



Review of the genus *Silusa* Erichson (Coleoptera: Staphylinidae: Aleocharinae) from Japan, with notes on species described from India

TAKUTO HASHIZUME¹ & MUNETOSHI MARUYAMA²

¹Entomological Laboratory, Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, 744 Motoooka, Nishiku, Fukuoka, 819-0395 Japan.

✉ 0214sakana@gmail.com; <https://orcid.org/0000-0002-4910-1836>

²The Kyushu University Museum, 6-10-1 Hakozaki, Higashi-ku, Fukuoka, 812-8581 Japan.

✉ dendrolasius@gmail.com; <https://orcid.org/0000-0003-4531-1008>

Abstract

The genus *Silusa* Erichson, 1837 in Japan is revised based on the examination of type material and additional specimens. Four species are recognized as valid members of the genus, excluding species with highly doubtful generic assignment: *Silusa (Silusa) biimpressa* Bernhauer, 1907 = *Silusa chinensis* Pace, 1998, **syn. nov.**, *Silusa (Silusa) lanuginosa* Sharp, 1888, *Silusa immutata* **sp. nov.**, and *Silusa variabilis* **sp. nov.** Both male and female genital structures of the Japanese species are redescribed in detail, allowing reliable identification for the first time. To clarify the status of South Asian taxa, four species described from India by Cameron (1939) as *Silusa*, are here illustrated and briefly diagnosed with additional descriptions: *Silusa (Silusa) infuscata* Cameron, 1939, *Silusa indica* Cameron, 1939, *Coenonica distincta* (Cameron, 1939), **comb. nov.** = *Coenonica arcusifera* Pace, 1998, **syn. nov.**, and “*Silusa*” *nigra* Cameron, 1939 (transferred to Oxypodini Thomson). This study resolves long-standing taxonomic confusion in the Japanese *Silusa* species and provides an updated diagnostic framework for East and South Asian species of the genus.

Key words: Asia, new combination, new species, new synonymy, rove beetle

Introduction

The genus *Silusa* Erichson, 1837 belongs to the subtribe Silusina Fenyés, 1918 (tribe Homalotini Heer) and comprises two subgenera with 55 described species worldwide (Newton, 2025). Six species have been recorded from Japan, but four of them belong to other genera (Shibata *et al.*, 2013), leaving only *S. biimpressa* Bernhauer, 1907 and *S. lanuginosa* Sharp, 1888 as true members of *Silusa*. Because *Silusa* is the type genus of Silusina, a clear definition of species-level characters is essential for understanding the morphology and classification of the entire subtribe and tribe.

In Japan, members of *Silusa* are relatively large-bodied among the tribe Homalotini and can be readily recognized by their strongly stylate labial palpi, a distinctive feature not observed in most other Japanese homalotines. Despite this apparent distinctiveness, the taxonomy of Japanese *Silusa* has remained poorly resolved. Although a representative habitus figure of *Silusa* was included in the classic Japanese beetle handbook by Nakane (1963), no genital structures of any Japanese species based on reliable identification have ever been illustrated, even though genital morphology provides the most reliable characters for distinguishing species within the genus.

The nominal Japanese species of *Silusa* have never been redescribed based on type material and genital characters, making reliable identification virtually impossible. The lack of such redescrptions is not limited to the Japanese species, and the species described from India by Cameron (1939) have likewise never been redescribed using modern morphological standards. In order to enable reliable comparison with the Japanese species and to assess whether these nominal taxa represent undescribed or misassigned species, it was therefore necessary to reexamine and redescribe the Indian species based on their type material.

In the present paper, *S. biimpressa* and *S. lanuginosa* are redescribed, and two new species are described. In addition, four species described from India by Cameron (1939), *Silusa (Silusa) infuscata* Cameron, 1939, *Silusa*

(*Silusa indica* Cameron, 1939, *Silusa (Silusa) nigra* Cameron, 1939, and *Silusa (Stenusa) distincta* Cameron, 1939 are also illustrated and briefly diagnosed, to clarify their diagnostic features for confirmation of their taxonomic placements. This work provides the first modern, character-based framework for identifying the Japanese *Silusa* species and establishes a foundation for reliable identification of Asian members of the genus.

Material and Methods

The specimens examined in the present study are deposited in the following collections:

- BMNH—Natural History Museum, London, UK;
- FMNH—Field Museum of Natural History, Chicago, USA;
- KUM—The Kyushu University Museum, Fukuoka, Japan;
- cMK—collection of M. Kaneko, Tsukuba, Japan.

The label data of the type specimen are quoted verbatim, with the text in double quotation marks (“”); a slash (/) is used to separate lines on the same label, and a double slash (//) is used to separate different labels on the same pin.

We refer to the side of the median lobe of the aedeagus containing the medial foramen as the ventral side; the opposite side is referred to as the dorsal side.

Dissected body parts were soaked in a 10% KOH solution and then heated in a hot water bath until the muscles and other soft tissues were dissolved. Subsequently, they were rinsed in water, then immersed in absolute ethanol, and finally embedded in Euparal as permanent specimens on glass plates, following the procedure of Maruyama (2004). Morphological observations were conducted using a Leica S8APO microscope. Habitus photos were taken using a Sony α 7R IV digital camera with a Canon MP-E 65 mm 1–5 \times macro lens (except for Fig. 9A, B). Habitus photos of *Silusa distincta* (Fig. 9A, B) were taken using a Canon EOS 8000D digital camera with a Canon MP-E 65 mm 1–5 \times macro lens. The tergites, aedeagus and spermatheca were photographed with a Canon EOS 90D digital camera attached to a Nikon ECLIPSE Ci-L microscope or a Canon EOS Kiss X8i digital camera attached to an Olympus BX50 microscope (except for Fig. 9C–E). The tergite and aedeagus of *Silusa distincta* (Fig. 9C–E) were photographed with a Nikon 1 J4 camera attached to a Leitz Laborlux 12 microscope. The photos were combined in Zerene Stacker 3.2.0 software (Zerene System LLC, USA). Figures were edited using GIMP 2.8.22 software (GIMP Development Team, 2017).

ChatGPT (GPT-5; OpenAI) was used to assist with grammar.

The following abbreviations were used for measurements: BL—body length from anterior margin of clypeus to posterior margin of tergite VII; FBL—forebody length from anterior margin of clypeus to posterior end of elytral suture; HTL—length of hind tibia; HW—head width, including eyes; PL—pronotal length; PW—pronotal width; EL—elytral length from humeral angle to posterolateral angle; EW—elytral width (together). All measurements are in millimeters and are reported in the format “minimum–maximum”.

Taxonomy

Genus *Silusa* Erichson, 1837

Silusa Erichson, 1837: 377 (type species: *Silusa rubiginosa* Erichson, 1837).

Diagnosis. *Silusa* can be distinguished from other homalotine genera by a combination of the following character states: body robust, subparallel, covered with long setae; mesoventral process pointed; labial palpus styliform, with two palpomeres fused laterally; ligula entire, elongate, shorter than or as long as first palpomere.

Remarks. The genus *Silusa* currently includes two subgenera, the nominotypical subgenus *Silusa* and *Stenusa* Kraatz, 1856. The two subgenera contain morphologically similar species and the type species of each has not yet been adequately redescribed, no subgeneric reassignments validated.

Silusa (Silusa) biimpressa Bernhauer, 1907

(Figs. 1, 2, 5A, D, G)

Silusa biimpressa Bernhauer, 1907: 390 (original description; type locality: “Kanagawa”); Bernhauer & Scheerpeltz, 1926: 549 (catalogue, as subgenus *Silusa*).

Silusa (Silusa) lanuginosa: Kim & Ahn, 2014: 194 (misidentification).

Silusa (Silusa) chinensis Pace, 1998: 179 (original description; type locality: “China, Zhejiang, Tienmushan”). **Syn. nov.**

Type material (examined from photographs only). Holotype of *Silusa biimpressa* (Fig. 2): male, “Kanagawa / Japan. Sauter // *biimpressa* / Brh. Typ. // *biimpressa* / Brh. Typus. // *Silusa biimpressa* // Chicago NHMus / M. Bernhauer / Collection // HOLOTYPE / teste D.J. Clarke2014 / GDI Imaging Project // Photographed / Kelsey Keaton 2014 / Emu Catalog // FMNHINS / 2819171 / FIELD MUSEUM” (FMNH).

Additional materials examined. JAPAN: Hokkaido: 1 female, Kamishihoro, 20 V 1990, K. Haga leg. (KUM); 1 male, Koshimizu-chô, 28 VI 1992, T. Kato leg. (KUM). Honshu: 1 male, Chiba-ken, Chiba-shi, Kaneoya-chô, Onari-kaidô, 21 XI 1989, T. Takeda leg. (KUM); 1 male, Kanagawa-ken, Yokohama-shi, Totsuka-ku, 31 V 1986, M. Tao leg. (KUM); 1 female, Nagano-ken, Karuizawa-machi, Yui, 9 I 2025, K. Goino leg. (KUM); 1 male, Nagano-ken, Shimosuwa-machi, Higashiakasuna, 2 I 2020, T. Hashizume leg. (KUM); 1 male, Nagano-ken, Ina-shi, 23 XI 2015, T. Hashizume leg. (KUM); 1 female, Nagano-ken, Ina-shi, Kamimaki, 14–15 III 2025, T. Hashizume leg. (KUM); 1 female, Aichi-ken, Nisshin, 18 XII 1985, T. Kato leg. (KUM); 1 male, 1 female, Aichi-ken, same data, but 25 XII 1985 (KUM); 2 males, Aichi-ken, Kônan, 8 XI 1985, M. Takamoto leg. (KUM); 1 male, 2 females, Kyoto-fu, Nagaokakyô, 11 II 2023, Y. Hama leg. (KUM); 1 male, Kyoto-fu, Yawata-shi, Otokoyama, 30 IV 2015, T. Ito leg. (KUM); 2 males, Osaka-fu, Shimamoto-chô, Wakayama-jinja, 1 III 2010, T. Ito leg. (KUM); 1 male, Osaka-fu, Kuzuha, Riv. Yodogawa, 27 III 2010, T. Ito leg. (KUM); 1 male, Tottori-ken, Shikano-chô [Tottori-shi], 6 I 1994, T. Ito leg. (KUM). Hachijô-jima Island: 1 male, Mt. Mihara, 2 IV 1994, N. Tsurusaki leg. (KUM). Shikoku: 1 male, Tokushima-ken, Tsurugi-chô, Sadamitsu–Tokushima-shi, Fudôkita-machi, 5 VI 2010, Takasuke Miyata & Toshie Miyata leg. (KUM); 1 male, Kagawa-ken, Ayagawa-chô, Sogisho-higashi, Shôzaka, 7–9 IV 2009, H. Fujimoto leg. (KUM); 1 male, 1 female, same data, but 3–10 V 2009 (KUM); 1 female, same data, but 20–27 II 2010 (KUM); 1 male, same data, but 25 IV–2 V 2010 (KUM); 1 male, Tosa-shi, Tosa-chô, Sameura–Ôkawa-mura, Komatsu, 21 V 2010, Takasuke Miyata & Toshie Miyata leg. (KUM). Kyushu: 1 male, Fukuoka-ken, Fukuoka-shi, Nishi-ku, Imazu, 17 V 2022, N. Tsuji leg. (KUM); 1 male, Fukuoka-ken, Fukuoka-shi, Nishi-ku, Motooka, 24 V 2018, T. Hashizume leg. (KUM); 1 male, Kagoshima-ken, Kagoshima-shi, Kôrimoto, 27 I 1985, T. Tanabe leg. (KUM).

Diagnosis. *Silusa biimpressa* can be distinguished from other congeners by a combination of the following character states: elytral punctures large (Fig. 5D, G); male tergite VII with a tubercle posteromedially; posterior margin of male tergite VIII with denticles (Fig. 1B); aedeagal median lobe with strongly curved, long sclerite (Fig. 1C, D); distal portion of spermatheca slightly elongate globular, with small but distinct umbilicus (Fig. 1E, F).

Redescription. Measurements ($n = 5$). BL: 2.22–2.88; FBL: 1.22–1.50; HW: 0.44–0.51; PL: 0.44–0.51; PW: 0.63–0.75; EL: 0.59–0.70; EW: 0.74–0.88.

Body (Figs. 2A, 3A, B) dark brown, antennae, legs and posterior margin of elytra paler.

Head almost as long as wide, without microsculpture; punctures small and sparse; setae long. Eyes moderately large, somewhat protruding. Antennomere 1 more than twice as long as wide; 2 shorter and narrower than 1; 3 as long as 2, somewhat wider than 2; 4 shorter and wider than 3, as long as wide; 5–10 transverse, wider than 4; 11 approximately 1.4 times as long as wide.

Thorax. Pronotum transverse (PW/PL: 1.41–1.49), wider than head (PW/HW: 1.38–1.46), without microsculpture; punctures small and sparse; most setae directed laterally or posterolaterally; setae on anterior margin directed anteriorly. Elytra transverse (EW/EL: 1.18–1.26), wider (EL/PL: 1.34–1.47), and longer than pronotum (EW/PW: 1.17–1.23), without microsculpture; punctures large and dense (Fig. 5D, G); setae long directed posteriorly. Hind wings well developed. Posterior angle of prepectus acute (Fig. 5A).

Abdomen sparsely covered with long setae, without microsculpture except on anterior portion; punctures large; tergites III–V with basal impressions.

Male. Tergite VII with a large tubercle posteromedially. Posterior margin of tergite VIII with denticles (Fig. 1B). Median lobe of aedeagus (Fig. 1C, D) with slender apical process; basal sclerites with long, strongly curved part; apical sclerites large, angulate in ventral view, with long dorsal process.

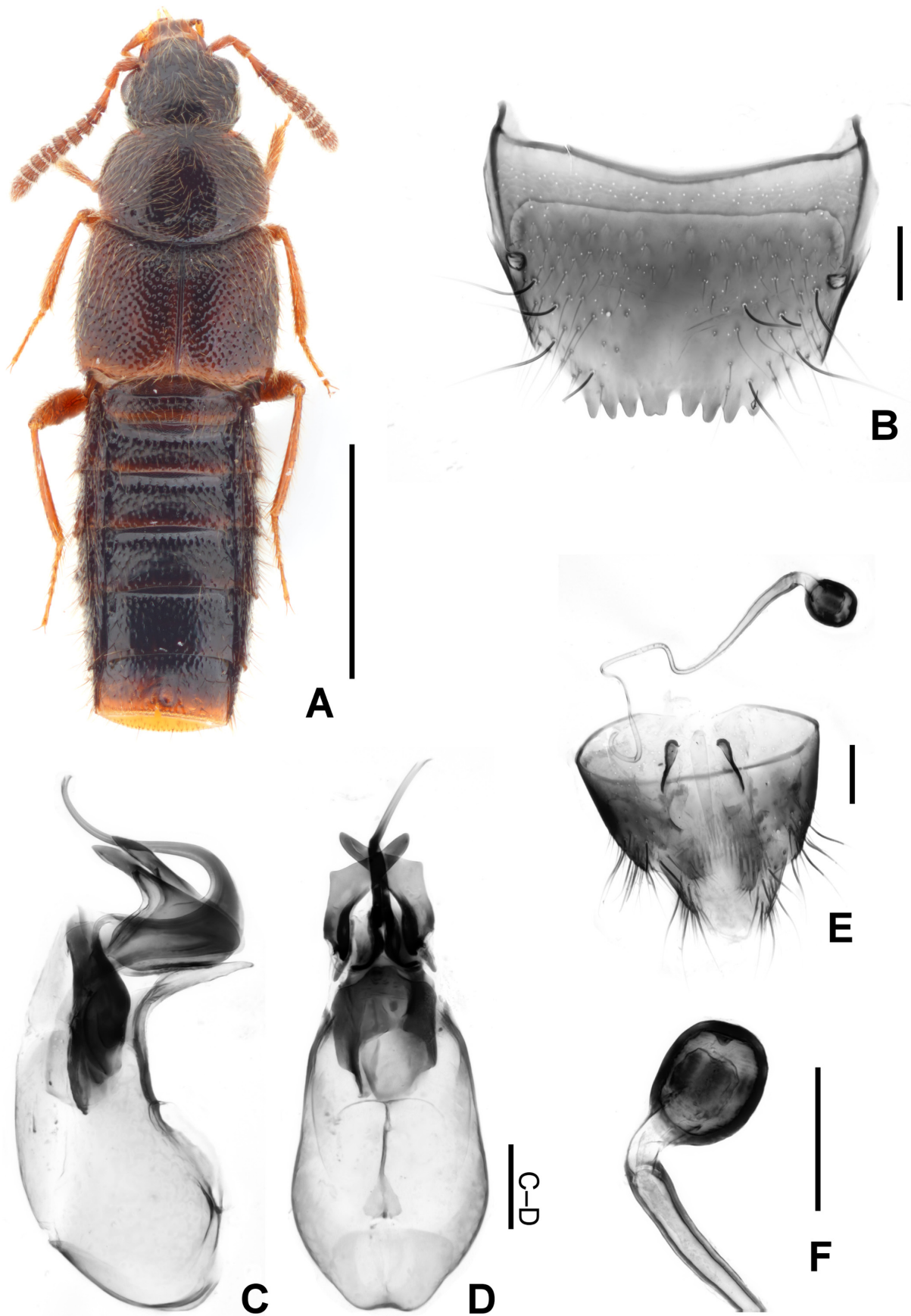


FIGURE 1. *Silusa (Silusa) bimpressa* Bernhauer, 1907. A, Habitus; B, male tergite VIII; C, median lobe of aedeagus, lateral view; D, ditto, ventral view; E, female abdominal segments IX–X and spermatheca; F, distal part of spermatheca. Scale bars: 1.0 mm for A; 0.1 mm for B–F.

Female. Genital chamber with a pair of elongate sclerites near base of spermatheca (Fig. 1E). Spermatheca (Fig. 1E, F) with slightly elongate globular distal portion; distal portion with small but distinct umbilicus; proximal portion elongate, curved sometimes.

Distribution. Japan (Hokkaido, Honshu, Hachijō-jima Is., Shikoku, Kyushu), Korea.

Remarks. *Silusa chinensis* Pace, 1998, described from China, cannot be distinguished from *S. biimpressa* and should be treated as a junior synonym of the latter. For a detailed description, see Kim & Ahn (2014) (as *S. lanuginosa*). Kim & Ahn (2014) recorded *Silusa lanuginosa* from Korea, but the aedeagal median lobe (Kim & Ahn, 2014: fig. 2D) clearly corresponds to this species.

***Silusa (Silusa) lanuginosa* Sharp, 1888**

(Figs. 3, 5B, E, H)

Silusa lanuginosa Sharp, 1888: 375 (original description; type locality: “Nagasaki”); Bernhauer & Scheerpeltz, 1926: 549 (catalogue, as subgenus *Silusa*); Li, 1985: 41 (record from China: Jilin); Watanabe, 1998: 313 (record from Shimokoshiki-jima Is.); Imasaka *et al.*, 2025: 184 (record from Tanega-shima Is.).

Type material examined. Lectotype (Fig. 3B), here designated: male, “*Silusa / lan- / uginosa*. Type / D.S. / Nagasaki. 16.2.81. / Lewis. [handwritten, mounting card] // Type [round label with red border] // Nagasaki. / 13.II.–21.IV.81. // Japan. / G. Lewis. // Sharp Coll. // 1905-313” (labium, abdominal segments VIII–X and aedeagus are dissected and mounted in Euparal by MM) (BMNH).

Additional materials examined. JAPAN: Honshu: 1 male, Saitama-ken, Chichibu, Yokoze, 22 III 1987, H. Oda leg. (KUM); 2 females, Chiba-ken, Sakura-shi, 23 V 1998, M. Sano leg. (KUM); 1 male, Chiba-ken, Narita-shi, Ashida, 18 III 2016, R. Nakamura leg. (KUM); 1 female, Nagano-ken, Karuizawa-machi, Yui, 9 I 2025, K. Goino leg. (KUM); 1 male, 2 females, Nagano-ken, Ina-shi, Nishiminowa, 2–6 V 2022, T. Hashizume leg. (KUM); 1 female, Nara-ken, Nara-shi, Nara-kôen Park, 1 XII 2009, T. Ito leg. (KUM); 1 male, Tottori-ken, Daisenji-Yokote, 10 XI 1985, M. Yoshida leg. (KUM); 1 male, 1 female, Tottori-ken, Tottori-shi, Koyama, Mt. Kitaashi, 3 XII 1991, N. Tsurusaki leg. (KUM); 3 males, Tottori-ken, Tottori-shi, Uemachi, 28 I 2021, Y. Obae leg. (KUM). Shikoku: 1 male, 1 female, Kagawa-ken, Mannô-chô, Daisen-zan, 7–12 IV 2009, H. Fujimoto leg. (KUM); 1 female, Kagawa-ken, Ayagawa-chô, Sogisho-higashi, Shôzaka, 7–9 IV 2009, H. Fujimoto leg. (KUM); 1 male, same data, but 9–12 IV 2009 (KUM); 2 females, same data, but 12–18 IV 2009 (KUM); 1 female, same data, but 20–27 II 2010 (KUM); 1 female, same data, but 27 III–3 IV 2010 (KUM). Kyushu: 2 males, 3 females, Fukuoka-ken, Mt. Tachibana-yama, 7 V 1980, S. Naomi leg. (KUM); 1 male, Fukuoka-ken, Munakata, Mt. Jô-yama, 8 III 1986, S. Nomura leg. (KUM); 1 female, Fukuoka-ken, Mt. Hiko, 16 IV 1965, K. Takeno leg. (KUM); 1 male, Fukuoka-ken, Mt. Hiko-san, 19 IV 1971, M. T. Chûjô leg. (KUM); 1 male, Fukuoka-ken, Mt. Hiko-san, 2 V 1971, K. Takeno leg. (KUM); 1 female, Fukuoka-ken, Mt. Hiko-san, 17 XII 1977, M. T. Chûjô leg. (KUM); 1 male, Fukuoka-ken, Itoshima-shi, Zuibaiji, 29 III–3 IV 2021, T. Hashizume leg. (KUM); 1 male, Fukuoka-ken, Kurume-shi, Kôra-san, 1 IV 2012, S. Imasaka leg. (KUM); 2 females, Nagasaki-ken, Suwa Shrine, 27 III 1977, H. Oishi leg. (KUM); 1 female, Nagasaki-ken, Suwa-jinja Shrine, 9 IV 1983, S. Nomura leg. (KUM); 1 ex., Oita-ken, Shiyabakei, 30 III 1985, S. Nomura leg. (KUM); 1 female, Kagoshima-ken, Kagoshima-shi, Shiroyama, 23 I 1985, T. Tanabe leg. (KUM); 1 female, Kagoshima-ken, Sata, 20 IV 1985, T. Tanabe leg. (KUM). Yaku-shima Island: 1 male, 1 female, Aiko-dake, 2 V–5 VI 2007, T. Yamauchi leg. (KUM). Kuchinoerabu-jima Island: 1 female, 27 IV 1984, M. Ôhara leg. (KUM).

Diagnosis. *Silusa lanuginosa* can be distinguished from other congeners by a combination of the following character states: elytral punctures somewhat fine and shallow (Fig. 5E, H); male tergite VII without tubercles or carinae; posterior margin of male tergite VIII with denticles (Fig. 3C); aedeagal median lobe with recurved apical process (Fig. 3D); distal portion of spermatheca slightly elongate globular, with indistinct umbilicus (Fig. 3G, H).

Redescription. Measurements (n = 5). BL: 2.32–3.20; FBL: 1.30–1.63; HW: 0.48–0.56; PL: 0.44–0.55; PW: 0.63–0.78; EL: 0.64–0.79; EW: 0.77–0.94. (Lectotype of *Silusa lanuginosa*: BL: \approx 3.3; PL, 0.54; PW, 0.74; HTL, 0.61).

Body (Fig. 3A, B) dark brown, antennae and legs paler, posterior margin, areas extending from humeral to posterior sutural region of elytra also paler.

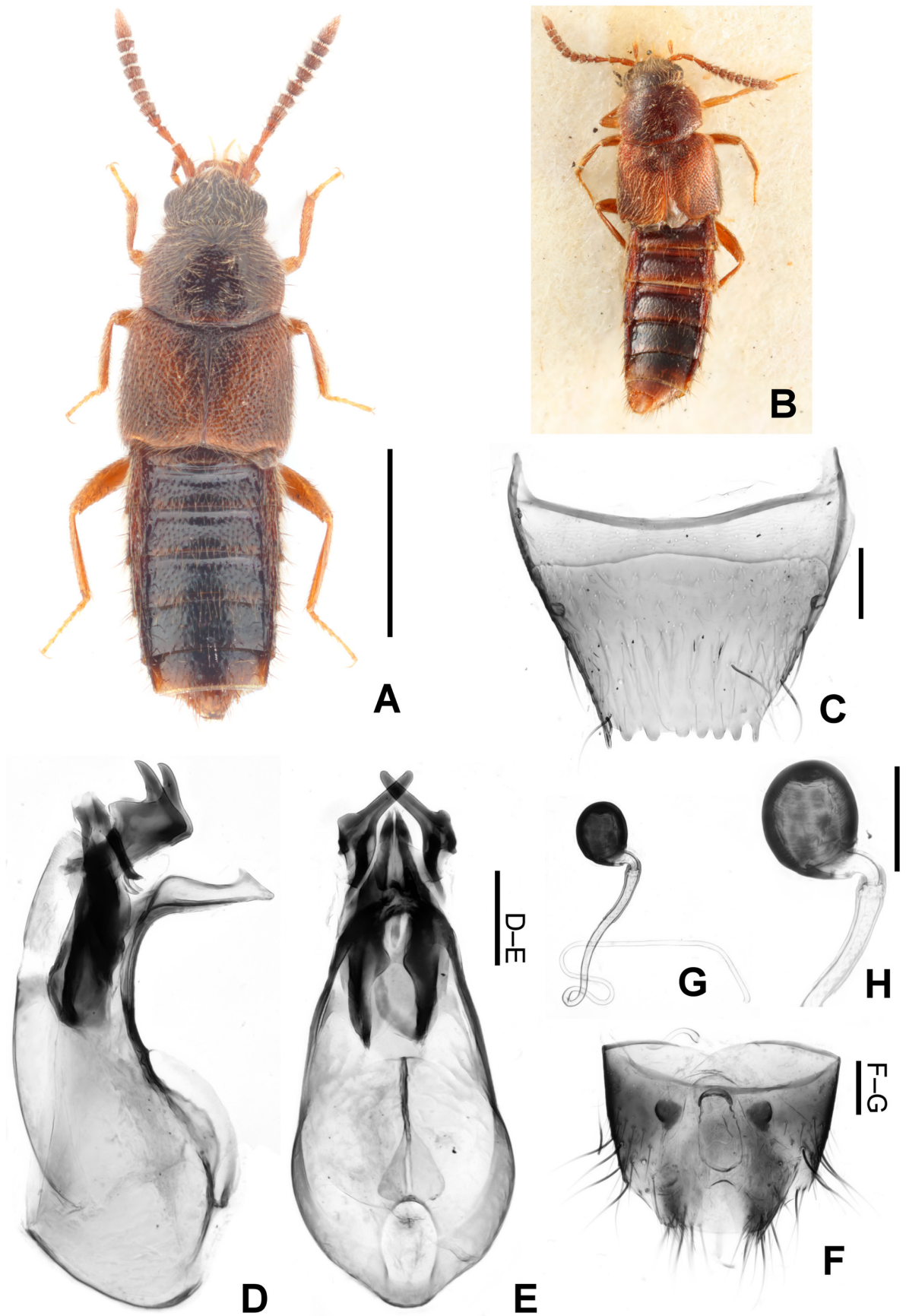


FIGURE 3. *Silusa (Silusa) lanuginosa* Sharp, 1888. A, Habitus; B, ditto, lectotype of *Silusa lanuginosa*; C, male tergite VIII; D, median lobe of aedeagus. lateral view; E, ditto, ventral view; F, female abdominal segments IX–X; G, spermatheca; H, distal part of spermatheca. Scale bars: 1.0 mm for B; 0.1 mm for C–H.

Head almost as long as wide, without microsculpture; punctures small and moderately dense; setae long. Eyes moderately large, somewhat protruding. Antennomere 1 more than twice as long as wide; 2 shorter and narrower than 1; 3 as long as 2, as wide as 2; 4 shorter and wider than 3, approximately as long as wide; 5–10 transverse, wider than 4; 11 approximately twice as long as wide.

Thorax. Pronotum transverse (PW/PL: 1.39–1.42), wider than head (PW/HW: 1.33–1.39), without microsculpture; punctures small and dense; most setae directed laterally or posterolaterally; setae on anterior margin directed anteriorly. Elytra transverse (EW/EL: 1.18–1.25), wider (EL/PL: 1.41–1.46), and longer than pronotum (EW/PW: 1.21–1.26), without microsculpture; punctures small, shallow and dense (Fig. 5E, H); setae long directed posteriorly. Hind wings well developed. Posterior angle of prepectus obtuse (Fig. 5B).

Abdomen sparsely covered with long setae, without microsculpture except on anterior portion; punctures large; tergites III–V with basal impressions.

Male. Tergite VII without tubercles. Posterior margin of tergite VIII with denticles (Fig. 3C). Median lobe of aedeagus (Fig. 3D, E) with broad apical process; apical process with sinuate dorsal margin, apical part recurved; basal sclerites with bifid processes; apical sclerites moderately large, angulate in ventral view, with moderately long dorsal process.

Female. Genital chamber with a pair of semicircular sclerites near base of spermatheca (Fig. 3F). Spermatheca (Fig. 3G, H) with slightly elongate globular distal portion; distal portion with small umbilicus; proximal portion elongate, curved sometimes.

Distribution. Japan (Honshu, Shikoku, Kyushu, Shimokoshiki-shima Is., Yaku-shima Is., Tanega-shima Is., Kuchinoerabu-jima Is.), China (Jilin).

Remarks. According to the original description, the type series consisted of three specimens from Nagasaki, but there was only one male syntype housed in BMNH, which is here designated as the lectotype.

Kim & Ahn (2014) recorded this species from Korea, but, as mentioned above, this was based on a misidentification. Therefore, the record of this species from Korea is not valid. The record from China reported by Li (1985) lacks diagnostic evidence and requires re-examination.

***Silusa immutata* Hashizume & Maruyama, sp. nov.**

(Figs. 4, 5C, F, I)

Type material. Holotype: male, “ [KYUSHU] / Mt. Hiko, / Fukuoka, Japan / 19. iv. 1971 / M. T. CHUJO // Host: / Fomitopsis sp. / サルノコシカケ // HOLOTYPE / *Silusa / immutata* / des. T. Hashizume & / M. Maruyama, 2026” (KUM). Paratypes: Honshu: 1 female, Fukushima-ken, Minamiaizu-machi (Tajima-machi), Sannô-tôge, alt. 900 m, 12 X 1997, S. Nomura leg. (KUM); 1 male, 2 exs., Fukushima-ken, Okutadami, 23 VII 1987, S. Nomura leg. (KUM); 1 male, Fukushima-ken, Aizumisato-machi, Mt. Myôjingatake, 5 VI 2025, K. Takahashi leg. (cMK); 1 male, 1 female, Ibaraki-ken, Daigo-machi, Mt. Yamizo-san, 23 V 2021, K. Takahashi leg. (cMK); 1 female, Tochigi-ken, Kuriyama-mura [Nikkô-shi], Urushinosawa, alt. 1000 m, 12 X 1997, S. Nomura leg. (KUM); 1 male, Nagano-ken, Mt. Togakushi-yama, 27 VIII 1983, S. Nomura leg. (KUM); 1 male, Nagano-ken, Nakagawa-mura, Ôkusa, Jinbagata-yama, 3 IX 2019, T. Hashizume leg. (KUM); 1 male, Wakayama-ken, Mt. Shirama-yama, 13 VI 2011, I. Matoba leg. (KUM). Shikoku: 1 male, Kagawa-ken, Ayagawa-chô, Sogisho-higashi, Shôzaka, 7–9 IV 2009, H. Fujimoto leg. (KUM). Kyushu: 1 male, 1 ex., same data as holotype (KUM); 3 males, 1 female, Fukuoka-ken, Mt. Hiko-san, 7 V 1971, M. T. Chûjô leg. (KUM); 1 ex., Fukuoka-ken, Mt. Hiko-san, 2 IV 1971, M. T. Chûjô leg. (KUM); 2 exs., same data, but 18 V 1977 (KUM); 1 ex., Fukuoka-ken, Mt. Hiko-san, 22 IV 1969, K. Kanmiya (KUM); 2 exs., Fukuoka-ken, Mt. Hiko-san, 2 V 1971, K. Takeno leg. (KUM).

Type locality. JAPAN, Kyushu, Fukuoka-ken, Mt. Hiko-san.

Diagnosis. *Silusa immutata* is similar to *S. (Stenus) brevipes* Assing, 2011, described from Iran, in the shape of the aedeagal median lobe, but can be distinguished by the male tergite VIII without denticles on the posterior margin and by the dorsal process of the apical sclerite of the aedeagal median lobe arising at a more vertical angle.

Description. Measurements (n = 5). BL: 2.56–2.84; FBL: 1.34–1.42; HW: 0.46–0.50; PL: 0.49–0.50; PW: 0.70–0.75; EL: 0.61–0.68; EW: 0.84–0.89.

Body (Fig. 4A) dark brown, elytra paler.

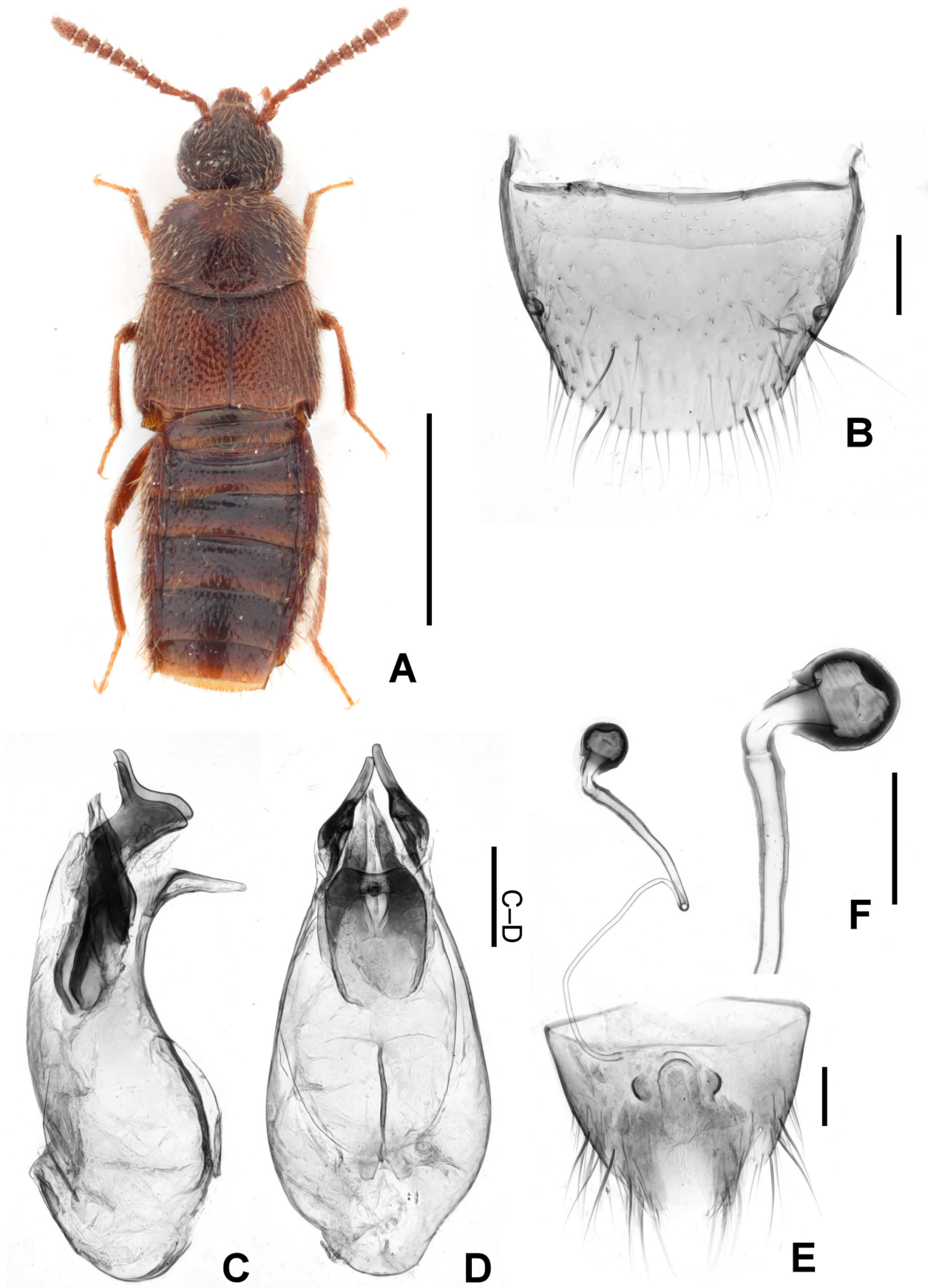


FIGURE 4. *Silusa immutata* Hashizume & Maruyama, sp. nov. A, Habitus, holotype; B, male tergite VIII; C, median lobe of aedeagus, lateral view; D, ditto, ventral view; E, female abdominal segments IX–X and spermatheca; F, distal part of spermatheca. Scale bars: 1.0 mm for A; 0.1 mm for B–F.

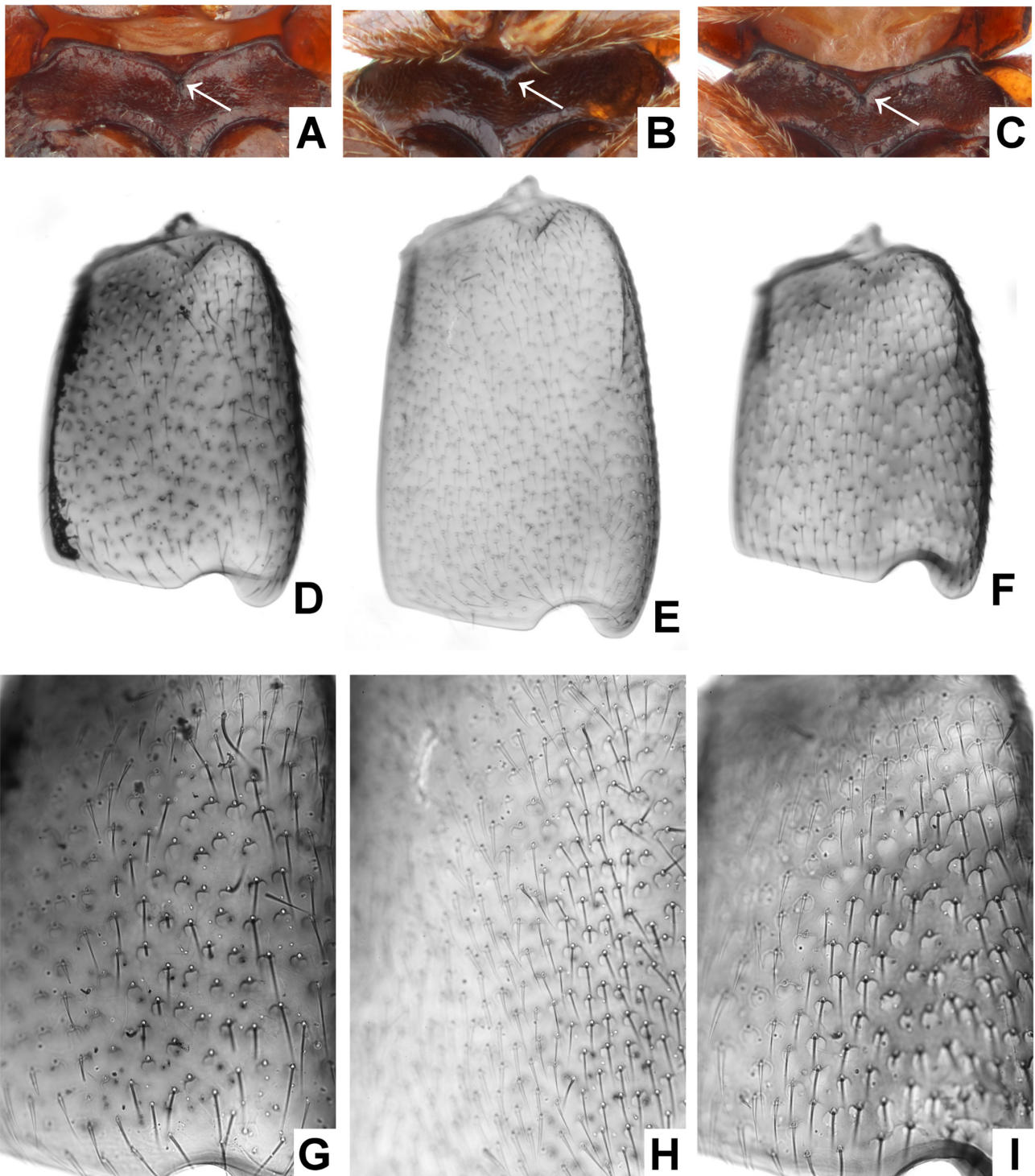


FIGURE 5. *Silusa* spp. A, D, G, *Silusa biimpressa*; B, E, H, *Silusa lanuginosa*; C, F, I, *Silusa immutata* sp. nov. A–C, Mesoventrite (arrows indicating posterior angle of prepectus); D–F, right elytron; G–I, punctures on elytra.

Head almost as long as wide, without microsculpture; punctures small and moderately dense; setae long. Eyes moderately large, slightly protruding. Antennomere 1 more than twice as long as wide; 2 shorter and narrower than 1; 3 as long as 2, somewhat wider than 2; 4 shorter and wider than 3, slightly longer than wide; 5–6 slightly transverse, wider than 4; 7–10 strongly transverse; 11 approximately 1.4 times as long as wide.

Thorax. Pronotum transverse (PW/PL: 1.44–1.50), wider than head (PW/HW: 1.41–1.58), without microsculpture; punctures small and dense; most setae directed laterally or posterolaterally; setae on anterior margin

directed anteriorly. Elytra transverse (EW/EL: 1.32–1.38), wider (EL/PL: 1.26–1.34), and longer than pronotum (EW/PW: 1.18–1.23), without microsculpture; punctures large and dense (Fig. 5F, I); setae long directed posteriorly. Hind wings well developed. Posterior angle of prepectus acute (Fig. 5C).

Abdomen sparsely covered with long setae, without microsculpture except on anterior portion; punctures large; tergites III–V with basal impressions.

Male. Tergite VII without tubercles (Fig. 4B). Posterior margin of tergite VIII without denticles. Median lobe of aedeagus (Fig. 4C, D) with slender apical process; basal sclerites simple; apical sclerites moderately large, not angulate in ventral view, with moderately long dorsal process.

Female. Genital chamber with a pair of semicircular sclerites near base of spermatheca (Fig. 4E). Spermatheca (Fig. 4E, F) with spherical distal portion; distal portion with small umbilicus; proximal portion elongate, curved sometimes.

Distribution. Japan (Honshu, Shikoku, Kyushu).

Etymology. The specific epithet is derived from the Latin adjective “*immutatus*” meaning “unmodified”, and refers to the male tergite VIII without denticles.

Bionomics. According to the label data, in Hiko-san (Fukuoka, Kyushu), this species was collected from fruiting bodies of the basidiomycetes *Fomitopsis* sp. and *Omphalotus japonicus* (Kawamura) Kirchm. & O.K. Mill.

Remarks. As noted above, the subgeneric classification of the genus *Silusa* is not validated. Therefore, the present species is not assigned to any subgenus in this study. *Silusa immutata* closely resembles *S. (Stenusia) brevipes*, but it also shares external some morphology and aedeagal structures with species assigned to subgenus *Silusa* (e.g., *S. biimpressa*, *S. infuscata*). These species are likely to be closely related to one another. However, no strong evidence has been obtained to indicate that this group is closely related to the type species of either subgenus.

***Silusa variabilis* Hashizume & Maruyama, sp. nov.**

(Fig. 6)

Type material. Holotype: male, “JAPAN: Ehime-ken, / Omogo-mura, Iwaguro-yama, / 14. VIII. 2005, soil / Takasuke & Toshie Miyata leg. // [愛媛県] 土壌 / 面河村岩黒山 / Mc 5033-4192 / 14. VIII. 2005 / 宮田隆輔 俊江 // HOLOTYPE / *Silusa / variabilis* / des. T. Hashizume & / M. Maruyama, 2026” (KUM). Paratypes: JAPAN: Honshu: 1 male, Akita-ken, Mt. Chôkai-san, Zenjin, 19–20 VI 1980, S. Naomi leg. (KUM); 1 female, Yamagata-ken, Mt. Asahi-yama, Futamata, 21 VIII 1996, S. Naomi leg. (KUM); 1 female, Tochigi-ken, Nasudake, 7 VI 1994, S. Naomi leg. (KUM); 1 male, Fukui-ken, Yashagaike, 9 VIII 1990, S. Nomura leg. (KUM); 2 males, 1 female, Gifu-ken, Hirayu, 24 VIII 1989, S. Nomura leg. (KUM); 1 male, Hyogo-ken, Mt. Hyônoson, 5 VI 1984, S. Nomura leg. (KUM); 1 female, Hyogo-ken, Mt. Mimuro-yama, 11 V 1997, H. Hoshina leg. (KUM). Kyushu: 1 female, Kumamoto-ken, Yatsushiro-shi, Izumimachi Momigi, Mt. Shiratori-yama, Uenouchi-tani, 14 V 2021, S. Inoue leg. (KUM); 1 male, Oita-ken, Taketa-shi, Kujû-machi, Ariuji, 28 V 2023, T. Hashizume leg. (KUM).

Type locality. JAPAN, Shikoku, Ehime-ken, Kumakôgen-chô [Omogo-mura], Iwaguro-yama.

Diagnosis. *Silusa variabilis* is somewhat similar to *Silusa rubra* Erichson, 1839, but can be distinguished by the male tergite VII with a tubercle posteromedially (in *S. rubra*, male tergite VII with a pair of longitudinal carinae).

Description. Measurements (n = 5). BL: 2.28–3.20; FBL: 1.12–1.48; HW: 0.44–0.51; PL: 0.46–0.53; PW: 0.51–0.66; EL: 0.39–0.68; EW: 0.56–0.82.

Body (Fig. 6A, B) brown to dark brown.

Head almost as long as wide, without microsculpture; punctures small and sparse; setae long. Eyes moderately large, slightly protruding. Antennomere 1 more than twice as long as wide; 2 shorter and narrower than 1; 3 as long as 2, as wide as 2; 4 shorter and wider than 3, longer than wide; 5 as long as 4, wider than 4; 6–7 approximately as long as wide; 8–10 strongly transverse; 11 approximately 1.6 times as long as wide.

Thorax. Pronotum transverse (PW/PL: 1.12–1.27), wider than head (PW/HW: 1.17–1.34), widest anterior to middle; without microsculpture; punctures small and sparse; most setae directed laterally or posterolaterally; lateral margin sinuate posteriorly; anterior margin as long as posterior margin. Elytra transverse (EW/EL: 1.21–1.45), wider than pronotum or narrower than pronotum (EL/PL: 0.85–1.29), as long as or longer than pronotum (EW/PW: 1.07–1.24), without microsculpture; punctures large and dense; setae long directed posteriorly. Hind wings well developed or reduced. Posterior angle of prepectus obtuse.

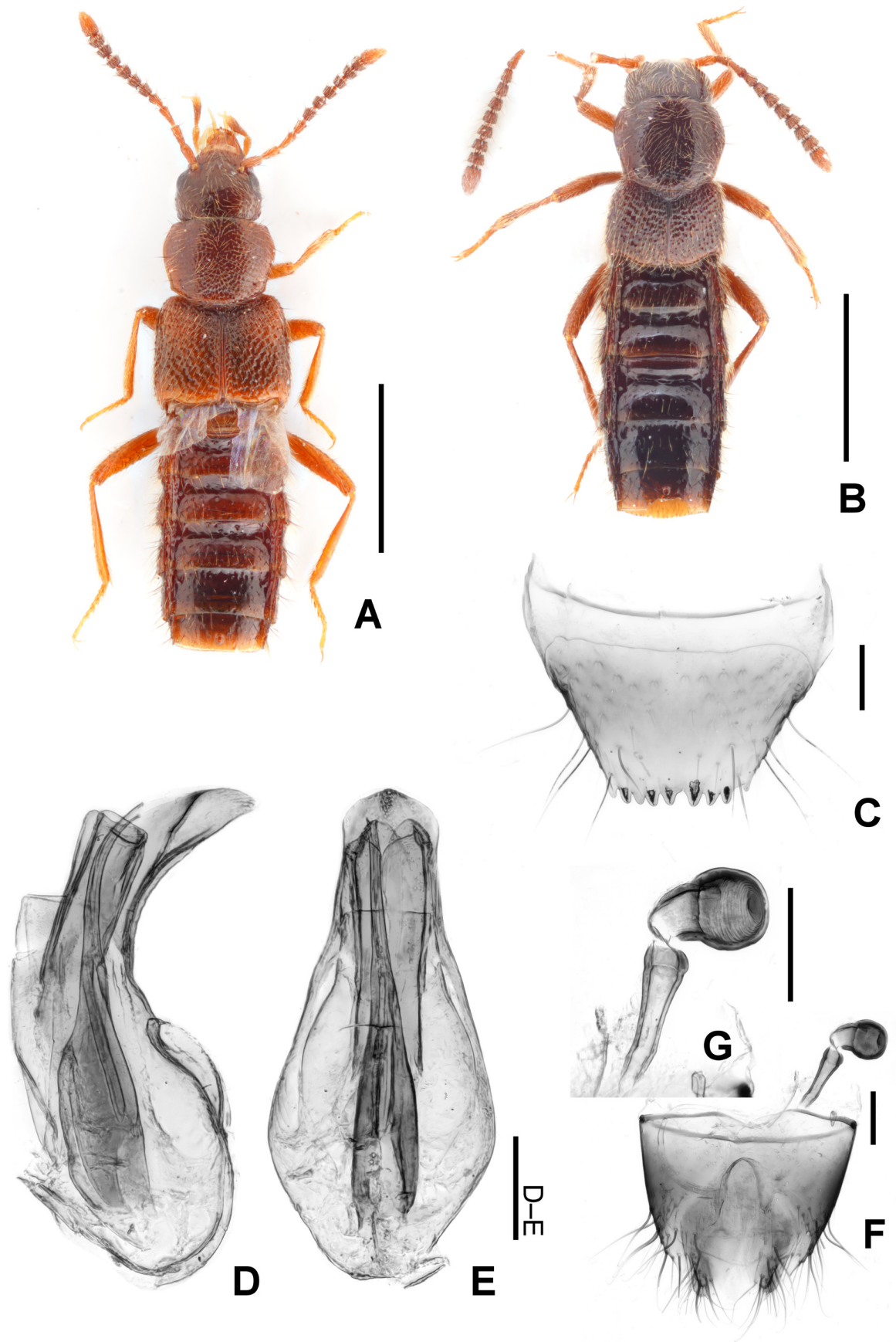


FIGURE 6. *Silusa variabilis* Hashizume & Maruyama, **sp. nov.** A, Habitus, holotype, macropterous form; B, ditto, paratype, brachypterous form; C, male tergite VIII; D, median lobe of aedeagus, lateral view; E, ditto, ventral view; F, female abdominal segments IX–X and spermatheca; G, distal part of spermatheca. Scale bars: 1.0 mm for A–B; 0.1 mm for C–G.

Abdomen sparsely covered with long setae, without microsculpture; punctures large; tergites III–V with deep basal impressions; tergite VI with shallow basal impression.

Male. Tergite VII with a tubercle posteromedially. Posterior margin of tergite VIII with denticles (Fig. 6C). Median lobe of aedeagus (Fig. 6D, E) with broad apical process; basal sclerites simple, long; apical sclerites simple, subrectangular in lateral view.

Female. Genital chamber without sclerites near base of spermatheca (Fig. 6F). Spermatheca (Fig. 6F, G) with spherical distal portion; distal portion with small umbilicus; proximal portion elongate.

Distribution. Japan (Honshu, Shikoku, Kyushu).

Etymology. The specific epithet is derived from the Latin adjective “*variabilis*” meaning “variable”, and refer to the variation observed in the wings and the male tergite VIII.

Bionomics. In Kyushu, this species was collected from well-decayed fallen logs.

Remarks. Variation in hind wing development is observed in this species. The holotype is macropterous form (Fig. 6A), and a brachypterous form is shown in Fig. 6B.

This species somewhat resembles *Silusa (Stenusa) rubra*, but according to the original description of *Stenusa* (Kraatz, 1856), the ligula is approximately as long as first labial palpomere, whereas in *S. variabilis* it is shorter. Because of this difference, *S. variabilis* cannot be assigned to the subgenus *Stenusa* at present, and the decision on its subgeneric placement is therefore deferred.

Key to Japanese species of *Silusa*

1. Posterior margin of pronotum equal in length to anterior margin (Fig. 6A, B). *Silusa variabilis* sp. nov.
- Posterior margin of pronotum distinctly longer than anterior margin (Figs. 1A, 3A, B, 4A) 2
2. Posterior angle of prepectus obtuse (Fig. 5B); elytral punctures small (Fig. 5E, H). *Silusa (Silusa) lanuginosa* Sharp
- Posterior angle of prepectus acute (Fig. 5A, C); elytral punctures large (Fig. 5D, F, G, I). 3
3. Male tergite VII with a large tubercle; male tergite VIII with denticles; female genital chamber with a pair of elongate sclerites (Fig. 1E). *Silusa (Silusa) biimpressa* Bernhauer
- Male tergite VII without tubercles; male tergite VIII without denticles; female genital chamber with a pair of semicircular sclerites (Fig. 4E). *Silusa immutata* sp. nov.

Silusa species described from India by Cameron (1939)

Comments. Cameron (1939) described the following four species of *Silusa* from India: *Silusa (Silusa) indica* Cameron, 1939, *Silusa (Silusa) infuscata* Cameron, 1939, *Silusa (Silusa) nigra* Cameron, 1939, and *Silusa (Stenusa) distincta* Cameron, 1939. Among the four species, only *S. infuscata* has illustrated genital structures (Pace, 1989: figs. 202–204). *Silusa infuscata* and *S. indica* are treated herein as members of *Silusa*, whereas *S. distincta* is transferred to the genus *Coenonica* Kraatz, 1857, and *S. nigra* is shown not to belong to *Silusa* or to Homalotini, its generic and tribal placement remaining unclear. The changes in the treatment of these species are discussed in detail under the respective species accounts.

Silusa (Silusa) infuscata Cameron, 1939

(Fig. 7)

Silusa (Silusa) infuscata Cameron, 1939: 182 (original description; type locality: “United Provinces: Dehra Dun”); Pace, 1989: 488 (illustrated); Pace, 2008: 145 (record from Taiwan); Pace, 2015: 201 (record from Nepal).

Type material examined. Syntype: male, “Dehra Dun / Dr. Cameron. / 21.3.1922. // E. 1. 147 [uncertain, handwritten] // *Silusa / infuscata / TYPE* Cam. // SYN- / TYPE [round label with blue border] // M. Cameron. / Bequest. / B.M. 1955-147. // NHMUK 016412484” (BMNH).

Diagnosis. *Silusa infuscata* is similar to *S. brevipes*, but can be distinguished by the shorter dorsal process of apical sclerites.

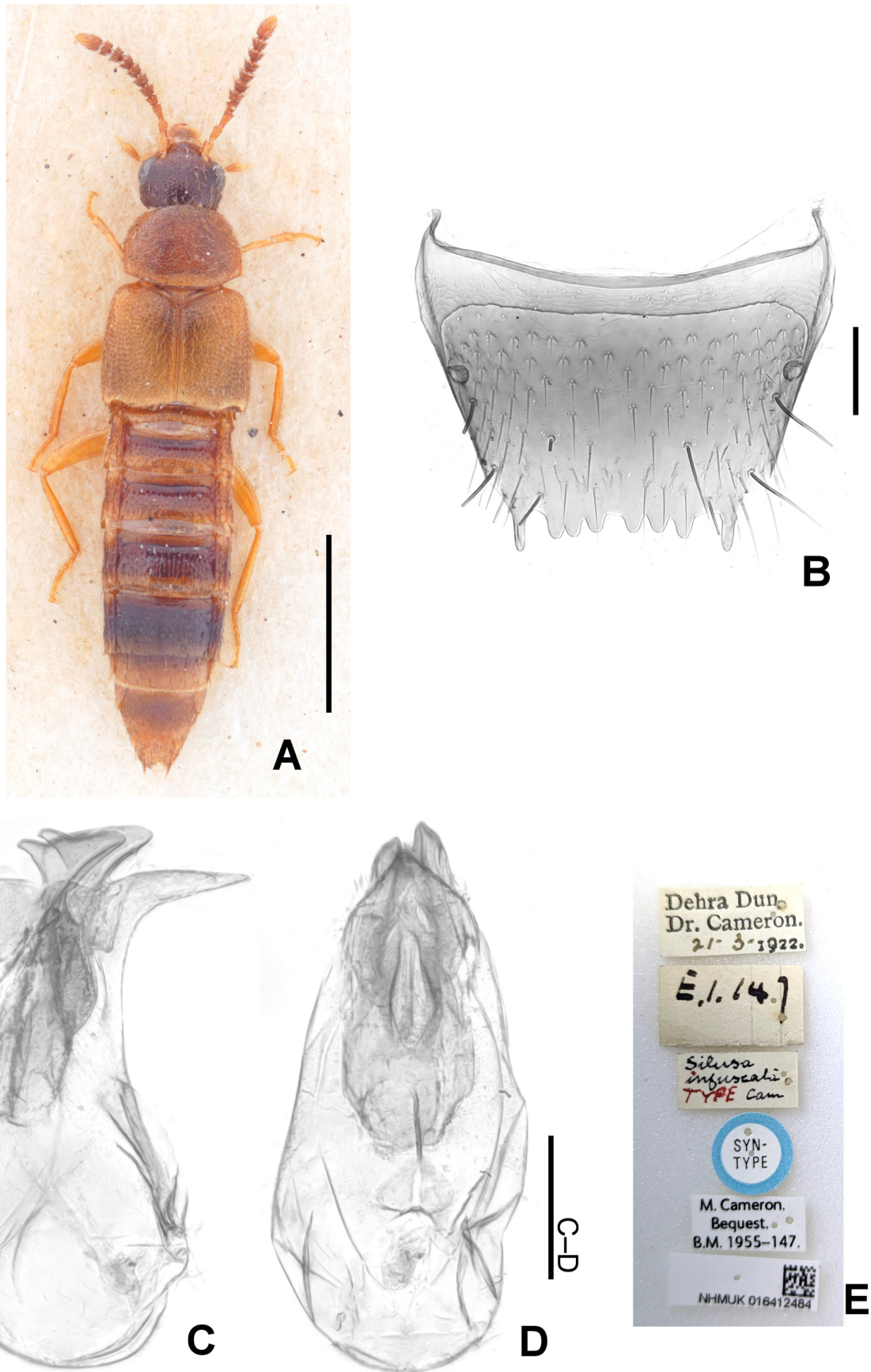


FIGURE 7. *Silusa (Silusa) infuscata* Cameron, 1939, syntype, male. A, Habitus; B, male tergite VIII; C, median lobe of aedeagus, lateral view; D, ditto, ventral view; E, labels. Scale bars: 1.0 mm for A; 0.1 mm for B–D.

Supplementary description. Measurements and ratios (n = 1). BL: 3.09; FBL: 1.48; HW: 0.50; PL: 0.49; PW: 0.67; EL: 0.70; EW: 0.84. PW/PL: 1.37; PW/HW: 1.34; EW/EL: 1.21; EL/PL: 1.44; EW/PW: 1.26.

Male. Tergite VII without tubercles. Posterior margin of tergite VIII with denticles, outer pairs slightly longer than inner denticles (Fig. 7B). Median lobe of aedeagus (Fig. 7C, D) with slender apical process; basal sclerites simple; apical sclerites moderately large, with short dorsal process.

Distribution. India (Uttarakhand), Nepal, Taiwan.

Remarks. Pace (1989) illustrated both the male and female genitalia (Pace, 1989: figs. 202–204), showing that the distal portion of the spermatheca is spherical and without an umbilicus. For a detailed description, see Cameron (1939).

Silusa (Silusa) indica Cameron, 1939

(Fig. 8)

Silusa (Silusa) indica Cameron, 1939: 182 (original description; type locality: “United Provinces: Dehra Dun”).

Type material examined. Holotype (Fig. 8): female, “Dehra Dun / Dr. Cameron. / 2·3 1922. // *Silusa / indica / TYPE* Cam. // *indica* Cam. // SYN- / TYPE [round label with blue border] // M. Cameron. / Bequest. / B.M. 1955-147. // NHMUK 016412486” (BMNH).

Diagnosis. *Silusa indica* can be distinguished from other congeners by a combination of the following character states: elytral punctures fine and sparse; humeral area and sutural and posterior margins of elytra paler than remaining areas of elytra; spermatheca with wide and short proximal portion.

Supplementary description. Measurements and ratios (n = 1). BL: 3.20; FBL: 1.52; HW: 0.54; PL: 0.54; PW: 0.76; EL: 0.72; EW: 0.93. PW/PL: 1.41; PW/HW: 1.40; EW/EL: 1.30; EL/PL: 1.33; EW/PW: 1.22.

Female. Spermatheca (Fig. 8B) with subspherical distal portion; proximal portion wide and short, curves several times in three dimensions and bends at a right angle near the distal portion.

Distribution. India (Uttarakhand).

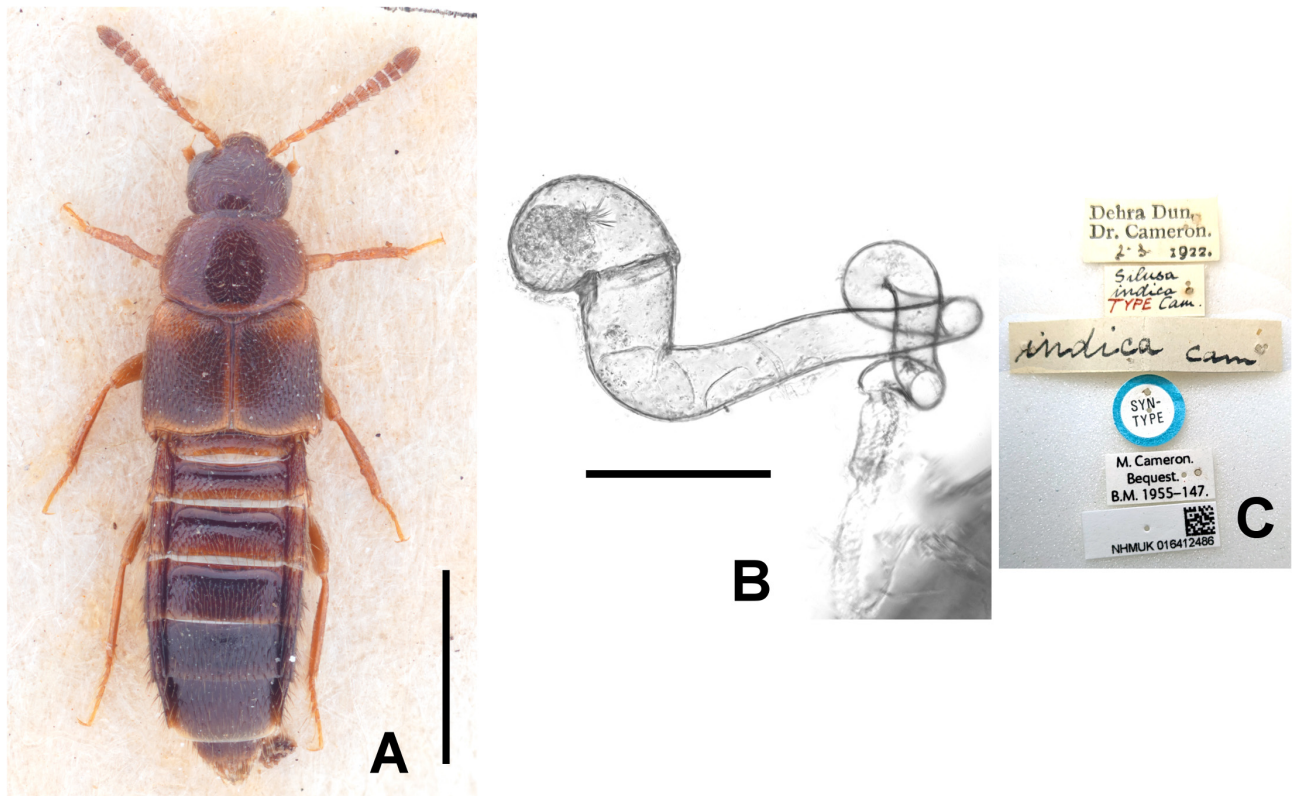


FIGURE 8. *Silusa (Silusa) indica* Cameron, 1939, holotype. A, Habitus; B, spermatheca; C, labels. Scale bars: 1.0 mm for A; 0.1 mm for B.

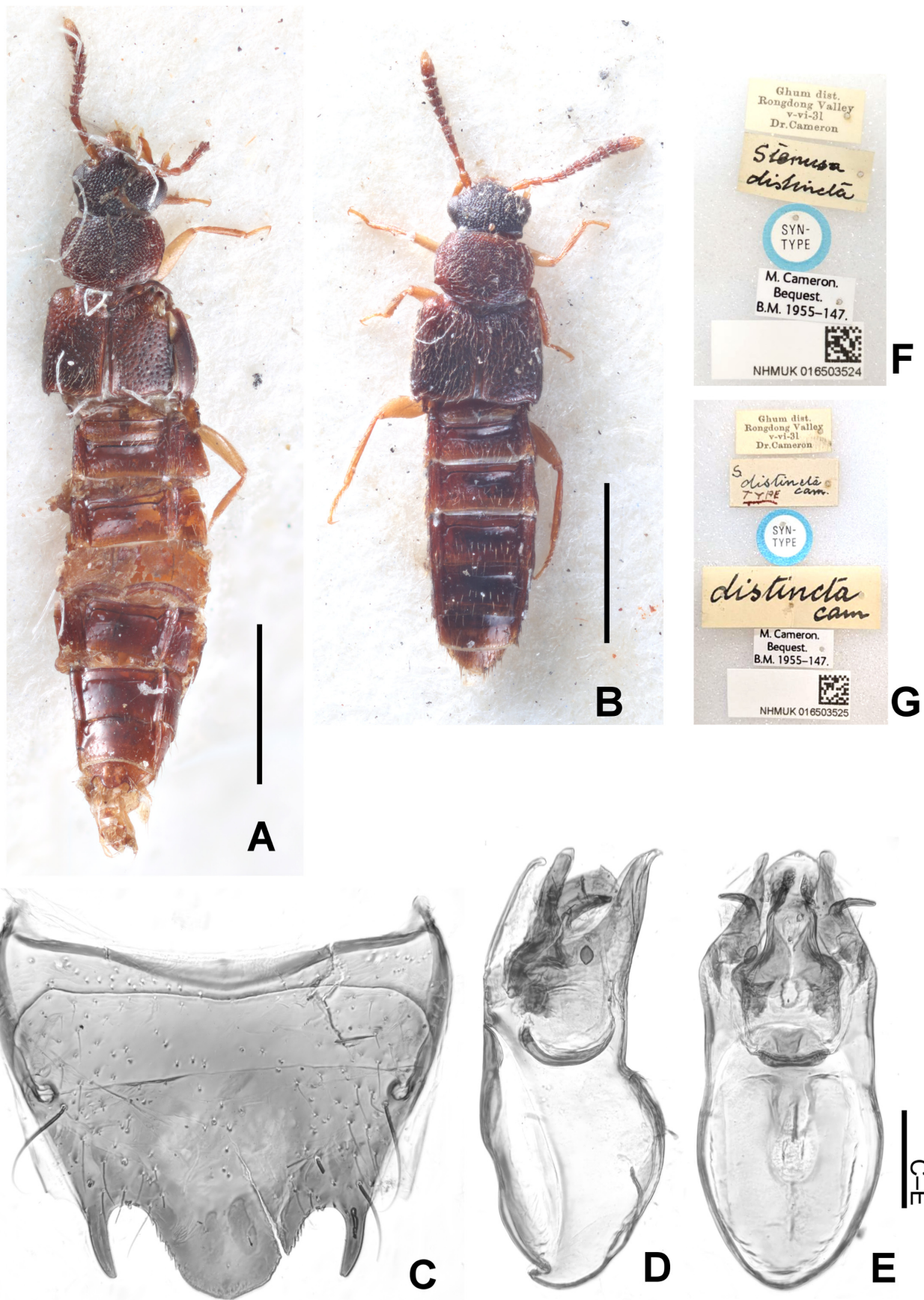


FIGURE 9. *Coenonica distincta* (Cameron, 1939), **comb. nov.**, syntypes. A, C–F, Male; B, G, female. A, B, Habitus; C, male tergite VIII; D, median lobe of aedeagus, lateral view; E, ditto, ventral view; E, F, labels. Scale bars: 1.0 mm for A & B; 0.1 mm for C–E.

Remarks. The morphology of the spermatheca in this species differs markedly from that of other congeners, particularly in the wide and short proximal portion, raising doubts about its proper placement in *Silusa*. Although the mouthparts were not examined in the present study, their examination is necessary to more reliably determine the generic placement of this species. As the male of this species remains unknown, additional specimens are required. For a detailed description, see Cameron (1939).

***Coenonica distincta* (Cameron, 1939), comb. nov.**

(Fig. 9)

Silusa distincta Cameron, 1939: 181 (original description; type locality: “Ghum district: Rongdong Valley”).

Coenonica arcusifera Pace, 1998: 190 (original description; type locality: “China, Yunnan, Xishuangbanna, Mengdien”); Pace, 2011: 30 (record from India: Arunachal Pradesh). **Syn. nov.**

Type material examined. Syntypes (Fig. 9): 1 male, “Ghum dist. / Rongdong Valley / v-vi-31 / Dr. Cameron // *Stenusia / distincta* // SYN- / TYPE [round label with blue border] // M. Cameron. / Bequest. / B.M. 1955-147. // NHMUK 016503524” (BMNH). 1 female, “Ghum dist. / Rongdong Valley / v-vi-31 / Dr. Cameron // *S. / distincta* / Cam. / TYPE // SYN- / TYPE [round label with blue border] // *distincta* / Cam. // M. Cameron. / Bequest. / B.M. 1955-147. // NHMUK 016503525” (BMNH).

Diagnosis. In the genus *Coenonica*, the genital structures of many species remain insufficiently described, and several species have been described based only on female specimens (e.g., Cameron, 1936, 1939). *Coenonica distincta* can be distinguished from other congeners with illustrated male tergite VIII and aedeagus by the broadly produced central part of the posterior margin of male tergite VIII without an apical incision and the thin, short and ventrally curved apical process of aedeagus.

Supplementary description. Male. Posterior margin of tergite VIII with a pair of curved spines laterally; central part rounded or weakly angulate, produced posteriorly, base finely serrate (Fig. 9C). Median lobe of aedeagus (Fig. 9D, E) stout, straightly tapering toward apex from approximately apical 1/4 of median lobe; apical process short, curved ventrally; sclerites of internal sac almost symmetrical; internal sac with one curved plate-like sclerite basally, apicolaterally with a pair of long straight sclerites and a pair of shorter, curved sclerites.

Female. Posterior margin of tergite VIII rounded.

Distribution. India (West Bengal, Arunachal Pradesh), China (Yunnan).

Remarks. The external appearance and male genitalia of *Silusa distincta* differ markedly from those of most species of *Silusa* and indicate that this species belongs to the genus *Coenonica* Kraatz, 1857, based on the following character states: body flattened; strongly laterally protruding eyes; and a distinct compressor plate of aedeagal median lobe. *Coenonica arcusifera* Pace, 1998, described from China, cannot be distinguished from *C. distincta* in external appearance, male tergite VIII, and aedeagal median lobe based on the original description and illustrations (Pace, 1998: figs. 145–148). Therefore, it should be regarded as a junior synonym of *C. distincta*. For detailed descriptions, see Cameron (1939) and Pace (1998).

“*Silusa*” *nigra* Cameron, 1939

(Fig. 10)

Silusa (Silusa) nigra Cameron, 1939: 183 (original description; type locality: “Kashmir: Gulmarg”).

Type material examined. Syntype (Fig. 10): male, “Kashmir / Gulmarg / vi-vii-31 / Dr. Cameron // *Silusa / nigra* / TYPE Cam. // SYN- / TYPE [round label with blue border] // M. Cameron. / Bequest. / B.M. 1955-147. // NHMUK 016412485” (BMNH).

Supplementary description. Measurements and ratios (n = 1). BL: 3.76; FBL: 1.64; HW: 0.51; PL: 0.50; PW: 0.70; EL: 0.72; EW: 0.85. PW/PL: 1.40; PW/HW: 1.39; EW/EL: 1.18; EL/PL: 1.43; EW/PW: 1.21.

Male. Tergite VIII (Fig. 10B) with small granules on surface; posterior margin with six small denticles, outer ones slightly more widely separated than the others. Paramere of aedeagus (Fig. 10C) with long apical lobe; apical lobe broad at base, narrow near apical end, narrowest at middle; apical lobe with three long setae at base and one

short seta near apical end. Median lobe of aedeagus (Fig. 10 D–F) moderately curved ventrally; crista apicalis large; internal sac with symmetrical and complex sclerites.

Distribution. India (Kashmir).

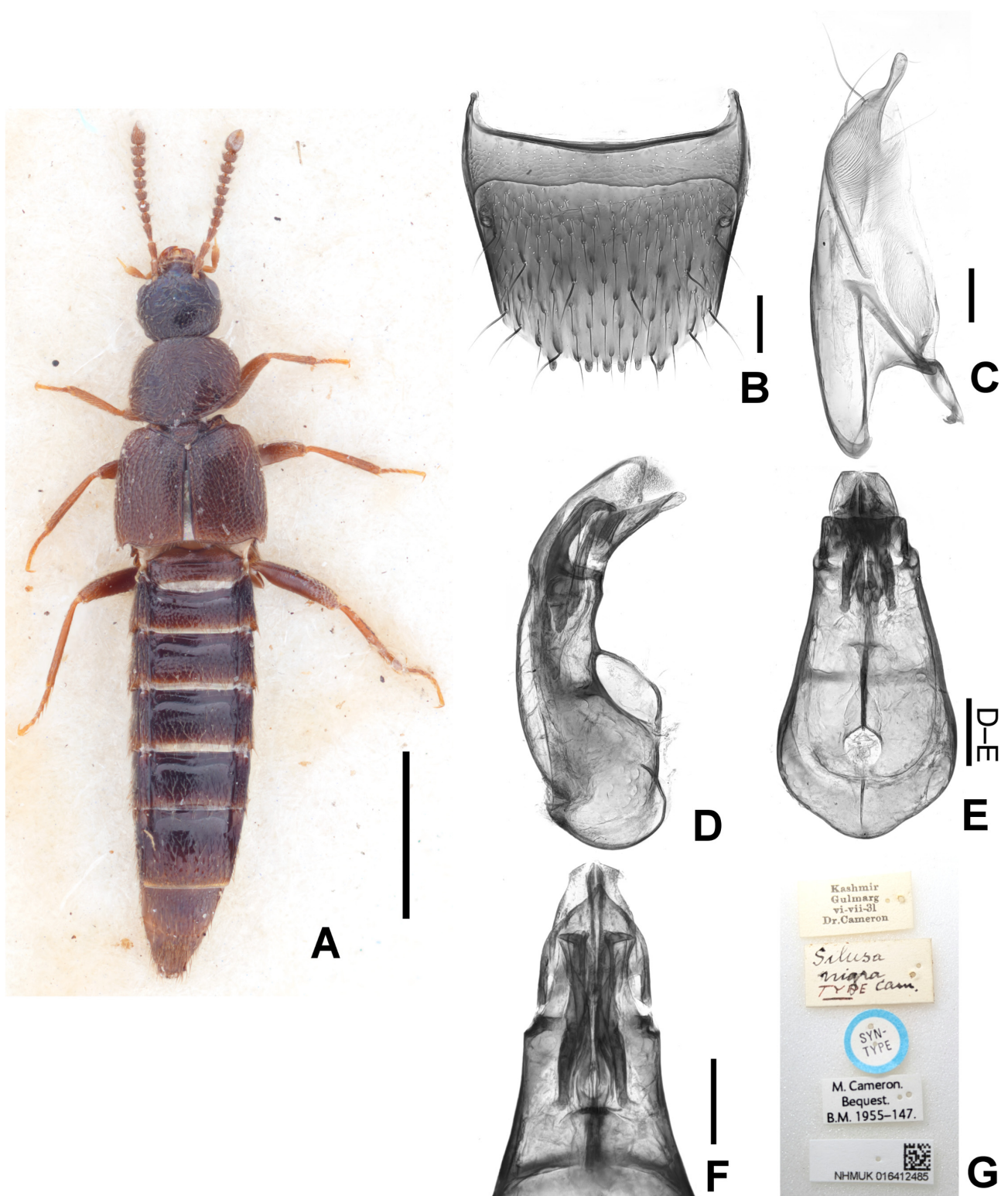


FIGURE 10. “*Silusa*” *nigra* Cameron, 1939, syntype. A, Habitus; B, male tergite VIII; C, right paramere of aedeagus; D, median lobe of aedeagus, lateral view; E, ditto, ventral view; F, ditto, apical part, ventral view; G, labels. Scale bars: 1.0 mm for A; 0.1 mm for B–F.

Remarks. This species possesses the 5-5-5 tarsal formula, and clearly does not belong to the tribe Homalotini or the genus *Silusa*. Based on the tarsal formula, this species may be assignable to Aleocharini, Oxypodini or other tribes. However, it is unusual, at least for a member of Aleocharini, in having an aethetine bridge in the aedeagal median lobe and the strongly wrinkled velum of the paramere. As the mouthparts of this species were not examined in detail in the present study, the presence of pseudosegments on the maxillary and labial palpi remains uncertain. We tentatively assign it to the tribe Oxypodini to avoid leaving this species unplaced. A detailed examination of the mouthparts and antennal structures is necessary to determine its tribal assignment. The generic assignment of this species remains unclear. To facilitate future taxonomic studies, the male tergite VIII and the aedeagus are illustrated herein.

Discussion and conclusion

The present study reviews the genus *Silusa* in Japan and clarifies the taxonomic status of several nominal species described from India. By re-examining type material and redescribing all Japanese species based on male and female genital morphology, we establish a stable framework for species identification and resolved long-standing taxonomic confusion caused by the lack of genital documentation.

The Japanese fauna of *Silusa* is shown to consist of four species, including two species newly described herein. Previous records were affected by misidentifications and uncertain generic placements, obscuring species limits and distribution patterns. The synonymy of *Silusa chinensis* with *S. biimpressa* and the correction of the Korean record of *S. lanuginosa* demonstrate that reliable identification in this genus requires direct comparison of genital structures and type material.

Reexamination of species described from India by Cameron (1939) indicates that the historical concept of *Silusa* in the Oriental region included a heterogeneous assemblage of taxa. While some species appear to represent genuine members of *Silusa*, others are inconsistent with the genus or even with Homalotini. The transfer of *Silusa distincta* to *Coenonica* and the exclusion of “*Silusa*” *nigra* from *Silusa* highlight the need for further taxonomic re-evaluation of Oriental species. Overall, this study provides a clarified concept of *Silusa* and a foundation for future systematic studies of the genus in East and South Asia.

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