



## The genus *Kisaura* (Philopotamidae) in Shikoku, western Japan, with descriptions of three new species

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### Abstract

*Kisaura* collections from Shikoku, western Japan were examined and 8 species including 3 new species were recognized: *K. ashizuriensis* sp. nov., *K. curvispina* sp. nov. *K. brevis* sp. nov. *K. kisoensis* (Tsuda), *K. minakawai* Arefina, *K. tsudai* (Botoşăneanu), *K. nozakii* (Kuhara) and *K. dichotoma* Kuhara & Arefina. Males of all 3 new species are described. *Kisaura imparis* Hur & Morse is synonymized under *K. minakawai*.

**Key words:** caddisflies, new species, male, description, taxonomy, distribution

### Introduction

Shikoku is the 4th largest island of the Japanese archipelago, having an area of 18,298 km<sup>2</sup>. It is close to southwest Honshû, the largest island of the archipelago, across the Inland Sea. The caddisfly fauna in Shikoku as well as the 3rd largest island, Kyûshû has been poorly studied compared with the other 2 major islands, Hokkaidô and Honshû, although recent local faunal surveys in mountain areas have increased the number of species in Shikoku (Ito *et al.* 2002, Yamamoto & Ito 2014, 2015). Yamamoto & Ito (2014) reported 61 species, of which 23 species are waiting to be described. Presently, about 160 nominal species have been recorded from Shikoku, including 8 species endemic to the island.

The philopotamid genus *Kisaura* is distributed in the Oriental and east Palaearctic regions, containing about 60 species, with 5 nominal species having been recorded from Shikoku so far. I examined more than a thousand specimens of *Kisaura* collected from throughout Shikoku by several researchers and found 8 species including 3 undescribed species. In this paper, I record these species and describe 3 new species.

### Materials and methods

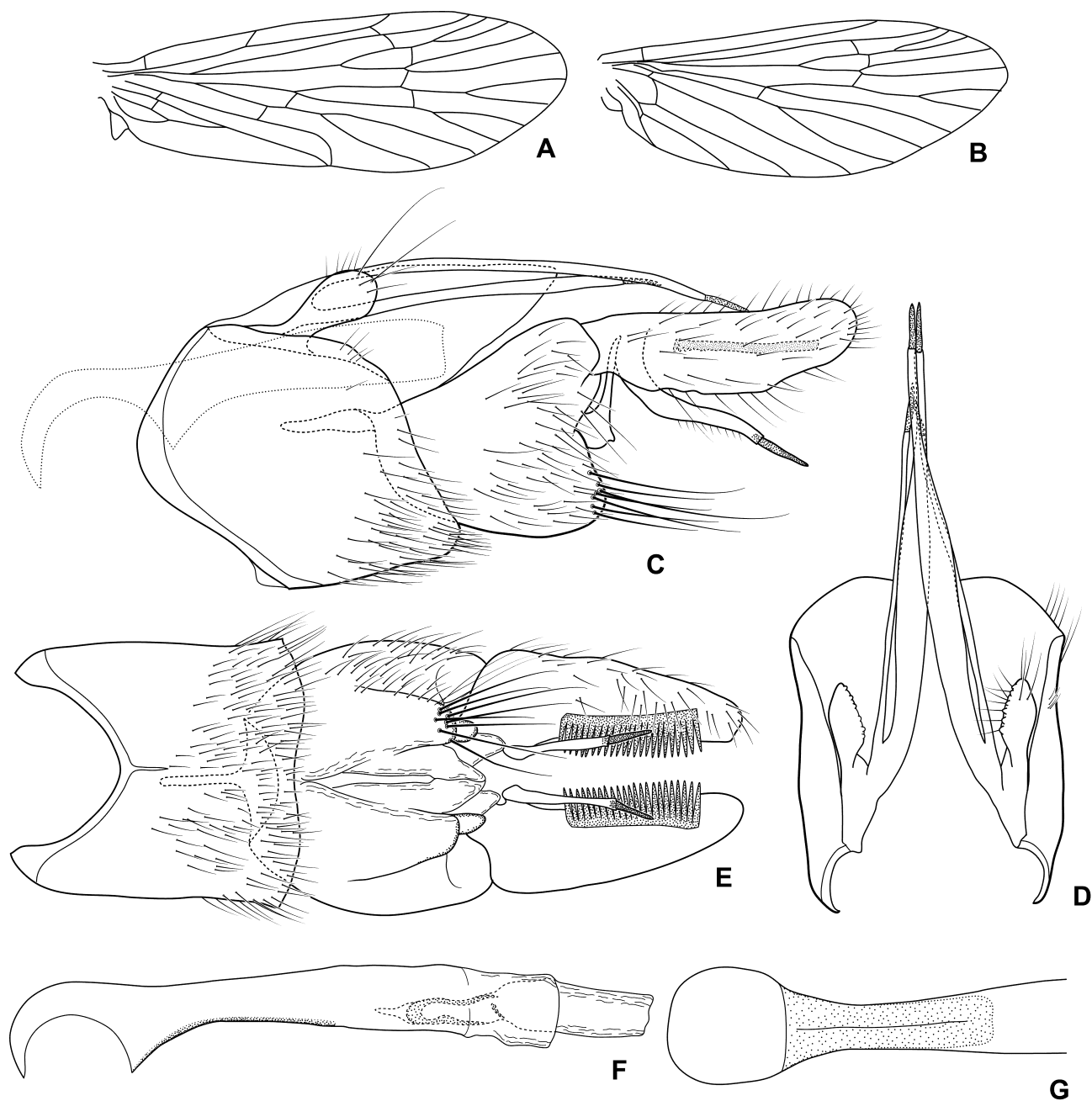
Genitalia were illustrated after clearing in hot 10% KOH. Terminology of male genitalia generally follows that of Kuhara (1999). Types for the newly described species are deposited in the collections of Systematic Entomology, Hokkaido University, Sapporo (SEHU), and the Natural History Museum and Institute, Chiba (CBM) as indicated in the species descriptions. Unless otherwise stated, all specimens are preserved in alcohol. Collectors are abbreviated as follows: AO (A. Ohkawa), KN (K. Nio), MD (M. Doi), MT (M. Takai), NK (N. Kuhara), TH (T. Hattori), TI (T. Ito), EY (E. Yamamoto).

### Species descriptions and records

#### *Kisaura ashizuriensis* sp. nov.

Fig. 1

**Adults.** Forewing length, male 5.6–6.6 mm (mean = 6.0 mm, n = 14). Color (in alcohol): vertex of head and thorax dark brown; antennae dark brown with light annulation; forewings light brown with light vague spots; hindwings light brown. Wing venation: forewings with apical forks I, II, III, IV and V; hindwings with apical forks I, II, III and V (Fig. 1A, B).



**FIGURE 1.** *Kisaura ashizuriensis* sp. nov. (type locality; C–E, holotype). A, forewing; B, hindwing; C–G, male genitalia. C, lateral; D, dorsal; E, ventral; F, phallus, lateral, G, same, ventral.

**Male genitalia (Fig. 1C–G).** Segment IX slightly longer than tall; anteroventral margin widely and deeply excised. Tergum X membranous, elongate triangular in dorsal aspect. Preanal appendages short, knob-like, constricting subbasally, with round apex. Spiniform processes branched basally; mesal branch sword-like, very long, curved ventrad in lateral aspect, protruding far beyond tergum X and reaching midpoint of terminal segment of inferior appendage; lateral process filiform, somewhat shorter than mesal branch; each branch with sclerotized black spine apically. Basal segment of inferior appendages as long as tall, with well-developed subtriangular posteroventral expansions bearing several long setae apically; with well developed,

sclerotized articulation process emerging from posterior surface near base of expansion, strongly bent upward subbasally, with acute apex. Terminal segment of inferior appendages slightly longer than basal segment, in lateral aspect somewhat broader and nearly parallel sided in basal half, then tapering to round apex, in ventral aspect gently tapering to round apex; basoventral sclerotized process emerging from dorsal edge near base, directed ventrad at first, gently curved posterad in basal half, then slightly curved ventrad subapically, each with thick black spine apically; comb of black sclerotized teeth short, lacking on basal 1/3 of segment, nearly straight in ventral aspect. Phallus consists of phallosome and invaginated endosoma; phallosome broad-based, semi-membranous, sclerotized ventrobasally; endosoma including small, weakly sclerotized armatures.

**Holotype male:** SHIKOKU, Kôchi, Tosashimizu-shi, Ashizuri-misaki, Ôto, stream, 32.73° N, 133.00° E, 20–21.v.1999, AO & TI (SEHU).

**Paratypes:** SHIKOKU: Kôchi: 5 males, same data as the holotype (SEHU); 4 males, Tosashimizu-shi, Ashizuri-misaki, Akabae, stream, 32.74° N, 133.01° E, 21.v.1999, AO & TI (CBM).

Other specimens examined. SHIKOKU: Kôchi: 3 males, same data as the holotype; 2 males, Tosashimizu-shi, Ashizuri-misaki, Akabae, stream, 21.v.1999, AO & TI;

**Remarks.** This species shares the two branched spiniform processes and basoventral processes of the terminal segment of inferior appendages with *K. dichotoma* Kuhara & Arefina 2004. Both characteristics are unique in the genus, suggesting that they are closely related. It can be distinguished from *K. dichotoma* by the shape of the inferior appendages; the basal segment is as long as tall in this species but longer than tall in *K. dichotoma* and the terminal segment in lateral aspect is nearly parallel sided in basal half in the former but tapering entirely in the latter.

**Etymology.** The specific epithet, *ashizuriensis*, was named after the type locality in Shikoku, Japan.

**Distribution.** This species has been found only in the type locality and a nearby site, in southwestern part of Shikoku. This and the closely related *K. dichotoma* may exhibit allopatric distribution (see Fig. 4).

### *Kisaura curvispina* sp. nov.

Fig. 2

**Adults.** Forewing length, male 4.8–5.9 mm (mean = 5.4 mm, n = 13). Color as in *K. ashizuriensis* sp. nov. Wing venation: forewings with apical forks II, III, IV and V; hindwings with apical forks II, III and V (Fig. 2A, B).

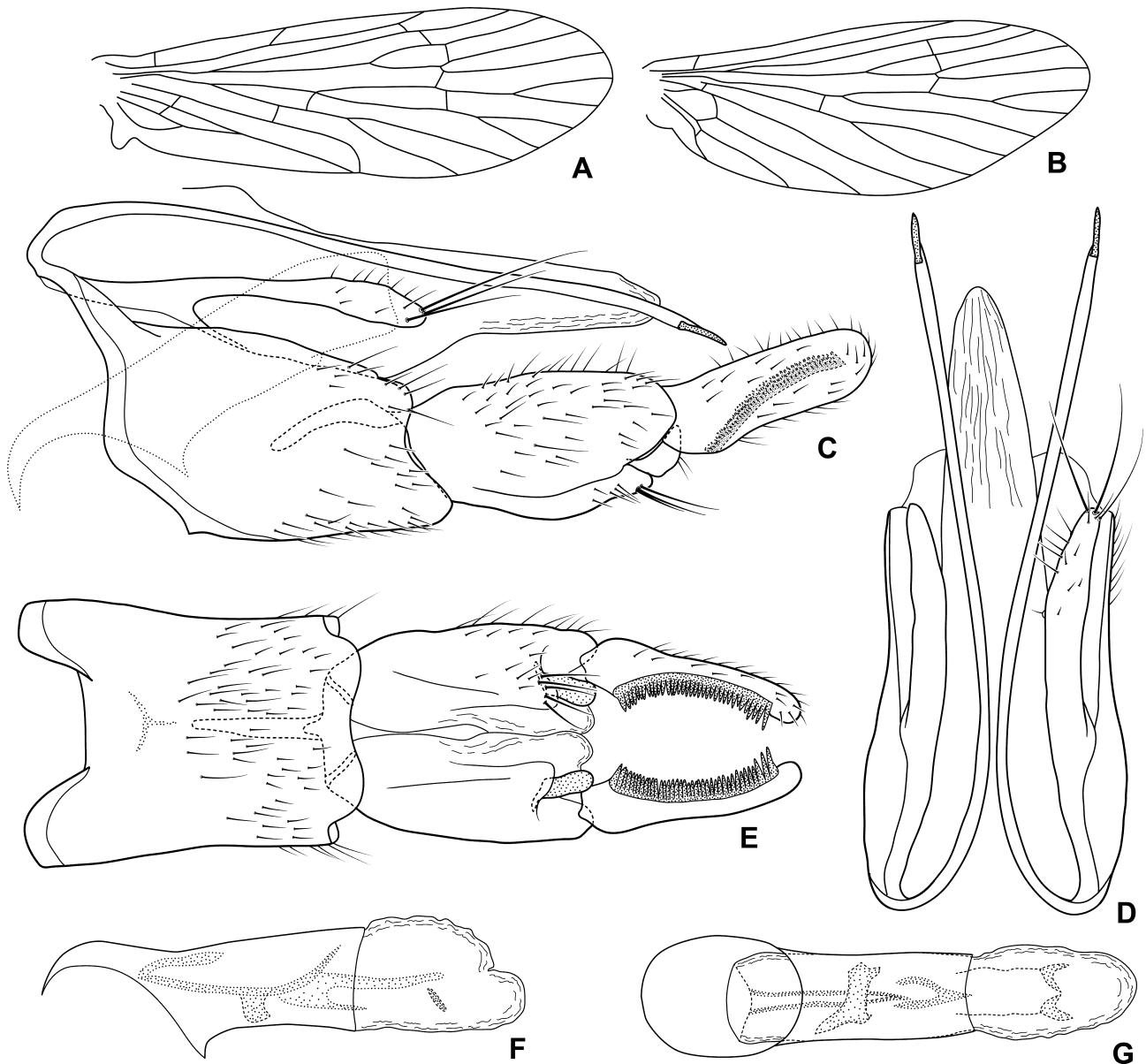
**Male genitalia (Fig. 2C–G).** Segment IX more than 1.5 times as long as tall, anterodorsal corners developed, forming acute angle in lateral aspect; anteroventral margin deeply excised mesally; posterodorsal corners subangulate in lateral aspect. Tergum X long, membranous, gently tapering to apex in lateral and dorsal aspect. Preanal appendages elongate, finger-like, slightly broader subapically with round apex in lateral aspect, weakly curved outward in dorsal aspect. Spiniform processes directed anterodorsad at first, strongly curved mesad subbasally and then directed posterad, weakly curved ventrad subapically, extending beyond tergum X and reaching inferior appendage terminal segment, each with black spine apically. Basal segment of inferior appendages suboval in lateral aspect, with short articulation process, directed posterodorsad. Terminal segment of inferior appendages slightly shorter than basal segment, nearly parallel sided with slightly broader base in lateral aspect; comb of black sclerotized teeth entirely curved inward. Phallus consists of phallosome and invaginated endosoma; phallosome short, 3–4 times as long as tall, broad-based, semi-membranous; endosoma including weakly sclerotized armatures.

**Holotype male:** SHIKOKU, Ehime, Uchiko-chô, Odamiyama-keikoku, small stream nr. Miyama-sô, 33.53° N, 132.89° E, 29.vi.2000, EY (SEHU).

**Paratypes:** SHIKOKU: Ehime: 9 males, same data as the holotype (SEHU); 10 males, type locality, 23.vi.2000, EY (CBM); 6 males, type locality, 8.vii.2000, EY (SEHU). Kôchi: 13 males, Tosashimizu-shi, Ashizuri-misaki, Ôto, stream, 32.73° N, 133.00° E, 20–21.v.1999, AO & TI.

Other specimens examined. SHIKOKU: Ehime: 1 male, Kumakôgen-chô, Izugatani-yama, 21–31.viii.2012, TI; 1 male, *ibid.*, 11–15.vii.2013, EY; 1 male, Kumakôgen-chô, Yurano-no-mori, 20.vi.2007, EY; 5 males, *ibid.*, 30.vi.2007, EY; 1 male, Uchiko-chô, Odamiyama, Namakusadani, el. 1200 m, 27.viii.2000, EY; 1 male, *ibid.*, 2.ix.2000, EY; 2 males, *ibid.*, 8.ix.2000, EY; 8 males, type locality, 23.vi.2000, EY; 1 male, *ibid.*, 29.vi.2000, EY; 1 male, *ibid.*, 16.vii.2000, EY; 1 male, *ibid.*, 8.viii.2000, EY; 2 males, *ibid.*, 15.viii.2000, EY; 1 male, *ibid.*, 16.viii.2000, EY; 1 male, *ibid.*, 21.viii.2000, EY; 1 male, *ibid.*, 27.viii.2000, EY; 1 male, *ibid.*, 2.ix.2000, EY; 1 male, *ibid.*, 17.ix.2000, EY; 1 male, *ibid.*, 1.x.2000, EY; 2 males, Uchiko-

chô, Miyanotani, small stream, 5.vi.2000, EY; 1 male, *ibid.*, 11.vi.2000, EY; 1 male, *ibid.*, 18.vi.2000, EY. **Kôchi:** 2 males, Ino-chô, Teragawa, 1.vii.1995, K. Konishi *et al.*; 1 male, *ibid.*, 21.v.2006, MT; 1 male, Ino-chô, Teragawa, Shirainotani, 20.vi.2006, MT; 3 males, Kami-shi, Befu-kyô, Shiragatanigawa, el. 1260 m, 13.viii.2004, KN; 1 male, Kami-shi, Nishikuma, 9.vii.2000, I. Yamashita; 2 males, Kôchi-shi, Tosayama, nr. Akaraki-tôge, el. 700 m, 21.v.2008, MT & TI; 1 male, Tosashimizu-shi, Ashizuri-misaki, Akabae, 21.v.1999, AO & TI; 16 males, Tosashimizu-shi, Ashizuri-misaki, Ôto, 20–21.v.1999, AO & TI; 1 male, *ibid.*, 21.v.1999, AO & TI.



**FIGURE 2.** *Kisaura curvispina* sp. nov. (type locality; C–E, holotype). A, forewing; B, hindwing; C–G, male genitalia. C, lateral; D, dorsal; E, ventral; F, phallus, lateral, G, same, ventral.

**Remarks.** This species shares the long segment IX and the subbasally recurved and long spiniform processes with some species in the Oriental region, in particular resembling *K. longaria* Mey 1996, *K. filiformis* Mey 1996 and *K. fansipana* Oláh & Malicky 2010 described from Vietnam and *K. alveiformis* Sun 2007 described from China. It can be distinguished from the latter 4 species by the spiniform processes that are longer than the tergum X and weakly curved ventrad subapically.

**Etymology.** From the Latin *curvispinus* (“bearing curved spines”), in allusion to the curved spiniform process.

**Distribution.** Japan (Shikoku).

***Kisaura brevis* sp. nov.**

Fig. 3

**Adults.** Forewing length, male 5.7–6.3 mm (mean = 6.0 mm, n = 9). Color generally as in *K. ashizuriensis* sp. nov., but forewings with diffuse marking caused by whitish and dark brown hairs. Wing venation: forewings with apical forks II, III, IV and V, sometimes with short fork I; hindwings with apical forks II, III and V (Fig. 3A–C).

**Male genitalia (Fig. 3D–G).** Segment IX as long as tall, anteroventral margin moderately excised mesally; posteroventral margin shallowly excised. Tergum X membranous, in dorsal aspect quadrate in basal 1/3 and narrow triangular in apical 2/3, cleft apicomally. Preanal appendages knob-like, often broadest near midlength in lateral aspect, somewhat directed outward in dorsal aspect. Spiniform processes slightly shorter than tergum X, thin sword-like, each with apical black spine. Basal segment of inferior appendages suboval in lateral aspect, with articulation process, directed posterodorsad. Terminal segment of inferior appendages short, as long as basal segment, nearly parallel sided in lateral aspect; comb of black sclerotized teeth curved inward near base in ventral aspect. Phallus consists of phallosome and invaginated endosoma; phallosome broad-based, semi-membranous; endosoma including small, weakly sclerotized armatures.

**Remarks.** This species is similar to *K. inflata* Sun 2007, described from Guangdong Province, China in the wing venation and the shape of segment IX, but differ from it by the sword-like spiniform processes and the preanal appendages that are broadest near midlength in lateral aspect. Among the Japanese species, it is somewhat similar to *K. tsudai* (Botoşăneanu 1970), *K. hattorii* (Kuhara 1999), *K. borealis* (Kuhara 1999) and *K. nozakii* (Kuhara 1999), but easily distinguished from the latter 4 species by the male genitalia with short terminal segment of inferior appendages and sword-like spiniform processes and both the wings lacking apical fork I (but sometimes with short fork I in forewing).

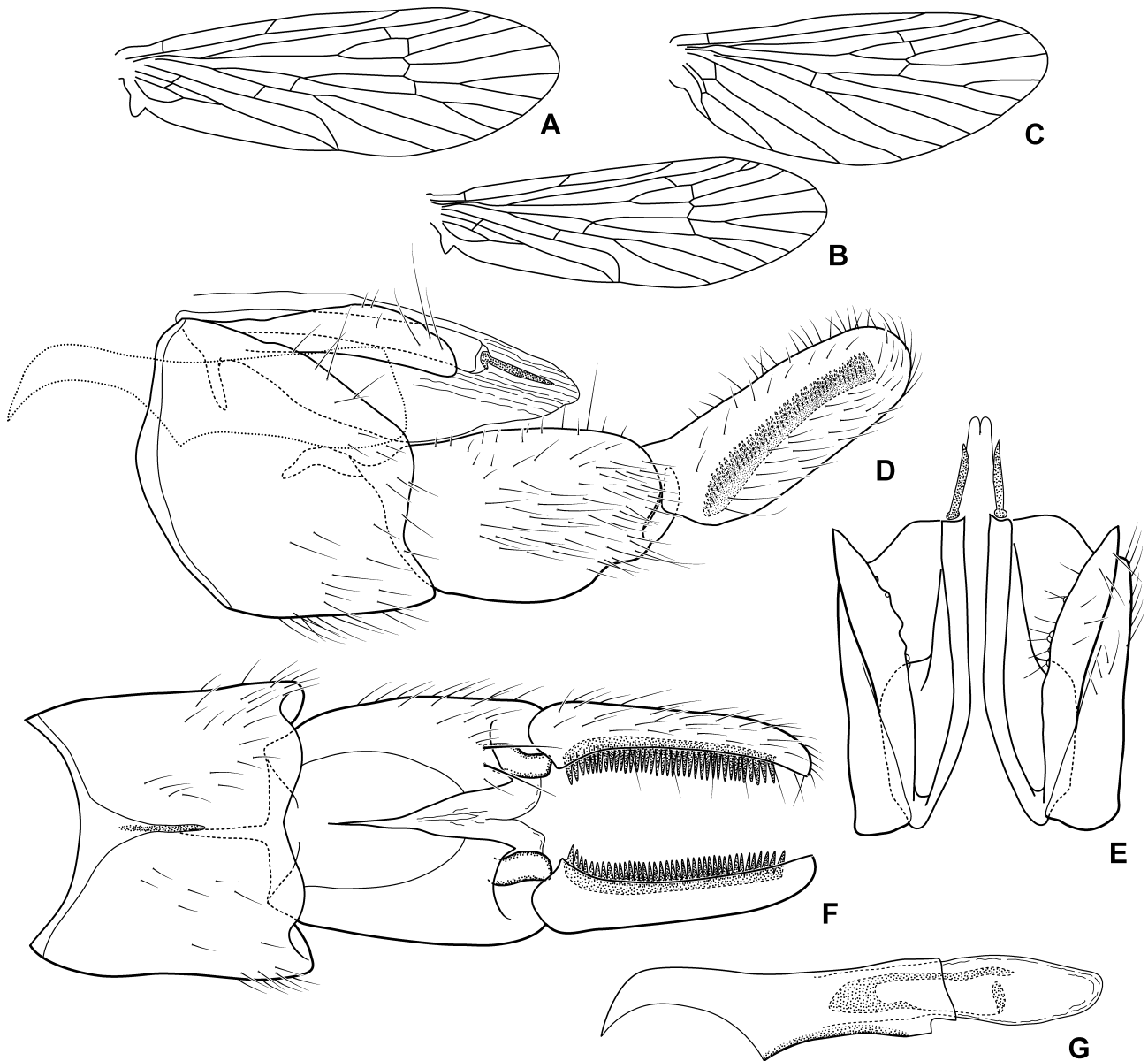
**Holotype male:** SHIKOKU, Ehime, Kumakôgen-chô, Yurano-no-mori, 33.64° N, 132.88° E, 31.v.2007, EY (SEHU).

**Paratypes:** HONSHÛ: **Shizuoka:** 1 male (pinned), Shizuoka-shi, Kamikôchi-zawa, el. 1000–1150 m, 35.36° N, 138.17° E 9.vi.1991, TH (SEHU); 1 male (pinned), Shizuoka-shi, Hirano, el. 350 m, 35.15° N, 138.37° E, 20.v.1990, TH (SEHU); 2 males (pinned), Shizuoka-shi, Umegashima, Minami-sawa, el. 1400 m, 35.3° N, 138.3° E 2.vi.1996, TH (SEHU). **SHIKOKU: Ehime:** 1 male, type locality, 10.vi.2007, EY. **Kôchi:** 1 male, Ino-chô, Shiraino-tani, el. 810 m, 33.76° N, 133.20° E, 23.v.2002, KN (SEHU); 1 male, Ino-chô, Teragawa, 33.75° N, 133.21° E, 21.v.2006, MT (CBM); 1 male, Tosashimizu-shi, Ashizuri-misaki, Ôto, stream, 32.73° N, 133.00° E, 21.v.1999, AO & TI (CBM).

Other specimens examined. **HONSHÛ: Yamanashi:** 1 male, Kajikazawa-cho, Ôyana-gawa, el. 750 m, 9.vi.1996, TH; **Shizuoka:** 1 male, Fujieda-shi, Kurata, Utouge-no-taki, 27.v.2007, T. Torii; 1 male, *ibid.*, 5.v.2008, T. Torii; 1 male, Izu-shi, Sugehiki-gawa, Jizo-rindô, el. 660 m, 2.vi.2009, TI & TH; 1 male (pinned), Shizuoka-shi, Umegashima, Nigori-gawa, brooklet, el. 650 m, 9.vi.2002, TH; 2 male (pinned), Shizuoka-shi, Yokosawa, el. 550 m, 4.vi.2001, TH; 1 male, Shizuoka-shi, Yunoshima, waterfall, el. 310 m, 11.v.2001, TH; **Shiga:** 1 male, Kôka-shi, Tuchiya-machô-ôkawara, el. 450 m, 30.vi.2006, N. Kawase. **SHIKOKU: Kôchi:** 1 male, Ino-chô, Teragawa, 1.vii.1995, K. Konishi *et al.*; 2 males, Kôchi-shi, Tosayama, nr. Akaraki-tôge, el. 700 m, 21.v.2008, MT & TI; 1 male, Tsuno-chô, Irazu-keikoku, 5.vi.2004, MT.

**Etymology.** Form the Latin *brevis* (“short”), in reference to the short terminal segment of inferior appendages compared with the similar species in Japan mentioned in the above remarks.

**Distribution.** Japan (Honshû, Shikoku).



**FIGURE 3.** *Kisaura brevis* sp. nov. (A, C, F, Shikoku, Kôchi, Tsuno-chô; B, Shikoku, Kôchi, Ino-chô; D-F, holotype). A, B, forewing; C, hindwing; D–G, male genitalia. D, lateral; E, dorsal; F, ventral; G, phallus, lateral.

***Kisaura kisoensis* (Tsuda 1939)**

*Dolophilodes kisoensis* Tsuda 1939: 173–174, 296, figs. 1–2 (male) (Type locality: Japan, Honshû, Nagano).

*Sortosa (Kisaura) kisoensis*: Ross 1956: 57; Kobayashi, 1980, 89, figs. 4–6.

*Dolophilodes (Kisaura) kisoensis*: Kuhara 1999: 177–178, fig. 2.

*Kisaura kisoensis*: Uy *et al.* 2019 (male, female).

Nozaki (2016) firstly recorded this species from Shikoku. See Uy *et al.* (2019) in this volume for a redescription of male and female and a list of specimens examined.

**Distribution.** Japan (Hokkaidô, Honshû, Shikoku, Kyûshû, Tsushima)

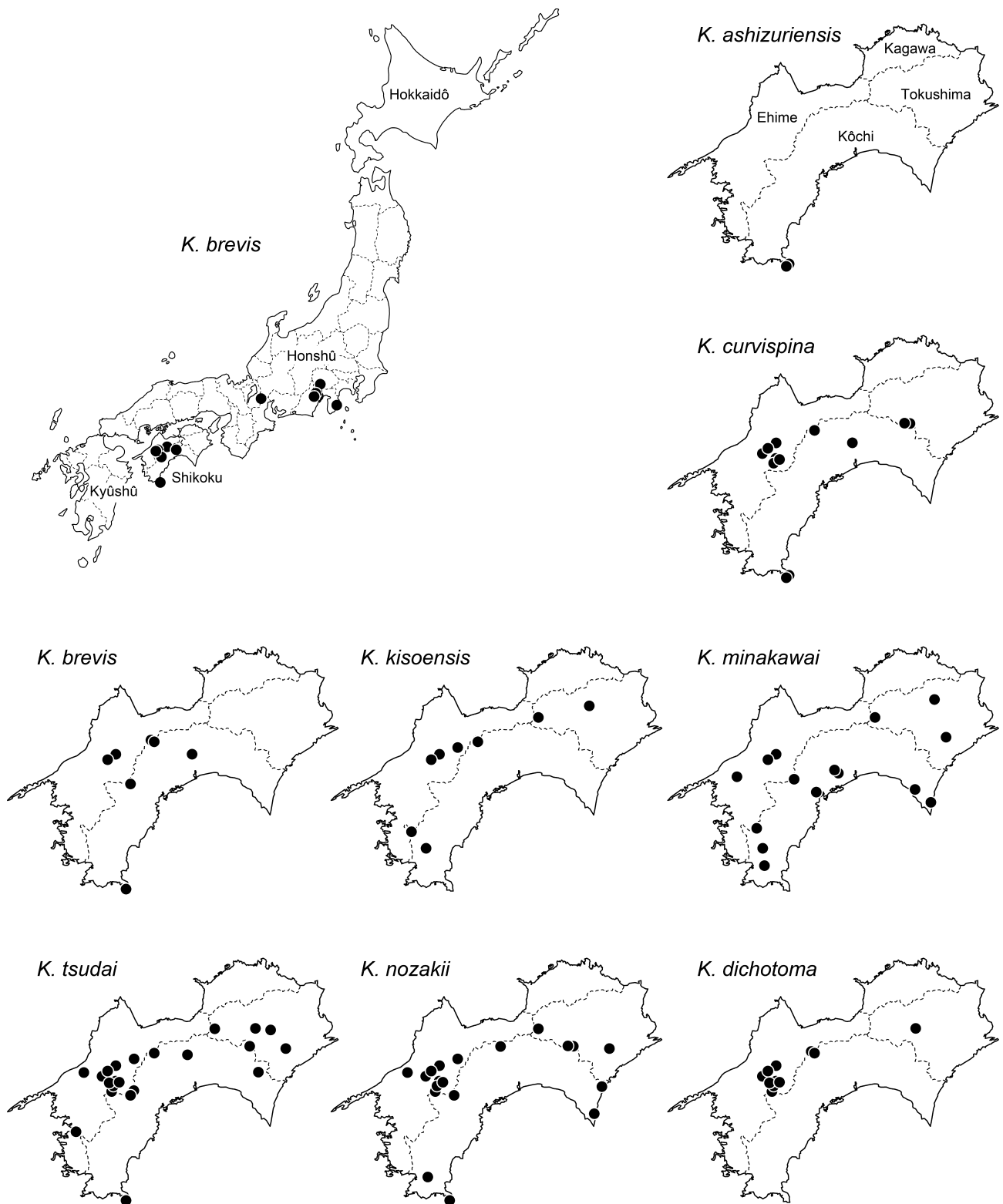


FIGURE 4. Collection sites of *K. brevis* in Japan and *Kisaura* spp. in Shikoku.

***Kisaura minakawai* Arefina 2005**

*Kisaura minakawai* Arefina 2005, in Arefina & Armitage 2005: 16, figs. 1–2 (male, female) (Type locality: Russia, Sakhalin).  
*Kisaura imparis* Hur & Morse, 2006: 217–219, Figs. 1–4 (male) (Type locality: Japan, Honshū, Nara). **New synonymy.**

This species was originally described from Sakhalin (Arefina & Armitage 2005) and thereafter has been recorded from various localities in Honshû, Hokkaidô and Shikoku (e.g., Torii & Hattori 2006, Ito *et al.* 2010, Yamamoto & Ito 2016). The male genitalia of *Kisaura imparis* Hur & Morse 2006 described from Honshû is essentially identical to that of this species judging from the original description. Thus I conclude *K. imparis* is a junior subjective synonym of *K. minakawai*.

**Additional specimens examined. SHIKOKU: Tokushima:** 5 males, 1 female, Miyoshi-shi, Yamashirochô-Awayama, 15.ix.2006, NK; 1 male, Naka-chô, Shiraishi, Ichiu, 11.v.2004, KN; 9 males, 1 female, Yoshinogawa-shi, Yamakawachô, v.1993, T. Murakami. **Ehime:** 1 male, Kumakôgen-chô, Yurano-no-mori, 10.viii.2007, EY; 1 male, Ôzu-shi, Shima-dam, 7.x.2000, S. Tsukaguchi. **Kôchi:** 1 male, Ino-chô, Kada, 12.v.2002, KN; 1 male, Ino-chô, Yananosehonmura, Niyodo-gawa, el. 34 m, 27.v.2004, KN; 1 male, 1 female, Mihara-mura, Nakasuji-dam, 23.ix.2005, T. Befu; 1 male, Muroto-shi, Sakihama-gawa, upper stream, 29.iv.2004, MT; 4 males, Nahari-chô, 16.vi.1996, H. Nishimoto; 2 males, Nishitosa-mura, Shimanto-gawa, el. 50 m, 22.ix.2002, TH; 2 males, Niyodogawa-chô, Torigata-yama, 24–26.vii.2001, N. Kawase; 1 male, Sukumo-shi, Icchûbara, 22.ix.2001, MT; 9 males, *ibid.*, 30.iv–2.v.2004, MT; 5 males, 4 females, Susaki-shi, Kamibun, 8.v.2004, MT.

### ***Kisaura tsudai* (Botoşăneanu 1970)**

*Dolophilodes (Kisaura) tsudai* Botoşăneanu 1970: 294–295, pl. 17 (male) (Type locality: Japan, Honshû, Nagano); Kuhara 1999, 175–177 (male).

Yamamoto & Ito (2014, 2016) recorded this species from Shikoku.

**Additional specimens examined. SHIKOKU: Tokushima:** 1 male, Mima-shi, Kiyadaira, Nakaoyama, 15.ix.2006, NK; 5 males, Miyoshi-shi, Yamashirochô-awayama, 15.ix.2006, NK; 2 males, Naka-chô, Kônose-kyo, 6.v.2009, T. Torii; 2 males, Tsurugi-chô, Ichiu, Kuwadaira, el. 880 m, 25.ix.2002, TH; 1 male, Tsurugi-chô, Ichiu, Tsurugi-san, el. 1400 m, 15.ix.2006, NK. **Ehime:** 2 males, Kumakôgen-chô, Omogo, Teppôishigawa, 22.v.1999, AO & TI; 2 males, Kumakôgen-chô, Wakayama, 9.vi.2011, T. Nozaki & KN; 34 males, Kumakôgen-chô, Yurano-no-mori, 21.v–20.ix.2007, EY; 39 males, Seiyo-shi, Nomurachô, Koyayama, 18.v–18.ix.2000, EY & MD; 6 males, Uchiko-chô, Ishidatami, 30.iv–30.v.2000, EY; 1 male, Uchiko-chô, Kasatori-yama, el. 1450 m, 6–10.vi.2013, EY; 3 males, Uchiko-chô, Odamiyama, 28.v.1994, R. B. Kuranishi; 2 males, Uchiko-chô, Odamiyama, Fuchikubi, 27.v.1994, EY; 10 males, Uchiko-chô, Odamiyama, Hondani, el. 990 m, 19.v–10.vi.2000, EY; 2 males, Uchiko-chô, Odamiyama, Namakusadani, el. 1200 m, 26.vii.1998, EY & MD; 127 males, *ibid.*, 13.v–22.x.2000, EY; 2 males, Uchiko-chô, Odamiyama, Sen'nen-no-mori, 11–20.v.2010, EY.; 81 males, Uchiko-chô, Odamiyama-keikoku, small stream nr. Miyama-sô, 11.vi–22.x.2000, EY; 33 males, *ibid.*, 10.v–10.vi.2001, EY; 54 males, Uchiko-chô, Miyanotani, small stream, 6.v–26.x.2000, EY; 1 male, Uwajima-shi, Nametoko-keikoku, el. 400–600 m, 23.ix.2002, TH. **Kôchi:** 27 males, Ino-chô, Nanokawa, 23.v.1999, AO & TI; 7 males, Ino-chô, Teragawa, 21.v.2006, MT; 3 males, Kami-shi, Befu-kyô, Shiragatanigawa, el. 1260 m, 13.viii.2004, KN; 1 male, Kônan-shi, Yasuchô-kunimitsu, Yasu-gawa, el. 230 m, 25.iv.2004, KN; 1 male, Niyodogawa-chô, Torigata-yama, 24–26.vii.2001, N. Kawase; 3 males, Tosa-chô, Sedogawa-keikoku, el. 1160–1190 m, 27.v.2004, KN; 1 male, Tosashimizu-shi, Ashizuri-misaki, Ôto, 20–21.v.1999, AO & TI; 5 males, Tsuno-chô, Irazu-yama, Shimanto-genryû, 8.v.2004, MT; 2 males, Tsuno-chô, Tengu-shinrin-kôen, 22.v.2004, MT; 4 males, *ibid.*, 2.x.2004, MT; 1 male, *ibid.*, 21.v.2005, MT; 1 male, Umaji-mura, Nahari-gawa, Nishikawa-keikoku, el. 460 m, 24.iv.2004, KN.

### ***Kisaura nozakii* (Kuhara 1999)**

*Dolophilodes (Kisaura) nozakii* Kuhara 1999: 180–181, fig. 4 (male) (Type locality: Japan, Honshû, Kanagawa).

Yamamoto and Ito (2014) firstly recorded this species from Shikoku.

**Additional specimens examined. SHIKOKU: Tokushima:** 3 males, Miyoshi-shi, Yamashirochô-Awayama, 15.ix.2006, NK; 1 male, Naka-chô, Kônose-kyo, 6.v.2009, T. Torii. **Ehime:** 1 male, Kumakôgen-chô, Omogo, Kanmon, small stream, 23.v.1999, AO & TI; 5 males, Kumakôgen-chô, Omogo, Tsuchigoya, 2.viii.2002, I. Yamashita; 1 male, Kumakôgen-chô, Yurano-no-mori, 10.ix.2007, EY; 1 male, Seiyo-shi, Nomura-chô, Koyayama, 29.vii.2000, EY & MD; 1 male, Uchiko-chô, Odamiyama, Namakusadani, el. 1200



m, 4.vii.1998, EY; 5 males, *ibid.*, 14–26.vii.1998, EY & MD; 89 males, *ibid.*, 8.vii–17.ix.2000, EY; 8 males, Uchiko-chô, Odamiyama-keikoku, small stream nr. Miyama-sô, 16.viii–24.ix.2000, EY; 20 males, Uchiko-chô, Miyanotani, small stream, 5.vi–26.x.2000, EY; 1 male, Kami-shi, Befu-kyô, 28.v.2004, MT; 1 male, *ibid.*, 27.viii.2005, MT; 2 males, Kami-shi, Nishikuma-keikoku, 21.viii.2004, MT; 1 male, Mihara-mura, Nakasuji-dam, 24.ix.2005, MT; 1 male, Muroto-shi, Sakihama-chô, Sakihama-gawa, 29.iv.2004, MT; 1 male, Ôkawa-mura, Asatani, el. 500 m, 24.ix.2002, TH; 1 male, Tôyô-chô, None, Becchaku, 3.v.2002, MT; 1 male, Tosashimizu-shi, Ashizuri-misaki, Ôto, 20–21.v.1999, AO & TI; 1 male, Tsuno-chô, Irazu-keikoku, 5.vi.2004, MT.

### ***Kisaura dichotoma* Kuhara & Arefina 2004**

*Kisaura dichotoma* Kuhara & Arefina 2004: 81–83, figs. 1–3 (male, female) (type locality: Japan, Hokkaidô, Oshima).

This species described from throughout the Japanese archipelago including Shikoku, with Hokkaidô as the type locality (Kuhara & Arefina 2004). Yamamoto & Ito (2014) also recorded this species from Shikoku.

**Additional specimens examined. SHIKOKU: Ehime:** 37 males, 9 females, Kumakôgen-chô, Yuranono-mori, 10.vi–10.viii.2007, EY; 1 male, 1 female, Uchiko-chô, Kasatori-yama, el. 1450 m, 6–15.viii.2013, EY. **Kôchi:** 1 male, Ino-chô, Yosakoi-tôge, 7.vii.2001, MT.

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