



Revision of *Tenomerga* (Coleoptera, Cupedidae) of Japan and adjacent regions

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Abstract

Tenomerga Neboiss, 1984 distributed in Japan and its neighbouring countries is revised. Six species are recognized. *Tenomerga anguliscutis* (Kolbe, 1886) and *T. trabecula* Neboiss, 1984 are firstly recorded from Japan, and *T. mucida* (Chevrolat, 1844) is newly recorded from Taiwan.

Key words: Arthostemata, new record, Korea, Taiwan, China

Introduction

Tenomerga Neboiss, 1984 is represented by 17 extant species known from the Holarctic Region except for Europe (Grebennikov 2004; Ge & Yang 2004; Yoshitomi 2016; Wang & Hájek 2018). From Japan, four species have been recorded (Miyatake 1985a, 1986), and was relatively well studied. However, Miyatake (1985b) mentioned undescribed species remained in Nansei Isls. (= Ryukyu Isls.).

In this paper, I revise the Japanese species of this genus based on the numerous specimens including Miyatake's collection preserved in Ehime University Museum. In addition the specimens collected from other east Asian countries, Korea, Taiwan and eastern China, were also examined.

Material and Methods

General observations and dissections were made with a Leica MZ95 stereomicroscope. Microstructures of dissected parts were studied in glycerine under an Olympus BH-2 compound microscope. After observation, the dissected parts were mounted on the same card with the specimen. Photographs were taken with a Leica MZ95 and combined with Helicon® Focus ver. 4.70.5 Pro (Helicon Soft® Limited).

The materials examined in this study is kept at the following institutional and private collections:

EUMJ: Ehime University Museum, Matsuyama, Japan

NMNS: National Museum of Natural Science, Taichung, Taiwan

TARI: Taiwan Agricultural Research Institute, Taichung, Taiwan

KUM: Kyushu University Museum, Fukuoka, Japan

SEHU: Hokkaido University Museum, Sapporo, Japan

NSMT: National Museum of Nature and Science, Tsukuba, Japan

KAC: Katsumi Akita private collection, Mie, Japan

KMNH: Kitakyushu Museum of Natural History and Human History, Japan

NARO: National Institute for Plant Protection, Tsukuba, Japan

OMM: Omogo Mountain Museum, Kumakogen-cho, Ehime, Japan

Collecting methods are abbreviated as followings:

FIT: flight intercept trap

LT: light trap

MT: Malaise trap

Old locality names on specimen labels were converted to current administrative divisions, but some old names were transcribed without knowledge of their current names.

The terminology follows Neboiss (1984), Edwards (1953) and Hörnschemeyer (2005) for male genital structures, and Hörnschemeyer (2009) for head protuberances.

Measurements were conducted using Japanese specimens. Morphological abbreviations used in measurement are as follows:

AL: antennal length, measuring the length of each antennomere in dorsal view and total of antennomeres I–XI

EL: elytral sutural length from the anterior margin of scutellum to the elytral apex

EW: maximum elytral width

EYL: eye length, longest part of a single compound eye in dorsal view

EYW: eye width, widest part of a single compound eye in dorsal view

TEL: temporal length, length between the posterior margin of eye and the posterior margin of tempora in dorsal view

HL: dorsal mesal head length

HW: maximum dorsal width of head across eyes

PL: mesal pronotal length

PW: maximum pronotal width

TL: total length (HL+PL+EL)

The average is given in parenthesis after the range.

Taxonomy

Genus *Tenomerga* Neboiss, 1984

Tenomerga Neboiss, 1984: 448 (type species: *Cupes mucida* Chevrolat, 1829, by original designation).

Diagnosis. Head closely covered with scaly short setae; P1 (protuberances above antennal insertions) and P2 (protuberances above the eyes) present; P3 (median protuberances) low and wide. Labrum (Fig. 5A) free, small, longer than wide. Maxilla (Fig. 5C) with 4-segmented palpi; apical palpomere with dorso-lateral sensory patch (dls). Mandibles (Fig. 5E, F) short and compact, with two apical teeth, covered with scaly setae in dorsal surface. Labium (Fig. 5B) transverse, arcuate and irregularly serrate along anterior margin; ligula consisting of 7 pairs of digitiform appendages; labial palpi (Fig. 5D) 3-segmented, with sensory patch (sp) on apical palpomere. Antennae 11-segmented, relatively long and thin, filiform. Antennomere II shortest; antennomere XI longest. Hind wings well developed, described by Lawrence *et al.* (2021). Pronotum quadrate, transverse; anterior angles simply arcuate (bifid in *T. angulinota* Wang & Hájek, 2018); posterior angles arcuate. Elytra (Fig. 4) elongate, subparallel-sided, with longitudinally 9- or 10-rows of window punctures; window punctures round to transverse; intervals III, V, VII more or less raised. Legs short.

Male genitalia. Tergite VIII (Fig. 6A) well sclerotized, subtriangular, closely covered with minute spines, with a pair of short apodemes. Sternite VIII (Fig. 6B) moderately sclerotized, triangular, bearing short setae on apical and lateral parts, with a pair of short apodemes. Sternite IX (Fig. 6C) slightly sclerotized, large and oblong, connected with tergite IX in basal part. Tergite IX (Fig. 6C) slightly sclerotized, larger than sternite IX, closely covered with minute spines in apical part. Bifurcate process (Fig. 7F; segment X? in Morimoto 1986) well sclerotized, V- or Y-shaped, situated between tergite IX and sternite IX. Tegmen (Fig. 7A) long; parameres long, almost straight, sparsely punctate; apical hook (ap in Fig. 7A, E) present in apical part of parameres; ventro-marginal spine (vms) long and thin; basal opening (bo) oval. Penis (Fig. 7B–D) short, connected with tegmen in basal part, consisting of dorsal plate and mesal lobe; dorsal plate (dp; membranous lobe in Edwards 1953) membranous, connected with mesal lobe in basal part; mesal lobe (median lobe in Edwards 1953; penis in Hörnschemeyer 2009) longer than dorsal plate, sparsely punctate.

Female genitalia. Sternite VIII (Fig. 6D) triangular, deeply notched at apical margin, with long median strut. Tergite VIII (Fig. 6E) with a pair of short apodemes protruding from anterior margin; a pair of long projections in apical part. Ovipositor (Fig. 6F) long; stylus 2-segmented; apical segment (st2) longer than basal one (st1).

Key to species of the genus *Tenomerga* of East Asia

1. Elytra with 9-rows of window punctures. 2
- Elytra with 10-rows of window punctures. 3
2. Elytra blackish-brown, typically unicolorous. *T. mucida*
- Elytra yellowish-brown, with alternating dark and pale brown markings. *T. anguliscutis*
3. Elytra blackish-brown, unicolorous. *T. yamato*
- Elytra yellowish-brown, with distinct alternating dark and pale brown markings. 4
4. Base of bifurcate process oval; apex of mesal lobe notched; ventro-marginal spine short, not reaching apical hook
- *T. japonica*
- Base of bifurcate process quadrate; apex of mesal lobe shallowly concave; ventro-marginal spine long, reaching apical hook 5
5. Anterior pronotal angles strongly acute; mesal lobe distinctly longer than dorsal plate. *T. kurosawai*
- Anterior pronotal angles acute; mesal lobe a little longer than dorsal plate. *T. trabecula*

Tenomerga mucida (Chevrolat, 1844)

[Japanese name: Nagahiratamushi]

Figs 1A, B, 2A, 3A, B, 4A, 5, 6, 7, 13A; Table 1

Cupes mucida Chevrolat, 1844: 58.

Cupes mucidus: Atkins 1963: 154.

Tenomerga mucida: Neboiss 1984: 453; Miyatake 1985a: 21; 1985b: 1, pl. 1, 1 [figure and short description]; Lawrence *et al.* 2021: 464, fig. 6C [hindwing venation]; Park & Cho 2023: 33 [recorded from Korea].

Cupes clathratus Solsky, 1871: 370. Tamanuki 1928: 250; Yabe 1929: 61; Nakane 1973: 2. (Synonymized with *Tenomerga mucida* (Chevrolat, 1844) by Neboiss 1984).

Cupes ocellaris Pascoe, 1872: 319. (synonymized with *Cupes clathratus* Solsky, 1871 by Harold 1877)

Cupes clathratus var. *fuscus* Tamanuki, 1928: 251. (Synonymized with *Tenomerga mucida* (Chevrolat, 1844) by Neboiss 1984).

Type specimen examined. Holotype of *Cupes clathratus* var. *fuscus* Tamanuki, 1928 (Fig. 2A): male (SEHU), “Japan Matsumura”, “*Cupes clathratus* var. *fuscus* Tam. Type”, “*Tenomerga mucida* (Chevrolat) det. Neboiss 1983”, “0000001300 Sys.Ent Hokkaido Univ. Japan [SEHU]”.

Specimens examined. [JAPAN] <Hokkaido> 1 male, 2 females, (SEHU), Date, no data, M. Matsushita leg.; 1 female, (SEHU), Jozankei, Sapporo-shi, 17. IX. 1954, T. Kumata leg.; 1 male, (SEHU), Jozankei, Sapporo-shi, 25. VIII. 1954, M. Konishi leg.; 2 females, (SEHU), Jozankei, Sapporo-shi, 7. VIII. 1987, Y. Nishijima leg.; 1 male, (NSMT), Kitami-Aioi, 8. VIII. 1950, S. Shibani leg.; 1 male, (KUM), Maruyama, Sapporo-shi, 31. VII–4. VIII. 2000, S. Ogata leg.; 1 female, (NSMT), Poroshiri-dake, Hidaka, 30. VII. 1971, J. Aoki leg.; 1 female, (SEHU), Sakkuru, 7. VII. 1950, T. Nakashima leg.; 1 female, (SEHU), Sapporo-shi, 1. VIII. 1918, S. Matsumura leg.; 1 female, (SEHU), Sapporo-shi, 18. VIII. 1971, S. Matsumura leg.; 1 male, (SEHU), Sapporo-shi, 26. VII. 1984, K. Furukawa leg.; 2 males, (SEHU), Sapporo-shi, 3. VIII. 1918, S. Matsumura leg.; 1 male, (NSMT), Sapporo-shi, 3. VIII. 1924; 1 female, (SEHU), Sapporo-shi, 31. VII. 1980 (A. Tanaka coll. 2005); 2 females, (SEHU), Sapporo-shi, 9. VIII. 1987 (A. Tanaka coll. 2005); 1 female, (SEHU), Sapporo-shi, VIII. 1907; 1 male, (NSMT), Shumarinai, Sorachi-shicho, 2–3. VIII. 1982, S. Tsuyuki leg.; 1 male, (SEHU), Soranuma-dake, 9. VIII. 1962, T. Kumata leg. (Nakane coll. 1999); 1 male, (EUMJ), Teinekanayama, Sapporo-shi, 17. VIII. 2022, Y. Omatsu leg.; 1 female, (SEHU), Tomuraushi, 26. VIII. 1954, S. Takagi leg.; 1 male, (SEHU), Toyotaki, Sapporo-shi, 18. VIII. 1979, T. Fujisawa leg.; 1 male, (SEHU), Yamahana, Sapporo-shi, 7. VIII. 1903; 1 female, (NSMT), Yasukuni, Abashiri-shicho, 30–31. VII. 1982, S. Tsuyuki leg. <Aomori Pref.> 1 male, (EUMJ), Hachinohe, 9. VIII. 1938, A. Fukuda leg.; 1 female, (NSMT), Takinomata, Hirakawa-shi, 18. VIII. 1952, K. Shimoyama leg. <Yamagata Pref.> 1 male, (SEHU), Sakata, 2. VII. 1948, T. Nakane leg. (Nakane coll. 1999); 1 male, (SEHU), Sakata, 7. VII. 1948, K. Shirahata leg. (Nakane coll. 1999); 2 males, (SEHU), Sakata, 7. VII. 1948, K. Shirahata leg. (Nakane coll. 1999); 1 female, (NSMT), Yonezawa, 21. VIII. 1941, Y. Kurosawa leg.; 1 female, (EUMJ), Nakamaru, Nagasaka-shi, 17. VII. 1984, S. Nomura leg. <Iwate Pref.> 2 males, (EUMJ), Genpeidaira, nr. Hayachine, 31. VI. 1983, Y. Notsu leg.; 2 males, (EUMJ), Genpeidaira, nr. Hayachine, 31. VII. 1982, N. Ohbayashi leg. <Miyagi Pref.> 1 male, (KUM), Makiyama, Ishinomaki-shi, 30. VII. 1995; 1 male, (EUMJ), Shironuma, Zaou, 19. VIII. 1978, M. Sato leg. <Fukushima Pref.> 1 female, (EUMJ), Tateiwa-mura, 25–27. VII. 1980, Y. Notsu leg.; 1 male, (EUMJ), Tateiwa-

mura, 28. VII. 1984, K. Nagata leg.; 1 female, (NSMT), Wakamatsu, 10. V. 1950, Y. Kurosawa leg.; 1 female, (EUMJ), Yugura, Onuma-gun, 5. VIII. 1974, J. Yokoi leg. <**Chiba Pref.**> 1 male, (NSMT), Katori, Katori-shi, 7. VII. 1935, T. Tani leg.; 1 male, (EUMJ), Nishizaki, Tateyama-shi, 7. VII. 1979, S. Maru leg. <**Saitama Pref.**> 1 male, (NARO), Shimura, 24. VII. 1949, E. Yoshida leg.; 1 male, (NARO), Shimura, 28. VII. 1949, Y. Hirano leg.; 1 male, (NARO), Yono, 8. VII. 1954, Y. Hirano leg. <**Gunma Pref.**> 1 male, (SEHU), Numata, 5. VIII. 1950, S. Ueno leg. (Nakane coll. 1999). <**Tochigi Pref.**> 2 females, (NARO), Yumoto, Nikko-shi, 10. VII. 1949, M. Okamoto leg. <**Ibaraki Pref.**> 1 female, (EUMJ), Migimomi, Tsuchiura-shi, 10. VII. 1979, S. Ohmomo leg.; 1 female, (NSMT), Mito-shi, 23. VII. 1978, T. Tani leg. <**Kanagawa Pref.**> 1 male, (NARO), Fukazawa, Tanzawa, 24. VIII. 1986, Y. Hirano leg.; 1 female, (EUMJ), Hiratsuka, 6. VII. 1978, Y. Notsu leg.; 1 male, (NARO), Komayama, Ooiso-shi, 21. VI. 1996, S. Tsuyuki leg.; 1 male, (NARO), Kurokura, Tanzawa, 22. VIII. 1987, Y. Hirano leg.; 1 male, (NARO), Manazuru, 23. VII. 1983, Y. Hirano leg.; 1 male, (NARO), Mt. Kohbo, Hakone, 18. VII. 1982, T. Maenami leg.; 1 female, (EUMJ), Nakai-machi, 19. VII. 1980, Y. Notsu leg.; 1 male, (EUMJ), Ninomiya, 18. VII. 1979, N. Ohbayashi leg.; 1 male, (NARO), Odawara, 14. VII. 1956, Y. Hirano leg.; 1 female, (NARO), Odawara, 3. VIII. 1982, Y. Hirano leg.; 1 female, (NARO), Ooiso, 30. VII. 1973, Y. Hirano leg. <**Tokyo Met.**> 1 male, (KMNH), Amanuma, Suginami-ku, 20. VI. 1934, N. Gyotoku leg.; 1 male, (KMNH), Amanuma, Suginami-ku, 20. VII. 1932, N. Gyotoku leg. LT; 1 male, (KMNH), Amanuma, Suginami-ku, 6. VII. 1934, N. Gyotoku leg.; 2 females, (KMNH), Fujimidai, Meguro-ku, 14. VII. 1975, T. Shibuya leg.; 1 male, (NSMT), Kinuta, 20. VII. 1962, Y. Kurosawa leg.; 1 female, (SEHU), Kiyokawa, Taito-ku, 13. VII. 1974, T. Ichikawa leg. (Nakane coll. 1999); 1 female, (KMNH), Nakameguro, Meguro-ku, 6. VIII. 1939, T. Shibuya leg.; 1 female, (NSMT), Nippara, Okutama, 17–18. X. 1976, Y. Kurosawa leg.; 1 male, (NARO), Nishigahara, 25. VII. 1948, I. Hattori leg.; 1 male, (SEHU), no data, 2–10. VIII. 1933, S. Matsumura leg.; 1 female, (SEHU), S. Matsumura leg.; 1 male, (NARO), no data, VIII. 1918; 1 male, (NSMT), Ooi-machi, 10. VII. 1940, K. M. leg.; 1 male, (NSMT), Ooi-machi, 24. VII. 1940, K. M. leg.; 1 male, (NARO), Setagaya, 10. VII. 1950, I. Hattori leg.; 1 male, (NARO), Setagaya, 26. VII. 1951, I. Hattori leg.; 1 male, (NARO), Shiba, 18. VII. 1967, S. Kinoshita leg.; 2 males, (EUMJ), Suginami, 20. VII. 1952, S. Hisamatsu leg.; 1 male, (EUMJ), Suginami, 26. VII. 1952, S. Hisamatsu leg.; 1 female, (SEHU), Takao-san, 3–4. VII. 1997, M. Maruyama leg. leg.; 1 male, (NSMT), Ushigome, 5. VII. 1933, T. Wakamori leg. <**Izu Isls.: Miyake-jima**> 1 male, (EUMJ), Ako (34°03'N 139°29'E), 7–30. VII. 2008, H. Makihara leg. MT; 1 male, (EUMJ), Hinoyama-shita, 10–11. VII. 2008, H. Makihara leg.; 1 male, (EUMJ), Tsubota-rindo, 10–11. VII. 2008, H. Makihara leg. <**Izu Isls.: Mikura-jima**> 1 male, (EUMJ), 14. VII. 1986, K. Shimizu leg.; 1 male, (NSMT), 9–12. VII. 1974, K. Kinugasa leg.; 2 males, (SEHU), Kawada, 2/3. V. 1974 (larva), 21/30. VI. 1974 (Imago), T. Ichikawa leg. (Nakane coll. 1999); 1 male, (EUMJ), Sato, 14. VII. 1973, S. Nagao leg. <**Ogasawara Isls.**> 1 male, (NSMT), Chichijima, 11. VI. 1976, Y. Kurosawa leg.; 1 male, (EUMJ), Hahajima, 15–17. VI. 1985, H. Makihara leg.; 1 male, (SEHU), Hyogidaira, Hahajima, 20. VI. 1984, H. W. leg. (Nakane coll. 1999). <**Niigata Pref.**> 1 female, (KUM), Kurokawa, 10. V. 1972, K. Baba leg.; 1 female, (KUM), Kurokawa, 10. VII. 1977, K. Baba leg.; 1 male, (EUMJ), Kurokawa, 13. VII. 1975, K. Baba leg.; 1 female, (KUM), Kurokawa, 2. VIII. 1954, K. Baba leg.; 1 male, (EUMJ), Kurokawa, 20. VII. 1957, K. Baba leg.; 1 female, (KUM), Kurokawa, 20. VII. 1961, K. Baba leg.; 1 female, (KUM), Kurokawa, 21. VIII. 1954, K. Baba leg.; 1 female, (KUM), Kurokawa, 23. VII. 1954, K. Baba leg.; 1 male, (EUMJ), Kurokawa, 26. VII. 1956, K. Baba leg.; 1 male, (EUMJ), Miomote, 25. VIII. 1973, A. Seino leg.; 1 female, (KUM), Momozaki-hama, 10. VII. 1957, K. Baba leg.; 1 male, (EUMJ), Murakami, 6. VIII. 1961, M. Sato leg.; 1 male, (SEHU), Nagaoka, 27. VII. 1946, T. Nakane leg. (Nakane coll. 1999). <**Shizuoka Pref.**> 1 male, (SEHU), Gotemba, 8. 1934, K. Nakamura leg. (Nakane coll. 1999); 1 female, (KUM), Shimotogari, 10. VII. 1973, M. Chujo leg. <**Nagano Pref.**> 1 female, (SEHU), Kamikochi, 14. VII. 1918, Issiki leg.; 1 male, (SEHU), Karuizawa, VII. 1979 (A. Tanaka coll. 2005); 1 male, (NSMT), Nyugasa-yama, 3. V. 1960, Y. Yoshida leg. <**Aichi Pref.**> 1 female, (EUMJ), Dando, 20. VII. 1969, M. Sato leg.; 1 female, (EUMJ), Hagiya, Mizuho-ku, Nagoya-shi, 20. VII. 1977, Y. Hori leg.; 1 female, (EUMJ), Higashi-ku, Nagoya-shi, 18. VII. 1965, Z. Naruse leg.; 1 female, (EUMJ), Higashisugi, Nagoya-shi, 12. VII. 1964, H. Yamada leg.; 1 female, (EUMJ), Higashiyama, Nagoya-shi, VII. 1971, M. Sato leg. figured by Miyatake, 1985b: 1, pl. 1, 1; 1 male, (EUMJ), Kamagahora, Midori-ku, Nagoya-shi, 5. VI. 2002, M. Sato leg.; 1 male, (EUMJ), Matsukawabashi, Nagoya-shi, 26. VII. 1973, M. Sato leg.; 1 male, (EUMJ), Midori-ku, Nagoya-shi, 6. VII. 2004, M. Sato leg.; 1 female, (EUMJ), Nagoya-shi, 17. VIII. 1963, N. Ohbayashi leg.; 1 male, (EUMJ), Nagoya-shi, 6. VII. 1958, N. Ohbayashi leg.; 1 male, (EUMJ), Shimada, Tempaku-ku, Nagoya-shi, VII. 1991, H. Yoshitomi leg.; 1 male, (SEHU), Shindeki-machi, Nagoya-shi, 5. VII. 1941, S. Osawa leg. (Nakane coll. 1999); 1 male, (SEHU), Shirakabe, Nagoya-shi, 16. VII. 1942, T. Horiuti leg. (Nakane coll. 1999); 1 male, (EUMJ), Shitara-cho, 8–12. VII.

2002, S. Nagashima leg. <**Gifu Pref.**> 1 female, (SEHU), Kinkazan, 5. VIII. 1966, T. Nakane leg. (Nakane coll. 1999). <**Fukui Pref.**> 1 male, (KUM), Aoba-yama, 21–24. VII/ 1974, H. Sasaji leg.; 1 male, (SEHU), Ikeizumi-cho, Chikuzen-shi, 12. VII. 1961, K. Fukuda leg. (Nakane coll. 1999); 1 male, (KUM), Mikuni, 8–10. VII. 1974, H. Sasaji leg.; 1 male, 1 female, (KUM), Sanri-yama, 26. VII. 1974, H. Sasaji leg. <**Ishikawa Pref.**> 1 male, (KUM), Kanazawa-jo, Kanazawa-shi, 16. VII. 1968. <**Toyama Pref.**> 1 female, (KUM), Senjugahara, Tateyama-machi, 1–2. VIII. 1981, K. Baba leg. <**Kyoto Pref.**> 1 male, (EUMJ), Kyoto-shi, 14. VII. 1957, M. Ohtake leg. <**Shiga Pref.**> 1 male, (SEHU), Hiei-zan, 22. VIII. 1957, H. Ishida leg. (Nakane coll. 1999). <**Wakayama Pref.**> 1 male, (NARO), Nachi-san, 10. V. 1954, T. Fujimura leg.; 1 male, (SEHU), Shingu, 12. VII. 1946, S. Osawa leg. (Nakane coll. 1999). <**Hyogo Pref.**> 1 male, (EUMJ), Akashi-shi, 13. VII. 1973; 1 female, (EUMJ), Akashi-shi, 24. VII. 1970, M. Tomokuni leg.; 1 female, (SEHU), Nishinomiya, 13. VII. 1947, K. Sakaguchi leg. (Nakane coll. 1999); 1 male, (SEHU), Rokko, 3. VII. 1948, N. Yano leg. (Nakane, 1963, fig. 1-1). <**Tottori Pref.**> 1 female, (NSMT), Daisen, 22. VII. 1940; 1 female, (EUMJ), Daisen, 31. VII. 1975, Y. Notsu leg. <**Kagawa Pref.**> 1 female, (EUMJ), Hanazono-cho, Takamatsu-shi, 22. VI. 1966, M. Takagi leg.; 1 male, (EUMJ), Sakamoto, 5. VII. 1948, T. Ko leg.; 1 male, (EUMJ), Yashima, 13. VII. 1965, M. Takagi leg.; 1 female, (KUM), Yashima, 19. VII. 1973, M. Chujo leg.; 1 male, (EUMJ), Zozu-san, 16. VII. 1978, M. Sakai leg.; 1 male, (EUMJ), Zozu-san, 16. VII. 1978, S. Hisamatsu leg. <**Tokushima Pref.**> 1 male, (EUMJ), Bizan, 4. VII. 1923, M. Yoshida leg.; 1 male, (EUMJ), Ishima, Anan-shi, 30. VII. 2002, Y. Kamite leg.; 1 female, (EUMJ), Nyodo-cho, Tokushima-shi, 27. VII. 1973, K. Yoshida leg.; 1 male, (EUMJ), Otaki-san, 2. VIII. 1972, M. Sakai leg.; 1 male, (EUMJ), Otaki-san, 2. VIII. 1972, M. Yoshida leg. <**Ehime Pref.**> 1 male, (EUMJ), Dogo, Matsuyama-shi, 7. VII. 1950, T. Yano leg.; 1 male, (EUMJ), Edamatsu, Matsuyama-shi, 12. VI. 1994, K. Aita leg.; 1 male, (EUMJ), Gosho, Yamanouchi, Toon-shi, 7. VII. 1987, Y. Utsunomiya leg.; 1 female, (EUMJ), Ishitegawa dam, Matsuyama-shi, 30. VII. 1976, A. Oda leg.; 1 male, (OMM), Ishizuchi-san, Kumakogen-cho, 29. V. 1989, Y. Utsunomiya leg.; 1 male, (EUMJ), Komenono, Matsuyama-shi, 24. VI. 1979, I. Amano leg.; 1 male, (EUMJ), Kono-mura, nr. Matsuyama-shi, 21. VII. 1954, T. Yano leg.; 1 female, (EUMJ), Kuwabara, Matsuyama-shi, 30. VI. 1978, S. Suwa leg.; 1 female, (EUMJ), Matsuyama-jo, Matsuyama-shi, 24. VII. 1999, T. Inoue leg.; 1 male, (EUMJ), Matsuyama-jo, Matsuyama-shi, VII. 2022, N. Isa leg.; 2 males, (EUMJ), Matsuyama-shi, 10. VII. 1974, M. Miyatake leg.; 1 female, (EUMJ), Matsuyama-shi, 18. VII. 1966, T. Ishihara leg.; 1 male, (EUMJ), Matsuyama-shi, 2. VIII. 1956, S. Hisamatsu leg.; 1 female, (EUMJ), Matsuyama-shi, 29. VI. 2022, Li & Shiiba leg.; 1 female, (EUMJ), Matsuyama-shi, 3. VIII. 1955, S. Hisamatsu leg.; 2 females, (EUMJ), Matsuyama-shi, 8. VII. 1949, T. Ishihara leg.; 1 male, (EUMJ), Matsuyama-shi, VII. 1961, T. Ishikawa leg.; 1 male, (EUMJ), Momiji-machi, Matsuyama-shi, 3. VII. 1995, K. Okada leg.; 1 female, (OMM), Nojiri, Kumakogen-cho, 29. VII. 2012, S. Yano leg. LT; 1 male, (EUMJ), Oda-cho, 15. VII. 1998, E. Yamamoto leg.; 1 male, (EUMJ), Omogokei, 4. VIII. 1952, T. Koyama leg.; 1 female, (EUMJ), Shiratsue-Myojingamori, Matsuyama-shi, 22. VII. 1972, S. Kinoshita leg. LT; 1 female, (EUMJ), Sue-machi, Tobe-cho, 2. VII. 2015, K. Yoshida leg.; 1 male, (EUMJ), Sugitate, Matsuyama-shi, 2. VIII. 1976, N. Yashiro leg.; 1 male, (EUMJ), Sute-machi, Tobe-cho, 2. VII. 2015, K. Yoshida leg.; 1 male, (EUMJ), Takanawa-san, Matsuyama-shi, 11–12. VIII. 2015, K. Kuroda leg. LT; 1 male, (EUMJ), Takanawa-san, Matsuyama-shi, 16. VIII. 1979, H. Kan leg.; 1 female, (EUMJ), Takanawa-san, Matsuyama-shi, 2. VIII. 2015, H. Yoshitomi leg.; 1 male, (EUMJ), Takanawa-san, Matsuyama-shi, 20. VII. 1998, H. Kan leg.; 1 female, (EUMJ), Tarumi, Matsuyama-shi, 1. VII/ 2008, Y. Sato leg.; 1 female, (EUMJ), Tarumi, Matsuyama-shi, 23. VI. 2022, R. Akeo leg.; 1 female, (EUMJ), Tarumi, Matsuyama-shi, 3. VII. 1999, S. Hayakawa leg.; 1 female, (EUMJ), Tarumi, Matsuyama-shi, 30. VI. 2022, R. Akeo leg.; 1 female, (EUMJ), Tarumi, Matsuyama-shi, 4. VII. 2021, H. Kono leg.; 1 female, (EUMJ), Toon-shi, 12. VI. 1983, M. Sakai leg.; 1 female, (EUMJ), Toon-shi, 17. VII. 1988, M. Sakai leg.; 1 male, (EUMJ), Toon-shi, 20. VII. 1987, M. Sakai leg.; 2 males, (EUMJ), Top of Sugitate, Matsuyama-shi, 9. VIII. 1983, H. Kan leg. LT; 1 male, (EUMJ), Yokogawara, 12. VII. 1995, M. Sakai leg.; 1 female, (EUMJ), Yokogawara, 20. VIII. 1999, M. Sakai leg. LT; 1 male, (EUMJ), Yokogawara, Toon-shi, 30. VII. 1990, M. Sakai leg. LT; 1 male, (EUMJ), Yuwatari, Matsuyama-shi, 24. VI. 1979, Y. Seiyama leg. LT; 1 male, (EUMJ), Yuyamayanagi, Matsuyama-shi, 2. VII. 2003, T. Inoue leg.; 1 female, (OMNH), Nojiri, Kumakogen-cho, 29. VII. 2012, S. Yano leg. <**Kochi Pref.**> 1 female, (EUMJ), Asakura, Kochi-shi, 17. VII. 1980, A. Ishida leg.; 1 female, (EUMJ), Asakuraotsu, 6. VIII. 1978, R. Shimamoto leg. LT; 1 male, (EUMJ), Hirohata, Ihuri, Tosashimizu-shi, 17–18. VII. 2000, K. Aita leg. LT; 1 female, (EUMJ), Kuroson, 4–7. VII. 1966, N. Ohbayashi leg.; 1 female, (EUMJ), Kuroson, 6–10. VIII. 1966, K. Iwao leg.; 1 male, (EUMJ), Okinoshima, 11. VIII. 1951, T. Esaki leg. <**Fukuoka Pref.**> 1 female, (KMNH), Adachi-yama, 13. VIII. 1966, K. Adachi leg.; 1 male, (KUM), Ainoshima, Shingū-cho, 14. VII. 1991, K. Kido leg.; 1 male, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 24. VII–5. VIII.

2022, K. Kido leg. FIT; 1 male & 1 female, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 24–29. VII. 2022, K. Kido leg. LT; 1 male, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 27. VI–2. VII. 2022, K. Kido leg. LT; 1 female, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 2–8. VII. 2022, K. Kido leg. LT; 1 male, (KMNH), Chikujo, Chikujo-machi, 18. VI. 1987, Y. Takakura leg.; 1 male, (KUM), Ebitsu, Okagaki-machi, 8. VII. 1972, T. Ishikawa leg.; 1 female, (KMNH), Fujimatsu, Moji-ku, 15. VII. 1967, M. Amano leg.; 1 female, (KMNH), Fukakura, Hiko-san, 11. VIII. 1981, M. Amano leg.; 3 males, 2 females, (EUMJ), Fukuchi-yama, 4. VIII. 1954, S. Kimoto leg.; 1 female, (KUM), Hakomatsu, Higashi-ku, Fukuoka-shi, 16. VII. 1996, H. Kojima leg.; 1 female, (NSMT), Hakozaki, 3. VII. 1946, Y. Kurosawa leg.; 1 female, (EUMJ), Hiko-san, Soeta-machi, 1. VIII. 1956, S. Kimoto leg.; 1 female, (NSMT), Hiko-san, Soeta-machi, 2. VIII. 1946, Y. Takakura leg.; 1 female, (KMNH), Hiko-san, Soeta-machi, 21. VII. 1958, M. Amano leg.; 1 male, (KMNH), Hinago, Chikujo-machi, 11. VII. 1987, Y. Takakura leg.; 1 female, (KMNH), Ishitsubo-cho, Yahata, 25. VII. 2007, K. Ueda leg.; 1 female, (KMNH), Kamifujimatsu, Moji-ku, Kitakyushu-shi, 27. VII. 1999, M. Amano leg.; 1 male, (KMNH), Kashiwara, Fukuoka-shi, 6. VII. 1978, N. Gyotoku leg.; 1 female, (KMNH), Koga, Asakura-shi, 10. VIII. 1954, N. Gyotoku leg.; 1 male, (KUM), Konosu-yama, Minami-ku, Fukuoka-shi, 1. VII. 1971, T. Ishikawa leg.; 1 male, (KMNH), Kugumiya, 10. VII. 1942, N. Gyotoku leg.; 1 male, (KMNH), Kugumiya, Asakura-shi, 16. VII. 1950, N. Gyotoku leg.; 1 male, (KMNH), Kugumiya, Chikuzen, 13. VII. 1944, N. Gyotoku leg.; 1 female, (KMNH), Miwa, 17. VII. 1970, K. Miyoshi leg.; 1 female, (KMNH), Miwa, 19. VII. 1972, K. Miyoshi leg.; 1 male, (KMNH), Shimoshin-nyo, Nogata-shi, 16. VI. 2021, Y. Minoshima leg. LT; 1 male, (KUM), Shiroyama, Munakata-shi, 4. VIII. 1985, K. Kido leg.; 1 male, (SEHU), Shoji-dake, 21. VII. 1961, S. Nakao leg. (Nakane coll. 1999); 1 female, (KMNH), Tabuse, 9. VII. 1988, K. Miyoshi leg.; 1 female, (KMNH), Taga, 26. VII. 1986, K. Miyoshi leg.; 1 female, (KMNH), Takasu-yama, 25. VII. 1977, Y. Takakura leg.; 1 male, (KMNH), Tanushimaru, Kurume-shi, 28. VII. 1935, I. Tateishi leg.; 1 male, (KMNH), Toyama-jinja, Kawasaki-cho, 2. VII. 1986, Y. Takakura leg.; 1 male, (KUM), Wakasugi-yama, Sasaguri-machi, 7. VIII. 1967, K. Kido leg.; 1 female, (KMNH), Yoshii-machi, Ukiha-shi, 6. VIII. 1958, N. Gyotoku leg.; 1 male, (KMNH), Yoshiki, Chikushino-shi, 17. V. 1993, N. Gyotoku leg. LT; 1 female, (KMNH), Yoshikuni, 2. VII. 1929. <Nagasaki Pref.> 1 female, (KUM), Shimabara, 14. VII. 1977, Fukunaga leg. <Tsushima> 1 female, (EUMJ), Ariake-san, 25–28. VII. 1979, Y. Seiyama leg. <Kumamoto Pref.> 1 female, (EUMJ), Kadoyama, Amakusa-shi, 31. VII. 1973, M. Miyahara leg.; 1 female, (NSMT), Kyoragi, Amakusa-Kamishima, 6. VII. 1980, H. Irie leg. <Oita Pref.> 1 male, (KUM), Kuenhira-yama, Kokonoe-cho, 12. VIII. 2004, S. Ogata leg. LT; 1 male, (KUM), Kuenhira-yama, Kokonoe-cho, 15. VIII. 2003, S. Ogata leg. LT; 1 male, (KUM), Kuenhira-yama, Kokonoe-cho, 20. VIII. 2002, S. Ogata leg. LT; 1 male, (KUM), Kuenhira-yama, Kokonoe-cho, 22. VIII. 1998, S. Ogata leg. LT; 1 male, (EUMJ), Sobo-san, 11. VIII. 1962, M. Amano leg.; 1 female, (KMNH), Sobo-san, 19. VI. 1939, N. Gyotoku leg.; 1 male, (KMNH), Sobo-san, 20. VI. 1938, N. Gyotoku leg.; 1 female, (KUM), Sobo-san, 22. VII. 1938, H. Tagawa leg.; 1 female, (KMNH), Sobo-san, 23. VII. 1948, M. Amano leg. <Miyazaki Pref.> 1 female, (KUM), Aburatsu, 17. VI. 1946, T. Mitono leg. LT; 1 female, (SEHU), Hosomi-cho, Nobeoka-shi, 5. VIII. 1983, S. Masuda leg. (Nakane coll. 1999); 1 female, (EUMJ), Kirishima-onsen, 21. VII. 1968, K. Suga leg.; 1 female, (SEHU), Omata, 17. VII. 1954, K. Nohara leg. (Nakane coll. 1999). <Kagoshima Pref.> 1 male, (SEHU), Kurino, 30. VII. 1983, T. & T. Nakane leg. (Nakane coll. 1999); 1 male, (SEHU), Togo, 12. VII. 1985, Sk. Yamane leg.; 1 male, (SEHU), Toso, 29. VI. 1983, Y. Takai leg. (Nakane coll. 1999). <Yakushima> 1 male, (SEHU), Miyanoura, 20. VII. 1971, T. Hatayama leg. (Nakane coll. 1999); 1 male, (EUMJ), Miyanoura, 23. VI. 1975, Y. Kurosawa leg.; 1 female, (SEHU), Shiratani, 24. VII. 1981, M. Miura leg. (Nakane coll. 1999). <Amami-Oshima> 1 male, (EUMJ), Nazesato, 13. VI. 2020, Fukida leg. <Ryukyu: Okinoerabu-jima> 1 male, (KUM), Ooyama-shokubutu-koen, 23–26. VI. 2022, S. Imada leg.

[CHINA] 1 male, (TARI), Houchai, 11. VI. 2015, Y.-T. Chung leg.

[TAIWAN] 1 female, (NSMT), "Akazayazaya", 17. III. 1927, T. Kano leg.; 1 male, (TARI), Holisha, 20. V. 1919.

[data unclear] 1 female, (SEHU), no data; 1 male, (NSMT), "Furjai", 4. VIII. 1921; 1 male, (NARO), no data, 20. VII. 1919, Go leg.; 1 female, (NARO), no data; 1 male, 2 females, (EUMJ), no data; 1 female, (SEHU), no data, T. Otsuka leg.; 1 female, (SEHU), Sanbongi, 8. VIII. 1919.

Diagnosis. Color of body blackish-brown, generally monochrome. Scales on head, pronotum, scutellar shield, and elytra black, but cream-colored on a part of head, anterior part of pronotum, posterior part of intervals V and VII, and apical part of elytra. Elytra (Fig. 4A) with 9 longitudinal rows of window punctures; window punctures round to square.

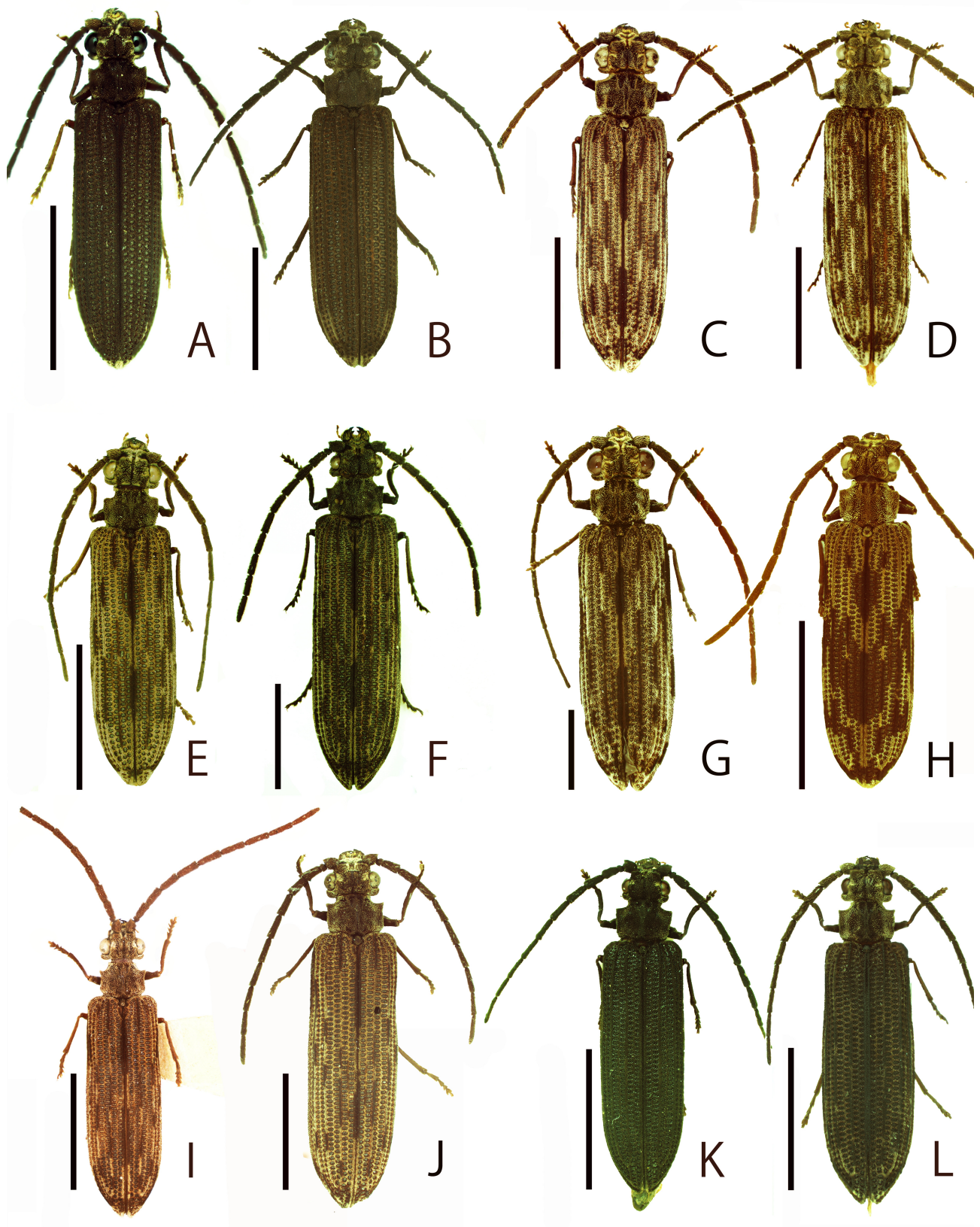


FIGURE 1. Habitus of *Tenomerga* spp. A, B) *Tenomerga mucida*, C, D) *T. anguliscutis*, E, F) *T. japonica*, G, H) *T. trabecula*, I, J) *T. kurosawai*, K, L) *T. yamato*. A, C, E, G, I, K) males; B, D, F, H, J, L) females. I) holotype, J) paratype. Scale bars = 5.0 mm.

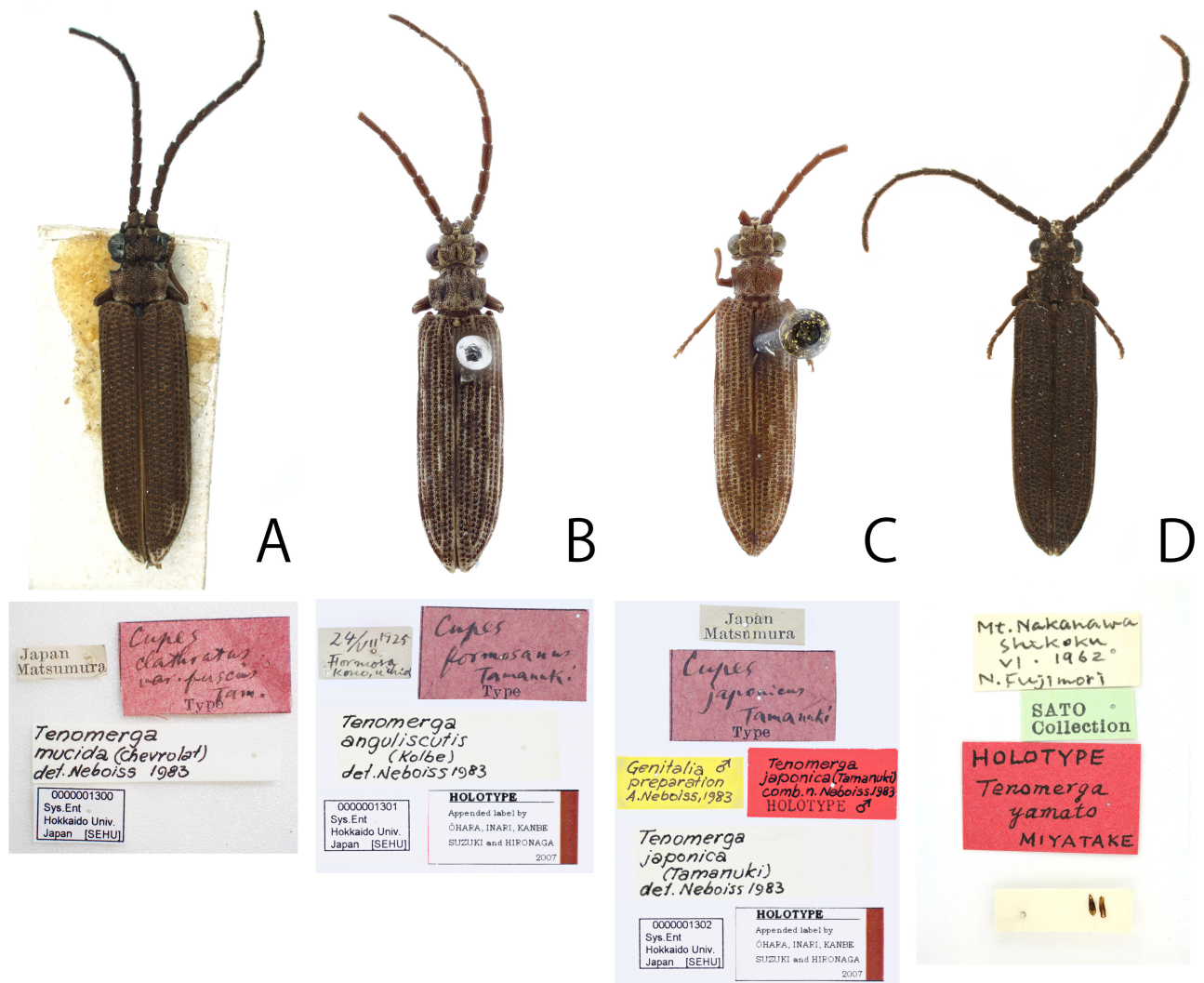


FIGURE 2. Holotypes and associated labels for *Tenomergera* spp. A) *Cupes clathratus* var. *fuscus* Tamanuki, 1928, B) *Cupes formosanus* Tamanuki, 1928, C) *Cupes japonicus* Tamanuki, 1928, D) *Tenomergera yamato* Miyatake, 1985.

TABLE 1. Measurement of *Tenomergera* spp.

| | <i>mucida</i> | | <i>anguliscutis</i> | | <i>japonica</i> | | <i>trabecula</i> | | <i>kurosawai</i> | | <i>yamato</i> | |
|-----|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------------|------------------|------------------------|-----------------------|-----------------------|
| | male | female | male | female | male | female | male | female | male | female | male | female |
| TL | 8.40–14.40 (11.15) | 11.40–16.60 (14.51) | 8.70–13.75 (11.10) | 9.90–18.50 (14.68) | 8.65–13.90 (10.94) | 10.20–17.65 (13.77) | 9.80–11.35 (10.38) | 10.35–13.45 (11.85) | 11.98 | 14.65–16.50 (15.58) | 9.65–11.70 (10.65) | 9.10–13.40 (11.24) |
| AL | 6.43–10.78 (8.99) | 7.43–10.05 (9.05) | 6.85–11.57 (9.11) | 6.05–11.12 (9.40) | 5.87–10.63 (8.636) | 6.17–10.37 (8.53) | 7.48–9.53 (8.29) | 8.14–10.35 (9.33) | 9.41 | 10.45–11.40 (10.93) | 7.49–8.88 (8.17) | 6.75–9.50 (8.36) |
| HL | 1.00–1.60 (1.26) | 1.35–1.90 (1.635) | 1.05–1.50 (1.26) | 1.30–2.00 (1.62) | 0.95–1.60 (1.22) | 1.10–1.75 (1.42) | 1.10–1.30 (1.20) | 1.20–1.55 (1.31) | 1.40 | 1.65–1.70 (1.68) | 1.00–1.30 (1.15) | 1.00–1.30 (1.19) |
| HW | 1.70–2.60 (2.17) | 1.95–2.85 (2.45) | 1.70–2.60 (2.17) | 2.00–2.95 (2.54) | 1.45–2.50 (1.93) | 1.70–2.75 (2.18) | 1.73–2.23 (1.89) | 1.85–2.30 (2.03) | 1.93 | 2.38–2.52 (2.45) | 1.50–1.83 (1.68) | 1.45–2.03 (1.82) |
| EYL | 0.65–0.85 (0.77) | 0.70–0.90 (0.79) | 0.60–0.90 (0.77) | 0.68–0.95 (0.82) | 0.50–0.85 (0.71) | 0.55–0.80 (0.68) | 0.60–0.80 (0.66) | 0.65–0.75 (0.69) | 0.80 | 0.72–0.90 (0.81) | 0.55–0.70 (0.60) | 0.48–0.70 (0.62) |
| EYW | 0.30–0.50 (0.41) | 0.33–0.42 (0.38) | 0.35–0.55 (0.46) | 0.30–0.48 (0.42) | 0.25–0.60 (0.42) | 0.28–0.45 (0.35) | 0.30–0.40 (0.33) | 0.30–0.35 (0.32) | 0.43 | 0.48–0.50 (0.49) | 0.27–0.35 (0.31) | 0.20–0.35 (0.30) |
| TEL | 0.10–0.30 (0.19) | 0.28–0.43 (0.34) | 0.10–0.22 (0.18) | 0.20–0.35 (0.29) | 0.10–0.23 (0.14) | 0.18–0.35 (0.26) | 0.15–0.20 (0.19) | 0.20–0.30 (0.24) | 0.18 | 0.30–0.32 (0.31) | 0.15–0.20 (0.19) | 0.10–0.20 (0.17) |
| PL | 1.10–1.90 (1.47) | 1.45–2.10 (1.83) | 1.10–1.75 (1.45) | 1.20–2.20 (1.84) | 1.10–1.80 (1.35) | 1.20–2.10 (1.64) | 1.20–1.55 (1.34) | 1.30–1.60 (1.48) | 1.50 | 1.80–2.00 (1.90) | 1.20–1.50 (1.32) | 1.10–1.60 (1.40) |
| PW | 1.48–2.80 (1.98) | 2.00–2.92 (2.53) | 1.50–2.50 (1.97) | 1.90–3.10 (2.58) | 1.43–2.40 (1.83) | 1.65–3.10 (2.36) | 1.65–2.05 (1.77) | 1.80–2.45 (2.10) | 1.95 | 2.45–2.70 (2.58) | 1.65–2.03 (1.83) | 1.55–2.33 (1.99) |
| EL | 6.30–10.90 (8.42) | 8.60–12.70 (11.05) | 6.45–10.50 (8.39) | 7.40–14.30 (11.22) | 6.60–10.50 (8.37) | 7.90–13.80 (10.71) | 7.50–8.50 (7.84) | 7.80–10.30 (9.06) | 9.08 | 11.20–12.80 (12.00) | 7.35–9.00 (8.18) | 7.00–10.50 (8.65) |
| EW | 2.25–4.00 (2.98) | 3.10–4.60 (3.94) | 2.40–3.70 (2.98) | 2.90–4.80 (4.012) | 2.30–3.70 (2.81) | 2.70–4.80 (3.72) | 2.60–3.18 (2.81) | 2.80–3.85 (3.29) | 3.20 | 3.80–4.40 (4.10) | 2.40–3.05 (2.80) | 2.50–3.60 (3.07) |

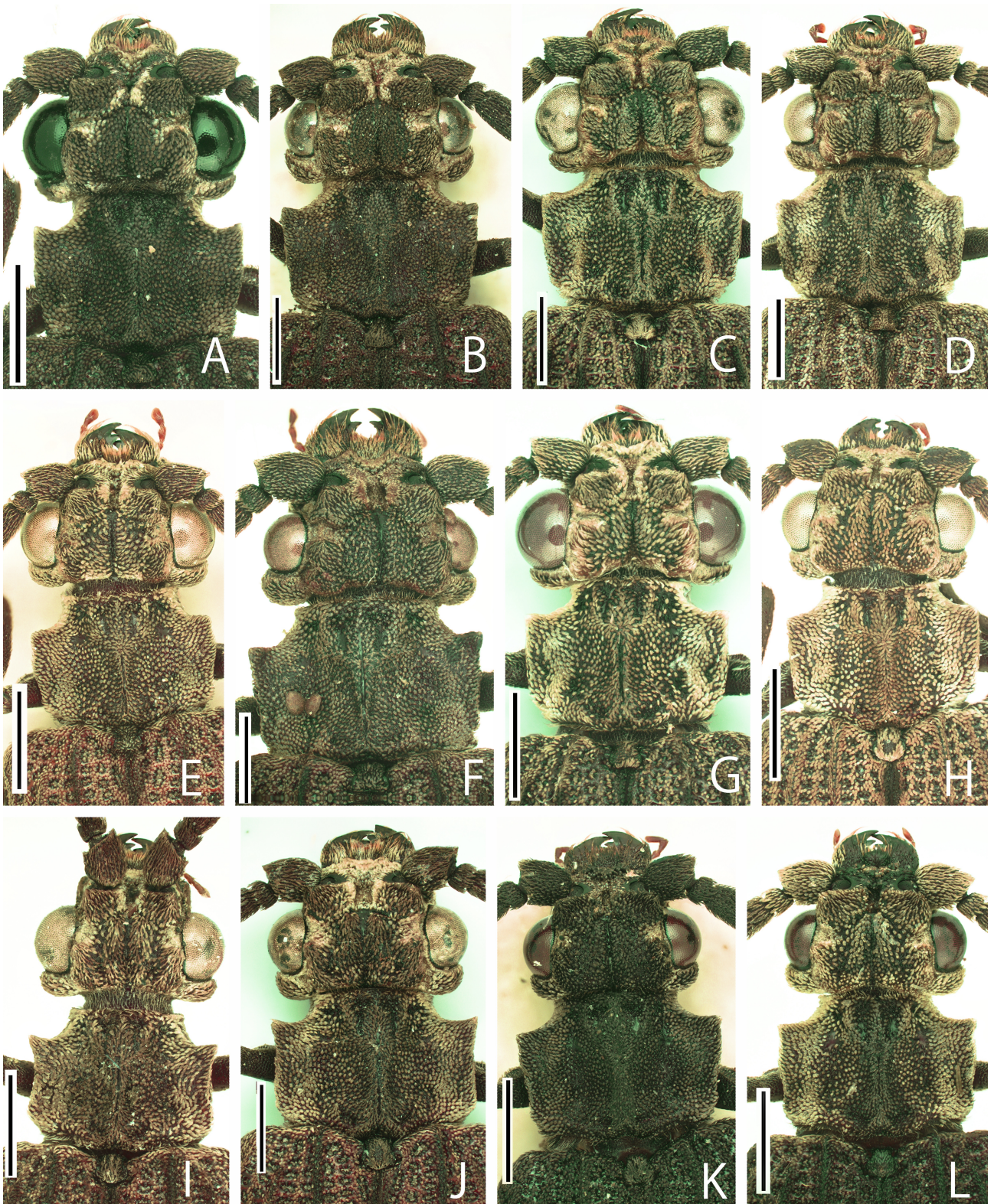


FIGURE 3. Heads and pronota of *Tenomerga* spp. A, B) *Tenomerga mucida*, C, D) *T. anguliscutis*; E, F) *T. japonica*, G, H) *T. trabecula*, I, J) *T. kurosawai*, K, L) *T. yamato*. A, C, E, G, I, K) males; B, D, F, H, J, L) females. I) holotype, J) paratype. Scale bars = 1.0 mm.



FIGURE 4. Dorso-lateral views of elytra of *Tenomerga* spp. A) *Tenomerga mucida*, B) *T. anguliscutis*, C) *T. japonica*, D) *T. trabecula*, E) *T. kurosawai*, F) *T. yamato*. Scale bars = 1.0 mm.

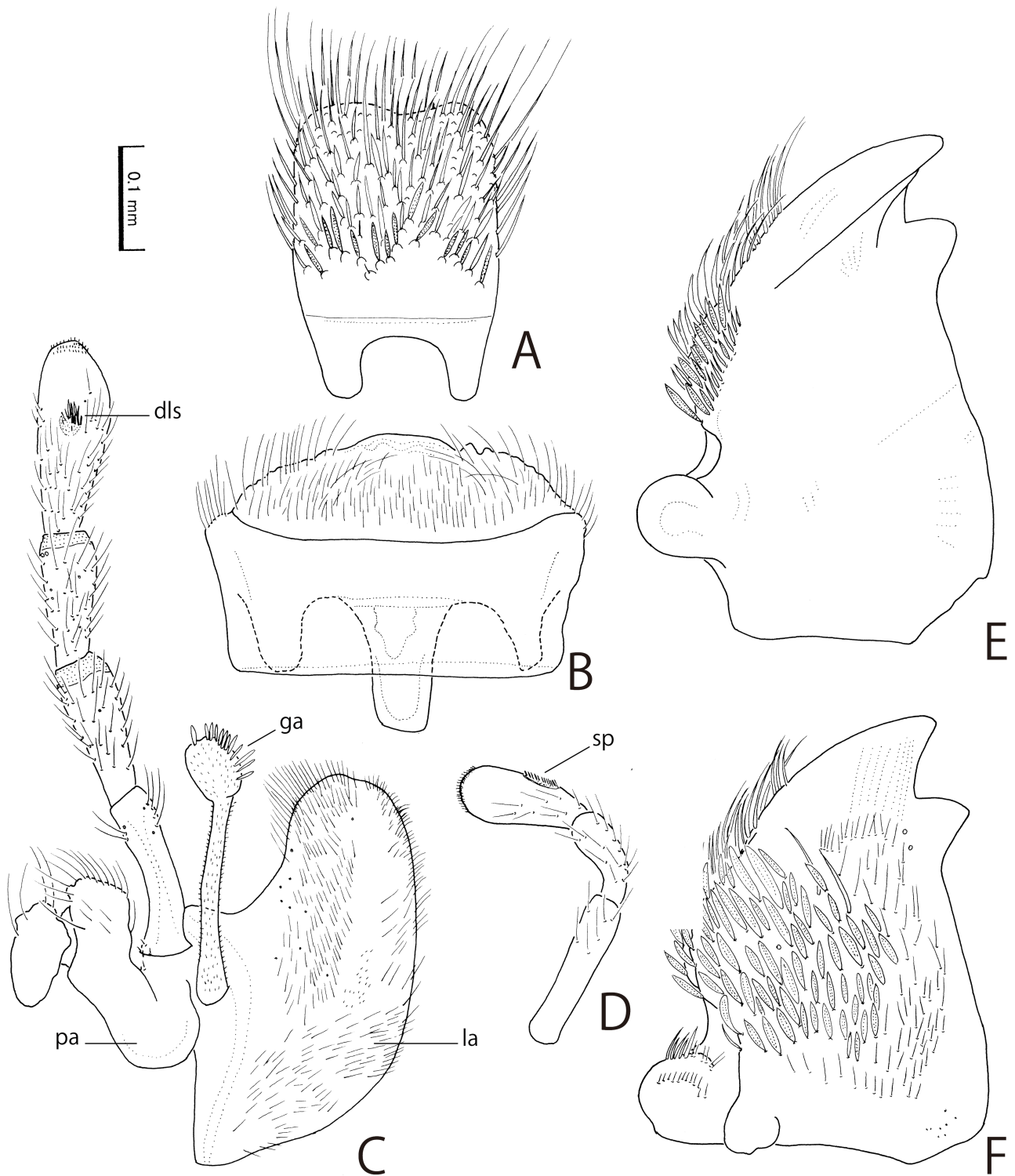


FIGURE 5. Mouthparts of *Tenomerga mucida*. A) labrum, dorsal view, B) labium, dorsal view, C) left maxilla, ventral view, D) labial palpus, E) right mandible, ventral view, F) left mandible, dorsal view. dls—dorso-lateral sensory patch, ga—garea, la—lacinia, pa—palpifer, sp—sensory patch.

Male (Fig. 1A). Eyes (Fig. 3A) large, strongly prominent. Antennae long and slender, reaching about proximal 3/4 of elytra; AL/TL 0.64–0.88 (0.81); approximate ratio of each antennomere (n = 10; average) as 3.37 : 1.00 : 3.50 : 4.14 : 4.73 : 5.17 : 5.47 : 5.55 : 5.49 : 5.36 : 7.03. Anterior pronotal angles (Fig. 3A) acute. HL/HW 0.53–0.62 (0.58); PW/PL 1.25–1.47 (1.35); EL/EW 2.73–2.96 (2.83); EL/PL 5.54–5.94 (5.73); EW/PW 1.43–1.57 (1.51); TL/

EW 3.60–3.92 (3.75); EYL/EYW 1.68–2.33 (1.91); TEL/HL 0.10–0.19 (0.15). Apex of sternite IX (Fig. 6C) simply pointed. Bifurcate process (Fig. 7F) with short median strut (Y-shaped in Hörschemeyer, 2009). Parameres (Fig. 7A) with posterior projection of dorsal margin (pp) triangular; apical hook (Fig. 7E) bi-pointed; ventro-marginal spines (vms) long, reaching apical hook. Apical margin of dorsal plate (dp, Fig. 7B) deeply notched. Apical margin of mesal lobe (ml, Fig. 7B) clearly excised.

Female (Fig. 1B). Eyes (Fig. 3B) small. Antennae short and stout, reaching about proximal 1/2 of elytra; AL/TL 0.59–0.65 (0.63); approximate ratio of each antennomere (n = 10; average) as 3.40 : 1.00 : 3.47 : 3.80 : 4.16 : 4.38 : 4.43 : 4.38 : 4.41 : 4.22 : 5.82. Anterior angles of pronotum (Fig. 3B) acute. HL/HW 0.61–0.73 (0.67); PW/PL 1.29–1.53 (1.39); EL/EW 2.73–2.94 (2.81); EL/PL 5.71–6.50 (6.06); EW/PW 1.47–1.63 (1.55); TL/EW 3.58–3.88 (3.69); EYL/EYW 1.97–2.29 (2.09); TEL/HL 0.19–0.25 (0.21).

Distribution. Japan: Hokkaido, Honshu, Shikoku, Kyushu, Oki, Tsushima, Yakushima, Izu Isls. (Miyake-jima, Mikura-jima), Ogasawara Isls. (Chichi-jima, Haha-jima), Amami-Oshima, Okinoerabu-jima; Korea, China, Caroline Is., the Philippines, East Siberia, Hawaii.

Remarks. This is the first record of this species from Taiwan, Amami-Oshima, and Okinawa-jima.

Biological notes. The larva and pupa of this species were described by Fukuda (1938, 1939a, b) and Yavorskaya *et al.* (2015). The larvae were collected from rotten wood of cherry tree (Fukuda 1938), brown-rottened logs of a willow (Yavorskaya *et al.* 2015), and pine tree stump affected by brown-rot fungus (Fukuda 1941). I collected many larvae of this species from a dead branches of cherry trees affected by white rot fungus (Kaizu-cho, Gifu Pref., 15. XII. 1991).

Adults are frequently attracted to light, and they are also collected from the trunks of withered standing trees at night. Nomura (2017) reported that many adults of this species were collected from inside the warehouse.

Ohno (1974) reported that the adults of this species stridulate by rubbing their hind wings and elytra together, producing a sound like 'tsk, tsk, tsk, tsk....'.

***Tenomerga anguliscutis* (Kolbe, 1886)**

[Japanese name: Minami-nagahiratamushi (Kourai-nagahiratamushi)]

Figs 1C, D, 2B, 3C, D, 4B, 8, 13B; Table 1

Cupes anguliscutis Kolbe, 1886: 200, pl. 11, fig. 33. Tamanuki 1928: 251; Atkins, 1963: 147.

Tenomerga anguliscutis: Neboiss 1984: 451; Yoshitomi 2016: 183; Wang & Hájek 2018: 532.

Cupes formosanus Tamanuki, 1928: 251. Atkins 1963: 147 (synonymized by Neboiss 1984).

Type specimen examined. Holotype of *Cupes formosanus* Tamanuki, 1928 (Fig. 2B): male (SEHU), “24/VII 1925 Formosa Kono, Uchida”, “*Cupes formosanus* Tamanuki Type”, “*Tenomerga anguliscutis* (Kolbe) det. Neboiss 1983”, “0000001301 Sys.Ent Hokkaido Univ. Japan [SEHU]”, “HOLOTYPE Appended label by ÔHARA, INARI, KANBE SUZUKI and HIRONAGA 2007”.

Other specimens examined. [JAPAN] <Tokara Isls.> 1 female, (EUMJ), Nakanoshima, 16. VII. 1961, Y. Hama leg.; 1 female, (EUMJ), Nakanoshima, 26. VI. 1962, H. Yokoyama leg. **<Ryukyu: Okinawa-jima>** 1 male, (EUMJ), Iji, Kunigami-son, 19. VI. 2008, M. Matsumura leg.; 1 male, (EUMJ), Isakawa-yama, 14. V. 1931; 1 male, (EUMJ), Kakazu, Tomishiro, 4. VI. 2015, Y. Tamaki leg.; 1 female, (KAC), Kenken, Motobu-cho, 20. VI. 2000, S. Inada leg.; 1 male, (EUMJ), Kenmin-no-mori, Onna-son, 24. VI. 2012, T. Kohama leg.; 1 male, (EUMJ), Kenmin-no-mori, Onna-son, 7. X. 2012, T. Kohama leg.; 1 female, (EUMJ), Kenmin-no-mori, Onna-son, 9. VI. 2012, T. Kohama leg.; 1 male, (EUMJ), Nago-dake, Nago-shi, 4. VII. 2017, J. Miyagi leg.; 1 male, (EUMJ), Nakadomari, Onna-son, 23. VI. 2016, T. Kuwayama leg. LT; 1 female, (KAC), Sedaka, Nago-shi, 17–21. V. 2011, T. Yamazaki leg.; 1 female, (EUMJ), Tahara, Itoman-shi, 6. V. 2019, H. Yoshitake leg. LT; 1 female, (EUMJ), Yakata-rindo, Onna-son, 30–31. VII. 2011, M. Osada leg. LT; 2 males, (EUMJ), Yamada-jyoshi, Onna-son, 15. VI. 2011, T. Kohama leg.; 4 males, (EUMJ), Yamada-jyoshi, Onna-son, 15–16. VI. 2011, M. Osada leg.; 1 male, (EUMJ), Yona, 26. VI. 1971, M. Kinjo leg.; 1 female, (SEHU), Yonaha-dake, 26. VI. 1973, T. Hatayama leg. (Nakane coll. 1999). **<Ryukyu: Ishigaki-jima>** 1 female, (EUMJ), Omoto-dake, 8. VII. 1964, Y. Hama leg. **<Ryukyu: Iriomote-jima>** 1 female, (KAC), Nakamagawa-rindo (20–50m), 18–23. V. 2010, K. Akita leg. FIT with LT; 1 female, (KAC), Otomi-rindo, 9. V. 1995, H. Onoda leg.

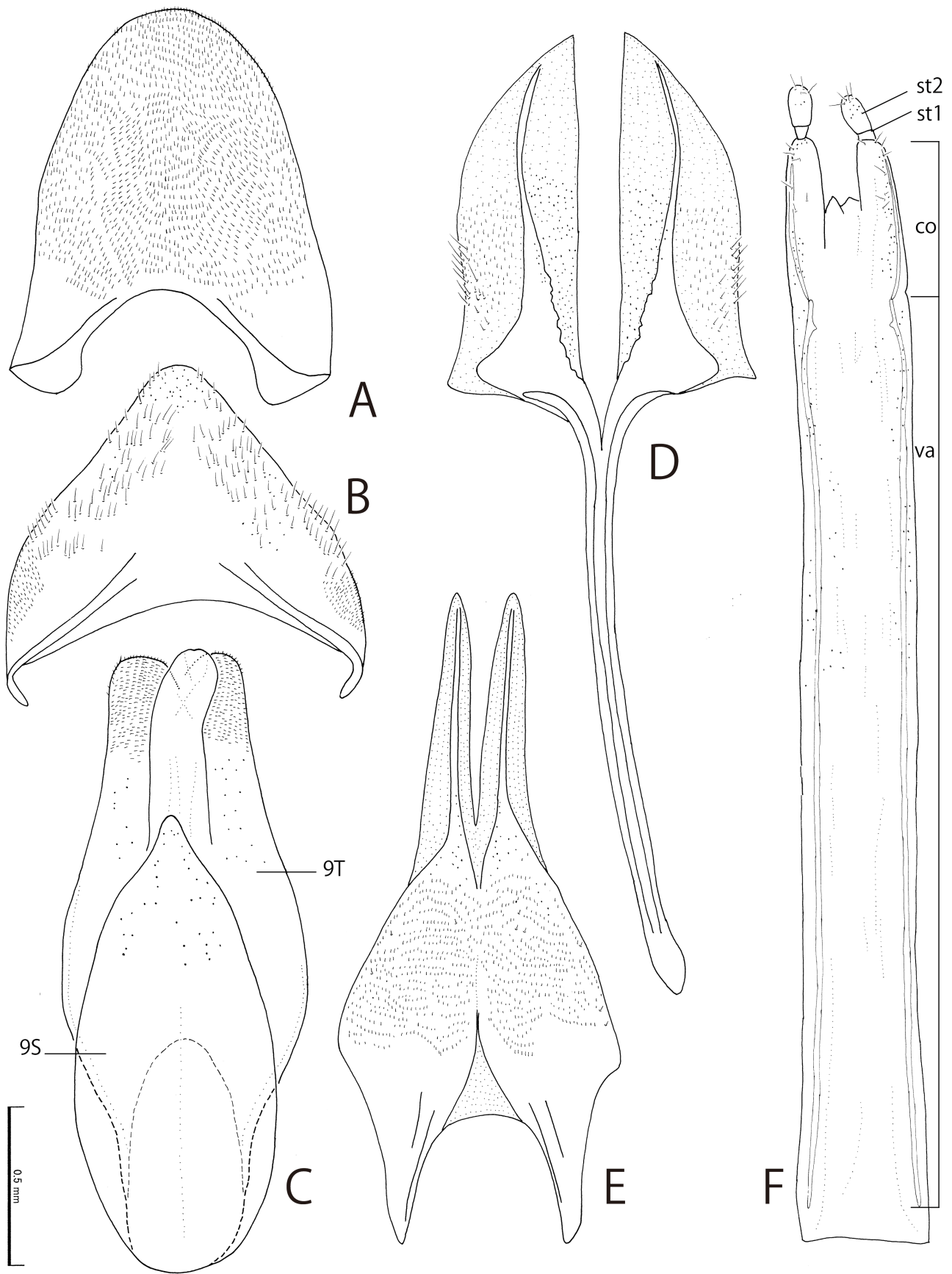


FIGURE 6. Male (A–C) and female (D–F) genitalia of *Tenomergera mucida*. A) tergite VIII, B) sternite VIII, C) sternite IX (9S) and tergite IX (9T), D) sternite VIII, E) tergite VIII, F) ovipositor. st1—stylus I, st2—stylus II, co—coxite, va—valvifer.

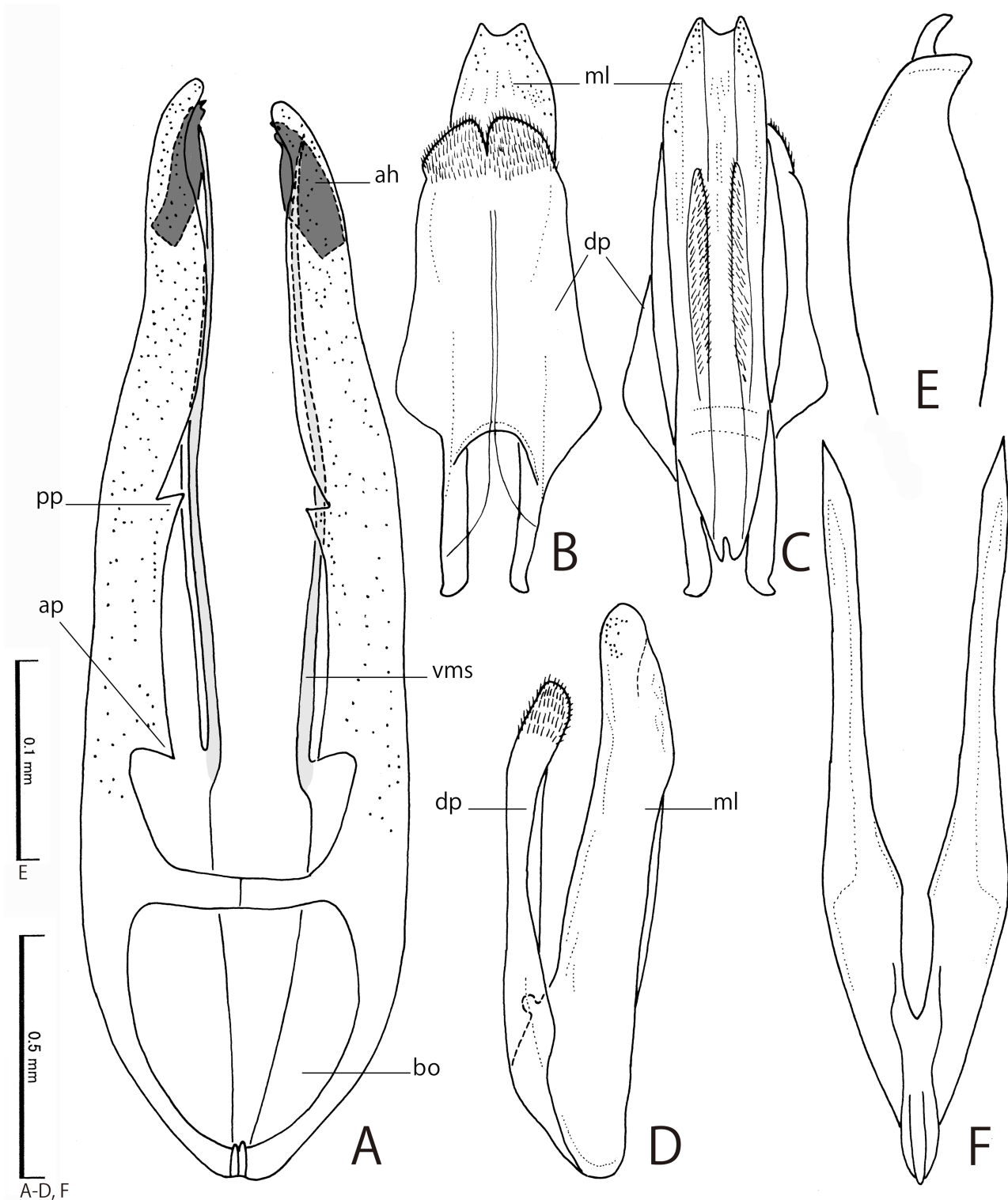


FIGURE 7. Male genitalia of *Tenomerga mucida*. A) tegmen, dorsal view, B–D) penis, dorsal (B), ventral (C) and lateral (D) views, E) apical hook, lateral view, F) bifurcate process. ah—apical hook, ap—anterior projection of dorsal margin, bo—basal opening, dp—dorsal plate, ml—mesal lobe, pp—posterior projection of dorsal margin, vms—ventro-marginal spine.

[KOREA] 1 male, (NSMT), Seoul, 13. VI. 1936, E. Mizushima leg.; 1 male, (SEHU), Seoul, 21. VII. 1923, P. Gallois leg.; 1 female, (EUMJ), Seoul, 30. VI. 1933; 1 female, (SEHU), Seoul, VII. 1920; 1 female, (NSMT), Seoul, VII. 1963; 1 female, (SEHU), Cheulfo, couif, 1924, mr. Gibois leg.; 1 female, (SEHU), Incheon Metropolitan City, 18. VII. 1923, Yuuki leg.; 1 male, (SEHU), no data, no data. Coll. R. Kano.

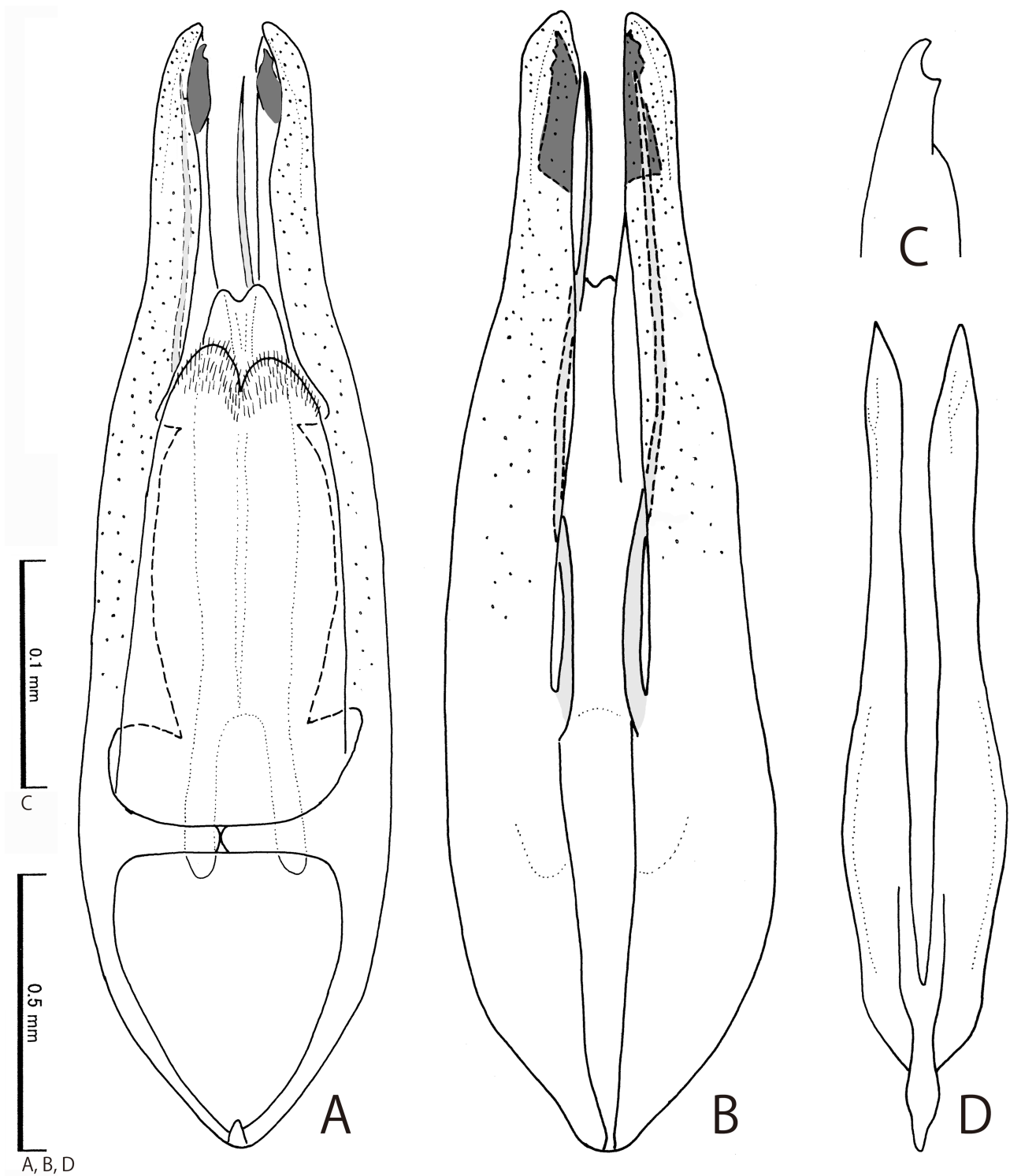


FIGURE 8. Male genitalia of *Tenomerga anguliscutis*. A, B) aedeagus, dorsal (A) and ventral (B) views, C) apical hook, lateral view, D) bifurcate process.

[TAIWAN] 1 male (TARI), Holisha, 20. V. 1919.

[CHINA] 3 males, (EUMJ), Shunyi Distr., Beijing, III–IV. 2022; 1 male, (EUMJ), Guangzhou, 4. V. 2022, Hwang leg.; 1 male, (NSMT), Chinh sen, 11. VI. 1935, T. Tsuchiyama leg.; 1 male, (NSMT), Harbin, VIII. 1941, M. i. Nikitin leg.; 1 female, (SEHU), Dalian, 3. VII. 1929, N. Tomari leg.; 1 male, (NSMT), Dalian, 31. VII. 1937, N. Tomari leg.

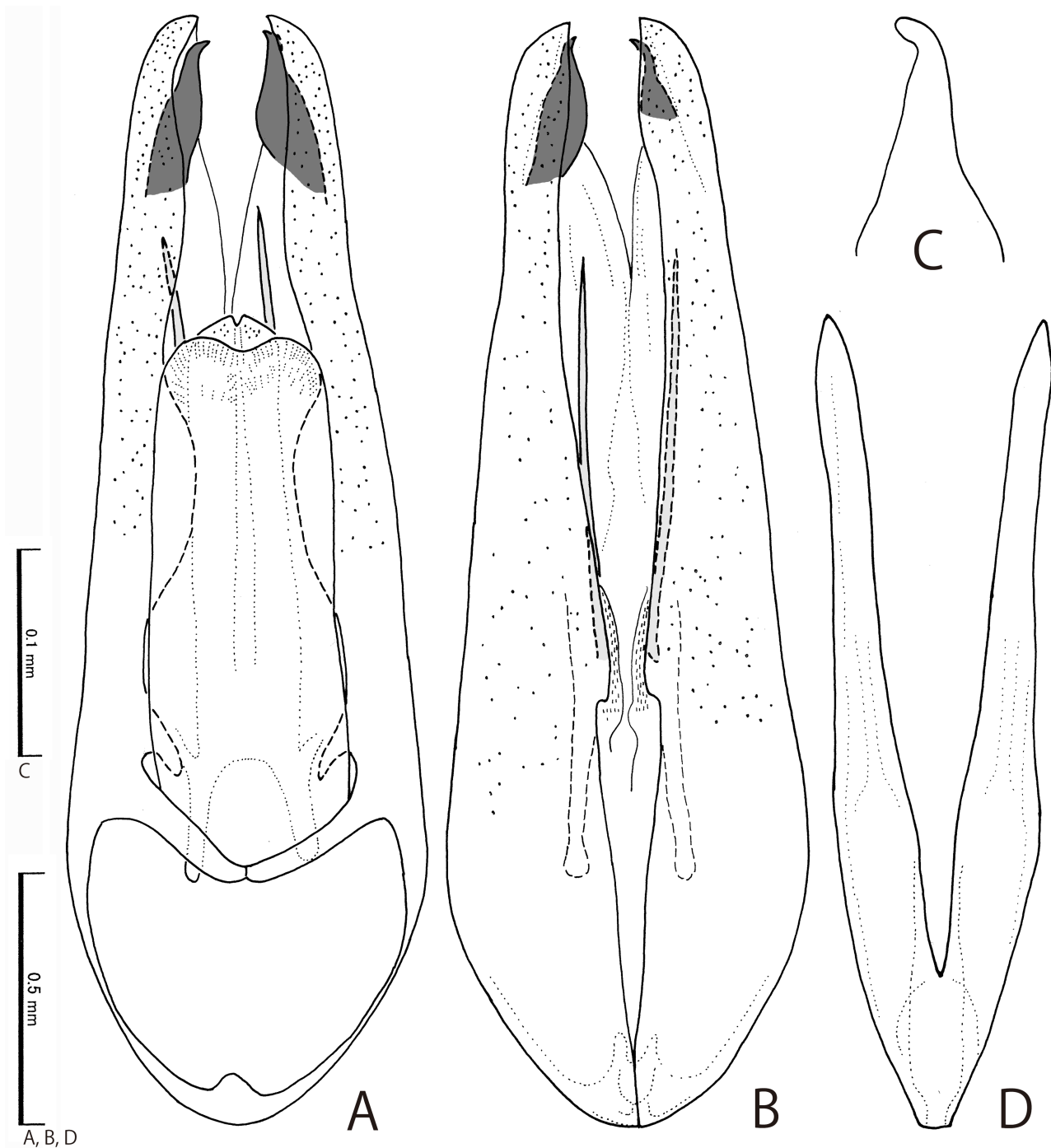


FIGURE 9. Male genitalia of *Tenomeria japonica*. A, B) aedeagus, dorsal (A) and ventral (B) views, C) apical hook, lateral view, D) bifurcate process.

Diagnosis. Color of body yellowish brown, with alternating dark and pale brown markings. Elytra (Fig. 4B) with nine longitudinal rows of window punctures; window punctures round to square.

Male (Fig. 1C). Eyes (Fig. 3C) large, prominent. Antennae long and slender, reaching about proximal 3/4 of elytra; AL/TL 0.75–0.88 (0.82); approximate ratio of each antennomere (n = 10; average) as 3.59 : 1.00 : 3.61 : 4.28 : 4.97 : 5.25 : 5.50 : 5.47 : 5.59 : 5.45 : 7.15. Anterior pronotal angles (Fig. 3C) acute or right-angled. HL/HW 0.53–0.63 (0.58); PW/PL 1.27–1.44 (1.36); EL/EW 2.61–3.00 (2.81); EL/PL 5.38–6.36 (5.81); EW/PW 1.44–1.60 (1.52); TL/EW 3.54–3.94 (3.72); EYL/EYW 1.50–2.00 (1.69); TEL/HL 0.08–0.18 (0.14). Apex of sternite IX acuminate. Bifurcate process (Fig. 8D) with short median strut (Y-shaped in Hörschemeyer, 2009). Parameres (Fig. 8A, B)

with posterior projection of dorsal margin (pp) triangular; apical hook (Fig. 8C) bi-pointed; ventro-marginal spines (vms) long, reaching apical hook. Apical margin of dorsal plate (dp, Fig. 8A) deeply notched. Apical margin of mesal lobe (ml, Fig. 8A) excised.

Female (Fig. 1D). Eyes (Fig. 3D) small. Antennae short and relatively stout, reaching about proximal 1/2 of elytra; AL/TL 0.51–0.70 (0.64); approximate ratio of each antennomere (n = 10; average) as 3.47 : 1.00 : 3.39 : 3.68 : 3.93 : 4.05 : 4.19 : 4.13 : 4.17 : 4.07 : 5.58. Anterior pronotal angles (Fig. 3D) acute or right-angled. HL/HW 0.60–0.68 (0.64); PW/PL 1.32–1.58 (1.41); EL/EW 2.55–3.51 (2.80); EL/PL 5.64–7.22 (6.10); EW/PW 1.47–1.68 (1.55); TL/EW 3.34–4.43 (3.66); EYL/EYW 1.67–2.33 (1.98); TEL/HL 0.14–0.21 (0.18).

Distribution. China: Heilongjiang, Jilin, Liaoning. Nanjing, Shanghai, Zhejiang; Taiwan; Vietnam; Laos; Korea; Japan: Tokara Isls. (Nakano-shima), Okinawa-jima, Ishigaki-jima, Iriomote-jima.

Remarks. This is the first record of this species from Japan. The body size of the specimens collected from the low-latitude area (e.g. Taiwan, Vietnam, and Japan) is somewhat larger than those from the high-latitude area (e. g. China and Korea).

Tenomerga japonica (Tamanuki, 1928)

[Japanese name: Hime-nagahiratamushi (Nihon-nagahiratamushi)]

Figs 1E, F, 2C, 3E, F, 4C, 9, 13C; Table 1

Cupes japonicus Tamanuki, 1928: 251. Atkins 1963: 151; Nakane 1973: 2.

Tenomerga japonica: Neboiss 1984: 449; Miyatake 1985a: 24; 1985b: 1, pl. 1, 3 [figure and short description].

Type specimen examined. Holotype of *Cupes japonicus* Tamanuki, 1928 (Fig. 2C): male (SEHU), “Japan Matsumura”, “*Cupes japonicus* Tamanuki Type”, “Genitalia ♂ preparation A. Neboiss, 1983”, “*Tenomerga japonica* (Tamanuki) comb. n. Neboiss 1983 HOLOTYPE ♂”. “*Tenomerga japonica* (Tamanuki) det. Neboiss 1983”, “0000001302 Sys.Ent Hokkaido Univ. Japan [SEHU]”, “HOLOTYPE Appended label by ÔHARA, INARI, KANBE SUZUKI and HIRONAGA 2007”.

Other specimens examined. [JAPAN] <Tochigi Pref.> 4 males, 1 female, (EUMJ), Ogurayama, Nikko-shi, 2. VIII. 1983, S. Saito leg. <Kanagawa Pref.> 1 male, (NARO), Dodaira, Tanzawa, 20. VII. 1994, Y. Hirano leg.; 1 male, (NARO), Dodaira, Tanzawa, 31. VII. 1994, T. Kinoshita leg.; 1 female, (NARO), Odawara, VII. 1954, Y. Hirano leg. <Shizuoka Pref.> 1 male, (EUMJ), Nekko, Izu-shi, 16. VII. 1967, Y. Kimura leg. <Nara Pref.> 1 male, (SEHU), Obako-dake, 15. VIII. 1974, Y. Inatani leg. (Nakane coll. 1999). <Wakayama Pref.> 7 males, 3 females, (SEHU), Gomadan-san, 5. VIII. 1957, T. Shibata leg. (Nakane coll. 1999; 1 male figured by Nakane, 1963, fig. 1-2); 1 male, (NSMT), Koya-san, 2. VIII. 1952, S. Shibanaï leg.; 1 female, (SEHU), Koya-san, 2. VIII. 1952, N. Yato leg. (Nakane coll. 1999). <Ehime Pref.> 1 male, (NSMT), Ishizuchi-san, Kumakogen-cho, 18. VII. 1950, M. Miyatake leg.; 1 female, (EUMJ), Ishizuchi-san, Kumakogen-cho, 29. VII. 2017, Y. Utsunomiya leg.; 1 male, (EUMJ), Iwayaji, Kumakogen-cho, 9. VIII. 1998, Y. Sugiura leg.; 1 male, (EUMJ), Keikoku, Odamiyama, 6. VIII. 1997, E. Yamamoto leg.; 1 female, (EUMJ), Komenono, Matsuyama-shi, 24. V. 1970, H. Kan leg.; 1 male, (EUMJ), Koyayama, Odamiyama, 12. IX. 1991, M. Kawanabe leg.; 6 males, (EUMJ), Koyayama, Odamiyama, 8. VIII. 1995, E. Yamamoto leg.; 1 male, (EUMJ), Mizunashi-yama, Odamiyama, 6. VIII. 1994, E. Yamamoto leg.; 2 males, (EUMJ), Narabara-san, 3. VIII. 1970; 3 males, 1 female, (EUMJ), Narabara-san, VIII. 1975, Y. Yamaoka leg. 1 male figured in Miyatake, 1985b: 1, pl. 1, 3; 1 male, (EUMJ), Odamiyama, 1. VIII. 1980, H. Kan leg.; 1 female, (EUMJ), Odamiyama, 14. VIII. 1984, E. Yamamoto leg.; 1 female, (EUMJ), Odamiyama, 23. VII. 1967, Y. Hori leg.; 1 male, (EUMJ), Omogo, 2. VIII. 1951, S. Hisamatsu leg.; 1 male, (EUMJ), Omogokei, 17. VII. 1970, M. Miyatake leg.; 1 male, (EUMJ), Omogokei, 20. VII. 1958, T. Yano leg.; 1 male, (EUMJ), Onogahara, Seiyo-shi, 22. VII. 1991, M. Kawanabe leg.; 1 female, (EUMJ), Rokuro (ca 850m), Odamiyama, 30. VII. 1994, M. Sakai leg.; 1 female, (EUMJ), Shiratsue, Matsuyama-shi, 19. VII. 1972, S. Kinoshita leg. LT. <Tokushima Pref.> 1 female, (EUMJ), Kotsu-san, Yamakawa-cho, 6. VIII. 2011, M. Nishikawa leg.; 1 female, (OMM), Minokoshi, Tsurugi-san, 17. VIII. 1991, T. Okayama leg.; 1 male, (EUMJ), Tsurugi-san, 28. VII. 1961, M. Miyatake leg. <Kochi Pref.> 1 male, (NSMT), Matsubagawa, Takaoka-gun, 12. VII. 1953, K. Kojima leg.; 1 female, (NSMT), Matsubagawa, Takaoka-gun, 12. VII. 1983, K. Kojima leg.; 1 male, (EUMJ), Matsubagawa, Takaoka-gun, 8. VII. 1961, M. Okada leg.; 1 female, (EUMJ), Yanase, 9. VII. 1961, M. Miyatake leg. <Fukuoka Pref.> 1 male, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 24–29. VII. 2022, K. Kido leg. LT; 1 male, (EUMJ), Hiko-san, Soeta-machi, 14. VIII. 1935, T. Esaki

leg.; 1 female, (NSMT), Hiko-san, Soeta-machi, 21. VII. 1969, Y. Kurosawa leg.; 1 female, (KMNH), Takasu-yama, Soeda-cho, 24. VIII. 1985, Y. Takakura leg.; 1 female, (EUMJ), Wakasugi-yama, 7–9. VIII. 1931, Esaki, Hori, Cho, Fujino, Takeya & Hashimoto leg. <Kumamoto Pref.> 1 male, (NSMT), Ichifusa-yama, 28. VII. 1952, S. Kimoto leg.; 1 female, (KUM), Ichifusa-yama, 8. VIII. 2009, T. Saigusa leg. <Oita Pref.> 1 female, (KMNH), Sobo-san, 17. VII. 1946, M. Amano leg.; 1 male, (EUMJ), Sobo-san, 8. VIII. 1971, K. Adachi leg.; 1 female, (KMNH), Tsuchiwa, base of Sobo-san, 28. VII. 1979, M. Amano leg. <Miyazaki Pref.> 1 male, (NARO), Katamuki-yama, 24. VIII. 2009, R. Noda leg. <Kagoshima Pref.> 1 male, (SEHU), Kurino, 30. VII. 1983, T. & T. Nakane leg. (Nakane coll. 1999).

Diagnosis. Color of body yellowish brown, with alternating dark and pale brown markings. Elytra (Fig. 4C) with 10 longitudinal rows of window punctures; window punctures transverse.

Male (Fig. 1E). Eyes (Fig. 3E) large, prominent. Antennae long and slender, reaching about proximal 3/4 of elytra; AL/TL 0.68–0.85 (0.79); approximate ratio of each antennomere (n = 10; average) as 3.27 : 1.00 : 3.48 : 4.22 : 4.86 : 5.15 : 5.25 : 5.14 : 5.11 : 5.07 : 6.46. Anterior angles of pronotum (Fig. 3E) acute or right-angled. HL/HW 0.57–0.68 (0.63); PW/PL 1.28–1.40 (1.36); EL/EW 2.84–3.17 (2.98); EL/PL 5.80–6.58 (6.20); EW/PW 1.48–1.61 (1.53); TL/EW 3.76–4.056 (3.90); EYL/EYW 1.42–2.00 (1.72); TEL/HL 0.08–0.15 (0.12). Apex of sternite IX simply pointed. Bifurcate process (Fig. 9D) V-shaped. Parameres (Fig. 9A, B) with posterior projection of dorsal margin (pp) arcuate; apical hook (Fig. 7E) simply curved and pointed; ventro-marginal spines (vms) short, not reaching apical hook. Apical margin of dorsal plate (dp, Fig. 9A) shallowly concave. Apical margin of mesal lobe (ml, Fig. 9A) indistinctly notched.

Female (Fig. 1F). Eyes (Fig. 3F) small. Antennae short and stout, reaching about proximal 1/2 of elytra; AL/TL 0.58–0.67 (0.62); approximate ratio of each antennomere (n = 10; average) as 3.47 : 1.00 : 3.32 : 3.69 : 3.92 : 4.03 : 4.06 : 4.02 : 4.02 : 3.95 : 5.19. Anterior pronotal angles (Fig. 3F) acute or right-angled. HL/HW 0.62–0.71 (0.65); PW/PL 1.38–1.54 (1.44); EL/EW 2.75–3.01 (2.88); EL/PL 6.29–6.92 (6.54); EW/PW 1.47–1.67 (1.58); TL/EW 3.58–3.87 (3.70); EYL/EYW 1.63–2.33 (1.94); TEL/HL 0.16–0.22 (0.18).

Distribution. Japan: Honshu, Shikoku, Kyushu; China (?).

Remarks. Tanaka (2004) recorded this species from Iriomote-jima, but this was probably misidentification with *T. anguliscutis*.

Tenomerga trabecula Neboiss, 1984

[Japanese name: Nise-hime-nagahiratamushi]

Figs 1G, H, 3G, H, 4D, 10, 13C; Table 1

Tenomerga trabecula Neboiss, 1984: 450. Yoshitomi 2016: 184.

Specimen examined. [JAPAN] <Amami-Oshima> 1 male, (KAC), Chinase, Naze-shi, 4–6. V. 2011, R. Noda leg. FIT; 1 female, (NSMT), Hatsuno, 5. VII. 1972, S. Okajima leg.; 1 male, (EUMJ), Hatsuno, 6. VII. 1974; 1 male, (KAC), Kamiya, Sumiyo-son, 5–7. VII. 2014, R. Noda leg.; 1 male, (EUMJ), Shinokawa, Setouchi-cho, 17. VI. 1997, S. Yano leg.; 1 female, (EUMJ), Takinohana-yama, Sumiyo-son, 13. I. 1983 (timber coll.), 16. VI. 1983 (emerge); 1 female, (KMNH), Yuwan-dake, 10. VII. 1976, K. Adachi leg. <Ryukyu: Okinawa-jima> 1 female, (EUMJ), Yona, Oku, VI. 2019, S. Inada leg.; 1 female, (EUMJ), Yonaha-dake, 26. IV. 1975, H. & M. Ohishi leg.

[CHINA] 1 female, (NSMT), Shanghai, 8. VII. 1920.

[TAIWAN] 1 male (EUMJ), Fushan, 650m Taipei, 8. VII. 2001, W. I. Chou leg.; 1 male (NMNS), Taiwan: Taipei Chungho, 1. VI. 2008, Y.-L. Lin leg.; 1 male (TARI), Nantou Nanshanchi, 3. VII. 2010, C.-P. Cheng leg.; 1 male (TARI), Pingtung Lilongshan, 25. V. 2007, Y.-L. Lin leg.; 1 male (TARI), Ilan Fushan Botanical Garden, 3. VII. 2013, Y. T. Wang leg.; 1 male (TARI), Tainan Kantoushan, 24. V. 2014, W.-C. Liao leg.; 1 male (TARI), Taichung Dakeng, 15. V. 2012, C. P. Cheng leg.; 1 male, (EUMJ), Fushan (650m), Taipei, 8. VII. 2001, W. I. Chou leg.; 3 males, (NSMT), "Hirokanan", 11. VII. 1926. NSMT-I-C 25724, H. Kono collection; 1 male, (EUMJ), Funchiifo, 27. VIII. 1970, A. Rin leg.; 1 male, (NSMT), Kosempo, VII. 07–09, Sauter leg. NSMT-I-C 21759, H. Kono collection; 1 male, (EUMJ), Kueishanlu, nr. Wulai, Taipei, 15. V. 1969, S. Hisamatsu leg.; 1 male, (NARO), Lianchi tan, 15. VI. 1973, H. Yokoyama leg.; 1 male, (NSMT), Lien Hwa Chi, 12. V. 1975, K. Akiyama leg.; 1 male, (NSMT), Lien Hwa Chi, 30. V. 1980, H. Makihara leg.; 1 female, (EUMJ), Lien Hwa Chi, 30. VI. 1972, K. Kiyoyama leg.; 1 male,

(NARO), Nanshanchi, Nantou-Hsien, 2. VIII. 1976, K. Tazoe leg.; 1 male, (EUMJ), Nanshanchi, Nantou-Hsien, 26. VI. 1971, Y. Maeda leg. LT; 1 male, (EUMJ), Socca, Shihzih, Pingtung, 30. V. 2016, N. Ohbayashi leg.

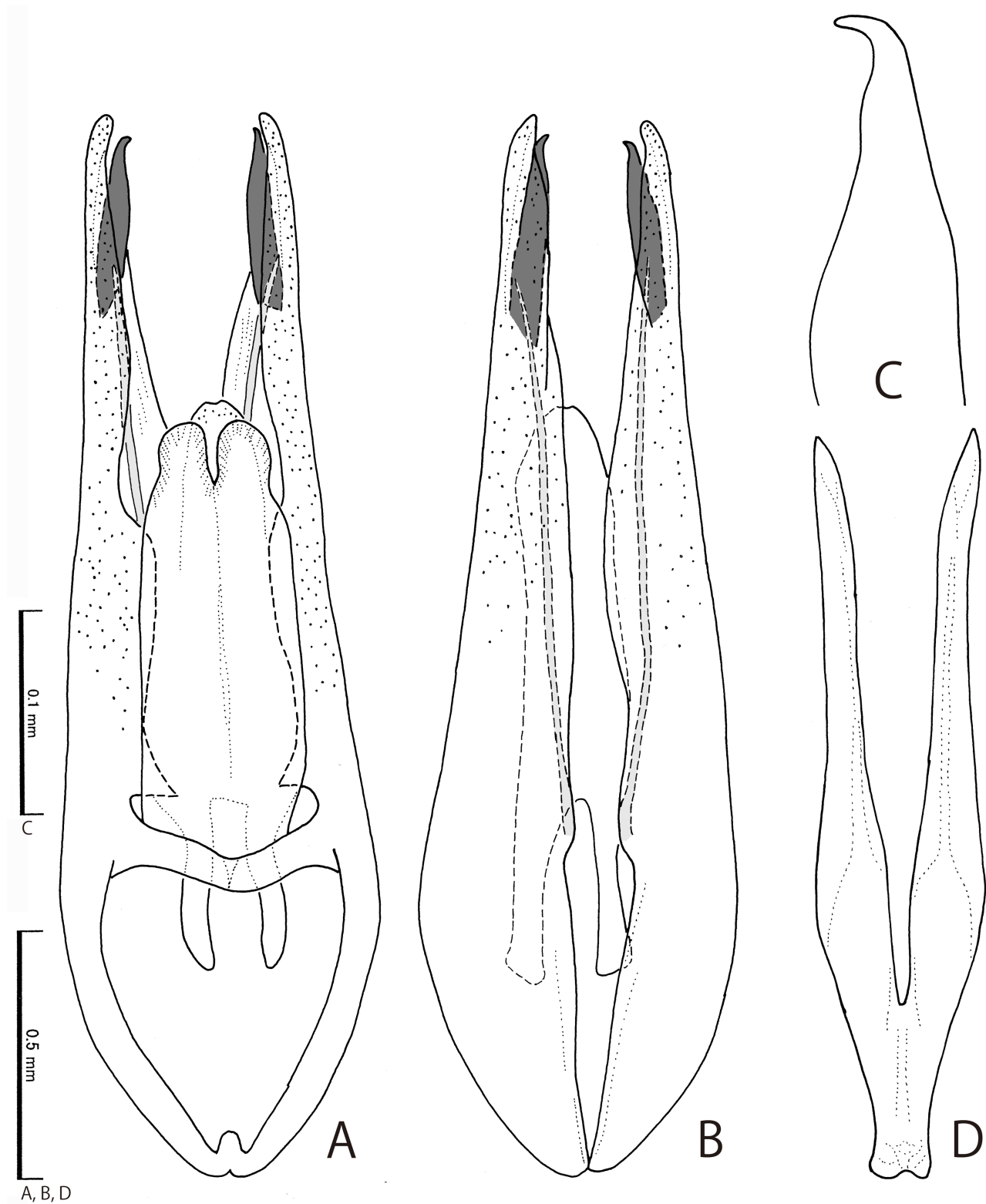


FIGURE 10. Male genitalia of *Tenomerga trabecula*. A, B) aedeagus, dorsal (A) and ventral (B) views, C) apical hook, lateral view, D) bifurcate process.

Diagnosis. Color of body yellowish brown, with alternating dark and pale brown markings. Elytra (Fig. 4D) with 10 longitudinal rows of window punctures; window punctures transverse.

Male (Fig. 1G). Eyes (Fig. 3G) large, strongly prominent. Antennae long and slender, reaching about proximal 3/4 of elytra; AL/TL 0.76–0.84 (0.80); approximate ratio of each antennomere ($n = 4$; average) as 3.92 : 1.00 : 3.78 : 4.78 : 5.40 : 5.90 : 6.11 : 6.10 : 6.15 : 6.01 : 7.86. Anterior pronotal angles (Fig. 3G) right-angled. HL/HW 0.58–0.67 (0.64); PW/PL 1.27–1.38 (1.32); EL/EW 2.67–2.88 (2.80); EL/PL 5.48–6.25 (5.89); EW/PW 1.55–1.64 (1.59); TL/EW 3.57–3.78 (3.70); EYL/EYW 1.97–2.00 (1.99); TEL/HL 0.14–0.17 (0.16). Apex of sternite IX acuminate. Bifurcate process (Fig. 10D) V-shaped. Parameres (Fig. 10A, B) with posterior projection of dorsal margin (pp) arcuate; apical hook (Fig. 10C) simply curved and pointed; ventro-marginal spines (vms) long, reaching apical hook. Apical margin of dorsal plate (dp, Fig. 10A) deeply notched. Apical margin of mesal lobe (ml, Fig. 10A) shallowly concave.

Female (Fig. 1H). Eyes (Fig. 3H) small. Antennae long and stout, reaching about proximal 3/4 of elytra; AL/TL 0.73–0.85 (0.79); approximate ratio of each antennomere ($n = 5$; average) as 3.22 : 1.00 : 3.32 : 4.13 : 4.57 : 4.94 : 5.04 : 5.09 : 5.04 : 4.92 : 6.30. Anterior pronotal angles (Fig. 3H) right-angled. HL/HW 0.62–0.68 (0.64); PW/PL 1.32–1.53 (1.41); EL/EW 2.68–2.80 (2.76); EL/PL 5.83–6.44 (6.12); EW/PW 1.53–1.62 (1.57); TL/EW 3.49–3.70 (3.61); EYL/EYW 1.86–2.33 (2.15); TEL/HL 0.17–0.19 (0.18).

Distribution. China; Taiwan; Japan: Amami-Oshima, Okinawa-jima.

Remarks. This is the first record of this species from Japan.

***Tenomerga kurosawai* Miyatake, 1986**

[Japanese name: Yakushima-nagahiratamushi]

Figs 1I, J, 3I, J, 4E, 11, 13D; Table 1

Tenomerga kurosawai Miyatake, 1986: 111.

Type specimens examined. Holotype (EUMJ), male, “HANA-NO-EGO YAKU IS. 14. VIII. 1965 H. Konishi”, “HOLOTYPE *Tenomerga kurosawai* MIYATAKE”. Paratype (EUMJ), female, “[YAKUSHIMA] Kurio South Coast 12. IX. 1972 Toku Watanabe”, “47. 9. 12 栗生 B”, “PARATYPE *Tenomerga kurosawai* MIYATAKE”.

Other specimens examined. [JAPAN] <Yakushima> 1 female, (EUMJ), Shiratani-rindo, 14–16. VII. 1997, H. Yoshitomi leg.

Diagnosis. Color of body yellowish brown, with alternating dark and pale brown markings. Elytra (Fig. 4E) with 10 longitudinal rows of window punctures; window punctures transverse.

Male (Fig. 1I). Eyes (Fig. 3I) large, prominent. Antennae long and slender, reaching about proximal 3/4 of elytra; AL/TL 0.79; approximate ratio of each antennomere ($n = 1$) as 2.75 : 1.00 : 3.25 : 3.85 : 4.00 : 4.60 : 5.00 : 5.00 : 5.10 : 5.50 : 7.00. Anterior pronotal angles (Fig. 3I) strongly acute and projecting antero-laterally. HL/HW 0.73; PW/PL 1.30; EL/EW 2.84; EL/PL 6.05; EW/PW 1.64; TL/EW 3.74; EYL/EYW 1.86; TEL/HL 0.13. Apex of sternite IX simply pointed. Bifurcate process (Fig. 11C) V-shaped, rectangular in basal part. Parameres (Fig. 11A, B) with posterior projection of dorsal margin (pp) arcuate; apical hook simply curved and pointed; ventro-marginal spines (vms) long, reaching apical hook. Apical margin of dorsal plate (dp) shallowly concave. Apical margin of mesal lobe (ml, Fig. 11A) shallowly concave.

Female (Fig. 1J). Eyes (Fig. 3J) small. Antennae short and stout, exceeding about proximal 1/2 of elytra; AL/TL 0.69–0.71 (0.70); approximate ratio of each antennomere ($n = 2$; average) as 3.30 : 1.00 : 3.10 : 3.47 : 3.67 : 3.93 : 4.07 : 3.92 : 4.17 : 4.02 : 5.27. Anterior pronotal angles (Fig. 3J) acute. HL/HW 0.67–0.69 (0.68); PW/PL 1.35–1.36 (1.36); EL/EW 2.91–2.95 (2.93); EL/PL 6.22–6.40 (6.31); EW/PW 1.55–1.63 (1.59); TL/EW 3.75–3.86 (3.80); EYL/EYW 1.44–1.88 (1.66); TEL/HL 0.18–0.19 (0.19).

Distribution. Japan: Yakushima.

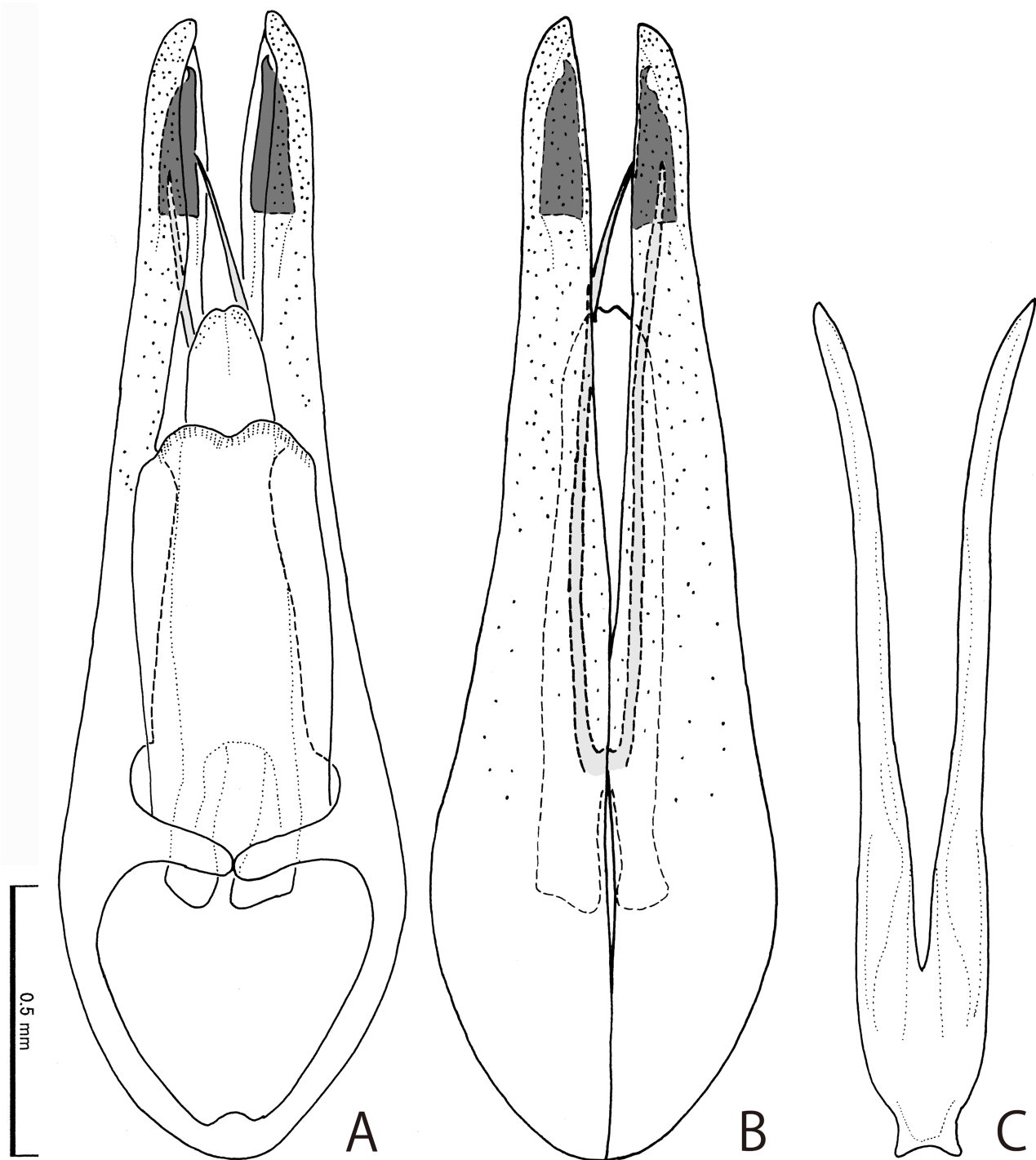


FIGURE 11. Male genitalia of *Tenomerga kurosawai*. A, B) aedeagus, dorsal (A) and ventral (B) views, C) bifurcate process.

***Tenomerga yamato* Miyatake, 1985**

[Japanese name: Yamato-nagahiratamushi]

Figs 1K, L, 2D, 3K, L, 4F, 12, 13D; Table 1

Tenomerga yamato Miyatake, 1985a: 23. Miyatake 1985b: 1, pl. 1, 2 [figure and short description]; Hirano 2000: 18; Matoba 1991: 52; Shimono & Tanaka 2024: 25.

Type specimens examined. Holotype (EUMJ, Fig. 2D), male, “Mt. Nakanawa (! “Takanawa” in Miyatake, 1985a) Shikoku VI. 1962 N. Fujimoti”, “SATO Collection”, “HOLOTYPE *Tenomerga yamato* MIYATAKE”. Paratype

(EUMJ), male, “[KYUSHU] Kyogatake Tara Mts. Nagasaki Pref. 4. VIII. 1974 Notsu Yutaka”, “経ヶ岳 多良岳 4/VIII ‘74”, “PARATYPE *Tenomerga yamato* MIYATAKE”, “保育社図版使用”.

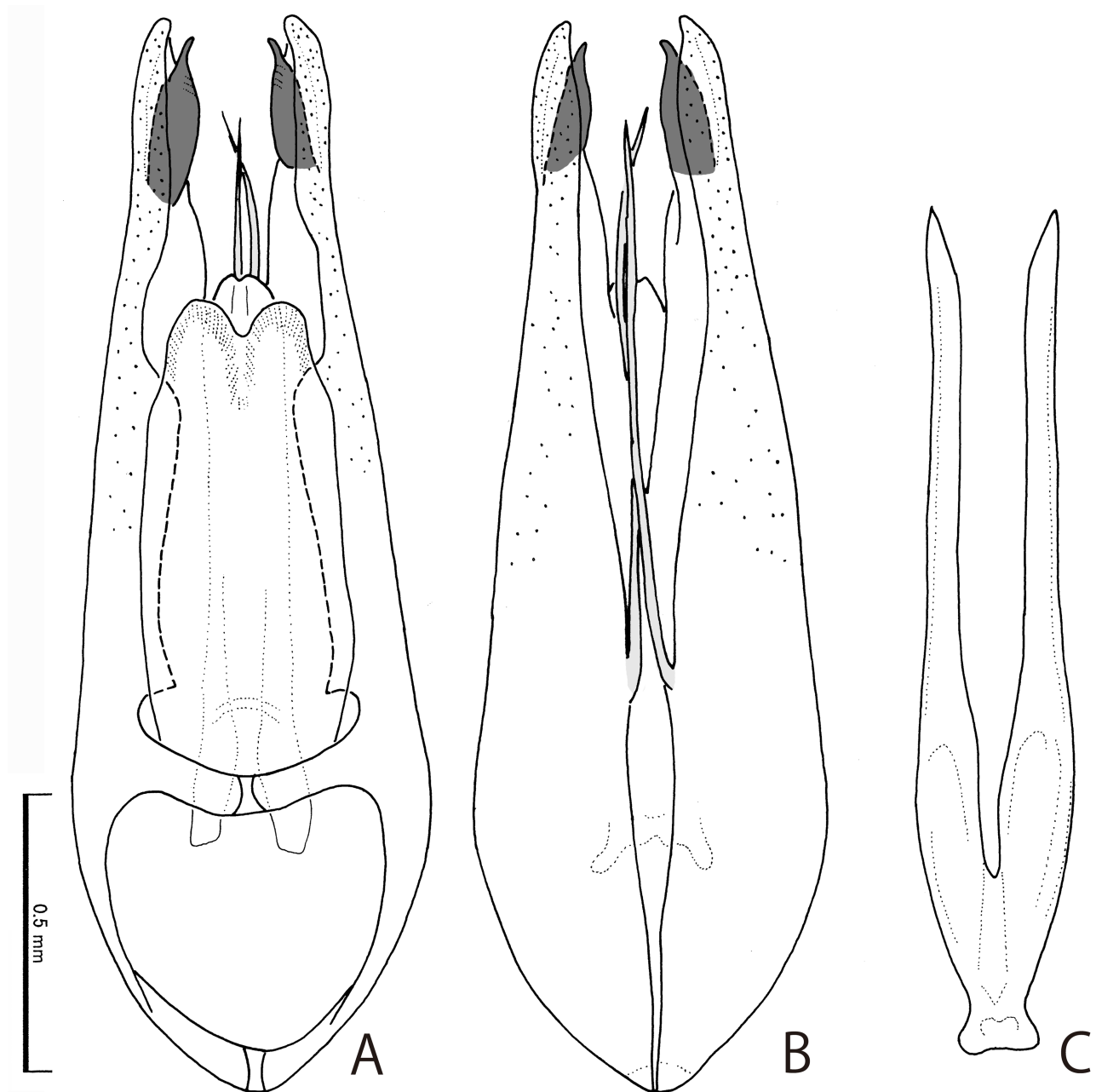


FIGURE 12. Male genitalia of *Tenomerga yamato*. A, B) aedeagus, dorsal (A) and ventral (B) views, C) bifurcate process.

Other specimens examined. [JAPAN] <Kanagawa Pref.> 1 male, (NARO), Nushizawa, Tanzawa, 7. VII. 1991, Y. Hirano leg. <Fukuoka Pref.> 1 male, 3 females, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 24–29. VII. 2022, K. Kido leg. LT; 1 male, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 29. VII–5. VIII. 2022, K. Kido leg. LT; 1 male, (KUM), Bunda, Shinkawa, Ukiha-cho, Ukiha-shi, 3–8. VII. 2022, K. Kido leg. LT; 1 male, (KMNH), Fukakura, Hiko-san, 18. VIII. 1963, M. Amano leg.; 1 male, (KMNH), Fukakura, Hiko-san, 6. VIII. 1959, M. Amano leg.; 1 male, (KMNH), Hiko-san, Soeta-machi, 12. VIII. 1976, R. Honda leg.; 1 female, (KUM), Hiko-san, Soeta-machi, 14. VII. 1958, K. Morimoto leg.; 1 male, (KMNH), Hiko-san, Soeta-machi, 2. VIII. 1939, Y. Suematsu leg.; 1 female, (EUMJ), Hiko-san, Soeta-machi, 22. VIII. 1933, T. Esaki leg.; 1 male, (KUM), Hiko-san, Soeta-machi, 23–30. VII. 2008, T. Mita & S. Sato leg.; 1 female, (KUM), Hiko-san, Soeta-machi, 4–8. VII. 1958, K. Morimoto leg.; 1 female, (KUM), Hiko-san, Soeta-machi, 29. VII. 2006, S. Yamamoto leg.; 2 males, (KUM), Inugatake, Buzen-shi, 18. VII. 2021, K. Kido leg.; 3 males, 1 female, (KUM), Inugatake, Buzen-shi, 4–10. VIII.

2021, K. Kido leg. LT; 1 male, (KMNH), Koshoyama, Akitsuki-cho, Asakura-shi, 4. VIII. 1938, N. Gyotoku leg.; 1 female, (KUM), Nagaiwa, Shinkawa, Ukiha-cho, Ukiha-shi, 23. VI – 2. VII. 2022, K. Kido leg. LT; 1 female, (KUM), Oonechi-yama, Chikushino-shi, 17–21. VIII. 2020, K. Kido leg. LT; 1 male, (EUMJ), Wakasugi-yama, 28. VII. 1941, T. Shirozu leg.; 1 female, (EUMJ), Wakasugi-yama, 7–9. VIII. 1934, Esaki, Hori, Cho, Fujino, Takeya & Hashimoto leg. <Kumamoto Pref.> 1 female, (KUM), Ichifusa-yama, 4. VIII. 1984, K. Konishi leg. LT. <Oita Pref.> 1 male, (KMNH), Sobo-san, 11. VIII. 1962, M. Amano leg. <Miyazaki Pref.> 2 males, (NARO), Katamuki-yama, 24. VIII. 2009, R. Noda leg.

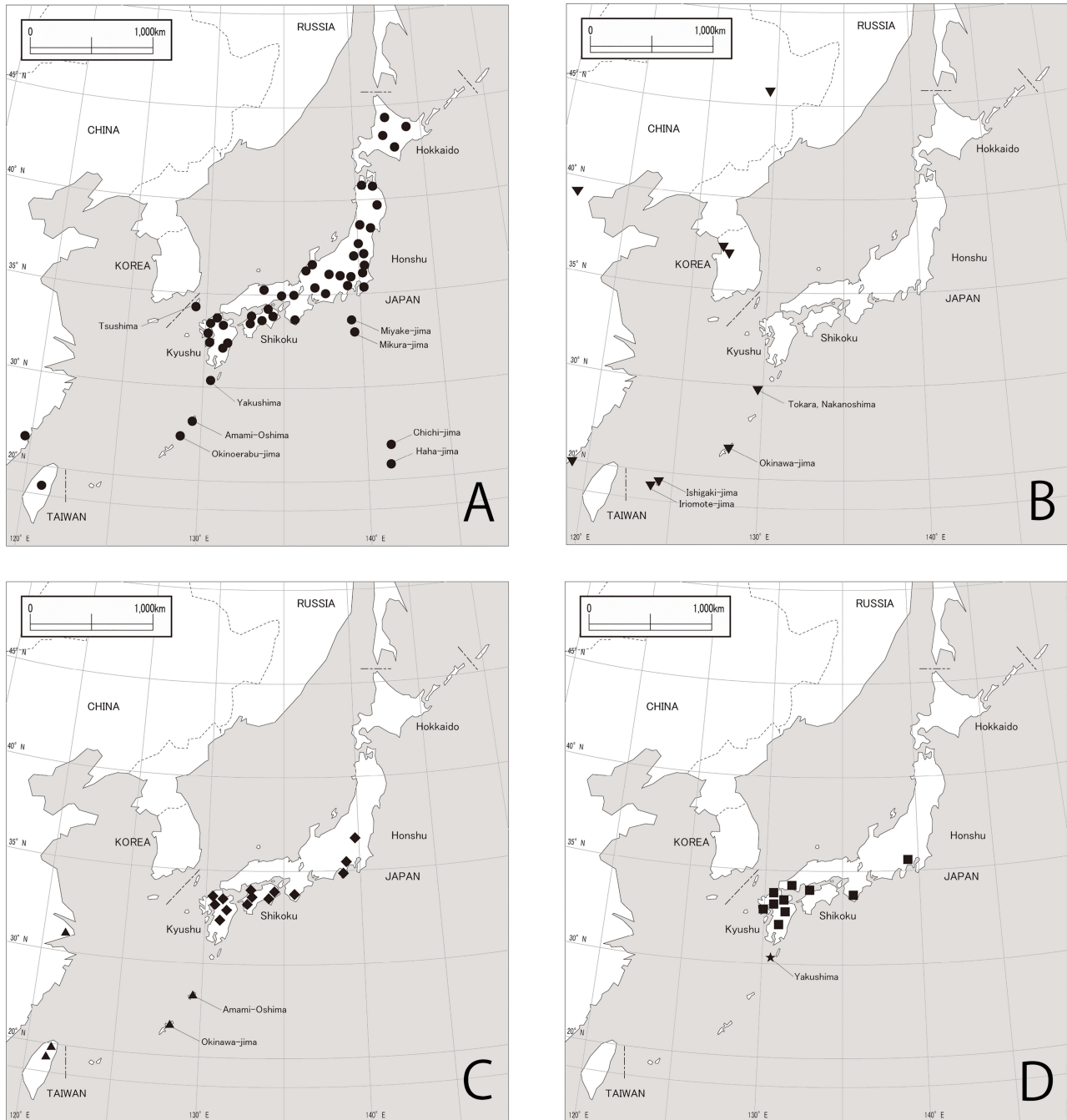


FIGURE 13. Distribution maps of *Tenomerga* spp. A) *Tenomerga mucida*, B) *T. anguliscutis*, C) *T. japonica* (rhombus) and *T. trabecula* (triangle), D) *T. yamato* (square) and *T. kurosawai* (star).

Diagnosis. Color of body blackish-brown, generally monicolor. Scales on head, pronotum, scutellar shield, and elytra black, but cream-colored in some specimens on a part of head, anterior part of pronotum, posterior part of intervals V and VII, and apical part of elytra. Elytra (Fig. 4F) with 10 longitudinal rows of window punctures; window punctures transverse.

Male (Fig. 1K). Eyes (Fig. 3K) small, slightly prominent. Antennae long and slender, reaching about proximal 2/3 of elytra; AL/TL 0.71–0.80 (0.77); approximate ratio of each antennomere (n = 10; average) as 2.96 : 1.00 : 3.11 : 3.74 : 4.22 : 4.44 : 4.61 : 4.55 : 4.69 : 4.57 : 5.78. Anterior pronotal angles (Fig. 3K) almost right-angled. HL/HW 0.65–0.73 (0.69); PW/PL 1.32–1.46 (1.40); EL/EW 2.73–3.06 (2.93); EL/PL 5.68–6.62 (6.23); EW/PW 1.41–1.67 (1.52); TL/EW 3.53–4.02 (3.81); EYL/EYW 1.66–2.22 (1.92); TEL/HL 0.13–0.18 (0.16). Apex of sternite IX acuminate, but bifid in some specimens. Bifurcate process (Fig. 12C) V-shaped, rectangular in basal part. Parameres (Fig. 12A, B) with posterior projection of dorsal margin (pp) arcuate; apical hook simply curved and pointed; ventro-marginal spines (vms) long, reaching apical hook. Apical margin of dorsal plate (dp) shallowly concave. Apical margin of mesal lobe (ml, Fig. 12A) shallowly concave.

Female (Fig. 1L). Eyes (Fig. 3L) small, slightly prominent. Antennae long and relatively stout, reaching about proximal 3/4 of elytra; AL/TL 0.69–0.85 (0.75); approximate ratio of each antennomere (n = 6; average) as 3.16 : 1.00 : 3.23 : 3.72 : 3.93 : 4.31 : 4.57 : 4.61 : 4.49 : 4.29 : 5.55. Anterior angles of pronotum (Fig. 3L) almost right-angled. HL/HW 0.62–0.69 (0.66); PW/PL 1.38–1.46 (1.42); EL/EW 2.63–2.98 (2.82); EL/PL 5.97–6.56 (6.18); EW/PW 1.42–1.66 (1.55); TL/EW 3.45–3.87 (3.67); EYL/EYW 1.88–2.40 (2.13); TEL/HL 0.10–0.16 (0.14).

Distribution. Japan: Honshu, Shikoku, Kyushu.

Remarks. Judging from the original description (Miyatake, 1985a), the holotype was collected from Mt. Takanawa, near Matsuyama, and the "Mt. Nakanawa" written on the label was considered to be a simple mistake.

Discussion

Two species of *Tenomerga* were recorded from the Ryukyu Isls. *Tenomerga anguliscutis* (Kolbe, 1886) closely related with *T. mucida* (Chevrolat, 1844) was collected from Tokara Isls. (Nakano-shima), Okinawa-jima, Ishigaki-jima and Iriomote-jima, and *T. trabecula* Neboiss, 1984 related with *T. japonica* (Tamanuki, 1928) was from Amami-Oshima and Okinawa-jima. In the Ryukyu Isls., closely related species have not been found on the same island, whereas both *T. mucida* and *T. anguliscutis* have been found sympatrically in Taiwan, Korea and northern part of China (Table 2). It is expected that more specimens from the Ryukyu Islands will need to be collected and reexamined in the future.

TABLE 2. Distribution of *Tenomerga* spp. in Japan and its adjacent regions.

| country | island | <i>Tenomerga</i> species | | | | | |
|----------------------|-----------------|--------------------------|---------------------|-----------------|------------------|---------------|------------------|
| | | <i>mucida</i> | <i>anguliscutis</i> | <i>japonica</i> | <i>kurosawai</i> | <i>yamato</i> | <i>trabecula</i> |
| JAPAN | Hokkaido | ○ | | | | | |
| | Honshu | ○ | | ○ | | ○ | |
| | Izu Isls. | ○ | | | | | |
| | Ogasawara Isls. | ○ | | | | | |
| | Shikoku | ○ | | ○ | | ○ | |
| | Kyushu | ○ | | ○ | | ○ | |
| | Tsushima | ○ | | | | | |
| | Yakushima | ○ | | | ○ | | |
| | Tokara Isls. | | ○ | | | | |
| | Amami-Oshima | ○ | | | | | ○ |
| | Okinoerabu-jima | ○ | | | | | |
| | Okinawa-jima | | ○ | | | | ○ |
| | Ishigaki-jima | | ○ | | | | |
| | Iriomote-jima | | ○ | | | | |
| TAIWAN | | ○ | ○ | | | ○ | |
| KOREA | | ○ | ○ | | | | |
| CHINA (northeastern) | | ○ | ○ | ○? | | ○ | |

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