Elytra, *Tokyo*, New Series, **7** (1): 187–194
June 25, 2017

A New Species Related to *Saperda interrupta* (Coleoptera, Cerambycidae, Lamiinae) from Northeast Asia

Michiaki Hasegawa

Toyohashi Museum of Natural History, 1–238 Oana, Oiwa,
Toyohashi City, Aichi, 441–3147 Japan.

Abstract A new species of the lamiine genus *Saperda* is described from Northeast Asia under the name of *Saperda hosokawai*, which has been erroneously recorded up to the present under the name of *S. interrupta* Gebler, 1825. In addition, *Saperda interrupta* is redescribed with an illustration of the male genitalia in comparison with the new species.

Introduction

Saperda interrupta Gebler was originally described from Amur, and has hitherto been known from Russia (Siberia and Far East Russia), China (Fujian, Henan and Jilin), Korea and Japan (Löbl & Smetana, 2010). Through the courtesy of Dr. Mikhail Danilevsky of A. N. Severtsov Institute of Ecology and Evolution, Moscow, Russia, I was able to examine some specimens of *Saperda interrupta* collected from Far East Russia, including its type locality. After a comparative study in the specimens from most of the known localities, it became evident that the populations from Japan and South Korea are separable from *S. interrupta* and are new to science. In this paper, I am going to describe this new species in comparison with *S. interrupta*.

Material and Methods

Materials used in the present study are from the private collection of Koji Hosokawa, Seung Hwan Oh and the author. The holotype designated herein will be preserved in the Toyohashi Museum of Natural History, Toyohashi, Japan. The collecting data of specimens examined are described in the original spellings, though several Japanese characters were translated to English.

Abbreviations used in the measurements are as follows: IEL — length of inferior eye lobe measured from lateral or sub-lateral view; GL — length of gena, measured from lateral or sub-lateral view; PL — length of pronotum; PW — maximal width of pronotum; PB — basal width of pronotum; EL — length of elytra; EW — maximal width of elytra; TL — total length of body, from tip of head to elytral apices; M — arithmetic mean ± SD.

Taxonomy

Saperda interrupta Gebler, 1825

(Figs. 1, 3 & 5)

Saperda interrupta Gebler, 1825: 52; type area: Amur.
Saperda laterimaculata Motschulsky, 1860: 151; type locality: Dauria, Amur.

Diagnosis. M a l e. Length (from tip of head to elytral apices) 9.9–10.0 mm (M = 10.0 ± 0.07, n = 2). Width (maximal width of elytra) 2.6–2.7 mm (M = 2.7 ± 0.07, n = 2).

Color black; head, pronotum, scutellum, elytra and abdominal sternites black; antennae black to blackish brown; legs black except for dark reddish brown claws.

Head, pronotum, scutellum and elytra densely clothed with greenish pubescence; pronotum provided with four glabrous large circular black spots on disc and with a large oval black spot on each side; four spots on disc sometimes fused and became one large black maculation. Elytra provided with a broad glabrous black band and two large black semicircular spots on lateral side (Figs. 1 & 3).

Head voluminous, distinctly punctured throughout; vertex gently and shallowly concave; frons slightly wider than length; eyes large and strongly projected, chubby in inferior eye lobe; IEL/GL = 2.5. Antennae exceeding elytral apices at 10th segment; scape weakly clavate, proved with oblique erect setae, scape/3rd = 0.74–0.77; 3rd to 6th segments provided with several long erect setae on undersides; 3rd segment longer than 4th, 3rd/4th = 10.8–1.13, combined length of 3rd and 4th segments attaining to about 27% of the entire length of antenna; 7th to 10th segments provided with a few long erect setae on undersides near each apex; last segment narrowly rounded at apex; relative lengths of segments as follows: 4.0 : 1.0 : 5.3 : 4.8 : 3.7 : 3.6 : 3.5 : 3.3 : 3.0 : 2.7 : 2.9.

Pronotum cylindrical, weakly constricted at basal fifth, PL/PB = 0.9, PL/PW = 0.8–0.9, PB/PW = 0.9. Elytra relatively short, EW/PB = 1.5–1.6, EL/EW = 2.7–2.8, EL/PL = 4.5–4.8, EL/TL = 0.7, TL/EW = 3.6–3.8; sides almost parallel in basal 4/5, then arcuately attenuate toward widely rounded apices.

Eighth tergite of abdomen about 1.1 times as long as the basal width, with sides slightly arcuately attenuate toward widely truncate apex, which is densely provided with long setae (Fig. 5 a).

Male genitalia (Figs. 5 b–e). Median lobe in lateral view somewhat short and stout, about 1/3 the length of abdomen, weakly curved at middle; median struts almost parallel-sided, accounts for half the entire length of median lobe; ventral plate strongly swollen in basal fourth, thence weakly arcuate and gently attenuate toward apex; dorsal plate a little shorter than ventral plate, arcuate and gently attenuate toward the pointed apex. Apical part of median lobe in dorsal view as in Fig. 5 c. Inflated uneverted endophallus as shown in Fig. 5 b. Tegmen almost as long as median lobe; lateral lobes short, about 1/10 the whole length of tegmen, roundly attenuate toward rounded apices, which provided with several long setae (Figs. 5 d, e).

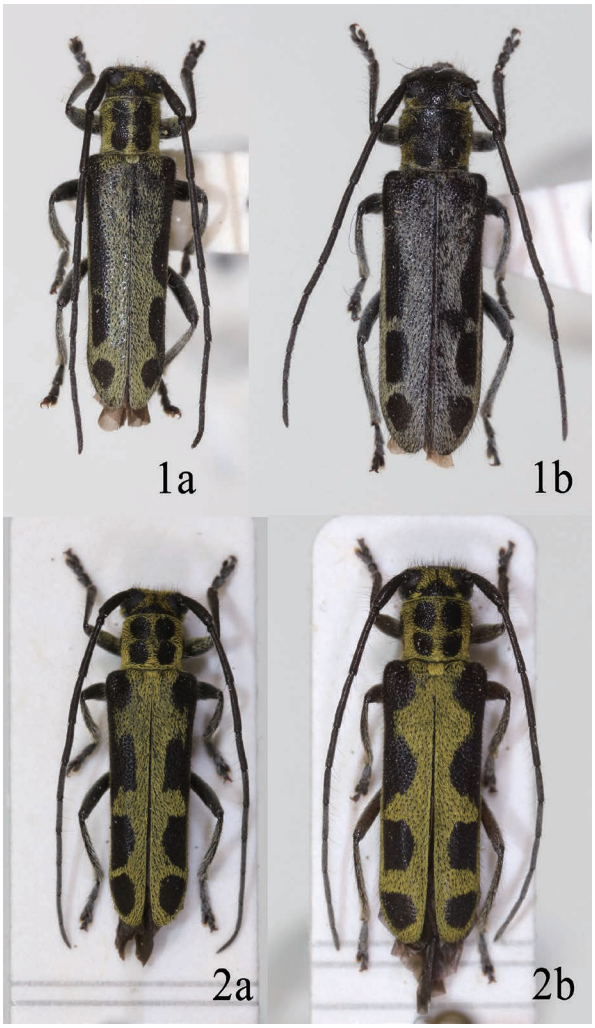
F e m a l e. Length (from tip of head to elytral apices) 9.6–11.1 mm (M = 10.5 ± 0.67, n = 4). Width (maximal width of elytra) 2.7–3.2 mm (M = 3.0 ± 0.22, n = 4).

Almost identical in general appearance to male, but different from it in the following features: body stouter; eyes somewhat smaller; antennae shorter, not reaching elytral apices.

The ratio of body parts (n = 4): IGL/GL = 1.7–2.0 (M = 1.9 ± 0.13), PL/PB = 0.9 (M = 0.9 ± 0.04), PB/PW = 0.9–1.0 (M = 0.9 ± 0.07), PL/PW = 0.8–0.9 (M = 0.8 ± 0.06), EW/PB = 1.4–1.6 (M = 1.5 ± 0.09), EL/PL = 4.2–4.6 (M = 4.4 ± 0.19), EL/EW = 2.5–2.6 (M = 2.6 ± 0.05), EL/TL = 0.7 (M = 0.7 ± 0), TL/EW = 3.4–3.6 (M = 3.5 ± 0.08).

Specimens examined. 1 ♂, Obluchine, Amur River Valley, Jewish Autonomous Reg., Far East Russia, 28.VI.1978, S. MURZIN leg.; 1 ♂, Chuguevka, Far East Russia, 4.VII.1997, M. MUKHANOV leg.; 1 ♀, near Beryozovka, 600–900 m in alt., Chuguyevsky, Far East Russia, 26.VII.1996, M. HASEGAWA leg.; 3 ♀♀, ditto, 29.VII.1996, M. HASEGAWA leg.

Distribution. Russia (Siberia and Far East), China (Jilin, Fujian? and Henan?) and North Korea.



Figs. 1–2. Habitus of *Saperda* spp. —— 1, *S. interrupta* GEBLER; 2, *S. hosokawai* HASEGAWA, sp. nov. —— a, Male; b, female.

Saperda hosokawai HASEGAWA, sp. nov.

[Japanese name: Heriguro-ao-kamikiri]

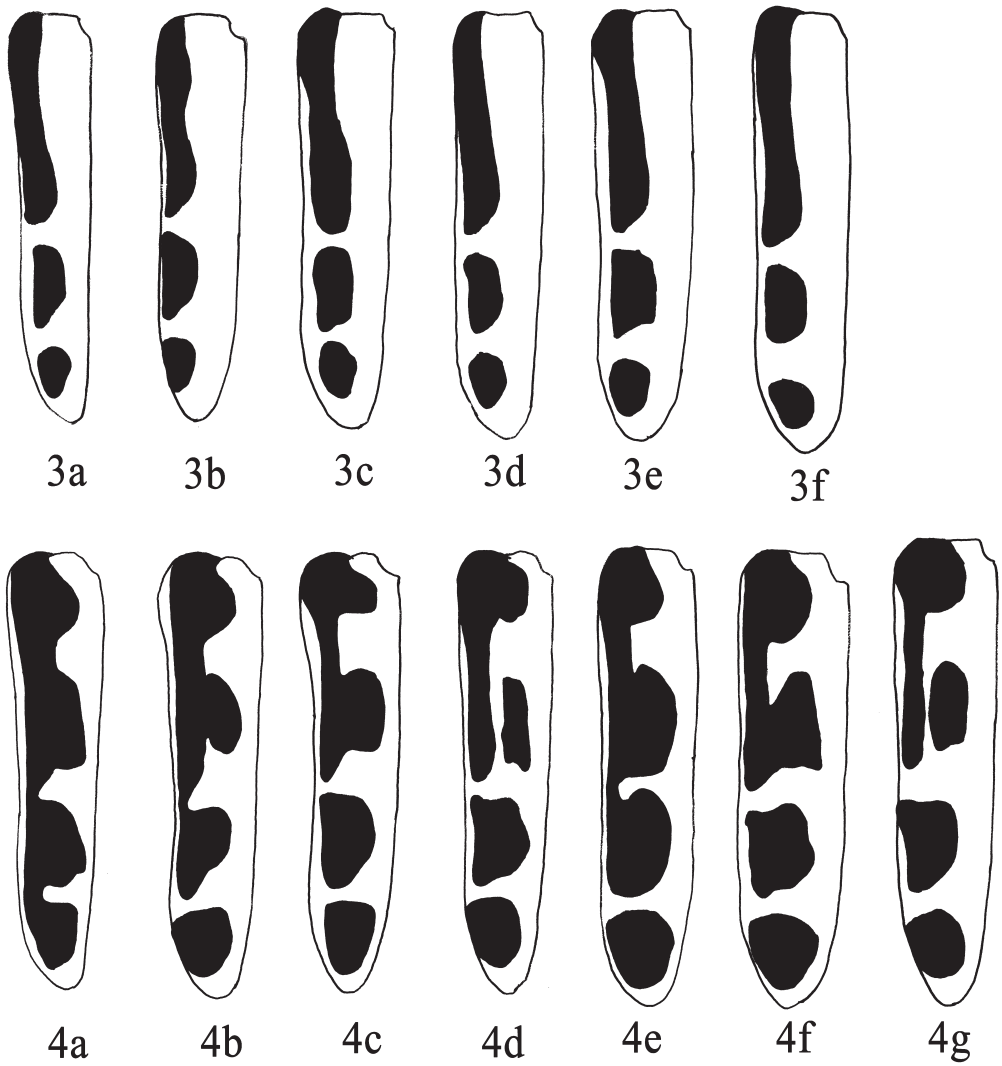
(Figs. 2, 4 & 6)

Saperda interrupta var. *laterimaculata* MOTSCHULSKY, 1860: MATSUSHITA, 1941: 158; locality record: Yatsugatake, Sinano. (non GEBLER, 1825).

M a l e. Length (from tip of head to elytral apices) 8.9–10.7 mm (M = 9.9 ± 0.52, n = 10). Width (maximal width of elytra) 2.4–2.9 mm (M = 2.7 ± 0.18, n = 10).

Color black; head, pronotum, scutellum, elytra and abdominal sternites black; antennae black to blackish brown; legs black except for reddish brown claws.

Body densely provided with long erect or oblique erect hairs; head, pronotum, scutellum and elytra densely clothed with vivid yellowish green pubescence; pronotum provided with four glabrous



Figs. 3–4. Elytral markings of *Saperda* spp. —— 3, *S. interrupta* GEBLER; 4, *S. hosokawai* HASEGAWA, sp. nov. —— 3 a–b, 4 a–d, Male; 3 c –f, 4 e–g, female.

large circular black spots on disc and with a large oval black spot on each side; front and behind spots on disc sometimes connected. Each elytron provided with four large glabrous semicircular black spots on outer side of disc and with black band on basal half of lateral margin (Figs. 2, 4).

Head comparatively small, strongly punctured throughout; vertex gently and shallowly concave; frons squarish, almost flattened; eyes large and strongly projected, with inferior eye lobe chubby square; gena short, IEL/GL = 2.3–2.9 (M = 2.6 ± 0.18). Antennae exceeding elytral apices at 10th segment; scape weakly clavate, provided with oblique erect setae, scape/3rd = 0.67–0.75 (M = 0.72 ± 0.03); 3rd to 6th segments provided with several long erect setae on undersides; 3rd segment distinctly longer than 4th, 3rd/4th = 1.08–1.15 (M = 1.10 ± 0.02), with combined length of 3rd and 4th segments attaining to 27–29% of the entire length of antenna; 7th to 10th segments each with a few long

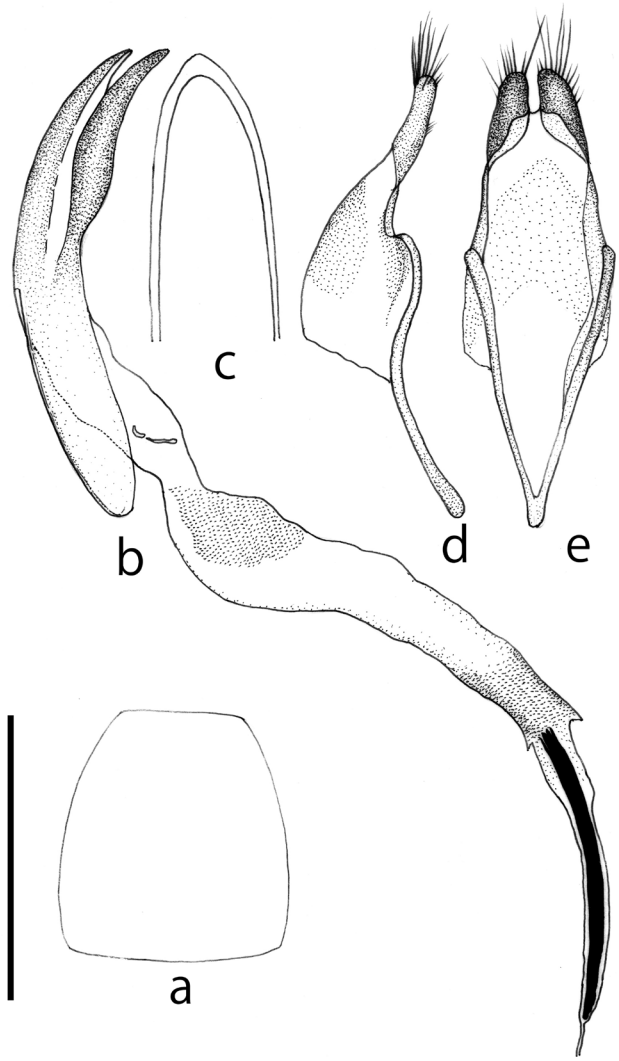


Fig. 5. Male genitalia and 8th abdominal tergite of *S. interrupta* GEBLER. —— a, Eighth abdominal tergite, dorsal view; b, median lobe and inflated uneverted endophallus, lateral view; c, apical part of median lobe, dorsal view; d, tegmen, lateral view; e, tegmen, dorsal view. Scale: 1.0 mm.

erect setae on underside near apex; last segment narrowly rounded at apex; relative lengths of segments as follows: 4.0 : 1.0 : 5.6 : 5.0 : 4.1 : 3.7 : 3.5 : 3.3 : 3.2 : 2.9 : 3.1.

Pronotum cylindrical, slightly wider than length, very weakly arcuate at side, widest at middle, with weak constriction at basal fifth, PL/PB = 0.9–1.0 (M = 0.9 ± 0.04), PL/PW = 0.8–0.9 (M = 0.9 ± 0.03), PB/PW = 0.9–1.0 (M = 0.9 ± 0.02); surface densely and strongly punctured throughout; disc weakly convex.

Elytra relatively long, EW/PB = 1.4–1.7 (M = 1.6 ± 0.07), EL/EW = 2.6–2.9 (M = 2.7 ± 0.08), EL/PL = 4.5–5.2 (M = 4.7 ± 0.24), EL/TL = 0.7–0.8 (M = 0.7 ± 0.01), TL/EW = 3.4–3.8 (M = 3.6 ± 0.1); sides almost parallel in basal 4/5, then arcuately attenuate toward widely rounded apices; disc feebly depressed in base, densely punctured throughout, the punctures gently becoming weaker toward apices.

Legs similar to those of *S. interrupta*, though comparatively slender.

Abdomen with 3rd to 6th sternites sparsely and weakly punctured; eighth tergite chubby trapezoidal, almost as long as the basal width, with apical margin truncate and slightly notched at middle which is densely provided with long setae (Fig. 6 a).

Male genitalia (Figs. 6 b–e). Median lobe in lateral view somewhat slender, about 2/5 the length of abdomen, weakly curved at middle; median struts almost parallel-sided, accounts for half the entire length of median lobe; ventral plate weakly swollen at basal fourth, thence weakly arcuate and gently attenuate toward pointed apex; dorsal plate a little shorter than ventral plate, somewhat rapidly attenuate toward pointed apex. Apical part of median lobe in dorsal view as in Fig. 6 c. Inflated uneverted endophallus as shown in Fig. 6 b. Tegmen slightly shorter than median lobe; lateral lobes about 1/8 the whole length of tegmen, rapidly attenuate toward narrowly rounded apices, which are provided with several long setae (Figs. 6 d, e).

F e m a l e. Length (from tip of head to elytral apices) 8.6–11.9 mm (M = 10.9 ± 1.11, n = 10). Width (maximal width of elytra) 2.4–3.5 mm (M = 3.1 ± 0.36, n = 10).

Almost identical in general appearance to male, but different from it in the following features: body stouter; eyes somewhat smaller; antenna shorter, exceeding elytral apices at last segment.

The ratio of body parts: IEL/GL = 1.5–1.8 (M = 1.7 ± 0.1), PL/PB = 0.9 (M = 0.9 ± 0.03), PB/PW = 0.9–1.0 (M = 0.9 ± 0.02), PL/PW = 0.8–0.9 (M = 0.8 ± 0.03), EW/PB = 1.5–1.6 (M = 1.5 ± 0.04), EL/EW = 2.5–2.7 (M = 2.7 ± 0.07), EL/PL = 4.5–5.0 (M = 4.6 ± 0.17), EL/TL = 0.7–0.8 (M = 0.7 ± 0.01), TL/EW = 3.4–3.7 (M = 3.5 ± 0.1).

Type series. Holotype: ♂, Todai, Hase-mura, Nagano Pref., Honshu, Japan, host plant (*Pinus densiflora*) were collected on 2003, emerged out on 15.IV.2004, Koji HOSOKAWA leg. Paratypes: 4 ♂♂, 3 ♀♀, same data as the holotype; 2 ♀♀, Hase-Irinoya, Ina City, Nagano Pref., Honshu, Japan, host plant (*Pinus densiflora*) were collected on 2010, emerged out on 17.V.2011, Nobuhisa YUZAWA leg.; 1 ♀, Shirabiso Kogen, Kami-mura, Nagano Pref., Honshu, Japan, 27.VII.1985, Koji HOSOKAWA leg.; 1 ♀, Shirabiso Kogen, ca. 1,800 m alt., Iida City, Nagano Pref., Honshu, Japan, 17.VII.2011, Michiaki HASEGAWA leg.; 4 ♂♂, 4 ♀♀, Mt. Torikura, ca. 1,600 m alt., Ooshika-mura, Nagano Pref., Honshu, Japan, 3.VI.2013, Michiaki HASEGAWA leg.; 2 ♂♂, 2 ♀♀, same locality, 16.VI.2013, Michiaki HASEGAWA leg.; 1 ♂, Tobira, Matsumoto City, Nagano Pref., Honshu, Japan, 20.VI.1977, Y. ISHIKAWA leg.; 1 ♀, Mt. Ontake, ca. 2,200 m alt., Ootaki-mura, Nagano Pref., Honshu, Japan, 3.VI.1979, Michiaki HASEGAWA leg.; 1 ♀, same locality, 22.VII.2014, Michiaki HASEGAWA leg.; 1 ♂, Shiraiwa, Kitaaiki-mura, Minamisaku, Nagano Pref., Honshu, Japan, 29.VII.2003, Noboru KANIE leg.; 1 ♂, Hiwada, Mt. Ontake, ca. 1,500 m alt., Takane-mura, Gifu Pref., Honshu, Japan, 29.VII.1995, Koji HOSOKAWA leg.; 1 ♀, same locality, 24.VI.1997, Noboru KANIE leg.; 1 ♀, same locality, 20.VII.1997, Michiaki HASEGAWA leg.; 1 ♀, Mt. Daibosatsu, Enzan City, Yamanashi Pref., Honshu, Japan, 13.VI.1982, Koji HOSOKAWA leg.

Type depository. The holotype is preserved in the collection of the Toyohashi Museum of Natural History, Toyohashi, Japan. The paratypes are in the private collection of Koji HOSOKAWA, Seung Hwan OH and the author.

Further specimens examined. 1 ♂, 1 ♀, Mt. Myeongseong-san, Choerwon-gun, Gangwon-do, South Korea, 19.VI.2011, S.-H. OH leg.; 2 ♂♂, same locality, 3.VI.2012, S. H. OH leg.; 2 ♀♀, same locality, 9.VI.2012, S.-H. OH leg.; 1 ♂, 1 ♀, Shincheorwon-ri, Choerwon-gun, Gangwon-do, South Korea, 10.VI.2011, S.-H. OH leg.; 2 ♀♀, Munhye-ri, Choerwon-gun, Gangwon-do, South Korea, 24.V.2014, S.-H. OH leg.

Host plants. *Pinus densiflora*. Accoding to TAKEDA (2007), following species have been known as the host plant: *Abies firma*, *A. mariesii*, *A. veitchii*, *Larix kaempferi*, *Picea jezoensis* var. *hondoensis*, *Tsuga diversifolia* and *T. sieboldii*.

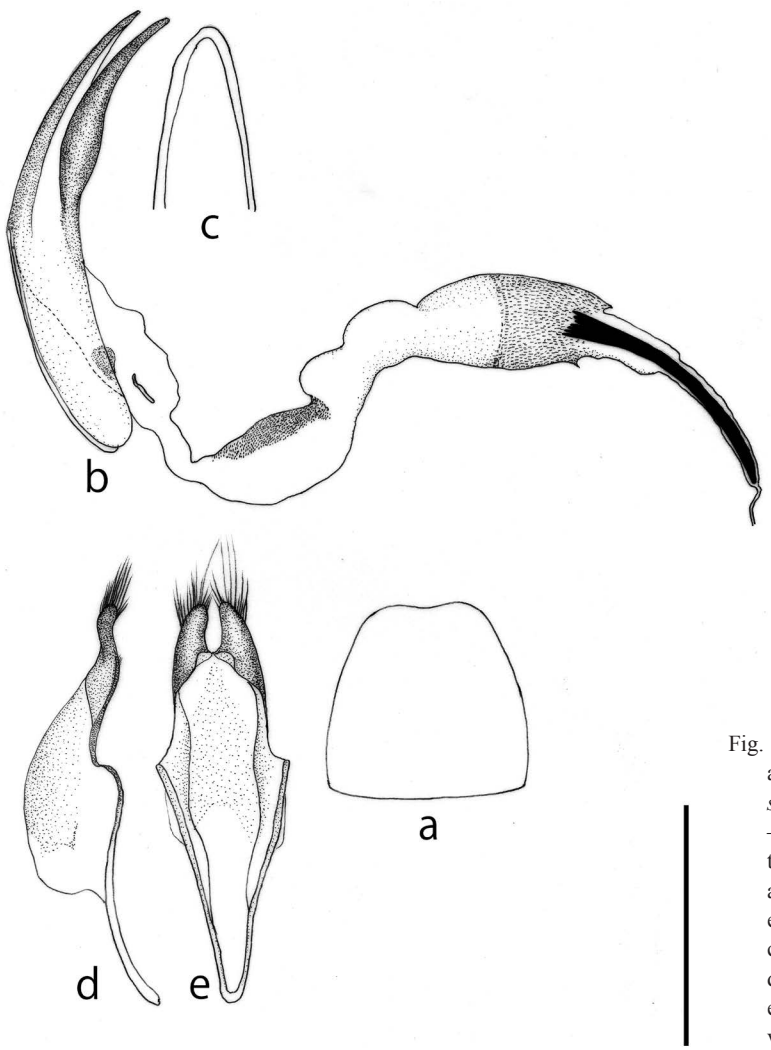


Fig. 6. Male genitalia and 8th abdominal tergite of *S. hosokawai* HASEGAWA, sp. nov. —— a, Eighth abdominal tergite, dorsal view; b, median lobe and inflated uneverted endophallus, lateral view; c, apical part of median lobe, dorsal view; d, tegmen, lateral view; e, tegmen, dorsal view. Scale: 1.0 mm.

Distribution. Japan (central Honshu) and South Korea.

Remarks. Apparently this new species is closely related to *S. interrupta* considered as its sister species, but is easily distinguished from the latter by the elytral markings, in addition to the following features: body slender, comparatively small in head; apical margin of male eighth tergite with slight notch at middle; median lobe of male genitalia slender, with apical half rapidly attenuate toward pointed apex in lateral view (strongly swollen at basal fourth of ventral plate, thence weakly arcuate and gently attenuate in *S. interrupta*); lateral lobes of tegmen longer and slender; female antennae longer, exceeding elytral apices at last segment (not reaching elytral apices in *S. interrupta*).

This new species is isolatedly distributed in high-mountain areas of central Honshu, Japan and the Korean Peninsula. However, its occurrence in South Korea needs revision because there is a possibility that this species was introduced from Japan to the country in the past.

Etymology. The specific epithet of this new species is dedicated to Mr. Koji HOSOKAWA, who helped my study in various ways.

Acknowledgements

I wish to express my heartfelt thanks to Dr. Tatsuya NIISATO of Bioindicator Co., Ltd., Tokyo and Dr. Nobuo OHBAYASHI of Miura City, Kanagawa for their constant guidance and encouragements in various ways. My thanks are also due to Dr. Mikhail DANILEVSKY, Mrs. Koji HOSOKAWA, Nobuhisa YUZAWA, Noboru KANIE and Seung Hwan OH for offering materials used in this study.

要　　約

長谷川道明：北東アジア産トホシカミキリ属の1新種(鞘翅目カミキリムシ科)．――――これまで *Saperda interrupta* GEBLER，1825 として同定されてきた東アジア各地の標本を比較研究した結果，日本(本州)および韓国に分布する集団は，アムールをタイプ産地に記載された *S. interrupta* とは，上翅の斑紋および雄交尾器等の特徴から別種として区別できることが明らかになったので，*S. hosokawai* として命名記載した．本種は明らかに *S. interrupta* に近縁で，その姉妹種と考えられるが，本州中部山岳のシラビソ帯と飛び離れて韓 国に分布するという興味深い分布を示す．しかしながら，韓国に分布する個体群は過去に日 本から移入された可能性を疑う必要があり，今後の詳しい研究が必要である．

References

GEBLER, F. A., 1825. Coleopterorum Sibiriae species novae. Pp. 42–57. *In* HUMMEL, A. D. (ed.), *Essais Entomologiques*, *Insectes de 1824*. *Novae species*, **1** (4). 71 + [1] pp. Chancellerie priveé du Ministère de l'Intérieur, St. Petersbourg.

LÖBL, I., & A. SMETANA (eds.), 2010. Chysomeloidea. Cerambycidae. Pp. 84–334. *Catalogue of Palaearctic Coleoptera*, **6**. 924 pp. Apollo Books, Stenstrup.

MATSUSHITA, M., 1941. Zur Kenntnis der Japanischen Cerambyciden (VI). *Insecta Matsumurana*, *Sapporo*, (15): 151–158.

MOTSCHULSKY, V., 1860. Coléoptères rapportés de la Sibérie orientale et notamment des pays situés sur le bords du fleuve Amour par M. M. SCHRENCK, MAACK, DITMAR, VOZNESSENSKI etc. *In* SCHRENCK, L. v. (ed.), *Reisen und Forschungen im Amur-Lande in den Jahren 1854–1856 im Auftrage der Kaiserlichen Akademie der Wissenschaften zu St. Petersburg ausgeführt und in Verbindung mit mehreren Gelehrten herausgegeben*. *Band II*. *Zweite Lieferung*. *Coleopteren*. Pp. 80–257, pls. VI–XI. St. Petersburg: Eggers & Comp.

TAKEDA, M., 2007. Host plants. Pp. 683–773. *In* OHBAYASHI, N., & T. NIISATO (eds.), *Longicorn Beetles of Japan*. 818 pp. Tokai University Press, Hadano. (In Japanese.)

Manuscript received 10 February 2017;
Revised and accepted 31 March 2017.