Three New Species of the Genus *Stenus* Latreille (Coleoptera, Staphylinidae, Steninae), with Taxonomic Notes and New Distributional Records from Japan*

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**Abstract**

Three new species of the *humilis* group of the genus *Stenus* Latreille are described from Honshu, Japan: *S. kirin* from Nara Pref., *S. houomontis* from Yamashiri Pref., and *S. ubusuna* from Mie Pref. *S. zimmermanni curvaticellus* Nakomi, 1997 and *S. zaishin ohbayashii* Nakomi, 1997 are upgraded to valid species (i.e., *S. curvaticellus* Nakomi, comb. nov. and *S. ohbayashii* Nakomi, comb. nov.). *S. pubescens fraternus* Casey, 1884 and *S. finitor* Ryvkin, 2011 are first recorded from Japan. *S. sho-gun* Puthz, 1987 and *S. zaishin* Nakomi, 1990 are first recorded from Hokkaido and Honshu, respectively.

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

Up to the present, Japanese fauna of the genus *Stenus* Latreille consists of 249 species and eight subspecies (Nakomi & Puthz, 2013). Out of these species, *Stenus humilis* species group comprises 20 species and two subspecies; and almost all of them are brachypterous and thus flightless. As is often the case with such species group, it comprises many vicariant (or allopatrically differentiated) species in Japan. Their distributional ranges are in fact limited to very or relatively narrow areas so that those species are very often indigenous in the local faunas of Japan. The members of this species group are very similar in external structure and coloration, but they are clearly distinguished from one another by secondary sexual characters of the venter of male abdomen as well as structures of the aedeagus and endophallus. During the course of this study we found three unknown species of *S. humilis* group from Kinki and Chûbu Districts, central Honshu. Thus we herein describe them as new to science, and illustrate their key characters by which to classify them with ease. The holotypes of these new species are deposited in Osaka Museum of Natural History (OMNH) and Kyushu University Museum (KUM). Since two subspecies of *S. humilis* group each are considered to form independent species lineage, we are to herein upgrade them to valid species. In addition we will report new distributional records of *Stenus*, including two species new to Japan. Thus, in conclusion the Japanese *Stenus* fauna is represented by 256 species and six subspecies.

**Stenus kirin** Nakomi et Ito, sp. nov.

[New Japanese name: Kirin-hime-medaka-hanekakushi]

(Fig. 1A–E)

Male and female. Brachypterous species; body small (2.9–3.1 mm in length), elongate,

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subcylindrical, moderately shining, dark red to black, with antennae and legs relatively short, dark red; head with a pair of large longitudinal depressions, punctures dense, round; pronotum with punctures very dense, round to subrugose, without median longitudinal depression; elytra with punctures rough, very dense; abdomen with punctures moderately dense, distinct, round to elliptical, 3rd to 5th terga each with three short, basi-longitudinal keels; paratergites narrow, punctate.

Male. Sixth venter posteromedially with a triangular flat area, which is very weakly, arcuate-ly emarginate; 7th venter posteromedially with a moderately shallow, semicircular depression, the depressed area gently, arcuatley emarginate; 8th venter (Fig. 1E) with a medium-sized, broad emargination at the middle of posterior margin; 9th tergum (Fig. 1B) with straight, thin ventral struts; 9th venter (Fig. 1D) with apicolateral projections short, di- or tricuspidate, posterior margin between api-

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Fig. 1. *Stenus kirin* NAOMI et ITO, sp. nov. — A, Ninth and 10th abdominal segments of female in ventral view; B, 9th and 10th terga of male in dorsal view; C, aedeagus in ventral view; D, 9th venter of male; E, 8th venter of male. Scale: 0.2 mm.
colateral projections almost straight, minutely serrate; 10th tergum (Fig. 1B) entire at posterior part. Aedeagus (Fig. 1C) slender; median lobe weakly bulbous at base, becoming gradually narrower posteriorly, with its apical part almost triangular in shape behind apicocolateral corners which are indistinct; apical sclerotized area moderate in size, its anterior margin arcuate, surface covered with very thin, oblique or longitudinal lines; latero-ventral rim of median lobe sclerotized, relatively narrow before the apical sclerotized area, with a pair of very minute humps at their mesial edges a little before apical sclerotized area; median hooks (Fig. 1C) moderately sclerotized, fused to form a broad H-shaped expulsion clasp, with its antero-lateral arm a little shorter than postero-lateral arm, postero-lateral arm curved laterally and pointed; median longitudinal bands moderately long and broad, gradually divergent anteriorly; temple-bell-shaped structure sclerotized, medium in size; basal tube large, broad, weakly constricted near the middle, and when seen ventrally consisting of a pair of thin rods which are each strongly incurved at apex; parameres (Fig. 1C) slender, thin, straight, apical areas each weakly swollen, covered mesially with thin, short setae.

Fe m a l e. Eighth venter rounded at posterior margin; 9th tergum (Fig. 1A) broadly emarginate at posterior margin; gonocoxites (Fig. 1A) broad, each with two medium-sized, apicolateral teeth, posterior margin minutely serrate; 10th tergum (Fig. 1A) gently rounded at posterior margin.


Distribution. Japan (Kinki district: Nara Pref.).

Remarks. *Stenus kirin* sp. nov. is closely allied to *S. zaishin* NAOMI, 1990 from Shikoku, and resembles the latter in external structure, but the new species is clearly distinguished from it by the difference in aedeagal structure (Fig. 1C): The ventral sclerotized rim of median lobe is distinctly thinner; the paired humps located at the mesial edges of the latero-ventral rim of median lobe a little before the apical sclerotized area are distinctly smaller; the explosion clasp is broad-H-shaped, and its posterior arm is curved laterally and pointed; and the basal tube is a little more strongly constricted near the middle.

Etymology. The specific epithet is derived from the Japanese noun ‘Kirin’, that is, the name of imaginary animal which is considered a symbol of ‘Good Luck’.

*Stenus houomontis* NAOMI et ITO, sp. nov. [New Japanese name: Houô-hime-medaka-hanekakushi] (Fig. 2A–E)

M a l e a n d f e m a l e. Brachypterous species; body small (2.8–3.0 mm in length), elongate, moderately shining to dull, dark red to black, with antennae and legs relatively short, dark red to dark brown; head with a pair of large longitudinal depressions, punctures dense to very dense, round; pronotum somewhat flat on median area, with punctures very dense, round, distinct, without median longitudinal depression; elytra with punctures rough, very dense; abdomen with punctures moderately dense, distinct, round to elliptical, 3rd to 5th terga each with three short, basi-longitudinal keels; paratergites narrow, punctate.

M a l e. Sixth venter posteromedially with a triangular flat area, which is very weakly, arcuate-ly emarginate; 7th venter (Fig. 2E) posteromedially with a moderately shallow, semicircular depression, the depressed area moderately, arcuately emarginate; 8th venter (Fig. 2E) with a medium-sized emargination at the middle of posterior margin; 9th tergum (Fig. 2A) with straight, thin ventral struts; 9th venter (Fig. 2C) with apicolateral projections very short, di- or tridentate but each dent blunt in
Fig. 2. *Stenus houomontis* NAOMI et ITO, sp. nov. (Houô, Yamanashi). — A, Ninth and 10th terga of male in dorsal view; B, aedeagus in ventral view; C, 9th venter of male; D, 9th and 10th abdominal segments of female in ventral view; 7th and 8th venters of male. Scale 1: 0.2 mm for A–D; scale 2: 0.2 mm for E.
most cases, posterior margin between apicolateral projections almost straight, very minutely serrate; 10th tergum (Fig. 2A) entire at posterior part. Aedeagus (Fig. 2B) robust; median lobe broad, bulbous at base, weakly constricted near basal 1/3, then weakly broadened toward apical 1/3, with its apical part elongate-pentagonal in shape, acutely pointed; apical sclerotized area medium-sized, broadly emarginate anteriorly to form V-shape, surface with short, sparse setae; latero-ventral rims of median lobe sclerotized, robust and sclerotized before the apical sclerotized area, with a pair of small humps at their mesial edges just before apical sclerotized area; median hooks (Fig. 2B) fused to form a transverse expulsion clasp, with its antero-lateral arm blunt, and a little longer than postero-lateral arm; median longitudinal bands moderately long and broad, gradually divergent anteriorly; temple-bell-shaped structure medium-sized; basal tube large, broad, weakly constricted near apical 1/3, and when seen ventrally consisting of a pair of thin rods which are each weakly incurved at apex; parameres (Fig. 2B) slender, thin, very weakly incurved, apical areas each weakly swollen, covered mesially with thin, short setae.

**Female.** Eighth venter rounded at posterior margin; 9th tergum (Fig. 2D) broadly emarginate at posterior margin; gonocoxites (Fig. 2D) broad, each with one or two medium-sized, apicolateral teeth, posterior margin irregularly serrate; 10th tergum (Fig. 2D) gently rounded at posterior margin.


**Distribution.** Japan (Chûbu District: Yamanashi Pref.).

**Remarks.** *Stenus houomontis* sp. nov. is closely allied to *S. yasutoshii* Naomí, 1997 from Chûbu District and resembles the latter in external structure and also in aedeagal structure (e.g., the median lobe is rather broad before its apical sclerotized area), but the new species is clearly distinguished from it by the difference in aedeagal structure (Fig. 2B): The apical part of median lobe is elongate-pentagonal in shape and acutely pointed; the anterior margin of apical sclerotized area is broadly emarginate to form V-shape; the antero-lateral arms of median expulsion clasp each turn antero-laterally, and are bluntly pointed; the median longitudinal bands are each a little narrower at base; and the endophallic basal tube is a little broader.

**Etymology.** The specific epithet is derived from the Japanese name of type locality “houo-” + the Latin term “-montis” which means “mountainous” or “of mountain”.

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**Stenus ubusuna** Naomi et Ito, sp. nov.

[New Japanese name: Ubusuna-hime-medaka-hanekakushi]

(Fig. 3A–E)

**Male and female.** Brachypterous species; body small (2.7–3.2 mm in length), moderately shining, with head and abdomen black, prothorax and elytra dark red to black, antennae and legs relatively short, dark brown; head with a pair of large longitudinal depressions, punctures dense, round; pronotum with punctures very dense, round, rough, with a vague, median longitudinal depression; elytra with punctures rough, very dense; abdomen with punctures moderately dense, distinct, round to elliptical, 3rd to 5th terga each with three short, basi-longitudinal keels; paratergites narrow, punctate.

**Male.** Sixth venter posteromedially with a broad-triangular flat area, its posterior margin very weakly arcuate or nearly straight; 7th venter (Fig. 3E) posteromedially with a moderately shallow, semicircular depression, the depressed area gently, arcuately emarginate; 8th venter (Fig. 3E) with a medium-sized emargination at the middle of posterior margin; 9th venter (Fig. 3A) with straight ventral struts; 9th venter (Fig. 3B) with apicodorsal projections short, di- or tridentate, posterior margin between apicodorsal projections almost straight, minutely serrate; 10th venter almost truncate or very shallowly, arcuately emarginate (Fig. 3A) at posterior part. Aedeagus (Fig. 3C) robust; median lobe broad, weakly bulbous at base, weakly constricted near the middle, then gently broadened apically toward apicodorsal corners which are rounded, with its apical part almost triangular in shape behind apicodorsal corners, apical sclerotized area medium-sized, anteriorly emarginate to form the broad-V-shape, surface with sparse setae and very thin, oblique or longitudinal lines; latero-ventral rims of median lobe sclerotized, gradually narrowed anteriorly, with a pair of medium-sized humps at their mesial edges just before apical scleritized area; median hooks (Fig. 3C) moderately sclerotized, fused to form a broad-V-shaped clasp, with its antero-lateral arm acutely pointed, postero-lateral arm indistinct; median longitudinal bands broad, moderately long, gradually divergent anteriorly; temple-bell-shaped structure large, well-sclerotized; basal tube large, broad, slightly asymmetrical, weakly constricted near the middle, and when seen ventrally consisting of a pair of thin rods which are each weakly incurved at apex; parameres (Fig. 3C) slender, thin, very weakly incurved, apical areas each weakly swollen, covered mesially with thin setae.

**Female.** Eighth venter rounded at posterior margin; 9th tergum (Fig. 3D) broadly emarginate at posterior margin; gonoxocites (Fig. 3D) broad, each with two or three small, apicodorsal teeth, posterior margin minutely serrate; 10th tergum (Fig. 3D) gently rounded at posterior margin.


**Distribution.** Japan (Kinki District: Mie Pref.).

**Remarks.** *Stenus ubusuna* sp. nov. is closely allied to *S. sakura* Hromádka, 1979 from Kinki District, and *S. toukin* Naomi et Putz, 1994 from Chūbu District, but the new species is clearly distinguished from them by the difference in aedeagal structure (Fig. 3C): The apical sclerotized area of median lobe is less strongly pointed; the ventral rims of median lobe are more robust and broader; the paired humps are located at the mesial edges of the latero-ventral rims of median lobe just before the apical scleritized area; and the endophallic expulsion clasp is broad-V-shaped. Furthermore, this new species is separable from *S. sakura* by the broader apical sclerotized area of median lobe; and it is also from *S. toukin* by the broader endophallic median longitudinal bands.

**Etymology.** The specific epithet is derived from the Japanese noun ‘Ubusuna’, which means the guardian angel of native place.
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**Stenus ohbayashii** Naomi, comb. nov.

[New Japanese name: Ôbayashi-hime-medaka-hanekakushi]

**Specimen examined.** 1 ♂, Mt. Odami, Ehime Pref., 11–VII–1994, E. Yamamoto leg.

**Distribution.** Japan (Shikoku: Ehime Pref.).

**Remarks.** *Stenus ohbayashii* Naomi was first described by Naomi (1997) as a subspecies of *S*.

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Fig. 3. *Stenus ubusuna* Naomi et Ito, sp. nov. (Nonobori, Mie). — A, Ninth and 10th terga of male in dorsal view; B, 9th venter of male; C, aedeagus in ventral view; D, 9th and 10th abdominal segments of female in ventral view; E, 7th and 8th venters of male. Scale 1: 0.2 mm for A–D; scale 2: 0.2 mm for E.
zaishin NAOMI, 1990. However, this species is very distinctive from S. zaishin in structure of aedeagus: The apical sclerotized area of median lobe is distinctly larger and more acutely pointed, the anterior margin of the apical sclerotized area of median lobe is elongate-V-shaped (while it is short-U-shaped in S. zaishin), and the endophallic expulsion clasp is broad-C-shaped (it is almost straight, with its short antero-lateral arms in S. zaishin). Given these morphological differences, the validity of the species is here newly confirmed, and the subspecies is upgraded to a distinct species, Stenus ohbayashii NAOMI, comb. nov.

**Stenus curvaticellus** NAOMI, comb. nov.

[New Japanese name: Hokuriku-hime-medaka-hanekakushi]


**Specimens examined.** Six paratypes (Nabetani, Tatsunokuchi-machi, Ishikawa Pref.) recorded in the original description of this new subspecies (NAOMI, 1997).

**Distribution.** Japan (Honshu: Ishikawa Pref.).

**Remarks.** *Stenus curvaticellus* NAOMI was first described by NAOMI (1997) as a subspecies of *Stenus zimmermanni* PUTHZ, 1968. However, this species is distinctive from *S. zimmermanni* in structure of aedeagus: The apical sclerotized area of median lobe is broader and more bluntly pointed, the endophallic expulsion clasp is composed of straight rod (while it is C-shaped in *S. zimmermanni*), and the apico-mesial side of paramere is more widely furnished with setae of various length. When considering these differences, the species level is here newly revalidated, and the subspecies is upgraded to a distinct species, *Stenus curvaticellus* NAOMI, comb. nov.

**Stenus finitor** RYVKIN

[New Japanese name: Hokkai-kebuka-medaka-hanekakushi]

*Stenus finitor* RYVKIN, 2011, Baltic J. Coleopt., 11: 64.

**Specimen examined.** 1♂, Ichani, Shibetsu, Hokkaido, 16–V–2009, T. KATO leg.

**Distribution.** Japan (Hokkaido); Russia (Amur area, Selemdzhinskiy District).

**Remarks.** Regarding the external structure of aedeagus (e.g., peculiar pentagonal shape of the apical sclerotized area of median lobe) and the endophallus (e.g., almost H-shaped expulsion clasp), the *Stenus* specimen examined from Hokkaido shows just the same conditions of male holotype of *S. finitor* as illustrated in RYVKIN (2011: 63, fig.4), and thus it is identical with *S. finitor* (which belongs to the species group of *S. crassus* STEPHENS). This is the first record of *Stenus finitor* RYVKIN from Japan.

**Stenus pubescens fraternus** CASEY

[New Japanese name: Kishibe-medaka-hanekakushi]

(Fig. 4A–G)

*Stenus pubescens fraternus* CASEY, 1884, Rev. Stenini Amer. Nor. Mexico, p.155.

**Specimens examined.** 2♂, 1♀, Mitoyo, Abashiri-shi, Hokkaido, 6 to 8–V–2009, T. KATO leg.; 1♂, same locality, 19–V–2010, T. KATO leg.  
M a l e and f e m a l e. Macropterous species; body (Fig. 4G) very elongate, black, matt; an-
Fig. 4. *Stenus pubescens fraternus* CASEY. — A, Ninth and 10th terga of male in dorsal view; B, apical part of right gonocoxite; C, aedeagus in ventral view; D, 9th venter of male; E, apical part of 8th venter of female; F, 9th and 10th terga of female in ventral view; G, habitus. Scale: 0.2 mm for A–F.
tennae with 1st segment pitchy black, 2nd to 11th segments reddish brown to brown.

M a l e.  Fifth venter posteromedially with a small crescent or semicircular depression which is covered with silvery setae, the depressed area arcuately emarginate; 6th venter posteromedially with a very similar modification as in 5th, but the depressed area a little more deeper, more strongly emarginate; 7th venter covered posteromedially with silvery setae, very weakly, arcuately emarginate; 8th venter posteromedially with a large, broad emargination; 9th tergum (Fig. 4A) well-developed, posterior margin between lateral projections straight, ventral struts robust, each anteromesially with a dorsal flap; 9th venter (Fig. 4D) with characteristic basal stem, apicolateral projections small, pointed, posterior margin very minutely serrate between the projections; 10th tergum (Fig. 1A) entire at posterior part. Aedeagus (Fig. 4C) slender, very robust, heavily sclerotized; median lobe strongly bulbous at base, gradually tapering toward apex which is narrowly truncate; parameres (Fig. 4C) very stout, broad, apical triangular area large, with its mesial and apical corners acutely pointed.

F e m a l e.  Eighth venter (Fig. 4E) acutely pointed, with posterior area triangular in shape; 9th tergum (Fig. 4F) with posterior margin between anterolateral projections straight; gonocoxites (Fig. 4B) each with apicolateral projection small, pointed, posterior margin very slightly serrate; 10th tergum (Fig. 4F) gently rounded at posterior part.

**Distribution.** Japan (Hokkaido), Alaska, North America.

**Remarks.** This species belongs to the species group of *S. pubescens* STEPHENS (PUTHZ, 2008). The present species inhabits marshes in the plains of Hokkaido. It usually lives under dead leaves near the waterside, but in the daytime it occasionally climbs the stalk of Carex and rambles along its leaves, together with *S. bohemicus* MACHULKA, 1947. This is the first record of *Stenus pubescens fraternus* CASEY from Japan.

**Stenus shogun** PUTHZ


**Distribution.** Japan (Hokkaido, Honshu).

**Remarks.** This species belong to the species group of *S. canaliculatus* GYLLENHAL. It was first described by PUTHZ (1987) from Honshu (Nishigo-Uzan); and so far it has been only known from there. This is the first record of *Stenus shogun* PUTHZ from Hokkaido.

**Stenus zaishin** NAOMI


**Specimens examined.** 1 ♂, 1 ♀, Mt. Ohdaigahara, Yamato (Nara Pref.), 1–V–1969, T. ITO leg.; 1 ♂, Motokawa, Ino-chô, Kochi Pref., 18–VIII–2007, T. MIYATA leg.

**Distribution.** Japan (Honshu: Nara Pref., Shikoku: Tokushima and Kôchi Prefs.).

**Remarks.** This species was first described by NAOMI (1990) from Shikoku (Mt. Tsurugi, Tokushima Pref.); and so far it has been only known from the eastern part of Shikoku. This is the first record of *Stenus zaishin* NAOMI from Honshu.
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要約

直海俊一郎・伊藤建夫：日本産メダハネカクシ属（鞘翅目ハネカクシ科）の3新種の記載。分類学的変更および新分布の記録。——ハネカクシ科メダハネカクシ属*humilis*種群に属する以下の日本産3新種を記載した。奈良県から*S. kirin*、山梨県から*S. howomontis*、三重県から*S. usubuna*を新種として記載した。これまで分類上亜種とし取り扱われていた*S. zimmermanni curvaticellus* NAOMI, 1997 と*S. zaishin ohbayashii* NAOMI, 1997 を、種に昇格した（*S. curvaticellus* NAOMI, comb. nov. および*S. ohbayashii* NAOMI, comb. nov.）。*S. pubescens fraternus* CASEY, 1884 および*S. finitor* RYVKIN, 2011 を、初めて日本から記録した。さらに*S. shogun* PUTHZ, 1987 を北海道から、*S. zaishin* NAOMI, 1990 を本州から初めて記載した。

References


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