

## Two New Species of the *S. cirrus*-Group of the Genus *Stenus* Latreille (Coleoptera, Staphylinidae) from Japan<sup>1)</sup>

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**Abstract** Two new species of the *S. cirrus*-group of the genus *Stenus* Latreille, *S. kanzeon* and *S. nyoirin*, are described from Honshu, Japan. A key to species of *Stenus sawadaianus* and its allied species is provided, and the 8th and 9th sternites of male, aedeagus and spermatheca are illustrated for comparison.

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

The *S. cirrus*-group belongs to the subgenus *Hemistenus* of the genus *Stenus* Latreille, 1797 and its Japanese members (seven species) were taxonomically studied by Naomi (1997). After that study, Puthz (2001) added a new species, *Stenus nachiensis* from Wakayama Pref., Honshu, to this group. Thus, at present, 8 species are known from Japan. Recently I found further two new species, *S. kanzeon* and *S. nyoirin*, from Honshu, both of which are closely related to *Stenus sawadaianus* Hromádka 1979. I describe them in this paper, together with a key to these three species for identification. Concerning the terminology of spermatheca see Naomi (1997).

### *Stenus (Hemistenus) kanzeon*

Naomi sp. nov.

(Fig. 1A-E)

**Description.** Male. Body entirely pitchy black except for dark red elytra, strongly shiny, with abdomen especially brilliantly lustrous; labrum black with anterior margin reddish brown; maxillary palpi reddish brown to brown; antennae clear red to reddish brown; legs yellowish brown to reddish brown, with the apices of femora and tibiae more or less infuscate.

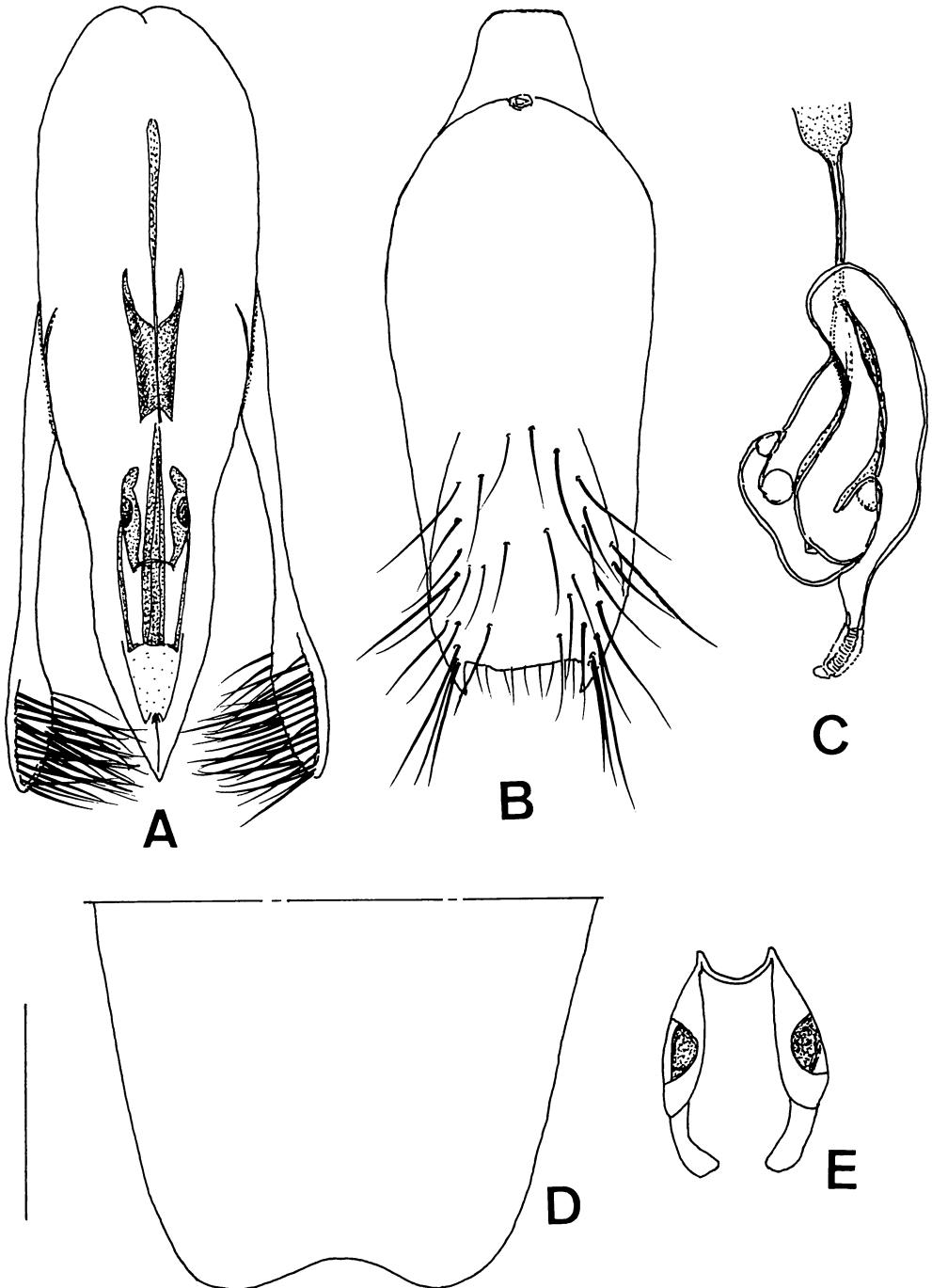
Body 4.0–4.6 mm in length; brachypterous, cylindrical, setiferous on abdomen; relative measurements: HL: 33; HW: 53; PL: 40; PW:

40; EL: 45; EW: 50; SL: 32.

Head with labrum sparsely pubescent; clypeofrontal area strongly declivous, basiantennal tubercles small, weakly sulcate at their internal sides; interocular area relatively narrow, narrowed anteriorly, a pair of longitudinal sulci weakly curved and converging anteriorly, median part between sulci moderately convex but a little lower than highest point of compound eye; setiferous punctures on head variable in size from small to large, punctures near inner margins of eyes very dense, denser than those on median part of epicranium, largest punctures found at anterior part of convex area between longitudinal sulci, diameter of large puncture as large as median cross-section of 1st antennal segment, interstices between punctures shining, partially covered with microsculptures. Antennae very slender, when reflexed extending near middle of pronotum, 2nd segment distinctly broader than 3rd, 3rd to 7th each very thin, 8th smallest, 10th distinctly longer than broad, 11th pointed at apex, with relative lengths of antennal segments from base to apex as 14:13:24:16:15:12:10:7:8:11:15.

Pronotum well convex dorsally, broadest near middle, weakly constricted at base; surface almost even, with obscure transverse depression along anterior margin, median longitudinal depression obscure and shallow, not reaching posterior margin; punctures coarse, very dense, round, diameter of large

1) Studies on the subfamily Steninae from Japan, 34.



**Fig. 1.** *Stenus kanzeon* sp. nov. A, Aedeagus in ventral view; B, 9th sternite of male; C, spermatheca; D, apical part of 8th sternite of male; E: median hooks. Scale: 0.2 mm for A to D; 0.1 mm for E.

puncture about as large as the apical cross-section of 3rd antennal segment, interstices between punctures narrow, distinctly microsculptured.

Elytra weakly narrowed at base, moderately convex dorsally, and rounded at sides, hind margins together forming wide shallow and arcuate emargination; surface with seti-

ferous punctures very dense, large and coarse, a little denser than those on pronotum; interstices between punctures very narrow, microsculptured.

Legs relatively long; hind legs with 1st tarsomere about as long as the following 3 combined, 4th tarsomere simple, about half times as long as 3rd.

Abdomen narrowed posteriorly, covered with long, sparse, curved and erect setae; paratergites on 3rd segment very narrow, horizontal in position, punctate in single line, paratergites on 4th segment similarly structured as on 3rd but slightly slant in position and somewhat reduced, tergo-sternal sutures only found in posterior segments; 3rd tergite with setiferous punctures very large, dense and elliptical at base, while medium in size, round and regular near the posterior margin, interstices between punctures almost shining; punctures becoming smaller and sparser posteriorly toward posterior segments; 7th tergite with very sparse, obsolete and setiferous punctures; 8th sternite (Fig. 1D) with a shallow and arcuate emargination at posterior margin; 9th sternite (Fig. 1B) with a pair of posterolateral projections which are incurved and short but acutely pointed. Aedeagus (Fig. 1A) relatively slender, with median lobe weakly bulbous in basal 2/3, then constricted, after the constriction the median lobe being parallel-sided toward pointed apex; internal sac with median longitudinal bands straight, with a pair of lateral longitudinal bands which are very thin and connected anteriorly to the middles of median hooks; paired median hooks (Fig. 1E) separated by arcuate and thin basal struts; basal tube straight and very thin, with a symmetrical sclerite at posterior part; parameres reaching near the apex of median lobe, strongly spatulate at apices, each with about 30 long setae.

Female. Spermatheca (Fig. 1C) with duct very thin behind the membranous portion of basal tube, thick in other part; basal tube much extending posteriorly beyond 2nd bend of spermatheca, partially overlapping with the portion of 2nd bend, around the 1st bend the spermathecal duct tightly coiled in a mass so that no space is found between tubes; cornu relatively short, slightly turning

inside.

*Type series.* Holotype, male (Type No., CBM-ZI 94861), Fukumizu, Hakui City, Ishikawa Pref., 19. x. 1995, T. Kishimoto leg. Paratypes, 2 males and 4 females (1 female: CBM-ZI, 94862; 1 male and 1 female, Dr. Puthz Collection; the others in my collection), same locality as holotype, 20. x. 1995, T. Kishimoto leg.

*Distribution.* Japan (Honshu).

*Remarks.* *Stenus kanzeon* sp. nov. is closely allied to *Stenus sawadaianus* Hromádka 1979 and *S. nyoirin* sp. nov. This new species is separable from *S. sawadaianus* by the almost M-shaped median hook of internal sac, the longer, thinner and arcuate basal strut of median hooks, the shorter lateral longitudinal bands. This new species is separable from *S. nyoirin* by the narrower apical part of median lobe, the smaller median hooks with their anterior ends weakly curved internally, and the shorter parameres not extending posteriorly beyond the apex of median lobe. *Stenus kanzeon* is also distinguishable both from *Stenus sawadaianus* and *S. nyoirin* by the presence of a special symmetrical sclerite (that is similar in shape to a truncated arrow) near the posterior part.

*Etymology.* The specific epithet of this new species is derived from a name of Buddha.

***Stenus (Hemistenus) nyoirin***

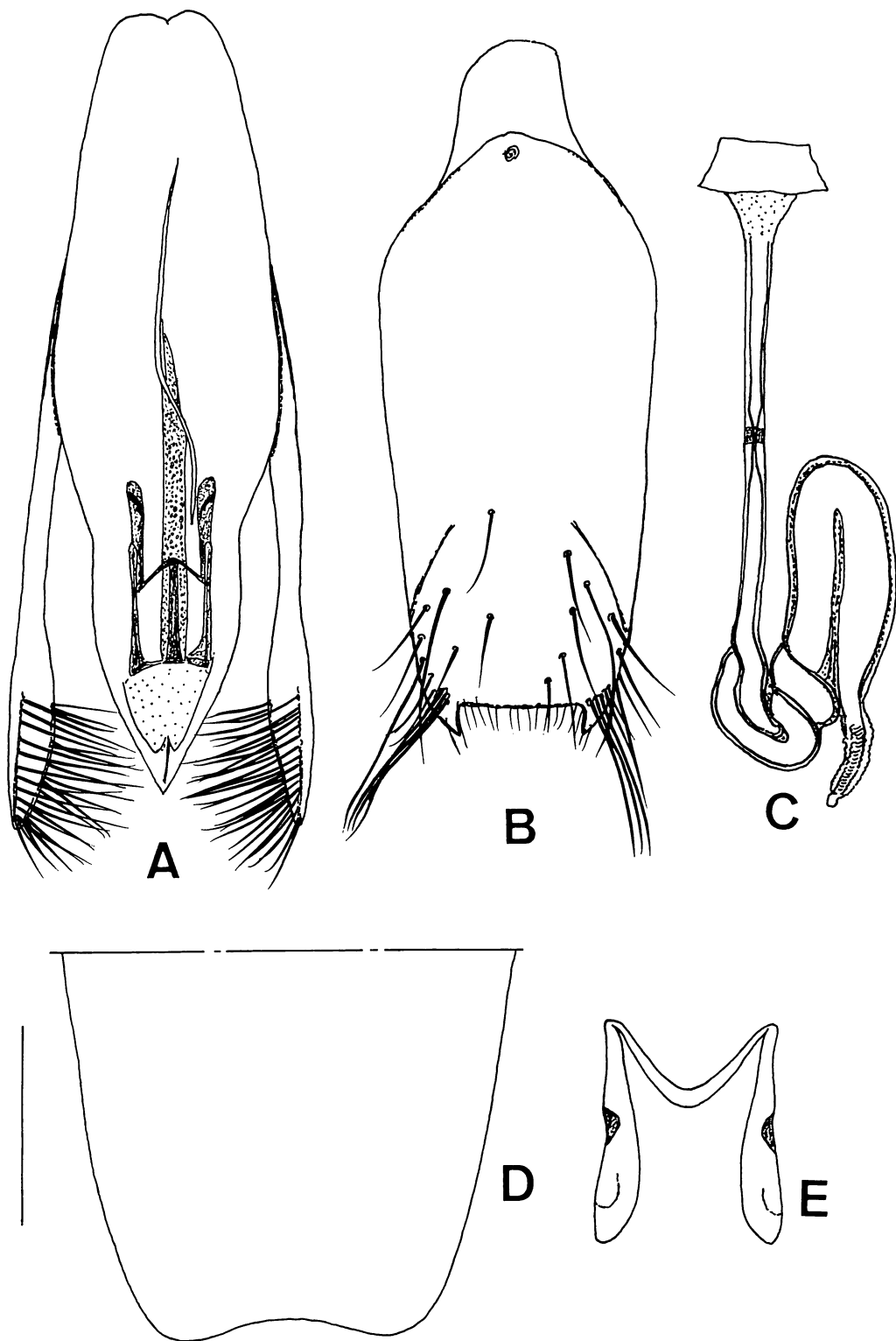
**Naomi sp. nov.**

(Fig. 2A-E)

*Description.* Male. Head and pronotum pitchy black, strongly shining, elytra dark red to dark brown, shining, abdomen black, strongly lustrous, slightly with bluish reflection; labrum black, with anterior margin reddish brown; maxillary palpi yellowish brown to brown; antennae clear reddish brown and shining; legs yellowish brown to reddish brown.

Body stout, 5.2–5.5 mm in length; brachypterous, setiferous on abdomen; relative measurements: HL : 30; HW : 46; PL : 38; PW : 36; EL : 43; EW : 44; SL : 31.

Head with labrum and clypeofrontal area dull, basiantennal tubercles relatively long, distinctly sulcate at their internal sides; interocular area narrow, about 1.7 times as broad as middle of compound eye that is strongly



**Fig. 2.** *Stenus nyoirin* sp. nov. A, Aedeagus in ventral view; B, 9th sternite of male; C, spermatheca; D, apical part of 8th sternite of male; E: median hooks. Scale: 0.2 mm for A to D; 0.1 mm for E.

swollen and spherical, a pair of longitudinal sulci weakly curved internally, median part of epicranium between sulci weakly convex; setiferous and sometimes umbilicate punctures much varied in size from small to large, round to elliptical or ovoidal in shape, punctures near inner margins of eyes denser than those on median area between longitudinal sulci, diameter of large puncture about as large as median cross-section of 10th antennal segment, interstices between punctures smooth or obsoletely microsculptured. Antennae very slender, when reflexed extending posteriorly near the middle of pronotum, 2nd segment distinctly broader than 3rd, 3rd to 7th very thin, almost equal in breadth to one another, 8th elongate-elliptical, 9th distinctly broader than 8th, ovoidal, 10th a little broader than 9th, 11th pointed, with relative lengths of antennal segments from base to apex as 16 : 15 : 24 : 18 : 17 : 10 : 9 : 6 : 8 : 9 : 14.

Pronotum robust, broadest near the middle, rounded in about anterior half, weakly constricted at base; surface considerably uneven, with short transverse depression along the middle of anterior margin, the depression indistinctly connected with median longitudinal depression to form T-shaped depression on pronotum, the median longitudinal depression broadest and deepest near middle, reaching posteriorly near posterior margin of pronotum; punctures very dense, rough and round, diameter of large puncture about as large as median cross-section of 9th antennal segment, interstices between punctures narrow, distinctly microsculptured.

Elytra with humeri weakly developed, rounded laterally, conjointed hind margins forming wide and arcuate emargination; surface uneven, with posterior part of mesoscutellum almost flat; flat area divided by weakly elevated elytral suture, external sides of flat areas depressed, a pair of obscure longitudinal grooves running along posterior parts of lateral margins; punctures variable in size, small to large, irregular and somewhat rough, interstices between punctures indistinctly microsculptured.

Legs rather long and slender; hind legs with 4th tarsomere simple, slantly truncate.

Abdomen well-developed, narrowed posteriorly, covered with long and erect setae; paratergites on 3rd segment horizontal in position, punctate in a line, paratergites on 4th segment slant in position, punctate, paratergites on 5th segment very narrow but still found, with fine punctures, tergo-sternal sutures only found in posterior segments; 3rd tergite with setiferous punctures large to very large, moderate in density, and round, interstices between punctures shining; posterior tergites with setiferous punctures smaller than those on 3rd tergite, and sparse to very sparse, interstices between punctures shining; 8th tergite with interstices between punctures distinctly microsculptured; 8th sternite (Fig. 2D) with shallow and arcuate emargination at posterior margin; 9th sternite (Fig. 2B) posterolaterally with a pair of tufts each composed of 4 or 5 long setae, paired posterolateral projections short and pointed. Aedeagus (Fig. 2A) bulbous in anterior 3/5, then constricted, after constriction median lobe parallel-sided and relatively broad, then becoming gradually narrower toward pointed apex; internal sac with median longitudinal bands long and straight, with paired lateral longitudinal bands which run parallel and overlap anteriorly with posterior parts of median hooks; median hooks (Fig. 2E) M-shaped, each with thin and straight basal strut; basal tube thin, gently twisted; parameres thick and robust, distinctly extending beyond the apex of median lobe, weakly spatulate at apices, each with about 30 setae at the internal side of apex.

Female. Spermatheca (Fig. 2C) with basal tube very long, slender and straight, about 2 times as long as median tube, around 1st bend the spermathecal duct coiled so as to completely bond between tubes, median and apical tubes thick and almost simple; cornu short, weakly curved internally.

*Type series.* Holotype, male (Type No., CBM-ZI: 94863), Nomugi-Pass, Nagawa-mura, Nagano Pref., 8. viii. 1996, T. Kishimoto leg. Paratypes, 1 female (Naomi collection), Mt. Kisokomagadake (alt. 1550 m), Nagano Pref., 21. ix. 1996, T. Kishimoto leg; 1 male (Naomi collection), Hirayu, Gifu Pref., 24. viii. 1987, S. Nomura leg.

*Distribution.* Japan (Honshu).

*Remarks.* *Stenus nyoirin* sp. nov. is closely allied to *Stenus sawadaianus* and *S. kanzeon* sp. nov. *Stenus nyoirin* is separable from *S. sawadaianus* by the larger and M-shaped median hooks of internal sac, with the longer basal struts, the shorter lateral longitudinal bands that anteriorly run parallel and reach to the middle of median hooks. *Stenus nyoirin* is also separable from *S. kanzeon* by the anterior ends of median hooks obtusely pointed or simply rounded (not curved internally) and the weakly sinuate basal tube of internal sac, without any sclerotized structure at the posterior end. *Stenus nyoirin* can be separated both from *S. sawadaianus* and *S. kanzeon* by the broader apical part of median lobe and the longer parameres that extend posteriorly beyond the apex of median lobe.

*Etymology.* The specific epithet of this new species is derived from a name of Buddha.

**Key to species of *Stenus sawadaianus* Hromádka and its allied species from Japan**

Of the Japanese members of the *S. cirrus*-group (10 species in total), there are at present three species (namely, *Stenus sawadaianus*, *S. kanzeon* sp. nov. and *S. nyoirin* sp. nov.) that are characterized by the following external morphology of median lobe of aedeagus: the median lobe distinctly constricted just behind the basal bulbous portion and being more or less parallel-sided behind the constriction. This key aims at identifying these three species from one another.

- 1(2) Median lobe of aedeagus broader behind constriction; lateral longitudinal bands of internal sac thicker and running parallel anteriorly; basal struts of median hooks longer; paramere extending posteriorly beyond apex of median lobe; distribution (Chubu District) ..... *S. nyoirin* sp. nov.
- 2(1) Median lobe of aedeagus narrower behind constriction; lateral longitudinal bands of internal sac narrower and feebly divergently running ante-

riorly; basal struts of median hooks shorter; paramere reaching posteriorly apex of median lobe.

- 3(4) Lateral longitudinal bands of internal sac reaching anteriorly anterior ends of median hooks, with straight posteromedian projections; median hooks weakly divergent anteriorly; basal tube of internal sac weakly twisted, without annexed sclerite; spermatheca with its basal tube thick and short behind membranous portion; distribution (Chugoku and Kansai Districts) ..... *Stenus sawadaianus* Hromádka
- 4(3) Lateral longitudinal bands of internal sac reaching anteriorly the middles of median hooks, without posterior projections; median hooks parallel in position; basal tube of internal sac straight, with a symmetrical sclerite at its posterior part; spermatheca with its basal tube very thin and long behind membranous portion; distribution (Chubu District) ..... *Stenus kanzeon* sp. nov.

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***Stenus cirrus* 種群メダカハネカクシ  
(甲虫目, ハネカクシ科) の 2 新種の記載**

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本論文は日本産メダカハネカクシ亜科に関する研究の第 34 報である。本稿において、メダカハネカクシ属の *Hemistenus* 亜属の *Stenus cirrus* 種群に属するメダカハネカクシの 2 新種を本州から記載した。*Stenus Kanzeon* Naomi は石川県羽咋市から発見された新種で、*S. sawadaianus* Hromádka に近縁である。しかし、この新種は後者からは、雄交尾器の内袋の側

帯は前方に中央ホックの途中まで伸び、側帯の後方部に尖った突起部がなく、対を成す中央ホックは概ね平行に走り、内袋の基部管は直線状で、その後方に矢筈状の構造をもち、貯精嚢は基部管が非常に細く、第 2 屈曲部より後方に長く伸張する点で区別される。*Stenus nyoirin* Naomi は長野県および岐阜県から発見された新種で、*S. kanzeon* Naomi および *S. sawadaianus* Hromádka に似る。しかし、この新種はこれら両種から、雄交尾器の中央片の後部は明らかに幅広く、内袋の側帯は太く、前方に向かい並行に走り、対を成す中央ホックは左右に別れ、その間は V 字状の基部片で結ばれ、雄交尾器の側片は中央片の先端を越えて若干後方に伸張する点で区別される。