

New and little known species of Dolichopodidae from China (VII): Diptera from Emei Mountain (2)

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Abstract

20 species of the family Dolichopodidae from Emei Mountain are described as new to science: *Hercostomus (H.) curvarmatus*, *H. (H.) curvispinus*, *H. (H.) incisus*, *H. (H.) jindinganus*, *H. (H.) longus*, *H. (H.) spinitarsis*, *H. (H.) sublongus*, *Diostracus brevicercus*, *D. brevis*, *D. digitiformis*, *D. prolongatus*, *Amblypsilopus longiseta*, *Medetera curvata*, *Diaphorus tridentatus*, *Rhaphium furcatum*, *Neurigonella longiseta*, *N. pallipes*, *N. trifurcata*, *Teuchophorus emeiensis*, *T. ventralis*.

Key words: Dolichopodidae, new species, Emei Mountain, Sichuan

Introduction

11 genera and 41 species of the family Dolichopodidae are known from Emei Mountain (YANG & SAIGUSA, 1999). Mainly based on the material collected by the second author, we add here 29 species to this region. Among them 20 species are described as new to science. The types of new species are mainly deposited in the China Agricultural University (CAU) except some paratypes kept in the SAIGUSA collection at the Kyushu University (SKU) and the "Institut Royal des Sciences Naturelles de Belgique" (IRSN).

The following abbreviations are used: acr-acrostichal, ad-anterodorsal, apv-apicoventral, av-anterovernal, d-dorsal, dc-dorsocentral, h-humeral, ih-inner humeral, LI-fore leg, LII-mid leg, LIII-hind leg, npl-notopleural, oc-ocellar, pa-postalar, pd-posterodorsal, ph-posthumeral, psu-postsutural, pv-posterovernal, pvt-postvertical, sa-supraalar, su-sutural, v-ventral, vt-vertical.

Subfamily Dolichopodinae

1. *Phalacrosoma briarea* WEI et LIU

Phalacrosoma briarea WEI et LIU, 1996. J. Guizhou Agric. Coll. 15(1): 38. Type locality: Anshun, Guizhou.

Specimens examined. 1 male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA; 3 males, Sichuan: Emei Mountain, Jingshui (700-750 m),

1998. VIII. 7 T. SAIGUSA; 1 male, Sichuan: Qingcheng Mountain, Yuechenghu (900 m), 1998. VIII. 22, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Guizhou).

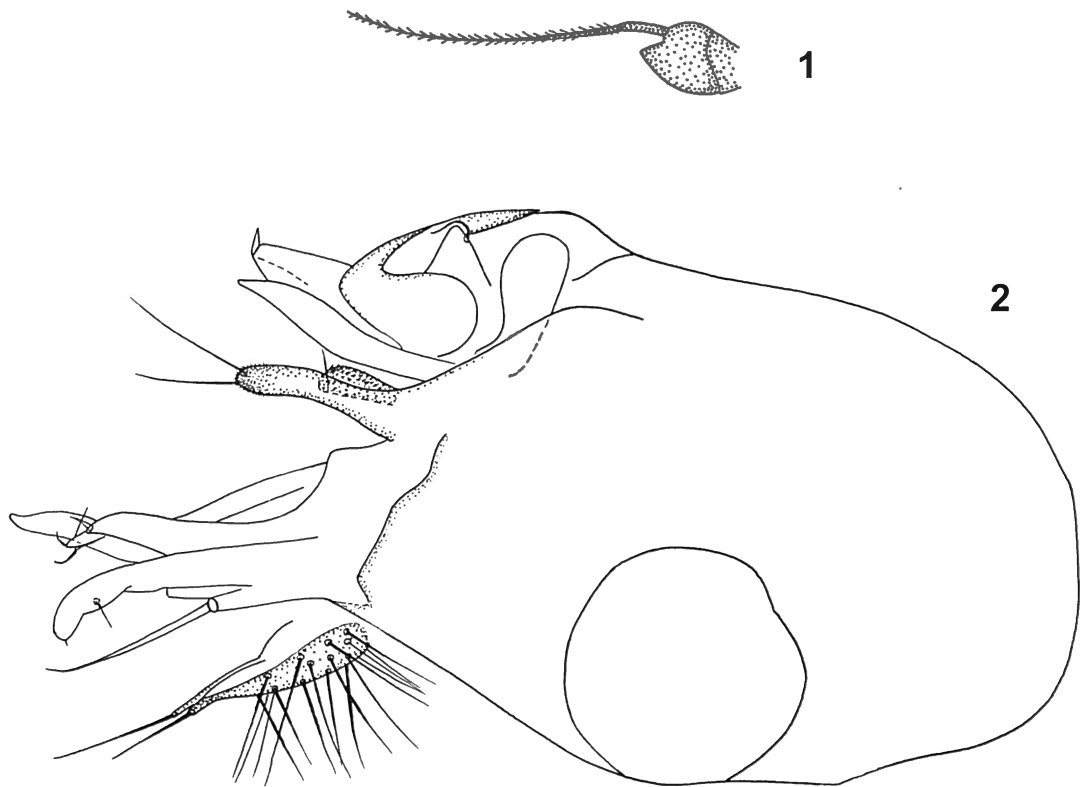
2. *Hercostomus (Hercostomus) curvispinus* sp. nov. (Figs. 1-2)

Diagnosis. Postocular bristles wholly black. First flagellomere small and acute apically. Fore tarsomeres 3-4 black and slightly thickened, with thick dorsal hairs; tarsomere 5 white with white hairs.

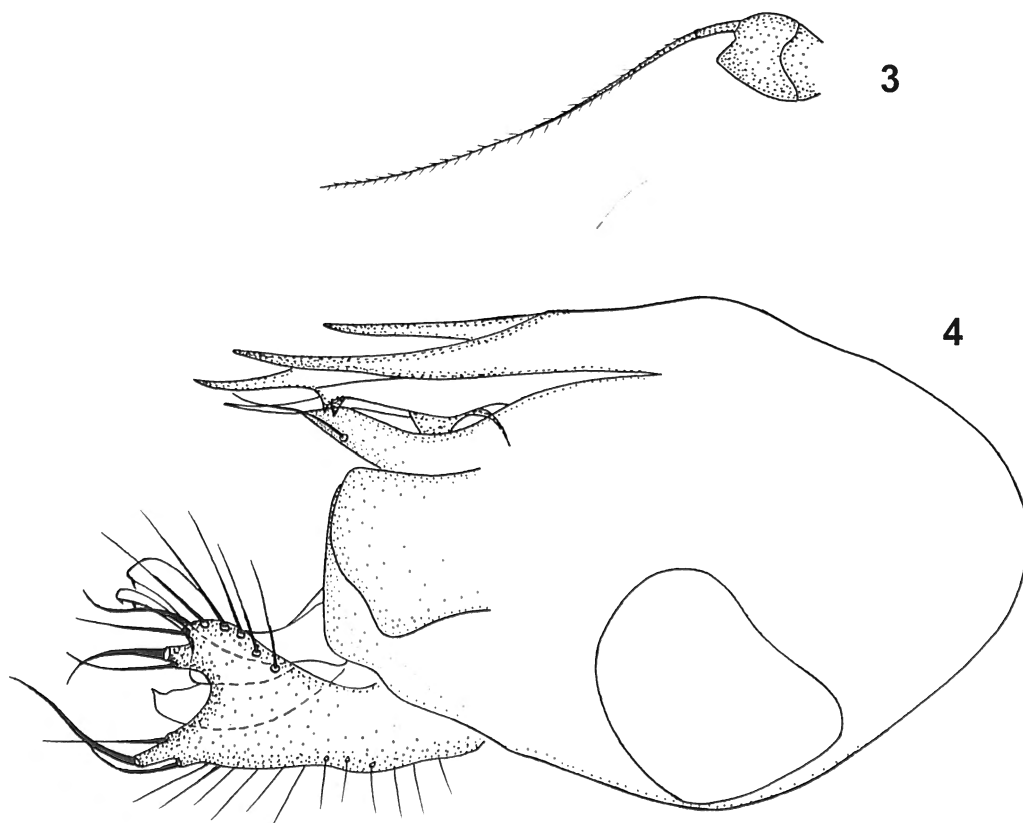
Male. Body length 2.8 mm, wing length 3.2 mm.

Head metallic green with pale grey pollen; vertex, frons and face with silvery white pollen; face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles black, mid-ventral hairs pale. Antenna small and black; first flagellomere as long as wide, acute apically; arista black, with basal segment 0.17 times as long as apical segment, very short pubescent. Proboscis yellow with black hairs; palpus yellow, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 strong dc; 5-6 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except apex) black; tip of hind femur blackish; fore tarsus with tip of tarsomere 1 and entire tarsomere 2 dark brown, tarsomere 3-4 black and slightly thickened, tarsomere 5 white; mid tarsus from tip of tarsomere 1 onward black; hind tarsus wholly black. Hairs and bristles on legs black; fore coxa with 7 thin or thick anterior and apical bristles; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical dorsal bristle. Fore tibia with 1 ad and 2 pd; mid tibia with 3 ad, 2 pd and 1 av; hind tibia with 4 ad, 4 pd and 3 av. Relative lengths of segments of legs LI 3.2: 2.1: 1.3: 0.7: 0.4: 0.5; LII 4.2: 2.3: 1.6: 1.2: 0.7: 0.4; LIII 5.1: 1.4: 2.2: 1.2: 0.7: 0.4. Wing hyaline,



Figs. 1-2 — *Hercostomus (Hercostomus) curvispinus*, sp. nov., male. 1. antenna (excluding scape), lateral view; 2. genitalia, lateral view.



Figs. 3-4 — *Hercostomus (Hercostomus) incisus*, sp. nov., male. 3. antenna (excluding scape), lateral view; 4. genitalia, lateral view.

tinged with greyish; veins black, R4+5 and M distinctly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow, with dark brownish yellow stem.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 2): Epandrium with long finger-like lateral lobe (bearing 2 apical bristles); cercus rather small, with 2 apical denticles; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, paratype 1 male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The name refers to the curved spine on the hypandrium.

Remarks. The new species belongs to the *hamatus*-group. It is similar to *dissectus* YANG et SAIGUSA from Sichuan, but may be distinguished from the latter by the apically acute first flagellomere. In *dissectus*, the first flagellomere is obtuse apically (YANG & SAIGUSA, 1999).

3. *Hercostomus (Hercostomus) henanus* YANG

Hercostomus (Hercostomus) henanus YANG, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 210. Type locality: Henan.

Specimens examined. 2 males, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Henan).

4. *Hercostomus (Hercostomus) incisus* sp. nov. (Figs. 3-4)

Diagnosis. Middle and lower postocular bristles pale. First flagellomere small and acute apically. Fore tarsomeres 3-4 black, tarsomere 5 white. Mid tibia with 1 very long apv.

Male. Body length 3.8 mm, wing length 3.7 mm.

Head metallic green with pale grey pollen; vertex, frons and face with silvery white pollen; face wider than first flagellomere. Hairs and bristles on head black; mid and lower postocular bristles (including ventral hairs) pale. Antenna small and black; first flagellomere as long as wide, acute apically; arista black, with basal segment 0.15 times as long as apical segment, very short pubescent. Proboscis yellow with black hairs; palpus yellow, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and

bristles on thorax black; 6 strong dc; 6-8 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except apex) blackish; tarsi from tip of tarsomere 1 onward dark brown, but fore tarsus with tarsomere 3-4 black, tarsomere 5 somewhat thickened and white. Hairs and bristles on legs black; fore coxa with 7 thin or thick anterior and apical bristles; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical dorsal bristle. Fore tibia with 1 ad and 2 pd; mid tibia with 3 ad, 2 pd and 1 very long apv; hind tibia with 4 ad, 4 pd and 5 short av. Hind tarsomere 1 with 3 v. Relative lengths of segments of legs LI 4.0: 2.1: 1.4: 1.2: 0.7: 0.6; LII 5.4: 2.7: 1.7: 1.5: 0.9: 0.6; LIII 6.4: 1.7: 2.6: 1.6: 1.0: 0.7. Wing hyaline, tinged with grey; veins black, R4+5 and M distinctly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow. Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; venter with short pale hairs basally. Male genitalia (Fig. 4): Epandrium with lateral lobe nearly acute apically; cercus rather large, with distinct apical incision; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The name refers to the distinct apical incision on the cercus.

Remarks. The new species is somewhat similar to *curvispinus* sp. nov. in the fore tarsus, but differs from the latter in the following points: middle and lower postocular bristles pale; mid tibia with 1 very long apv.

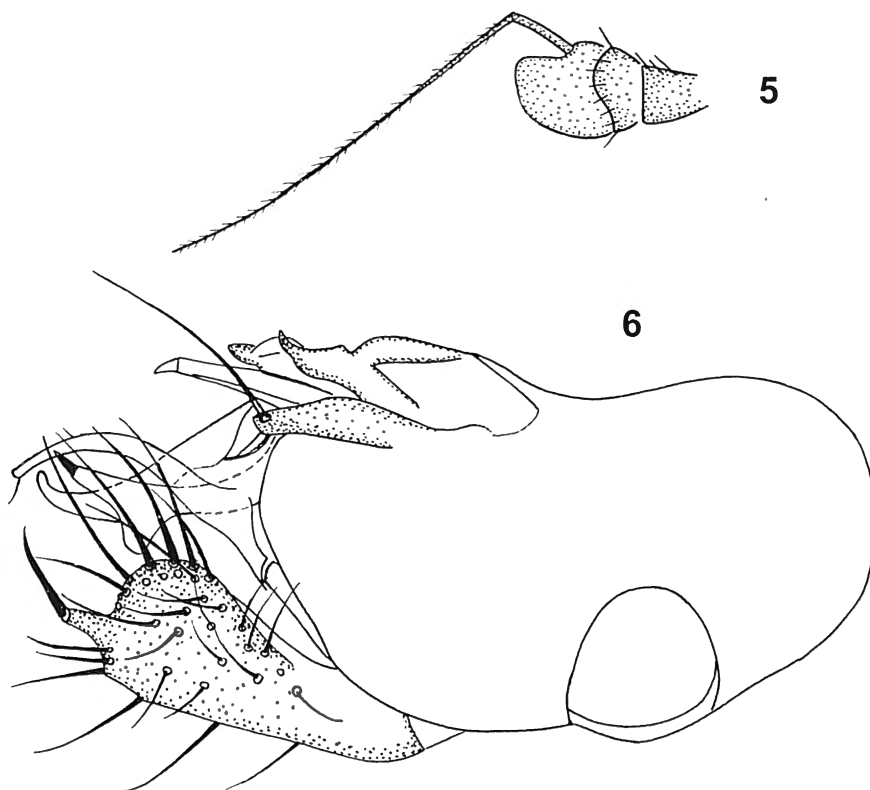
5. *Hercostomus (Hercostomus) jindinganus* sp. nov. (Figs. 5-6)

Diagnosis. Postocular bristles wholly black. First flagellomere obtuse apically. Male cercus with finger-like apical process.

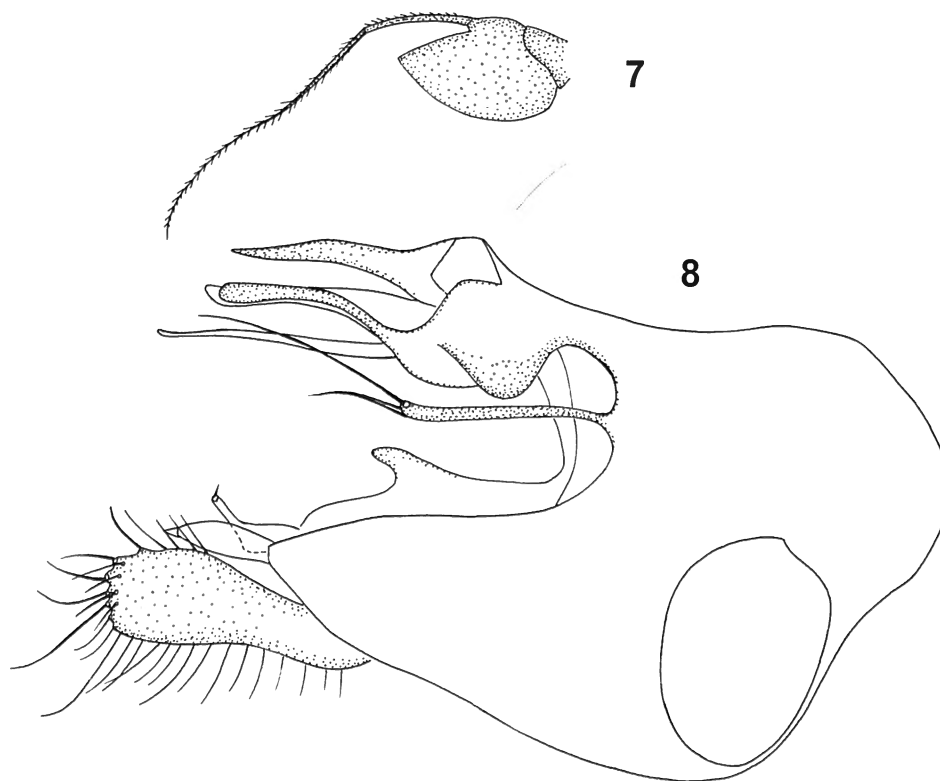
Male. Body length 3.8 mm, wing length 4.6 mm.

Head metallic green with pale grey pollen; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, mid-ventral hairs pale. Antenna small and black; first flagellomere as long as wide, obtuse apically; arista black, with basal segment 0.15 times as long as apical segment, very short pubescent. Proboscis brown with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 strong dc; 8-9 irregularly paired acr short and hair-like; scutellum with two pairs of bristles



Figs. 5-6 — *Hercostomus (Hercostomus) jindinganus*, sp. nov., male. 5. antenna, lateral view; 6. genitalia, lateral view.



Figs. 7-8 — *Hercostomus (Hercostomus) spinitarsis*, sp. nov., male. 7. antenna (excluding scape), lateral view; 8. genitalia, lateral view.

(outer pair very short, hair-like). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except apex) blackish to black; tarsi black, tarsomere 1 (except tip) dark brownish yellow. Hairs and bristles on legs black; fore coxa with 5-6 thin or thick anterior and apical bristles; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical dorsal bristle. Fore tibia with 2 ad and 2 pd; mid tibia with 2 ad, 2 pd and 2 av; hind tibia with 3 ad, 4 pd and 3 av. Hind tarsomere 1 with 3 v. Relative lengths of segments of legs LI 4.3: 2.5: 1.35: 1.1: 0.7: 0.7; LII 6.3: 3.4: 2.1: 1.4: 0.8: 0.7; LIII 7.7: 2.4: 2.6: 1.6: 1.0: 0.75. Wing hyaline, slightly tinged with greyish; veins black, R4+5 and M strongly convergent apically; CuAx ratio 0.85. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; sternites 1-2 with some pale hairs. Male genitalia (Fig. 6): Epanthrium with short lateral lobe (bearing 1 long apical bristle); cercus rather large, with finger-like apical process; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, paratype 1 male, Sichuan: Emei Mountain, Jingding (2,900-3,030 m), 1998. VIII. 8, T. SAIGUSA (CAU & SKU).

Distribution. China (Sichuan).

Etymology. The species is named after the type locality Jingding.

Remarks. The new species is similar to *digitatus* YANG from Yunnan, but may be separated from the latter by the arista with very short basal segment (0.15 times as long as apical segment). In *digitatus*, the arista is rather long (0.7 times as long as apical segment) (YANG, 1997b).

6. *Hercostomus (Hercostomus) spinitarsis* sp. nov. (Figs. 7-8)

Diagnosis. Postocular bristles wholly black. First flagellomere acute apically. Mid tarsus with spine-like ventral bristles.

Male. Body length 4.9 mm, wing length 4.6 mm.

Head metallic green with pale grey pollen; face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) wholly black. Antenna black; first flagellomere 1.5 times longer than wide, acute apically; arista black, with basal segment 0.35 times as long as apical segment, short pubescent. Proboscis dark brownish yellow with black hairs; palpus yellow, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 strong dc; 7-8 irregularly

paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; fore and hind coxae yellow, mid coxa (except apex) black; tarsi from tip of tarsomere 1 onward brownish to brown. Hairs and bristles on legs black; fore coxa with 6 anterior and apical bristles, mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical dorsal bristle. Fore tibia with 1 ad and 2 pd; mid tibia with 3-4 ad, 2-3 pd and 3 av; hind tibia with 4 ad, 4-5 pd and 5-6 av. Hind tarsomere 1 with 2 v at base. Mid tarsus nearly with two rows of spine-like ventral bristles. Relative lengths of segments of legs LI 5.3: 2.7: 1.4: 1.1: 0.7: 0.5; LII 6.7: 3.4: 1.7: 1.6: 1.0: 0.6; LIII 7.8: 2.2: 2.9: 1.7: 1.0: 0.7. Wing hyaline, tinged with brown; veins black, R4+5 and M distinctly convergent apically. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 7): Epanthrium nearly acute apically; lateral lobe very slender, located near hypandrium; cercus wide apically with weak apical denticles; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after spine-like ventral bristles on the mid tarsus.

Remarks. The new species belongs to the *digitiformis*-group. It is very similar to *luoshanensis* YANG et SAIGUSA from Henan. In *luoshanensis*, the mid tarsus has no spine-like ventral bristles (YANG & SAIGUSA, 2000).

7. *Hercostomus (Hercostomus) weii* Yang et Saigusa, nom. n.

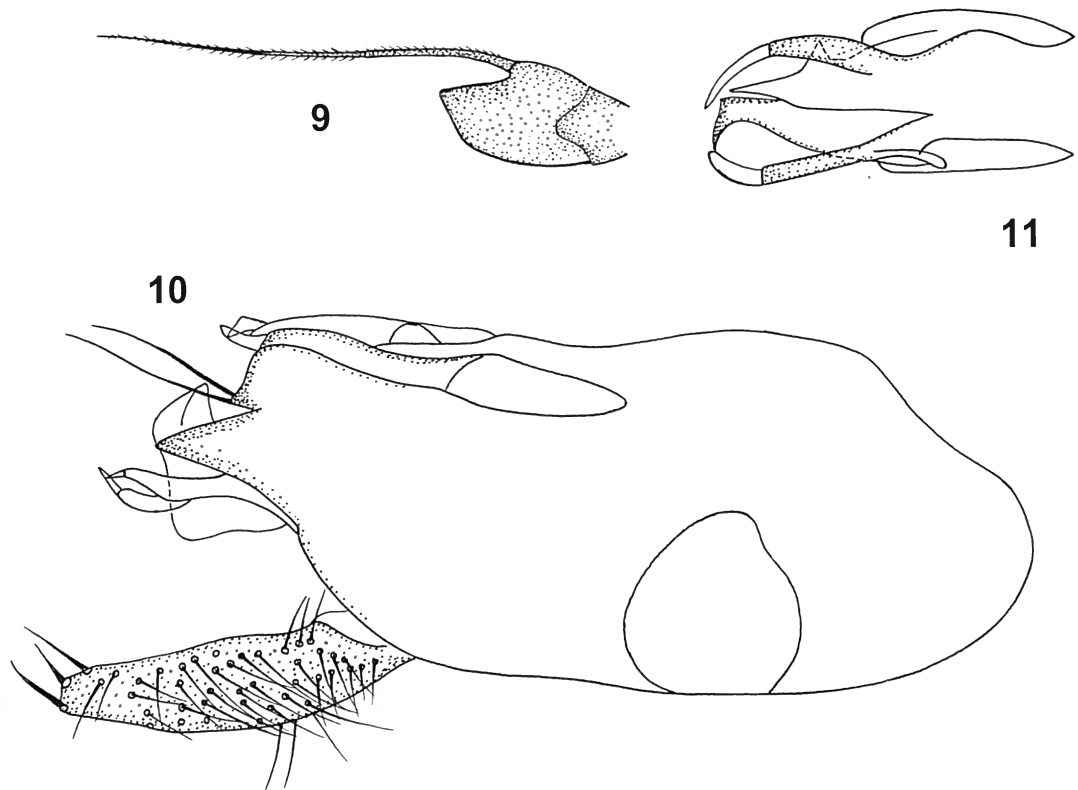
Hercostomus lii WEI, 1997. J. Guizhou Agric. Coll. 16(4): 35. Type locality: Yunnan. (preoccupied by *Hercostomus lii* YANG, 1996. Ann. Soc. Ent. Fr. (N.S.) 32(4): 413)

Specimens examined. 1 male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA; 7 males, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), T. SAIGUSA (SKU).

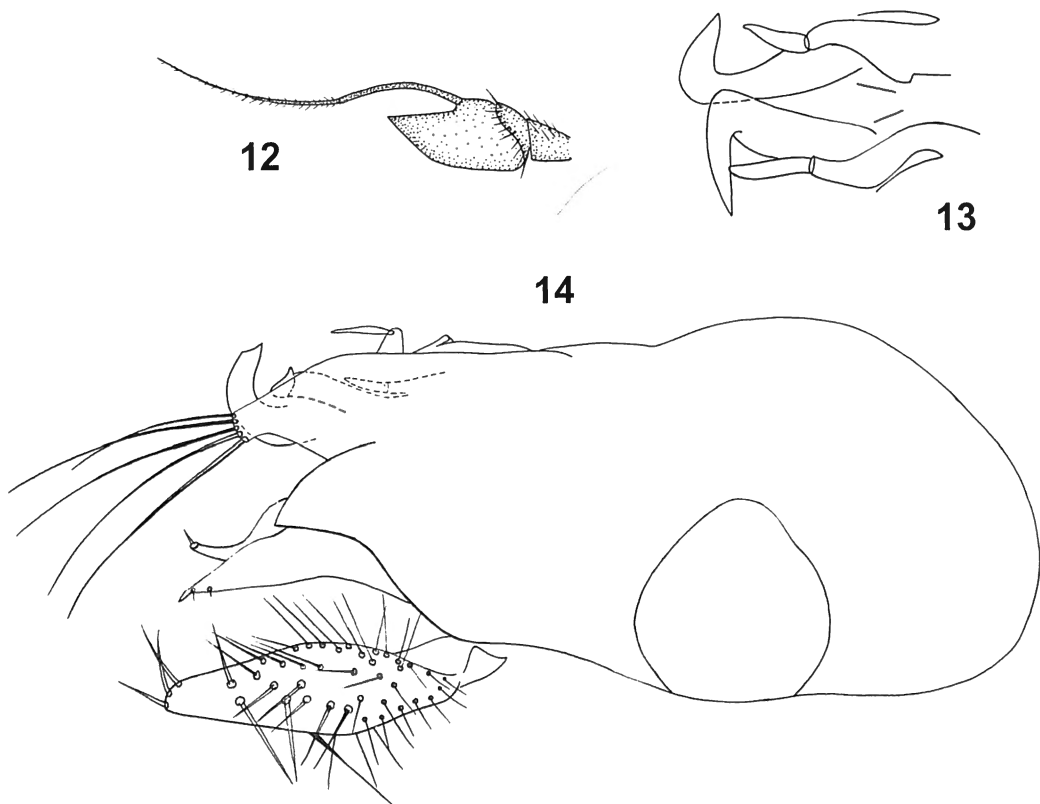
Distribution. China (Sichuan, Yunnan).

Hercostomus (Hercostomus) longus-group

Diagnosis. Postocular bristles wholly black. Antenna wholly black. Scutellum with fine hairs on dorsal surface and apical margin. Mid and hind coxae wholly yellow.



Figs. 9-11 — *Hercostomus (Hercostomus) longus*, sp. nov., male. 9. antenna (excluding scape), lateral view; 10. hypandrium, ventral view; 11. genitalia, lateral view.



Figs. 12-14 — *Hercostomus (Hercostomus) sublongus*, sp. nov., male. 12. antenna, lateral view; 13. hypandrium, ventral view; 14. genitalia, lateral view.

Mid and hind femora with some long ventral hairs. Male genitalia: Epandrium elongated apically (much longer than wide), hypandrium partly hidden by epandrium; cercus long band-like, with some strong bristles.

The *longus*-group includes 4 following species: *longus* sp. nov., *sublongus*, sp. nov., *curvarmatus* sp. nov., *ventralis* YANG et SAIGUSA. Among them, *H. longus* and *H. sublongus* are sister-species, which is evidently supported by the characters of the male genitalia.

8. *Hercostomus (Hercostomus) longus* sp. nov.
(Figs. 9-11)

Diagnosis. Postocular bristles wholly black. First flagellomere slightly elongated, with angular apex. Mid and hind femora with long ventral hairs on basal half. Fore tibia with 1 very long apv.

Male. Body length 2.8-2.9 mm, wing length 3.0-3.1 mm.

Head metallic green with pale grey pollen; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, mid-ventral hairs mostly pale. Antenna black; first flagellomere ventrally with basal area brownish yellow, 1.4 times longer than wide, angular apically; arista black, with basal segment 0.7 times as long as apical segment, very short pubescent. Proboscis brown to dark brown with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 strong dc; 6-7 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like), and with short hairs on dorsal surface and apical margin. Propleuron black and pale haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid (except apex) blackish; tarsi from tip of tarsomere 1 onward brownish to brown. Hairs and bristles on legs black; fore coxa with 7 thin or thick anterior and apical bristles; mid and hind coxae with 1 outer bristle, mid coxa with dense anterior hairs; mid and hind femora with 1 preapical dorsal bristle, and with long ventral hairs on basal half. Fore tibia with 1 ad, 2 pd and 1 very long brown apv; mid tibia with 3 ad, 2 pd and 1 av; hind tibia with 3 ad, 4 pd and 5 av. Hind tarsomere 1 with 1 v at base. Relative lengths of segments of legs LI 2.7: 1.3: 0.7: 0.6: 0.4: 0.35; LII 3.2: 1.7: 1.1: 0.9: 0.7: 0.4; LIII 4.1: 1.3: 1.7: 1.2: 0.75: 0.4. Wing hyaline, slightly tinged with greyish; veins black, R4+5 and M convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 9-10): Epandrium much elongated, acute apically, with short wide lateral lobe (bearing 2 lower apical bristles); cercus narrow, with 3 strong apical bristles; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, paratypes 4 males, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA; paratype 1 male, Sichuan: Qingcheng Mountain, Tianrantuhua (900 m), 1998. VIII. 20, T. SAIGUSA; 1 male, Sichuan: Qingcheng Mountain, Yuechenghu (900 m), 1998. VIII. 22, T. SAIGUSA. (CAU, SKU & IRSN)

Distribution. China (Sichuan).

Etymology. The species is named after the mid and hind femora with long ventral hairs on basal half.

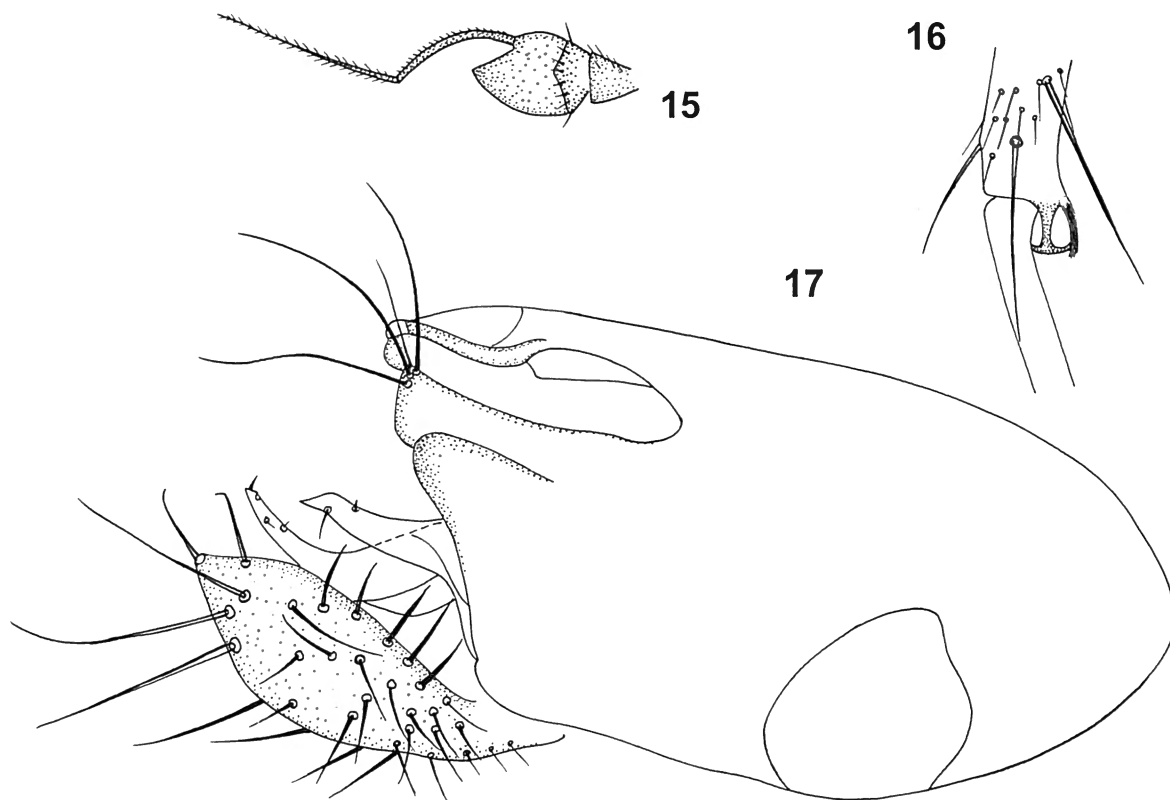
Remarks. The new species is similar to *sublongus* sp. nov. in the mid coxa with dense anterior hairs and epandrium with slightly curved acute apex and apically separated lateral lobe bearing apical long hairs, but differs from the latter in the fore femur without dense ventral hairs and fore tibia with 1 very long apv.

9. *Hercostomus (Hercostomus) sublongus* sp. nov.
(Figs. 12-14)

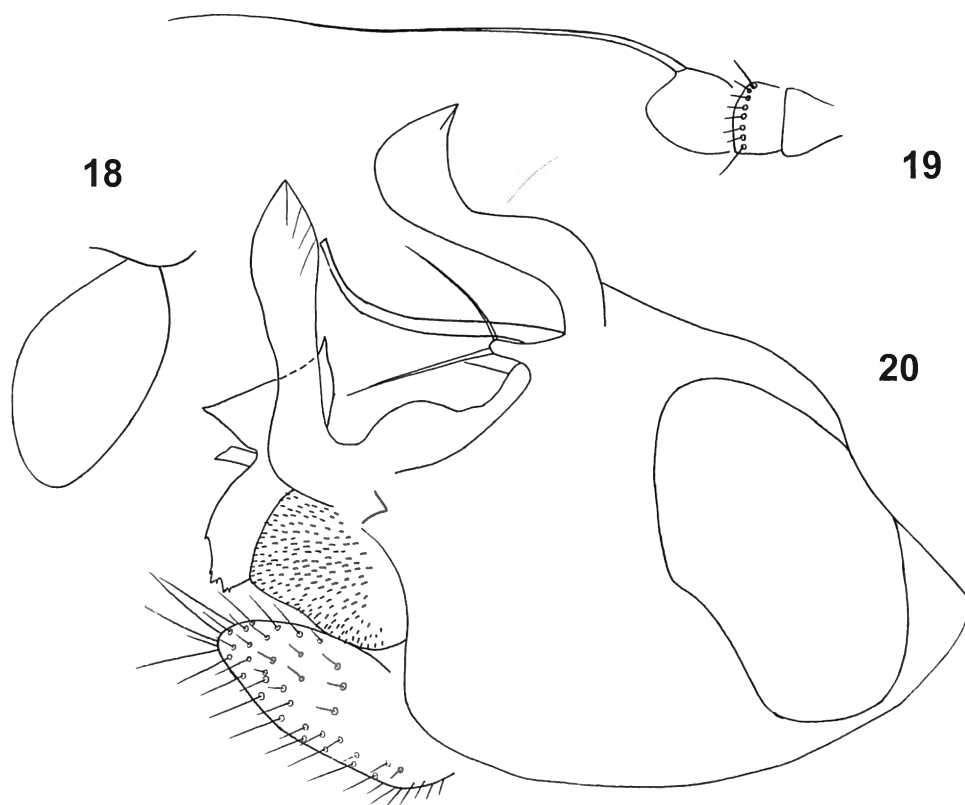
Diagnosis. Postocular bristles wholly black. First flagellomere slightly elongated, with acute apex. Femora with long ventral hairs.

Male. Body length 2.6-2.7 mm, wing length 2.6-2.9 mm. Head metallic green with pale grey pollen; vertex, frons and face with silvery white pollen; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, mid-ventral hairs pale. Antenna black; first flagellomere 1.8 times longer than wide, acute apically; arista black, with basal segment 0.7 times as long as apical segment, very short pubescent. Proboscis dark brown with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 strong dc; 6-8 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like), and with short hairs on dorsal surface and apical margin. Propleuron with black and pale hairs on upper portion, pale hairs and 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except apex) tinged with blackish; tarsi from tip of tarsomere 1 onward brownish yellow. Hairs and bristles on legs black; fore coxa with 5 bristles on lateral and apical margin; mid and hind coxae with 1 outer bristle, mid coxa with dense anterior hairs; mid and hind femora with 1 preapical dorsal bristle. Fore femur with dense ventral hairs; mid femur with 2-3 long ventral hairs basally, hind femur with 4-6 long ventral hairs on basal half. Fore tibia with 1 ad and 2 pd; mid tibia with 3 ad, 2 pd and 1 av; hind tibia with 2 ad, 3 pd and 4-5 av. Hind tarsomere 1 with 1 v at base. Relative lengths of segments of legs LI 2.7: 1.3: 0.7: 0.4: 0.3: 0.35; LII 3.5: 1.7: 1.2: 0.9: 0.7: 0.4; LIII 3.9: 1.4: 1.7: 1.1: 0.8: 0.4. Wing hyaline, slightly tinged with greyish; veins black, R4+5 and M slightly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.



Figs. 15-17 — *Hercostomus (Hercostomus) curvarmatus*, sp. nov., male. 15. antenna, lateral view; 16. apical portion of hind tibia, lateral view; 17. genitalia, lateral view.



Figs. 18-20 — *Diostracus brevicercus*, sp. nov., male. 18. palpus; 19. antenna, lateral view; 20. genitalia, lateral view.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 13-14): Epandrium much elongated, acute apically; lateral lobe narrow apically, with 5 long apical bristles; cercus narrow apically, with some strong bristles; hypandrium irregularly furcate.

Female. Unknown.

Holotype 1 male, Sichuan: Qingcheng Mountain, Yuechenghu (900 m), 1998. VIII. 22, T. SAIGUSA. Paratypes 1 male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA; 1 male, Sichuan: Qingcheng Mountain (900 m), 1998. VIII. 21, T. SAIGUSA. (CAU & SKU)

Distribution. China (Sichuan).

Etymology. The species is named after the similarity with *longus*.

Remarks. The new species is a sister-species of *longus* sp. nov., but may be separated from the latter by the fore femur with denser ventral hairs.

10. *Hercostomus (Hercostomus) curvarmatus* sp. nov.
(Figs. 15-17)

Diagnosis. Postocular bristles wholly black. First flagellomere small and acute apically. Abdomen partly yellow basally. Hind tibia with T-shaped dorso-apical process.

Male. Body length 2.9 mm, wing length 3.1 mm.

Head metallic green with pale grey pollen; vertex, frons and face with silvery white pollen; face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) wholly black. Antenna small and black; first flagellomere 1.1 times longer than wide, acute apically; arista black, with basal segment 0.65 times as long as apical segment, very short pubescent. Proboscis blackish, with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; metapleuron brownish yellow. Hairs and bristles on thorax black; 6 strong dc; 6 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (outer pair very short, hair-like), with short hairs on dorsal surface and apical margin. Propleuron pale haired, with 1 long black bristle on lower portion. Legs yellow; coxae yellow, mid coxa with 1 blackish outer spot; fore tarsus from tip of tarsomere 1 onward brownish yellow; mid and hind tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 6 anterior and apical bristles; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical dorsal bristle. Mid femur with one row of 5 long black ventral hairs on basal half; hind femur with 3 long black ventral hairs basally. Fore tibia with 1 ad and 2 pd; mid tibia with

1 ad, 2 pd and 1 av; hind tibia with 3 ad, 3 pd and 4-5 av, and with one T-shaped dorso-apical process. Relative lengths of segments of legs LI 2.7: 1.5: 0.7: 0.6: 0.3: 0.35; LII 3.7: 1.8: 1.2: 0.9: 0.5: 0.4; LIII 4.1: 1.4: 1.6: 1.0: 0.6: 0.4. Wing hyaline, tinged with greyish; veins black, R4+5 and M weakly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; tergites 1-4 tinged with yellow laterally, sternites 1-4 yellow. Hairs and bristles on abdomen black. Male genitalia (Fig. 17): Epandrium with indistinctly separated lateral lobe (bearing 3 strong apical bristles); cercus rather large, somewhat acute apically, with strong bristles; hypandrium with narrow curved lateral arm.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the hypandrium with slightly curved lateral arm.

Remarks. The new species may be easily separated from other species of the *longus*-group by the mid tibia with T-shaped dorso-apical process.

Subfamily Hydrophorinae

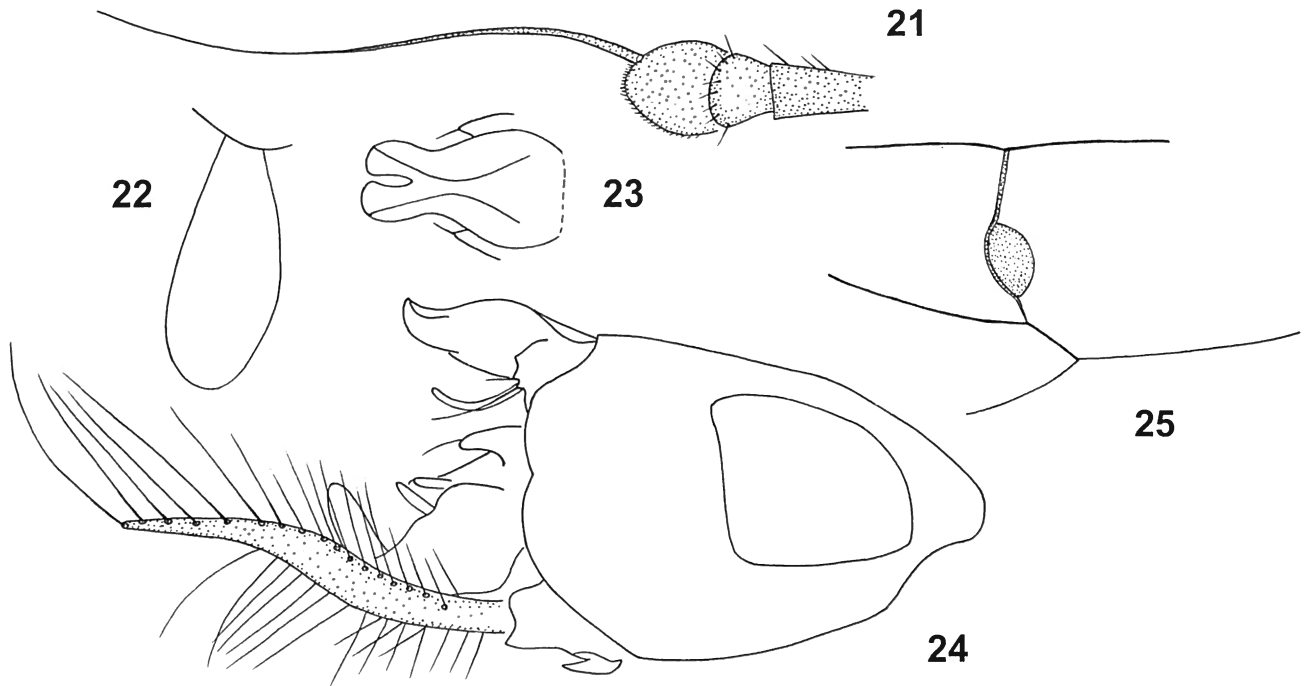
11. *Diostracus brevicercus* sp. nov.
(Figs. 18-20)

Diagnosis. First flagellomere short, as long as wide; arista subapical. Palpus golden yellow. 6 strong dc. Legs chiefly black. Fore coxa with 1 black bristle on weak subapical tubercle.

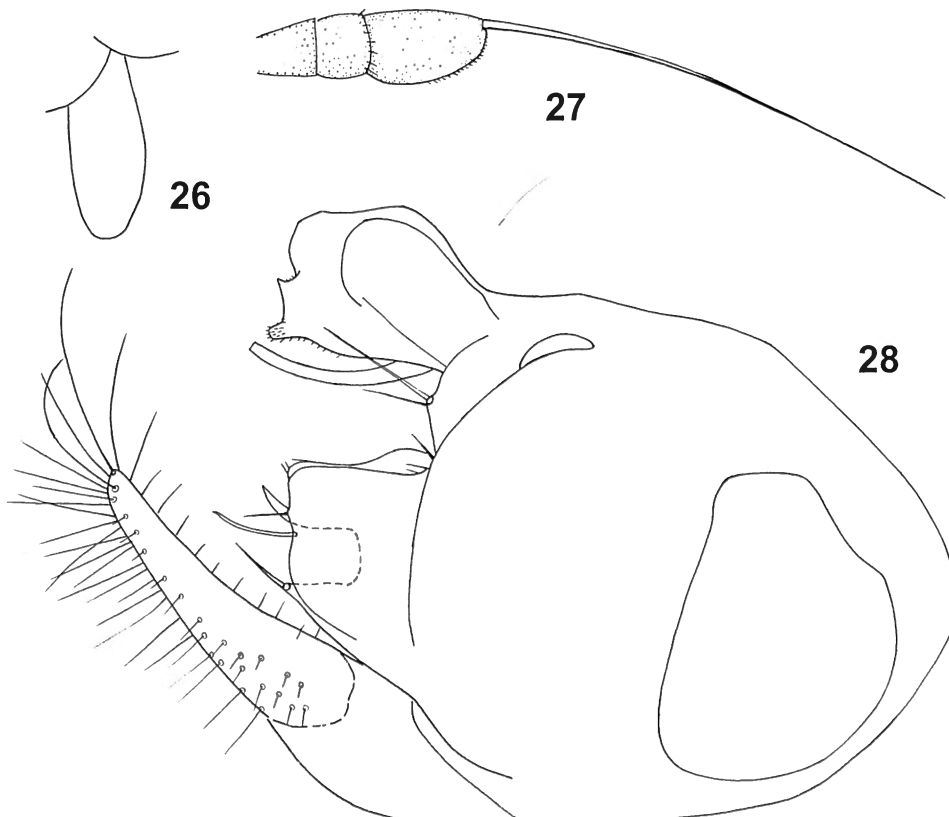
Male. Body length 4.5 mm, wing length 5.4 mm.

Head metallic green with pale grey pollen; vertex distinctly excavated. Eyes widely separated; face widened downward. Hairs and bristles on head black; postocular bristles black, lower postocular hairs (including ventral hairs) mostly pale. Ocellar tubercle rather distinct, with one pair of rather long oc, without posterior hairs; 1 long vt (longer than pvt). Antenna black; scape short, without dorsal hairs; first flagellomere short subconical, as long as wide; arista subapical, one-segmented, black, very short pubescent. Proboscis black, with pale hairs; palpus golden yellow, with black hairs.

Thorax metallic green with pale grey pollen; mesonotum with 2 indistinct brown longitudinal stripes between dc. Hairs and bristles on thorax black; 6 strong dc; acr absent; 1 h, 1 ph, 2 npl, 1 sa, 1 pa, su and psu absent; scutellum with one pair of strong bristles and some very short marginal hairs. Propleuron pale haired, with 1 black bristle on lower portion. Legs black; narrow apices of coxae and entire trochanters brownish yellow; narrow



Figs. 21-25 — *Diostracus brevis*, sp. nov., male. 21. antenna, lateral view; 22. palpus; 23. hypandrium, ventral view; 24. genitalia, lateral view; 25. part of wing around m-cu.



Figs. 26-28 — *Diostracus digitiformis*, sp. nov., male. 26. palpus; 27. antenna, lateral view; 28. genitalia, lateral view.

bases of femora and tibiae, apices of femora yellow. Hairs and bristles on legs black; fore coxa with pale short hairs, and 1 black bristle on weak subapical tubercle; femora with pale ventral hairs, but hind femur more or less with one row of very long weak ventral bristles. Fore tibia with 3 ad and 1 pd. Mid tibia with 4 ad and 3 pd, basally with some very long ventral bristles. Hind tibia with 5 ad, 3 pd and 5 weak av. Relative lengths of segments of legs LI 5.2: 2.2: 1.9: 1.3: 0.7: 0.7; LII 8.0: 3.8: 2.0: 1.3: 0.7: 0.7; LIII 8.5: 3.6: 2.6: 1.7: 1.0: 0.7. Wing hyaline, weakly tinged with greyish; veins black, R4+5 and M somewhat convergent; crossvein m-cu nearly straight. Squama brownish yellow with mostly pale hairs. Halter yellow.

Abdomen short and thick, as long as thorax, metallic green with pale grey pollen. Hairs on abdomen pale, but dorsum with mostly black hairs. Male genitalia (Fig. 20): Epanthrium rather wide, its surstylus long and strongly curved, acute apically; cercus short, lobe-like; hypandrium distinctly curved, acute apically.

Female. Body length 5.3 mm, wing length 6.6 mm. Similar to male, but palpus dark, mesonotum with 2 distinct brown longitudinal stripes, hind femur and mid tibia without long bristles.

Holotype male, paratype 1 female, Sichuan: Emei Mountain, Wuxiangang (700 m), 1998. VIII. 14, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The new species is named after the short cercus.

Remarks. The new species is somewhat similar to *nebulosus* TAKAGI from Nepal and Tibet. But in *nebulosus*, the palpus is black; 5 dc (except 5th posterior dc) are weak; the wing has one dark spot (TAKAGI, 1972; YANG, 1998).

12. *Diostracus brevis* sp. nov. (Figs. 21-25)

Diagnosis. First flagellomere rather short, as long as wide; arista nearly upper-apical. Fore femur with one group of 7 posterior bristles at base.

Male. Body length 5.6 mm, wing length 7.7 mm.

Head metallic green with pale grey pollen; vertex weakly excavated. Eyes widely separated; face widened downward. Hairs and bristles on head black; postocular bristles black, lower postocular hairs pale, ventral hairs rather long and pale. Ocellar tubercle distinct, with 1 pair of long oc, without posterior hairs; 1 vt rather short; pvt strong, slightly longer than vt. Antenna black, scape elongate, about 2 times longer than wide, with black dorsal hairs; first flagellomere rather short, as long as wide; arista subapical, one-segmented, black, nearly bare.

Proboscis black, with pale hairs; palpus black with grey brown pollen, with black short hairs.

Thorax metallic green with pale grey pollen; mesonotum somewhat dark, with 2 brownish black longitudinal stripes between dc, which extends backward near 5th posterior dc. Hairs and bristles on thorax black; 6 dc hair-like except 6th posterior dc strong; acr absent; 1 h, 1 ph, 2 npl, 1 sa, 1 pa, su and psu absent; scutellum with 2 strong bristles. Propleuron pale haired, with 1 long pale hair-like bristle on lower portion. Legs entirely black. Hairs and bristles on legs black; fore coxa with pale yellow hairs (one group of basal dorsal hairs long and yellow; one group of apical dorsal bristles short, dense and black); mid and hind coxae pale haired, except apical dorsal hairs black. Fore femur basally with a group of 7 black long posterior bristles; mid femur ventrally with 6 very long yellow hairs and 1 black bristle at base. Fore tibia with 3 ad, 2 pd, a row of 4 long v (more or less at middle); fore tarsomere 1 with one bomb of thick spine-like av and one row of long pv, fore tarsomere 2 with one row of pv. Mid tibia with 3 ad and 2 pd. Hind tibia with 4 ad, 4 pa and 6-7 v; hind tarsomere 1 with 3 v. Relative lengths of segments of legs LI 5.8: 3.0: 2.7: 1.3: 0.8: 1.0; LII 9.3: 5.4: 2.1: 1.3: 0.8: 1.2; LIII 11.6: 5.5: 3.5: 2.1: 1.1: 1.2. Wing hyaline, slightly tinged with greyish; veins black, R4+5 and M somewhat convergent; crossvein m-cu with a jet black nodule. Squama dark brown with pale hairs. Halter brownish yellow with black knob.

Abdomen short and thick, nearly as long as thorax; dark metallic green with pale grey pollen. Hairs on abdomen pale and black. Male genitalia (Figs. 23-24): Epanthrium rather wide apically, its surstylus with narrow apex curved and basally with 1 thin spine-like process; cercus slender with long hairs; hypandrium short, apically with obtuse lateral processes.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (CAU).

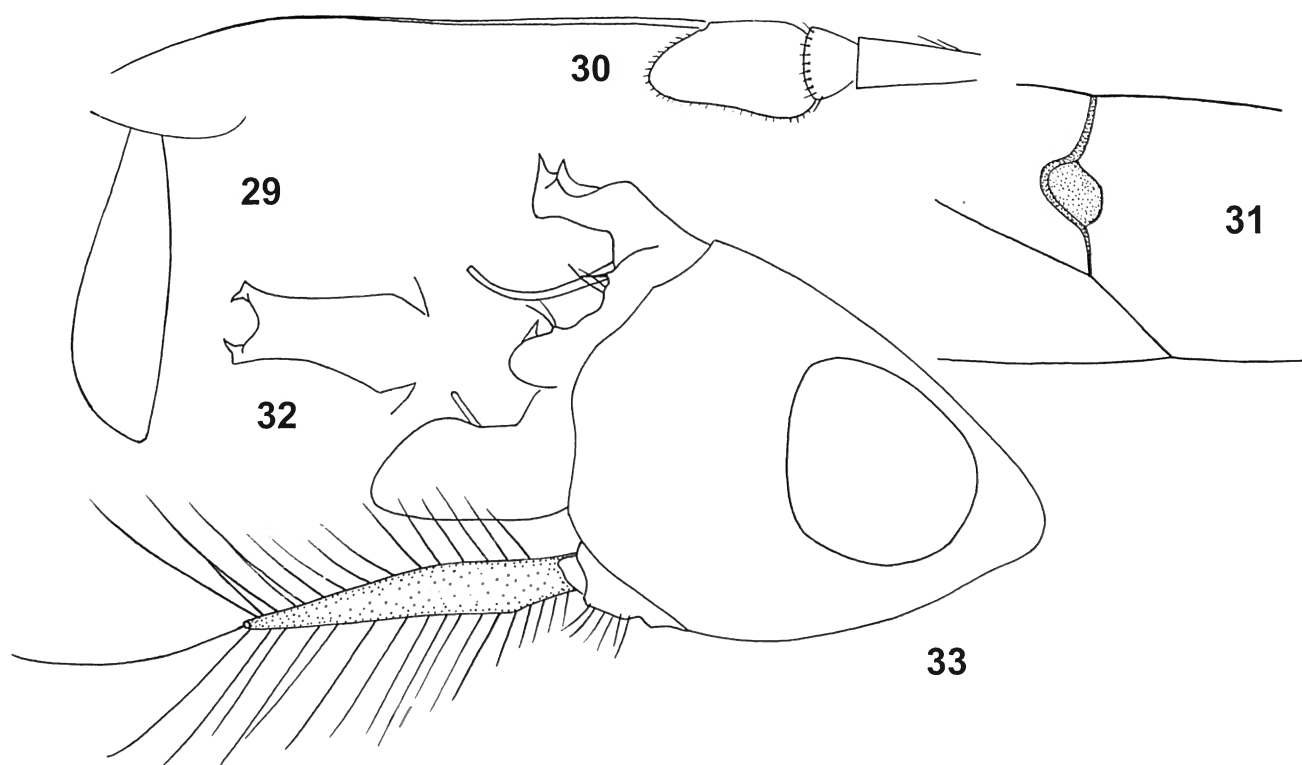
Distribution. China (Sichuan).

Etymology. The species is named after the short first flagellomere.

Remarks. The new species belongs to the *unipunctatus*-group. It is similar to *saigusai* TAKAGI from Taiwan. But in *saigusai*, the fore femur has only 1-2 posterior bristles at base and fore tibia has 3 long pv at middle (TAKAGI, 1968).

13. *Diostracus digitiformis* sp. nov. (Figs. 26-28)

Diagnosis. vt absent. First flagellomere elongate, 1.6 times longer than wide; arista upper apical. Legs wholly black. Empodium and pulvilli indistinct.



Figs. 29-33 — *Diostracus prolongatus*, sp. nov., male. 29. palpus; 30. antenna, lateral view; 31. part of wing around m-cu; 32. hypandrium, ventral view; 33. genitalia, lateral view.

Male. Body length 6.3 mm, wing length 6.6 mm.

Head metallic green with grey brown pollen, occiput pale grey pollinose except upper portion; vertex weakly excavated. Eyes widely separated; face widened downward. Hairs and bristles on head black; 5 strong postocular bristles (2 upper ones black, 3 lower ones yellow), lower postocular hairs (including ventral hairs) pale. Ocellar tubercle distinct, with one pair of strong oc, without posterior hairs; vt absent, pvt slightly shorter than oc. Antenna black; scape short, without dorsal hairs; first flagellomere elongate, 1.6 times longer than wide; arista upper apical, one-segmented, black, nearly bare. Proboscis black, with pale hairs; palpus black, with black hairs. Thorax metallic green with pale grey pollen; mesonotum with 2 brown longitudinal stripes between dc (which reach 5th posterior dc). Hairs and bristles on thorax black; 6 dc hair-like except 6th posterior dc strong; acr absent; 1 h, 1 weak ph nearer to transverse suture than to h, 2 npl, 1 sa, 1 pa, su and psu absent; scutellum with one pair of strong bristles and 3 very short hairs. Propleuron with 1 pale hair on upper portion, 1 pale hair and 1 pale long weak bristle on lower portion. Legs wholly black; empodium and pulvilli reduced and indistinct. Hairs and bristles on legs black; fore coxa with pale hairs, and with brownish yellow bristles at anterior apical margin. Femora with some pale ventral hairs, but hind femur with pale and a little long ventral hairs (nearly as long as width

of femur). Fore tibia with 4 ad, 2 pd and 8 pv. Mid tibia with 3 ad, 2 pd, 4 av, 5 pv and 4 v. Hind tibia with 4 ad, 2 pa, 6 av and 5-6 pv. Relative lengths of segments of legs LI 6.4: 1.6: 2.5: 1.4: 0.8: 1.2; LII 8.9: 3.8: 1.7: 1.0: 0.7: 1.0; LIII 9.8: 4.4: 2.7: 1.5: 0.8: 1.0. Wing hyaline, indistinctly tinged with greyish; veins black, R4+5 and M somewhat convergent; crossvein m-cu nearly straight. Squama dark brown with pale hairs. Halter yellow.

Abdomen longer than thorax, metallic green with pale grey pollen. Hairs on abdomen pale, but dorsum with mostly black hairs. Male genitalia (Fig. 28): Epandrium rather wide, its surstylus short and broad; cercus long finger-like; hypandrium rather wide in lateral view.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Jingshui (700-750 m), 1998. VIII. 15, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the long finger-like cercus.

Remarks. The new species belongs to the *fenestratus*-group with 3 known species (SAIGUSA, 1984). It may be easily separated from them by the wing without any accessory cellulae.

14. *Diostracus prolongatus* sp. nov.
(Figs. 29-33)

Diagnosis. First flagellomere elongate, 1.6 times longer than wide; arista subapical. Fore femur with one group of 4 posterior bristles at base.

Male. Body length 6.3 mm, wing length 7.7 mm.

Head metallic green with pale grey pollen; vertex weakly excavated. Eyes widely separated; face widened downward. Hairs and bristles on head black; middle and lower postocular bristles pale yellow, ventral hairs rather long and pale. Ocellar tubercle with one pair of long oc, without posterior hairs; 1 short vt, pvt longer than vt. Antenna black; scape elongate, about 2 times longer than wide, with black dorsal hairs; first flagellomere elongate, 1.6 times longer than wide; arista subapical, one-segmented, black, nearly bare. Proboscis black, with pale hairs; palpus black with grey brown pollen, with black short hairs.

Thorax metallic green with pale grey pollen; mesonotum somewhat dark, with 2 brownish black longitudinal stripes between dc, which reaches 5th posterior dc. Hairs and bristles on thorax black; 6 dc hair-like except 6th posterior dc strong; acr absent; 1 h, 1 ph, 2 npl, 1 sa, 1 pa, su and psu absent; scutellum with one pair of strong bristles and 2 very short hairs. Propleuron pale hairs, with 1 pale hair-like bristle on lower portion. Legs entirely black. Hairs and bristles on legs black. Fore coxa pale haired, with long yellow hairs at narrow base and 6-7 black bristles near anterior distal margin. Femora with some pale ventral hairs; mid femur with distinct yellow ventral hairs including more or less one row of 7-8 very long hair-like pv on basal 1/3. Fore femur basally with a group of 4 black long posterior bristles. Fore tibia with 4 ad, 2 pd, a row of 10 pv; fore tarsomere 1 with one comb of short thick spine-like av and one row of long pv, fore tarsomere 2 with one row of pv on whole length and one short row of 7 short spine-like av at base. Mid tibia with 3 ad and 2 pd. Hind tibia with 5 ad, 4 pa, 4 av and 3 pv. Relative lengths of segments of legs LI 6.0: 3.0: 2.6: 1.5: 1.0: 1.1; LII 9.0: 5.0: 2.1: 1.4: 0.85: 1.2; LIII 11.8: 5.1: 3.6: 2.2: 1.1: 1.2. Wing hyaline, weakly tinged with greyish; veins black, R4+5 and M somewhat convergent; crossvein m-cu with a jet black nodule. Squama dark brown with pale hairs. Halter brown with black knob.

Abdomen thick, slightly longer than thorax; dark metallic green with pale grey pollen. Hairs on abdomen mostly pale; tergites 4-5 with long golden yellow hairs laterally; cercus with long golden yellow hairs. Male genitalia (Figs. 32-33): Epandrium rather wide apically, its surstylus thick and nearly straight with 1 thin spine-like process; cercus slender with long hairs; hypandrium short, apically with acute lateral processes.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Jingding (2,900-3,030 m), 1998. VIII. 8, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The new species is named after the elongate first flagellomere.

Remarks. The new species belongs to the *unipunctatus*-group. It is similar to *longicornis* SAIGUSA from Nepal in the shape of the first flagellomere. In *longicornis*, the fore femur has 1-2 posterior bristles at base, the 3rd abdominal sternum has long dense golden yellow hairs (SAIGUSA, 1984).

Subfamily Sciapodinae

15. *Condylostylus luteicoxa* PARENT

Condylostylus luteicoxa PARENT, 1929. Ann. Soc. Sci. Brux. 49: 225. Type locality: Assam, India.

Specimens examined. 1 male 1 female, Sichuan: Emei Mountain, Maziba (1,1-1,300 m), 1998. VIII. 16, T. SAIGUSA; 1 male, Sichuan: Emei Mountain, Jingshui (700-750 m), 1998. VIII. 7 T. SAIGUSA; 1 female, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA; 1 female, Sichuan: Qingcheng Mountain (850-1,000 m), 1998. VIII. 21, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Guizhou, Yunna, Zhejiang, Fujian, Taiwan, Henan); Japan, India.

16. *Amblysilopus longiseta* sp. nov.

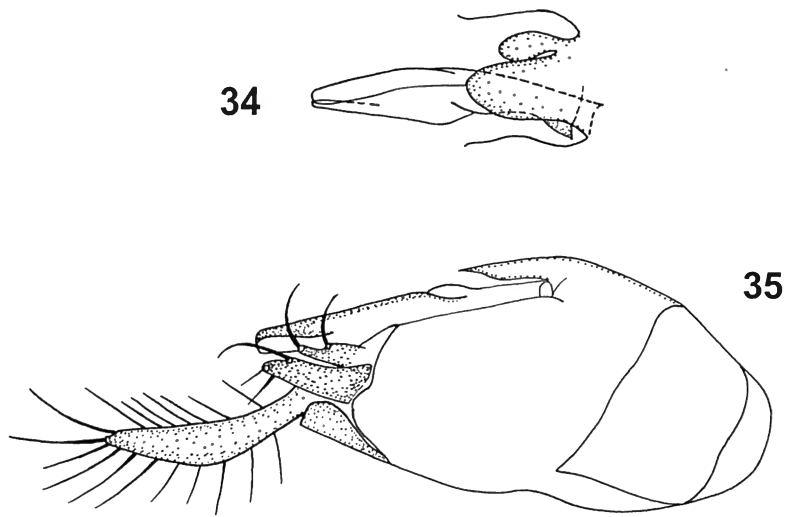
(Figs. 34-35)

Diagnosis. Frons with 1 very long black anterior bristle on postero-lateral slope. Palpus brownish yellow.

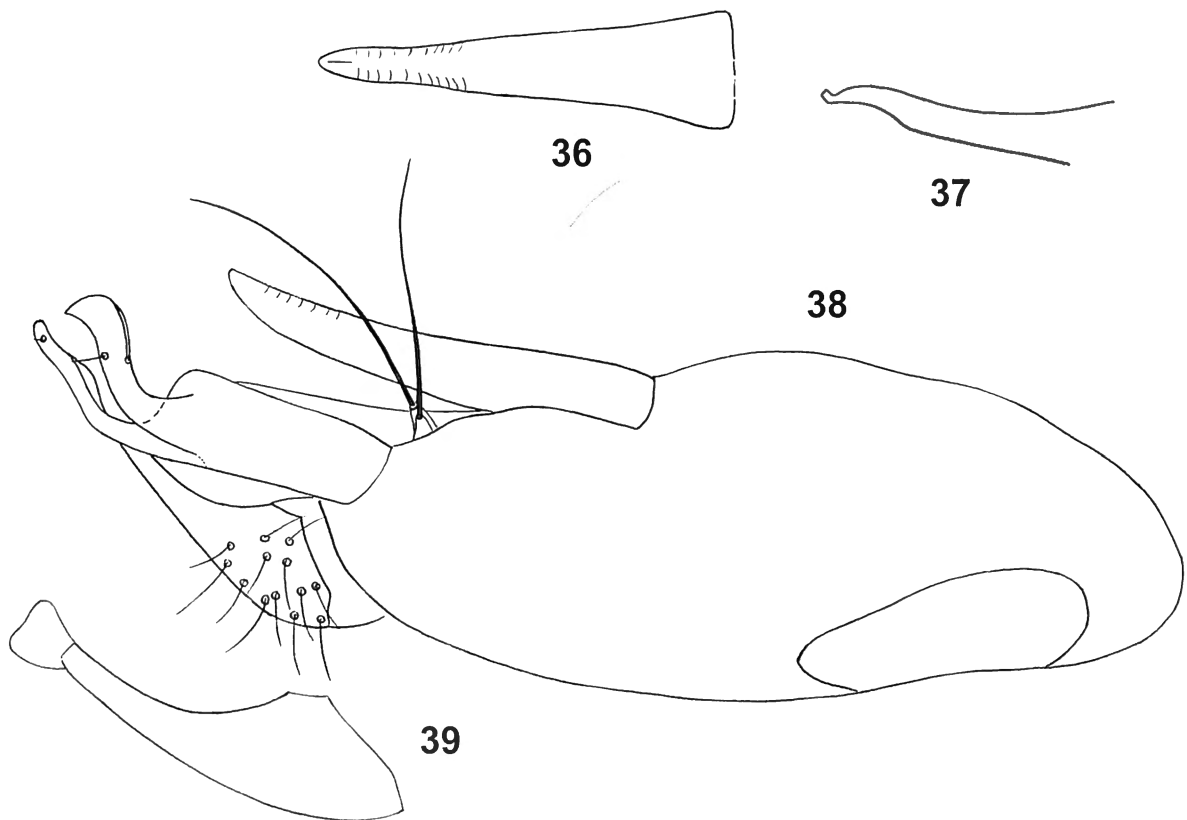
Male. Body length 4.2 mm, wing length 3.7 mm.

Head brilliant metallic green with pale grey pollen. Vertex distinctly excavated; eyes widely separated; clypeus separated from eye margin. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Ocellar tubercle distinct, with one pair of long oc and 2 very short posterior hairs; frons with 1 very long anterior bristle and 2 long posterior bristles (inner bristle slightly longer than outer bristle) on postero-lateral slope. Antenna black; first flagellomere nearly triangular, as long as wide; arista apical, black, slightly longer than width of head. Proboscis brownish yellow, with pale hairs; palpus brownish yellow, with pale hairs, 1 long black subapical bristle and 1 short black apical bristle.

Thorax brilliant metallic green with pale grey pollen. Hairs and bristles on thorax black; 3-4 short anterior dc hair-like and 2 strong posterior dc; 2 long irregularly paired acr; h absent, 1 ph, 2 long npl, 1 short su, 2 sa (anterior sa short), 1 pa. Scutellum only with one pair of



Figs. 34-35 — *Amblysilopus longiseta*, sp. nov., male. 34. hypandrium, ventral view; 35. genitalia, lateral view.



Figs. 36-39 — *Medetera curvata*, sp. nov., male. 36. hypandrium, ventral view; 37. apical portion of aedeagus, lateral view; 38. genitalia, lateral view; 39. cercus, lateral view.

bristles (without lateral bristles). Legs yellow; fore coxa yellow, mid and hind coxae black; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; coxae with pale hairs and bristles; femora with pale ventral hairs. Mid tibia with 1 very short ad and 1 very short pd at base; hind tibia with 7-8 very short pd and 8-9 very short av. Relative lengths of segments of legs LI 3.7: 3.2: 1.2: 0.8: 0.5: 0.4; LII 4.7: 4.4: 1.2: 1.0: 0.6: 0.35; LIII 6.9: 3.0: 1.4: 1.0: 0.6: 0.35. Wing hyaline; veins black; M1 with short base distinct. Squama brownish yellow with dark brown margin, with black hairs. Halter yellow with dark brown stem.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; tergite 1 with pale hairs laterally. Male genitalia (Figs. 34-35): Epandrium longer than wide, surstylus short and more or less tapering toward to tip (bearing 3 bristles), lateral lobe small with thin apex (bearing 2 bristles); cercus narrow and slightly curved.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Jingshui (650 m), 1998. VIII. 10, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the frons with 1 very long bristle.

Remarks. The new species is similar to *sichuanensis* YANG, but differs from the latter in the frons with 1 very long bristle and palpus brownish yellow. In *sichuanensis*, the frons has 1 distinct hair, the palpus is black (YANG, 1997a).

Subfamily Medeterinae

17. *Medetera curvata* sp. nov. (Figs. 36-39)

Diagnosis. Postocular bristles wholly black. Propleuron with 3 black bristles. Antenna brownish yellow or yellow with black first flagellomere.

Male. Body length 4.3 mm, wing length 4.7 mm.

Head metallic green with pale grey pollen; upper occiput concave. Eyes distinctly separated; face narrower than frons. Hairs and bristles on head black; postocular bristles wholly black. Ocellar tubercle weak, with one pair of very long oc and 2 very short posterior hairs; 1 long vt. Antennal scape and pedicel brownish yellow; first flagellomere black, somewhat oval, nearly as long as wide, with short hairs; arista nearly apical, very long, black, with very short pubescence. Proboscis large and thick, black, with sparse black hairs; palpus metallic green with brownish hairs and 1 black subapical bristle.

Thorax metallic green with pale grey pollen; mesono-

tum and scutellum with grey brown pollen. Hairs and bristles on thorax black; 5 dc; 6-7 irregularly paired ac short and hair-like; 1 h and 2 short pale hairs, 1 ph, 2 npl, 2 sa, 1 pa; scutellum with two pairs of bristles. Propleuron with 3 black bristles. Legs black (hind tarsus broken); femora with yellow narrow apices; tibiae with brownish yellow extreme bases; fore tibia and tarsus blackish. Hairs and bristles on legs black; hind coxa with 1 outer bristle at middle. Hind femur with one row of 6 dorsal bristles basally and 3-4 av apically; mid tibia with 1 ad and 1 pd basally. Relative lengths of segments of legs LI 4.1: 2.2: 1.3: 0.8: 0.5: 0.6; LII 5.4: 2.5: 1.6: 1.2: 0.6: 0.5; LIII 6.7:?:?:?:?. Wing nearly hyaline; veins dark brown, R4+5 and M strongly convergent apically; CuAx ratio 0.5. Squama yellow with brownish margin, and with black hairs. Halter yellow.

Abdomen metallic green with grey brown pollen. Hairs and bristles on abdomen mostly black; tergite 1 with longer hairs and bristles. Male genitalia (Figs. 36-39): Epandrium distinctly elongated, with 2 finger-like lateral processes (bearing 1 long bristle), its surstylus rather thick with 2 curved apical projections; cercus rather narrow apically, with a obtuse apical process; hypandrium long and nearly acute apically; aedeagus with short thin curved tip.

Female. Body length 3.7 mm, wing length 4.2 mm. Similar to male, but antennal scpae and pedicel yellow, femora with a little wide apex yellow, tibiae brownish yellow.

Holotype male, paratype 1 female, Sichuan: Emei Mountain, Leidongping (2,400 m), 1998. VIII. 13, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the surstylus with curved apical processes.

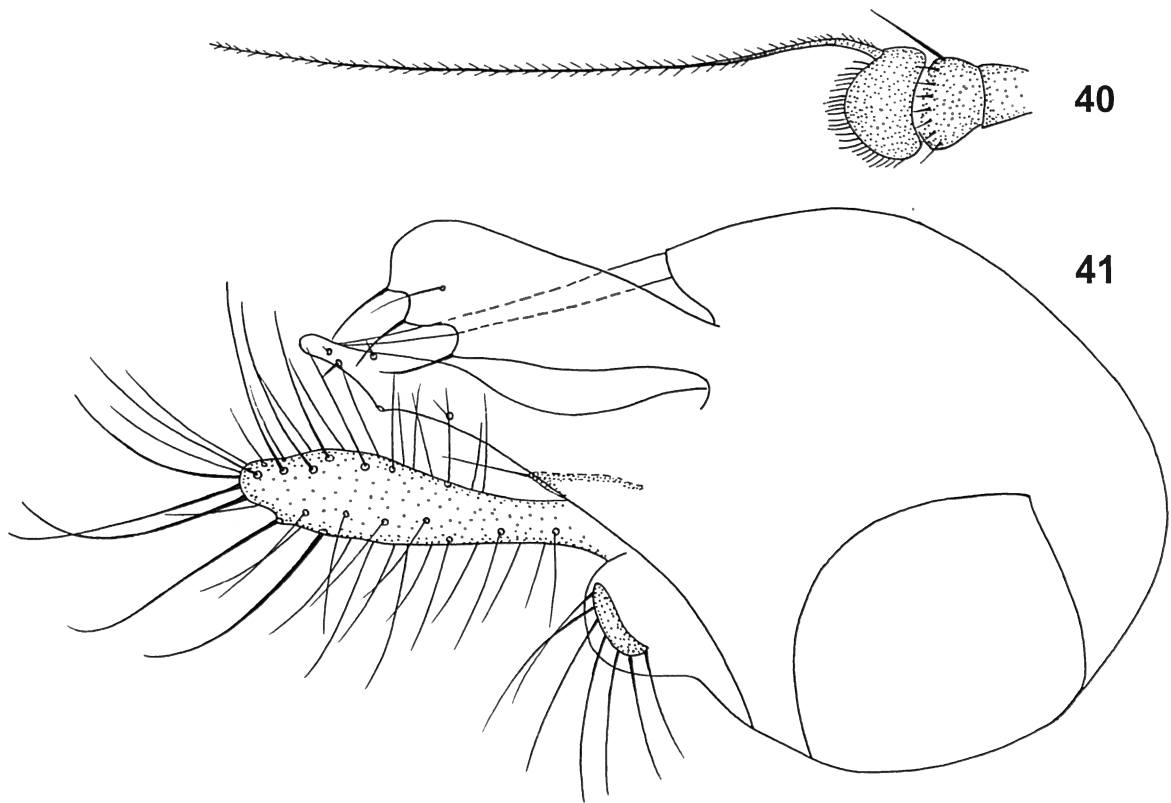
Remarks. The new species is similar to *neixiangensis* YANG et SAIGUSA from Henan. It may be easily separated from the latter by having the propleuron with 3 bristles and surstylus with narrow apical processes distinctly curved.

18. *Paramedetera medialis* YANG et SAIGUSA

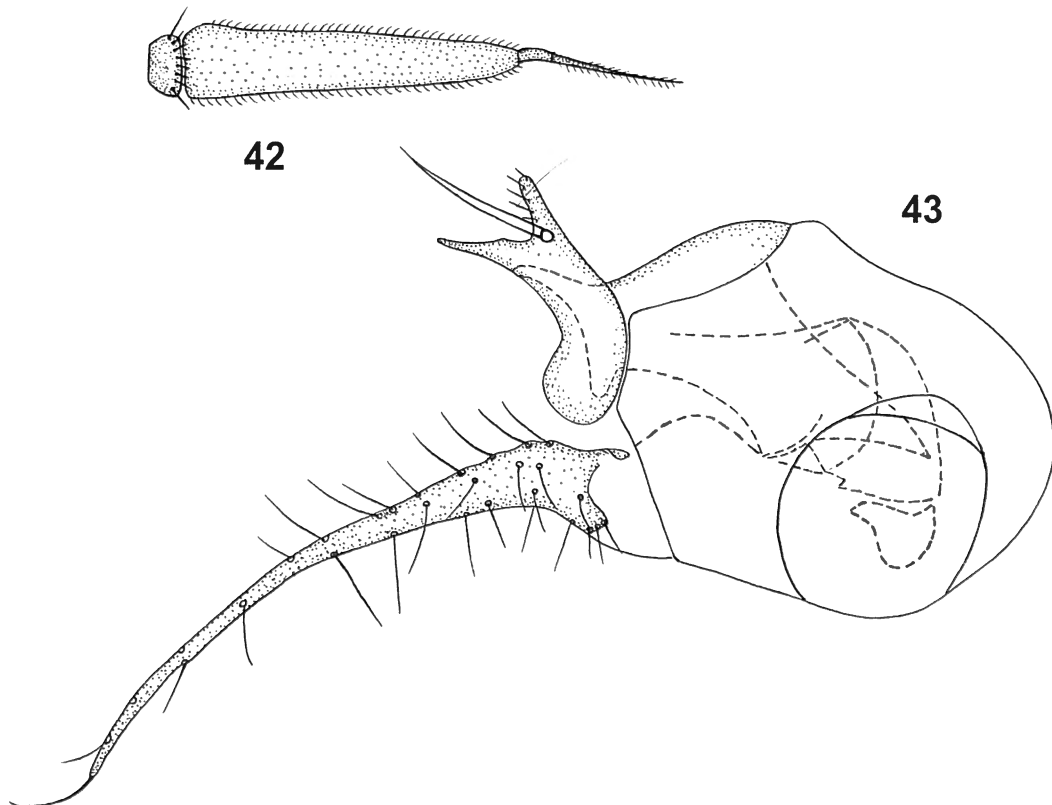
Paramedetera medialis YANG et SAIGUSA, 2000. In: Insects of the Funiu Mountains region (2). Type locality: Henan.

Specimens examined. 1 male, Sichuan: Emei Mountain, Wuxiangang (700 m), 1998. VIII. 14, Ding YANG; 3 males 1 female, Sichuan: Emei Mountain, Jingshui (650 m), 1998. VIII. 10, Ding YANG (CAU).

Distribution. China (Sichuan, Henan).



Figs. 40-41 — *Diaphorus tridentatus*, sp. nov., male. 40. antenna, lateral view; 41. genitalia, lateral view.



Figs. 42-43 — *Rhaphium furcatum*, sp. nov., male. 42. antenna (excluding scape), lateral view; 43. genitalia, lateral view.

Subfamily Diaphorinae**19. *Diaphorus nigricans* MEIGEN**

Diaphorus nigricans MEIGEN, 1824. Syst. Besch. 4: 33. Type locality: not given.

Specimen examined. 1 male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Henan); Palaearctic, Nearctic and Neotropical regions.

20. *Diaphorus lichwardti* PARENT

Diaphorus lichwardti PARENT, 1925. Ann. Soc. Sci. Brux. 44: 265. Type locality: Kou-Ling, Jiangxi.

Specimen examined. 1 male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Jiangxi).

21. *Diaphorus tridentatus* sp. nov.

(Figs. 40-41)

Diagnosis. Postocular bristles wholly black. Hind femur apically with long thin ventral hairs. Lateral lobe on epandrium with 3 marginal denticles.

Male. Body length 3.6-4.0 mm, wing length 3.3-3.9 mm.

Head metallic green with grey brown pollen. Eyes contiguous on frons for a long distance (about 1/2 of frons), with dorso-anterior facets enlarged. Hairs and bristles on head black; postocular bristles wholly black. Ocellar tubercle distinct, with one pair of long oc and 2 very short posterior hairs; 1 short vt. Antenna black; first flagellomere 1.6 times wider than long; arista subapical, black, very short pubescent. Proboscis black, with black hairs; palpus yellow, with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 5 strong dc; 9-10 irregularly paired acr short and hair-like; 1 h and 2 very short hairs, 1 ph, 1 ih, 1 su, 2 npl, 2 sa, 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron with 2 black hairs and 1 long black bristle on lower portion. Legs black; fore and mid femora with apical 1/5 yellow, hind femur with extreme tip brownish yellow; tibiae yellow except apex of hind tibia blackish; fore and mid tarsi yellow, except fore tarsomeres 3-4 blackish and tarsomere 5 black, mid tarsus from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 anterior and apical bristles; mid coxa with 2 outer bristles; hind coxa with 1 outer bristle at base. Fore femur with one row of weak av basally and one row of weak pv; hind femur apically with 3 thick av and

some long ventral hairs. Fore tibia with 1 ad and 2 pd; mid tibia with 1 ad, 2 pd and 1 av; hind tibia with 1 weak ad, 5 pd and 5 short thin av. Fore tarsus without claws, with elongated pulvilli which are a little longer than tarsomere 5; mid and hind tarsi with 2 small claws and 2 small pulvilli. Relative lengths of segments of legs LI 3.8: 2.2: 1.2: 0.8: 0.6: 0.5; LII 4.5: 2.5: 1.4: 1.0: 0.6: 0.4; LIII 5.8: 1.6: 1.7: 1.25: 0.7: 0.45. Wing hyaline; veins dark brown, R4+5 and M parallel apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow with brown base.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; sternite 8 with 4 strong bristles. Male genitalia (Fig. 41): Epandrium with lateral lobe rather large (bearing 3 marginal denticles), its surstylus long and distinctly narrow apically; cercus long with narrow base.

Female. Unknown.

Holotype male, paratype 1 male, Sichuan: Emei Mountain, Jingshui (700-750 m), 1998. VIII. 15, T. SAIGUSA. (CAU & SKU)

Distribution. China (Sichuan).

Etymology. The species is named after the lateral lobe on epandrium with 3 marginal denticles.

Remarks. The new species is very similar to *menglunensis* YANG et GROOTAERT from Yunnan. It may be separated from the latter by having the cercus rather wide with narrow base and lateral lobe on epandrium with three distinct marginal denticles. In *menglunensis*, the cercus is uniformly thick, the lateral lobe on epandrium has 1 weak marginal denticle (YANG & GROOTAERT, 1999).

Subfamily Rhapsiinae**22. *Raphium dispar* COQUILLET**

Raphium dispar COQUILLET, 1898. Proc. U. S. Nat. Mus. 21: 319. Type locality: Japan.

Specimens examined. 1 male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA; 1 male, Sichuan: Qingcheng Mountain, Yuechenghu (900 m), 1998. VIII. 22, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Guizhou, Zhejiang, Taiwan); Russia (Far East), Japan.

23. *Raphium furcatum* sp. nov.

(Figs. 42-43)

Diagnosis. First flagellomere long (4.5 times longer than wide); arista rather short (0.5 times as long as first fla-

gellomere). acr absent. All coxae yellow. Surstylus furcate apically.

Male. Body length 1.5 mm, wing length 2.0 mm.

Head metallic green with pale grey pollen. Frons rather wide; face distinctly narrower than frons, narrowing downward; eyes somewhat contiguous above oral margin. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere long (4.5 times longer than wide); arista apical, rather short (0.5 times as long as first flagellomere). Proboscis brownish, more or less with pale hairs; palpus yellow, with pale hairs and 2 short black bristles.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 5 dc strong except 4th posterior dc short and weak; 2-3 acr present only before first anterior dc; 1 h and 1 very short hair, 1 ph, 1 ih, 1 weak su, 2 npl, 2 sa (anterior bristle short), 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron with 1 pale hair on upper portion and 1 weak pale bristle on lower portion. Legs yellow; all coxae yellow; tarsomeres 2-5 brownish yellow. Hairs and bristles on legs black; fore coxa with 4 bristles on apical margin; mid coxa with 1 outer bristle anteriorly; hind coxa with 1 outer bristle at middle. Mid femur with 1 preapical anterior bristle; hind femur apically with 2 av. Mid tibia with 2 ad, 2 pd and 1 av;

hind tibia with 2 ad, 3 pd and 1 av. Relative lengths of segments of legs LI 1.7: 0.9: 0.65: 0.6: 0.3: 0.25; LII 2.6: 1.2: 0.7: 0.6: 0.4: 0.25; LIII 3.0: 0.75: 0.8: 0.7: 0.4: 0.3. Wing hyaline; veins brown, R4+5 and M convergent apically; CuAx ratio 0.4. Squama yellow with pale and blackish hairs. Halter yellow.

Abdomen metallic green with grey pollen; cercus brownish. Hairs and bristles on abdomen black. Male genitalia (Fig. 43): Epandrium somewhat rounded, its surstylus bent and furcate apically; cercus very long and thin apically.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Maziba (1,100-1,300 m), 1998. VIII. 16, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the furcate surstylus.

Remarks. The new species is somewhat similar to *apicinigrum* YANG et SAIGUSA from Sichuan, but may be distinguished from the latter in the following points: palpus yellow, hind femur not dark apically, cercus without lateral lobe; in *apicinigrum*, palpus black, hind femur with black apex; cercus with short lateral lobe (YANG & SAIGUSA, 1999).

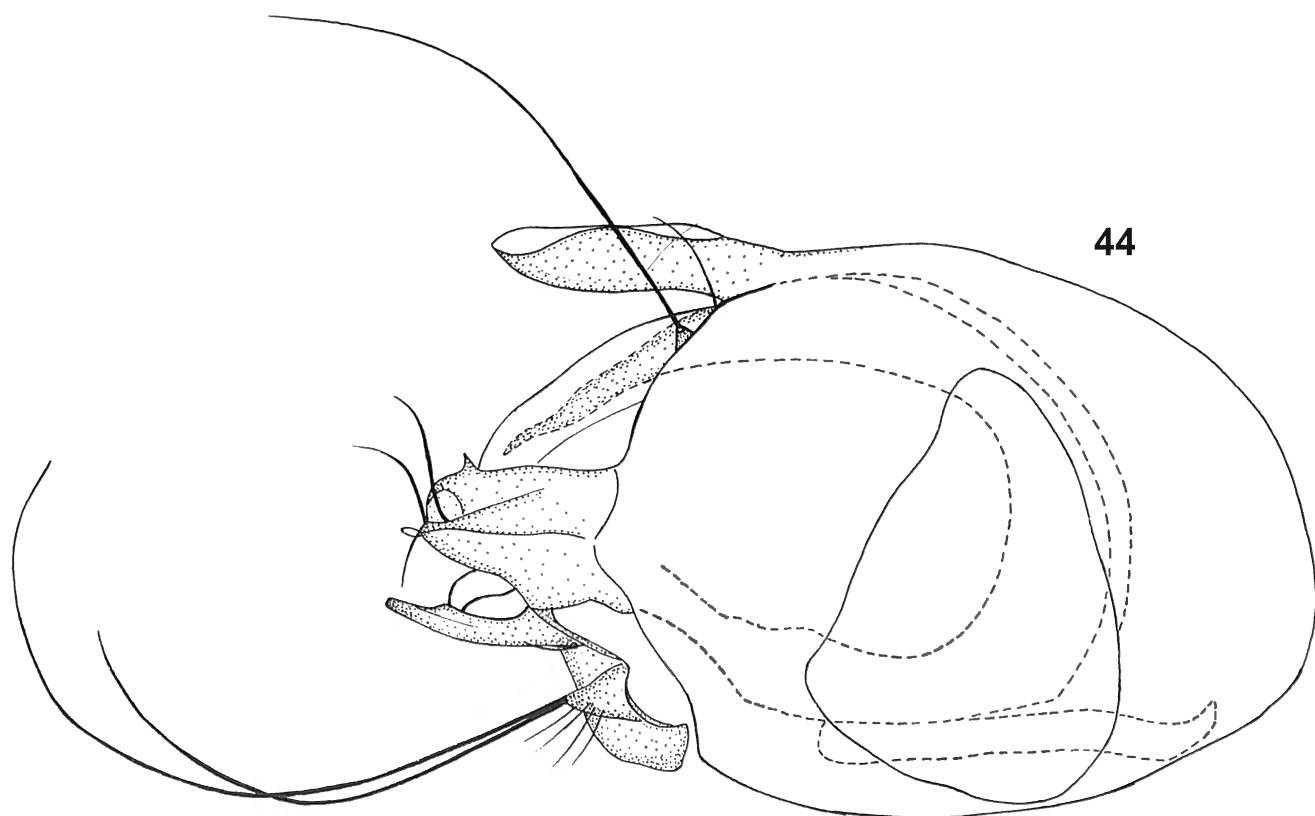


Fig. 44 — *Neurigonella longiseta*, sp. nov., male genitalia, lateral view.

Subfamily Peloroepodinae

24. *Neurigonella longiseta* sp. nov.

(Fig. 44)

Diagnosis. All coxae yellow. Halter pale yellow. Cercus with basal tubercle bearing very long bristles.

Male. Body length 1.8 mm, wing length 3.1 mm.

Head metallic green with pale grey pollen. Eyes distinctly separated. Frons rather wide; face distinctly narrower than frons, narrowing downward. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere nearly trapezoid, nearly as long as wide, incised apically; arista black with very short basal segment. Proboscis black, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with pale grey pollen; mesonotum with brown pollen. Hairs and bristles on thorax black; 5 dc strong, 4-5 irregularly paired acr short and hair-like; 1 h and 1 short hair, 1 ph, 1 ih, 1 su, 2 npl, 2 sa (anterior bristle short), 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron with 2 short pale hairs on upper portion, 1 short pale hair and 1 long black bristle on lower portion. Legs yellow; all coxae yellow; tarsomere 5 dark brown. Hairs and bristles on legs black; fore coxa with 5 bristles; mid coxa with 1 outer bristle anteriorly; hind coxa with 1 outer bristle at middle. Mid and hind femora with 1 preapical bristle. Mid tibia with 2 ad and 2 pd; hind tibia with 1 ad and 1 pd. Relative lengths of segments of legs LI 1.7: 0.8: 0.7: 0.4: 0.3: 0.3; LII 2.6: 1.35: 0.8: 0.7: 0.4: 0.3; LIII 2.8: 0.7: 1.2: 0.8: 0.4: 0.3. Wing hyaline; veins dark brown, R4+5 and M slightly convergent apically; CuAx ratio 0.45. Squama yellow with dark brown margin, with black hairs. Halter pale yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; venter with pale hairs. Male genitalia (Fig. 44): Epandrium with 2 lateral bristles, of which 1 bristle is very long and located on the tubercle; cercus with basal tubercle with short hairs and 2 very long bristles.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the cercus with very long bristles.

Remarks. Only 1 species of the genus *Neurigonella* ROBINSON was known to occur in the Palearctic region: *tatjanae* NEGROBOV, 1984 from Far East of Russia (NEGROBOV, 1991). YANG, YANG & LI (1998) reported the first Chinese species *henanensis* from Henan. Here we describe 3 new species from Emei Mountain, Sichuan.

The new species is similar to *pallipes* sp. nov., but may be separated from the latter by having the halter pale yellow and fore tarsomere 5 dark brown.

25. *Neurigonella pallipes* sp. nov.

(Fig. 45)

Diagnosis. All coxae brownish yellow. Fore tarsomere 5 white. Halter black with yellow base.

Male. Body length 2.3 mm, wing length 2.3 mm.

Head metallic green with grey brown pollen. Eyes distinctly separated. Frons rather wide; face distinctly narrower than frons, narrowing downward. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere nearly trapezoid, 0.9 times longer than wide, incised apically; arista black, with very short basal segment. Proboscis black, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with grey brown pollen. Hairs and bristles on thorax black; 5 dc strong, 6 irregularly paired acr short and hair-like; 1 h and 1 short hair, 1 ph, 1 ih, 1 su, 2 npl, 2 sa (anterior bristle short), 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron with 1 short pale hair and 1 long black bristle on lower portion. Legs brownish yellow; tarsi from tip of tarsomere 1 onward brown to dark brown; fore tarsomere 5 white. Hairs and bristles on legs black; fore coxa with 7 bristles; mid coxa with 1 outer bristle anteriorly; hind coxa with 1 outer bristle at middle. Mid and hind femora with 1 preapical anterior bristle. Mid tibia with 2 ad and 2 pd; hind tibia with 1 ad and 2 pd. Relative lengths of segments of legs LI 2.2: 1.3: 0.8: 0.8: 0.7: 0.35; LII 3.2: 1.8: 1.1: 0.9: 0.7: 0.35; LIII 3.7: 0.7: 1.6: 1.1: 0.7: 0.35. Wing hyaline, weakly tinged with greyish; veins dark brown, R4+5 and M slightly convergent apically; CuAx ratio 0.4. Squama yellow with dark brown margin, with black hairs. Halter black with yellow base.

Abdomen metallic green with grey brown pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 45): Epandrium with 2 lateral bristles, of which 1 bristle is very long and located on weak tubercle; cercus with one group of short hairs basally.

Female. Unknown.

Holotype male, Sichuan: Emei Mountain, Linggongli (1,300-1,400 m), 1998. VIII. 17, T. SAIGUSA (CAU).

Distribution. China (Sichuan).

Etymology. The species is named after the fore tarsomere 5 white.

Remarks. The new species is similar to *longiseta* sp. nov., but may be separated from the latter by having the fore tarsomere 5 white and halter black with yellow base.

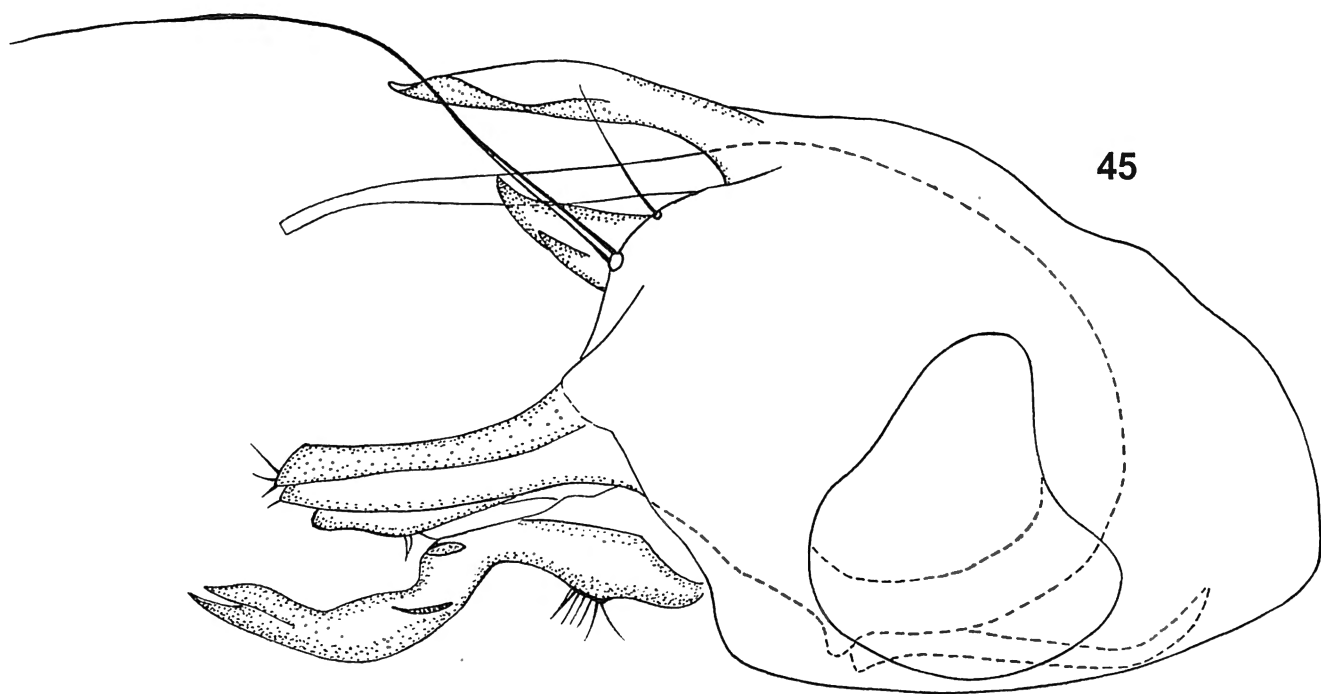
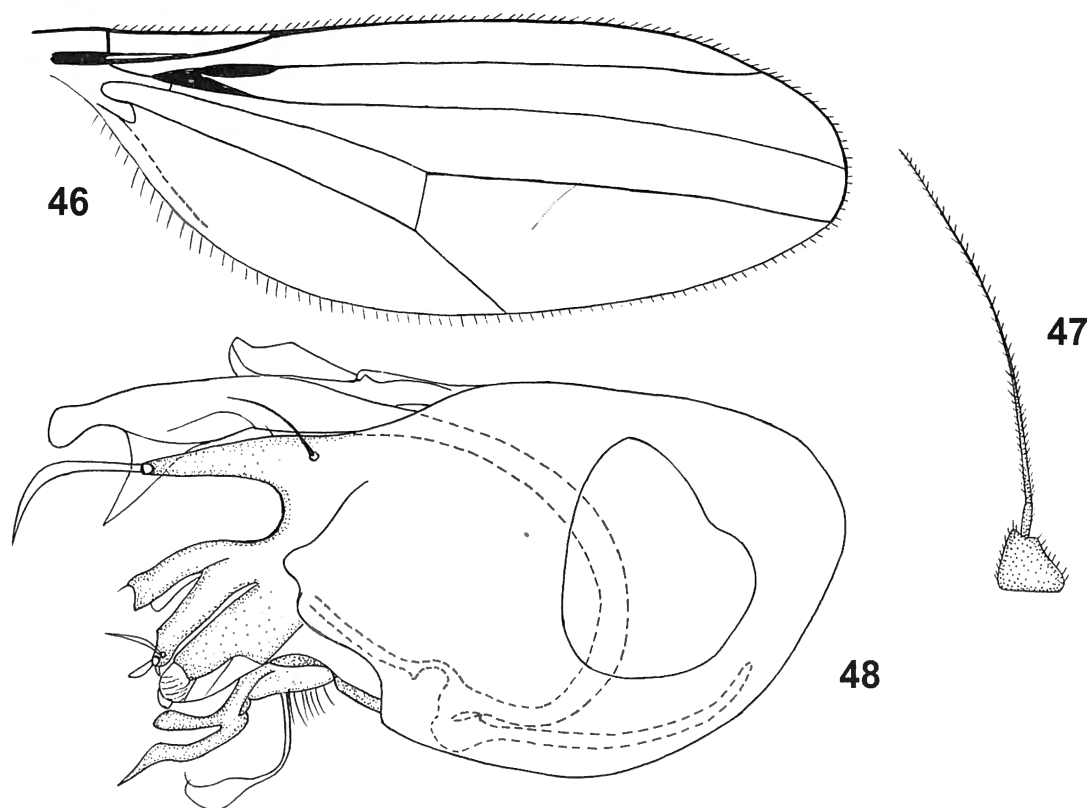


Fig. 45 — *Neurigonella pallipes*, sp. nov., male genitalia, lateral view.



Figs. 46-48 — *Neurigonella trifurcata*, sp. nov., male. 46. wing; 47. antenna (excluding scape and pedicel), lateral view; 48. genitalia, lateral view.

26. *Neurigonella trifurcata* sp. nov.

(Figs. 46-48)

Diagnosis. Mid and hind coxae (except apex) blackish. R2+3 and R4+5 with short bases distinctly thickened. Halter dark brown. Cercus with short or long hairs basally. Aedeagus trifurcate apically.

Male. Body length 2.4 mm, wing length 2.2 mm.

Head metallic green with grey pollen. Eyes distinctly separated. Frons rather wide; face distinctly narrower than frons, narrowing downward. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere nearly trapezoid, nearly as long as wide, incised apically; arista black, with very short basal segment. Proboscis brown, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with grey pollen. Hairs and bristles on thorax black; 5 dc strong, 7 irregularly paired acr short and hair-like; 1 h and 1 short hair, 1 ph, 1 ih, 1 su, 2 npl, 2 sa, 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like). Propleuron with 1 short black hair on upper portion, 3 short black hairs and 1 long black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except apex) blackish. Hairs and bristles on legs black; fore coxa with 7 bristles; mid coxa with 1 outer bristle anteriorly; hind coxa with 1 outer bristle at middle. Mid and hind femora with 1 preapical anterior bristle. Fore tibia with 1 ad at apex; mid tibia with 2 ad and 2 pd; hind tibia with 1 ad at base and 2 pd at apex. Relative lengths of segments of legs LI 2.2: 1.0: 0.7: 0.5: 0.3: 0.3; LII 2.7: 1.6: 1.2: 0.8: 0.6: 0.3; LIII 3.2: 0.7: 1.4: 0.9: 0.7: 0.3. Wing slightly tinged with grey; veins dark brown, R4+5 and M slightly convergent apically; CuAx ratio 0.43. Squama dark brown, with black hairs. Halter dark brown.

Abdomen metallic green with grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 48): Epandrium with long finger-like lateral lobe bearing 1 thick apical bristle; cercus with short or long hairs; aedeagus trifurcate

Female. Unknown.

Holotype male, Sichuan: Emei, Jingshui (650 m), 1998. VIII. 10, Ding YANG. Paratype 1 male, Sichuan: Qingcheng Mountain, 1998. VIII. 22, Ding YANG. (CAU & SKU)

Distribution. China (Sichuan).

Etymology. The species is named after the aedeagus trifurcate apically.

Remarks. The new species is easily separated from other known species of the genus from China by having the R2+3 and R4+5 distinctly thickened basally.

Subfamily Sympycninae

27. *Teuchophorus emeiensis* sp. nov.

(Figs. 49-51)

Diagnosis. Mid femur with a row of 11-13 pv on apical half. Fore tarsomeres 2-4 distinctly shortened.

Male. Body length 1.3-1.4 mm, wing length 1.5-1.6 mm.

Head metallic green with grey pollen. Eyes contiguous on face. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere nearly triangular, as long as wide; arista black, with very short basal segment. Proboscis dark brown, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with grey pollen. Hairs and bristles on thorax black; 5 strong dc, 6-7 uniseriate acr somewhat long; 1 h, 1 ph, 1 ih, 1 su, 2 npl, 2 sa, 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like) and several very short marginal hairs. Legs black. Hairs and bristles on legs black; fore coxa with 6 apical bristles; mid coxa without outer bristle; hind coxa with 1 outer bristle near base. Fore femur with 4 pv apically; mid femur with a row of 11-13 pv on apical half; hind femur with 1 long curved av. Fore tibia with a row of short thick av; mid tibia with 2 ad and 1 pd; hind tibia with 2 ad, 4 pd (of which 3 bristles are located apically) and a row of 8 v (of which 3 apical bristles are thick). Relative lengths of segments of legs LI 1.4: 0.6: 0.25: 0.2: 0.2: 0.3; LII 2.2: 0.75: 0.4: 0.35: 0.3: 0.3; LIII 2.3: 0.5: 0.6: 0.4: 0.3: 0.3. Wing tinged with brown; veins dark brown, R4+5 and M slightly divergent apically; costal callus absent; CuAx ratio 0.4. Squama dark brown, with black hairs. Halter dark brown.

Abdomen metallic green with grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 49-50): Epandrium with distinct lateral lobe bearing conical process basally, surstylus nearly conical apically; cercus rather short and obtuse apically.

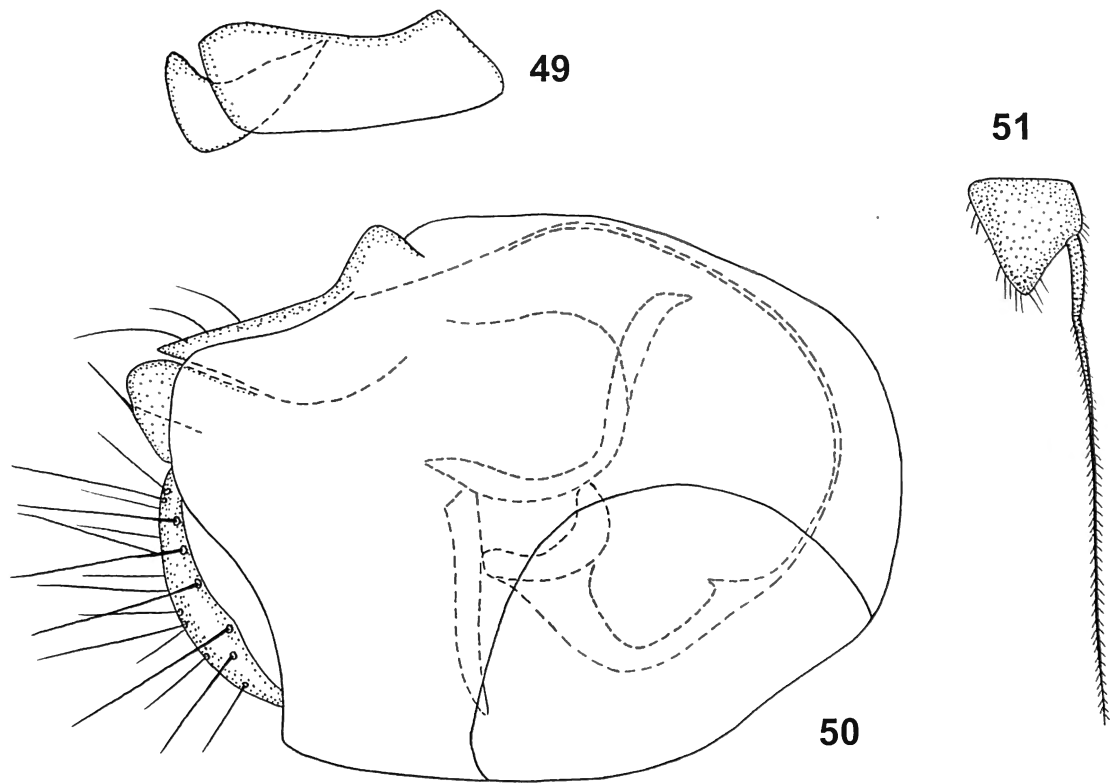
Female. Unknown.

Holotype male, paratype 1 male, Sichuan: Emei Mountain, Jingshui (700-750 m), 1998. VIII. 15, Ding YANG. Paratype 1 male, Sichuan: Emei Mountain, Jingshui (650 m), 1998. VIII. 10, Ding YANG. (CAU & SKU)

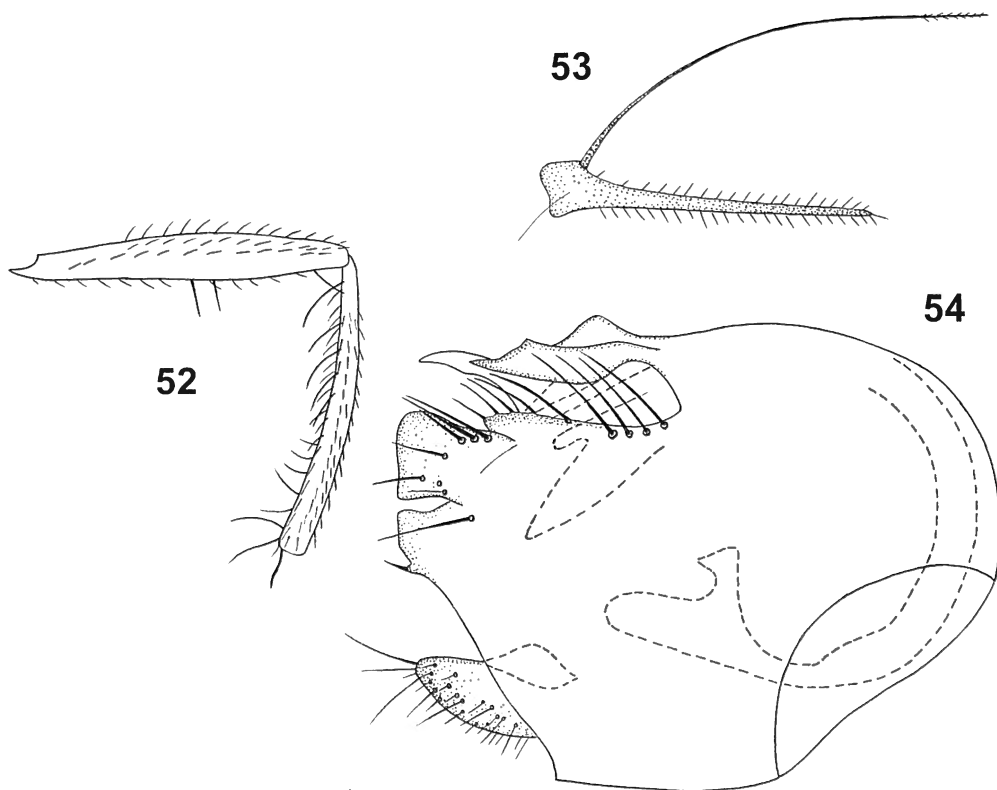
Distribution. China (Sichuan).

Etymology. The species is named after the type locality, Emei Mountain.

Remarks. The new species is somewhat similar to the *ventralis* sp. nov. in that the eyes are contiguous on the face and that the epandrium has a lateral lobe, but may be easily separated from the latter by the short first flagellomere.



Figs. 49-51 — *Teuchophorus emeiensis*, sp. nov., male. 49. surstylus and lateral lobe on epandrium, ventral view; 50. genitalia, lateral view; 51. antenna (excluding scape and pedicel), lateral view.



Figs. 52-54 — *Teuchophorus ventralis*, sp. nov., male. 52. hind femur and tibia, lateral view; 53. antenna (excluding scape and pedicel), lateral view; 54. genitalia, lateral view.

28. *Teuchophorus ventralis* sp. nov.
(Figs. 52-54)

Diagnosis. First flagellomere much elongated and thin apically. Mid and hind femora with 1-2 v. Fore tarsomere 1 as long as rest of fore tarsus.

Male. Body length 1.5-1.6 mm, wing length 1.7-1.8 mm.

Head metallic green with grey pollen. Eyes contiguous on face. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Ocellar tubercle weak, with one pair of long oc and 2 very short posterior hairs. Antenna black; first flagellomere much elongated and thin apically; arista black, bare except apex very short pubescent, with very short basal segment. Proboscis dark brown, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with grey pollen. Hairs and bristles on thorax black; 6 strong dc, 7 uniseriate acr somewhat long; 1 h, 1 ph, 1 ih, 1 su, 2 npl, 2 sa, 1 pa; scutellum with two pairs of bristles (outer pair very short, hair-like) and several very short marginal hairs. Propleuron with 1 short hair on upper portion and 1-3 short hairs on lower portion. Legs blackish. Hairs and bristles on legs black; fore coxa with 6 lateral and apical bristles; mid coxa without outer bristle; hind coxa with 1 outer bristle near base. Mid femur with 1 spine-like v at basal 1/3, apically with 3 pv; hind femur with 2 v at middle and 1 long av apically. Fore tibia weakly curved, without distinct d; mid tibia basally with 1 ad and 1 pd; hind tibia slightly curved and weakly thickened apically, with two rows of thin v (av longer basally, pv longer apically). Fore tarsomere 1 as long as fore tarsomeres 2-5 together, basally with thickened ventral surface bearing a row of 5 spine-like ventral bristles. Relative lengths of segments of legs LI 1.7: 1.3: 0.2: 0.3: 0.35: 0.35; LII 2.7: 1.2: 0.5: 0.4: 0.3: 0.3; LIII 3.1: 0.7: 0.8: 0.4: 0.3: 0.3. Wing hyaline; veins dark brown, R4+5 and M parallel apically; costal callus absent; CuAx ratio 0.4. Squama dark brown, with black hairs. Halter black.

Abdomen metallic green with grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 54): Epandrium with lateral lobe bearing conical process basally, surstylus nearly conical apically; cercus rather short and obtuse apically.

Female. Body length 1.5-1.8 mm, wing length 1.7-1.8 mm. Similar to male, but legs somewhat pale and normal. Mid tibia with 2 ad, 1 pd and 1 av.

Holotype male, paratypes 26 males 40 females, Sichuan: Emei Mountain, Jingshui (700-750 m), 1998. VIII. 15, Ding YANG. Paratype 1 male, Sichuan: Emei Mountain, Wuxiangang (700 m), 1998. VIII. 14, Ding YANG; 3 males, Sichuan: Emei Mountain, Jingshui (650 m), 1998. VIII. 10, Ding YANG. (CAU, SKU & IRSN)

Distribution. China (Sichuan).

Etymology. The species is named after the mid and hind femora with spine-like ventral bristles.

Remarks. The new species is easily separated from other known species of the genus from China by the first flagellomere much elongated.

29. *Teuchophorus sinensis* YANG et SAIGUSA

Teuchophorus sinensis YANG et SAIGUSA, 2000. In: Insects of the Funiu Mountains region (2). Type locality: Henan.

Specimen examined. 1 male, Sichuan: Emei Mountain, Jingshui (650 m), 1998. VIII. 10, T. SAIGUSA (SKU).

Distribution. China (Sichuan, Henan).

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