriorly, gently rounded at apicolateral corners, and acutely pointed apically; apical sclerotized area very long (5/12 times as long as median lobe), weakly produced anteromedially. Endophallus with median longitudinal bands (Fig. 2F) each very broad, folded to a different direction so that each forms a V-shaped band when seen ventrally; expulsion clasps (Fig. 2F) small, separated, anterior plate completely fused with posterior plate; basal tube located in the sclerotized inner sac (Fig. 2F), with basal room weakly bulbous, tube body simple, straight, pointed. Parameres (Fig. 2A) substraight, extending posteriorly a little before the apex of median lobe, apical part of paramere moderately swollen mesially, relatively short, with about 30 setae of various length.

Female. Eighth venter (Fig. 2D) obtusely pointed at posteromedian part; 9th tergum (Fig. 2B) without ventral apophyses; gonocoxites (Fig. 2I) each partially cut longitudinally at the mesial side to form a separated flap, each gonocoxite rounded apically, minutely serrate at posterior margin, and apicolaterally with a tuft of long setae; 10th tergum (Fig. 2B) entire.

Specimens examined. 1 ♂ (NMNS): Mitsu-mata, Kami-shihoro, Tokachi, Hokkaido, 22. vii. 1984, M. Tomokuni leg.; 1 ♂, Akan, Hokkaido, 16. vi. 1976, M. Sato leg.; 1 ♀, Furuume, Bihoro-cho, Hokkaido, 27. viii. 1993, T. Kato leg.

Distribution. Europe, Caucasus, Russia, Kurile and Japan (Hokkaido).

Remarks. This is the first record of *Stenus bifoveolatus* Gyllenhal, 1827 (the species group of *S. pallitarsis* Stephens) from Japan. *S. bifoveolatus* is closely allied to *S. latitarsis* Sharp, 1889 from Japan and *S. exter* Puthz, 2006 from Taiwan, but it is clearly distinguishable from the latter by the following characters: the body is a little smaller; the punctures on the anterior segments of abdomen are a little larger; the aedeagus is distinctly narrower in posterior part, and more acutely pointed apically (Fig. 2A), the parameres are shorter and do not reach the apex of median lobe (Fig. 2A), and the endophallus (Fig. 2F) is differently structured as described above.

Stenus vernicosus sp. nov.

[New Japanese name: Tsuya-tachige-medaka-hanekakushi]

(Fig. 3)

Male and female. Brachypterous species; body 4.0–4.3 mm in length, glossy, with head and abdomen strongly glittering, sparsely covered with thin, suberect setae; antennae very slender, long, with sparse long setae. Body and labrum black; antennae with basal segments clear yellowish brown, apical segments brown to dark brown; maxillary palpi and legs yellowish brown to reddish brown. Head moderately concave between eyes, vertex narrow, with a pair of longitudinal depressions; punctures round to elliptical, various in size, setiferous, distinct and dense. Pronotum weakly uneven, without median longitudinal depression; punctures very dense, relatively small, distinct and round. Elytra uneven, with punctures round, rough, a little larger than those on pronotum. Abdomen weakly narrowed

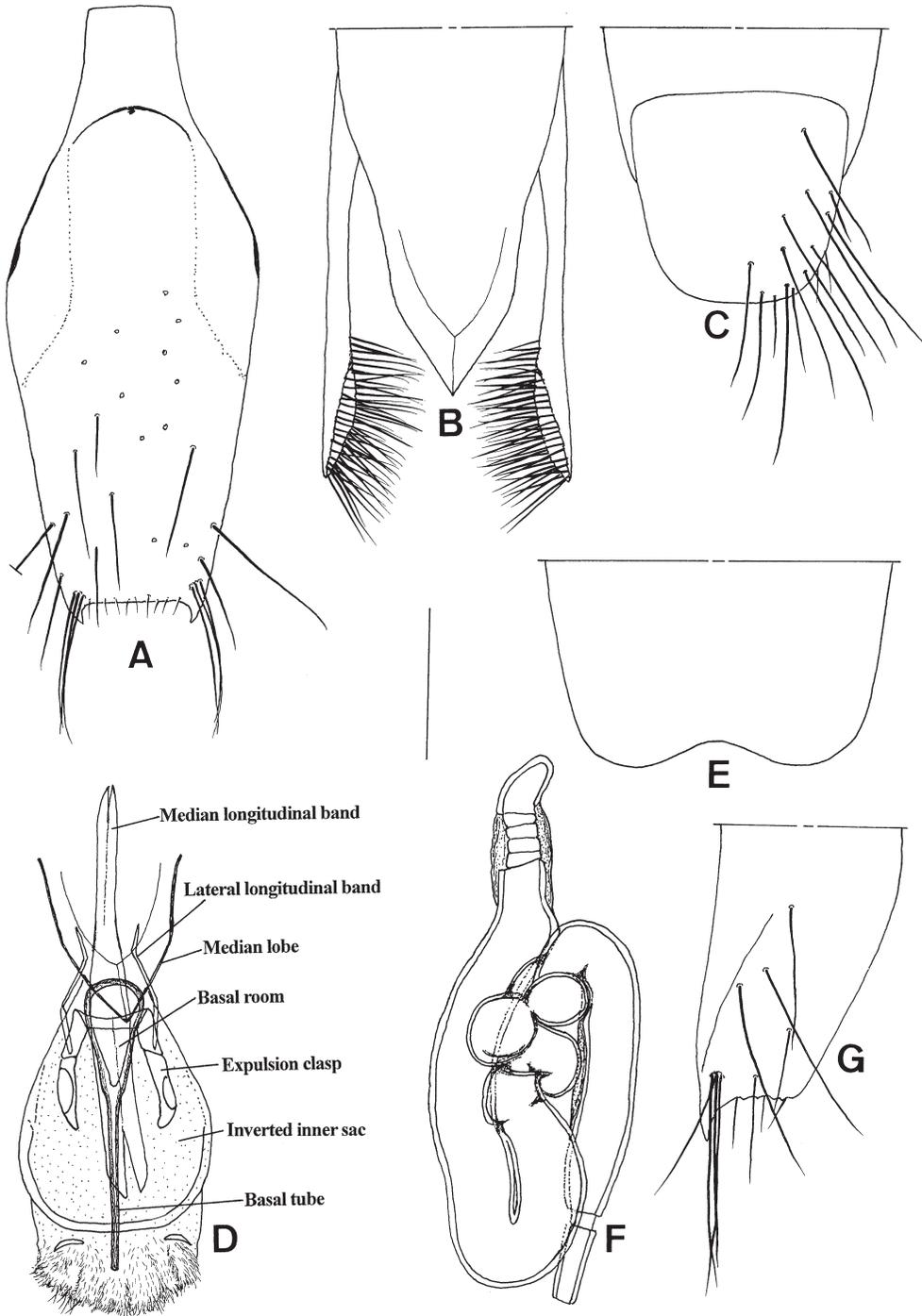


Fig. 3. *Stenus vernicosus* sp. nov. (A–E: Daisen; F–G: Kenashi). A, Ninth venter of male; B, posterior part of aedeagus of ventral view; C, 9th and 10th terga of male; D, apical part of median lobe with inverted endophallic structure; E, apical part of 8th venter of male; F, spermatheca; G, apical part of gonocoxite. Scale: 0.2 mm for A–E and 0.1 mm for F–G.

posteriorly; paratergites each with a few setiferous punctures in 3rd to 5th segments, but in 5th segment, paratergites each very narrow, narrowed posteriorly; punctures on anterior parts of 3rd and 4th segments large, elliptical, distinct, dense to very dense, those on posterior parts of 3rd and 4th segments small, sparse, those on posterior segments very small, very sparse.

Male. Eighth venter (Fig. 3E) posteromedially with a broad emargination; 9th tergum (Fig. 3C) with ventral apophyses long, thin, straight; 9th venter (Fig. 3A) almost straight between apicolateral teeth, with the apicolateral teeth short, pointed, and with very long setae on posterior part of 9th venter; 10th tergum (Fig. 3C) entire, with very long setae. Aedeagus (Fig. 3B) with median lobe large, robust, obtuse at apicolateral corners, acutely pointed apically; apical sclerotized area with the thin median longitudinal suture. Endophallus with median longitudinal bands (Fig. 3D) each slender, long; expulsion clasps (Fig. 3D) almost M-shaped, connected each other by a transverse plate, anterior plate demarcated from posterior plate by oblique suture, posterior plate weakly incurved, pointed apically, laterally with a saucer-like depression; basal tube (Fig. 3D) with basal room large, subconical, tube body aciculate and thin. Parameres (Fig. 3B) straight, with its apical part long, weakly swollen mesially; about 40 long, straight setae occurring on the mesial margin of apical part, and additional 5 to 6 setae mesially on the part just above the apical swollen part.

Female. Eighth venter entire; gonocoxites (Fig. 3G) each minutely serrate at posterior margin, with apicolateral tooth acutely pointed, and apicolaterally with a tuft of very long, straight setae; 10th tergum rounded at posterior margin. Spermatheca (Fig. 3F) robust, with capsule small, weakly turned mesially, RT-duct short, thin; spermathecal duct very thick, short with two turns, with the duct between 1st and 2nd turns tightly coiled to form a tuberculous mass, basal valve very short, basal sclerotized duct narrow, straight.

Type series. Holotype (No. NSMT-I-C-200258

in NMNS): ♂, Mt. Daisen (Yokote-michi, NW slope 820m), Daisen-cho, Tottori Pref., 7. ix. 1984, Y. Nishikawa leg. Paratypes: 2 ♀, Mt. Kenashi, Tottori C., Tottori Pref., 23. v. 1989, N. Tsurusaki leg.

Distribution. Japan (Honshu: Tottori Pref.).

Remarks. *Stenus vernicosus* sp. nov. belongs to the species group of *S. cirrus* Benick. This new species is closely allied to *S. nyoirin* Naomi, 2004, but it is clearly distinguishable from the latter by the following characters: in male the aedeagal median lobe is broader in posterior half (Fig. 3B), the endophallic expulsion clasps are weakly divergent anteriorly, and connected each other by a transverse plate, and its posterior plate is weakly incurved, pointed apically, and furnished laterally with a saucer-like depression (Fig. 3D); and in female the spermatheca is similarly structured, but the spermathecal duct behind the 1st turn is distinctly shorter and thicker (Fig. 3F).

Etymology. The specific epithet of this new species is derived from the Latin adjective “*vernicosus*” which means “varnished” or “glossy”; in fact the body of this new species is strongly varnished.

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