

New and little known species of Dolichopodidae (Diptera) from China (XI)

by Ding YANG and Toyohei SAIGUSA

Abstract

22 species of Dolichopodidae are described as new to science: *Paraclius curvispinus*, *P. furcatus*, *Hercostomus (Ahercostomus) jiangchenganus*, *Hercostomus (Hercostomus) brevicercus*, *H. (H.) brevifurcatus*, *H. (H.) crassiseta*, *H. (H.) incilis*, *H. (H.) longidigitatus*, *H. (H.) longipilosus*, *H. (H.) loushanguananus*, *H. (H.) marginatus*, *H. (H.) projectus*, *H. (H.) zunyianus*, *Chrysosoma crassum*, *C. pallipilosum*, *Rhaphium palliaristatum*, *Neurigonella bidentata*, *N. pallipilosa*, *N. pilifera*, *N. pingbiana*, *Chaetogonopteron guizhouense*, *Syntormon lushuiense*.

Key words: Dolichopodidae, new species, Yunnan, Guizhou

Introduction

In the present paper, 22 species of Dolichopodidae from Yunnan and Guizhou of Southwest China are described as new to science. The types of new species are deposited in the Kunming Institute of Zoology (KIZ) in Kunming, the Saigusa collection of Kyushu University (SKU) in Fukuoka, China Agricultural University (CAU) in Beijing and the Royal Belgian Institute of Natural Science (IRSN) in Brussels. The abbreviations used here are the same as the serial papers.

Subfamily Dolichopodinae

Genus *Dolichopus* LATREILLE

1. *Dolichopus zhejiangensis* YANG et LI

Dolichopus zhejiangensis YANG et LI, 1998. In: *Insects of Longwangshan*, p. 318. Type locality: Zhejiang (Anji).

New record. 1 male, Guizhou: Yinjian, Fanjingshan, Tuanlon (1200 m), 1995. VII. 31, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

Genus *Paraclius* LOEW

The genus *Paraclius* is recorded from Guizhou for the first time with 5 species. 2 species are described as new to science.

2. *Paraclius longicornutus* YANG et SAIGUSA

Paraclius longicornutus YANG et SAIGUSA, 2000. In: *Insects of the Mountains Funiu and Dabie regions*, p. 196. Type locality: Henan (Luoshan).

New record. 1 male, Guizhou: Kaili, Zhouxi (665 m), 1995. VII. 25, T. SAIGUSA.

Distribution. China (Guizhou, Henan).

3. *Paraclius sinensis* YANG et LI

Paraclius sinensis YANG et LI, 1998. In: *Insects of Longwangshan*, p. 319. Type locality: Zhejiang (Anji).

New record. 3 males, 3 females, Guizhou: Kaili, Zhouxi (665 m), 1995. VII. 25, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

4. *Paraclius emeiensis* YANG et SAIGUSA

Paraclius emeiensis YANG et SAIGUSA, 1999. *Bull. Inst. R. Sci. Nat. Belg. Ent.* 69: 235. Type locality: Sichuan (Emei Mountain).

New record. 11 males, 1 female, Guizhou: Kaili, Zhouxi (665 m), 1995. VII. 25, T. SAIGUSA; 1 male, Guizhou: Yinjian, Fanjingshan, Tuanlon (1200 m), 1995. VII. 31, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

5. *Paraclius curvispinus* sp. nov.

(Figs. 1-2)

Diagnosis. First flagellomere 1.5 times as long as wide, nearly acute apically. Postocular bristles wholly black. Hind femur with dorsal margin and tip black. Hind tarsus wholly black. M apically strongly curved forward (very close to R4+5).

Male. Body length 3.4-3.6 mm, wing length 3.4-3.5 mm.

Head metallic green with pale grey pollen; frons and face silvery white pollinose, face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles wholly black. Antenna black; first flagellomere 1.5 times as long as wide, nearly acute apically; arista dorsal, black, very short pubescent, with basal segment 0.5 times as long as apical segment. Proboscis blackish, with black hairs; palpus black, with black hairs and 1 black bristle.

Thorax metallic green with pale grey pollen. Hairs and bristles on thorax black; 6 dc (becoming longer backward), 8-9 irregularly paired acr short and hair-like; scutellum with 3-4 black marginal hairs between 2 apical bristles. Propleuron black haired, with 1 black bristle on lower portion; metapleuron with 2 pale hairs on antero-lower corner and 2 black hairs on mid-posterior margin. Legs yellow; fore coxa wholly yellow, mid and hind coxae (except narrowly at apex) black; hind femur with dorsal margin and tip black; fore and mid tarsi from tip of tarsomere 1 onward dark brown to black, hind tarsus wholly black. Hairs and bristles on legs black; fore coxa with 6-7 lateral and apical bristles; mid and hind coxae each with 1 outer bristle; mid and hind femur each with 1 preapical bristle. Hind femur with a row of 12-13 short dorsal bristles, basally with 3-4 short v. Fore tibia with 3 ad and 2 pd, apically with 2 bristles; mid tibia with 4 ad, 4 pd and 2 av, apically with 5 bristles; hind tibia with 5 ad, 5 pd and 9-10 weak av, apically with 4 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia

and 5 tarsomeres LI 2.1: 1.4: 0.6: 0.45: 0.3: 0.2; LII 3.5: 1.75: 1.4: 1.0: 0.6: 0.3; LIII 4.1: 1.2: 1.7: 1.15: 0.65: 0.4. Wing hyaline, slightly tinged with greyish; veins black, M apically strongly curved forward (very close to R4+5); CuAx ratio 0.9. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 2): Lateral lobe on epandrium with short thick anterior process bearing 3 branched hairs, and long posterior process, that is strongly curved and acute apically; cercus rather large and nearly triangular; hypandrium with apical portion strongly curved and spine-like.

Female. Unknown.

Holotype male, Guizhou: Kaili, Zhouxi (665 m), 12 km SSW of Kaili, 1995. VII. 25, T. SAIGUSA (KIZ). Paratypes 2 males, same data as holotype (KIZ & SKU); 1 male, Guizhou: Leishan, 8 km N of Leishan (800 m), 1995. VII. 26, T. SAIGUSA (SKU).

Distribution. China (Guizhou).

Etymology. The specific name refers to the curved spine-like apical portion of hypandrium.

Remarks. The new species is very similar to *Paraclius acutatus* YANG et LI from South China, but may be separated from the latter by the wholly yellow hind tibia. In *acutatus*, the hind tibia has a black tip (YANG & LI, 1998).

6. *Paraclius furcatus* sp. nov.

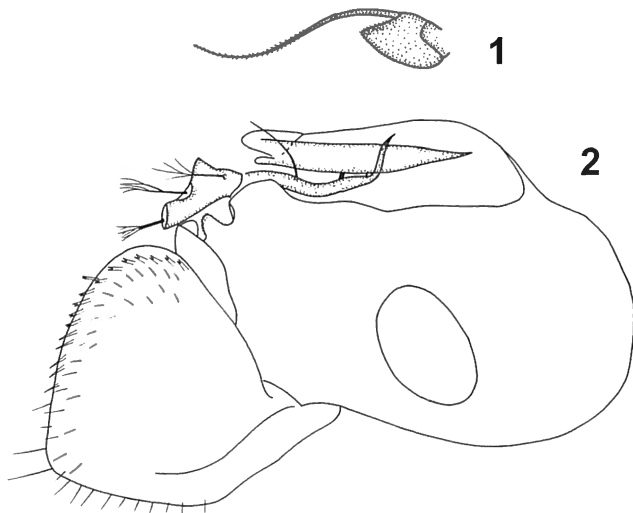
(Figs. 3-5)

Diagnosis. Antenna dark yellow, with first flagellomere (except base) blackish. Middle and lower postocular bristles yellow. Hind femur wholly yellow.

Male. Body length 4.2-4.4 mm, wing length 4.4-4.7 mm.

Head metallic green with pale grey pollen; frons and face white pollinose, face slightly narrower than first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles pale, except the lowest bristle, that is black. Antenna dark yellow, with first flagellomere (except base) blackish; first flagellomere as long as wide, obtuse apically; arista nearly dorsal, black, distinctly pubescent, with basal segment 0.4 times as long as apical segment. Proboscis brown, with black hairs; palpus brownish, with black hairs and 1 black bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with greyish brown pollen. Hairs and bristles on thorax black; 6 strong dc (becoming longer backward), 6-7 irregularly paired, short and hair-like acr; scutellum without marginal hairs. Propleuron pale and black haired, with 1 black bristle on lower portion; metapleuron with 4



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

black hairs on antero-lower corner. Legs yellow; fore and hind coxae wholly yellow, mid coxa (except narrow apex) blackish; tarsi from tip of tarsomere 1 onward brownish yellow, hind tarsus darker. Hairs and bristles on legs black; fore coxa with 6-7 lateral and apical bristles; mid and hind coxae each with 1 outer bristle; mid and hind femur each with 1 preapical bristle. Fore tibia with 2 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 2 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd and 2 short av, apically with 4 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.6: 1.5: 0.6: 0.45: 0.2: 0.3; LII 4.0: 1.9: 1.0: 0.8: 0.5: 0.3; LIII 4.5: 1.2: 1.8: 1.1: 0.65: 0.4. Wing slightly tinged with greyish; veins black, M apically strongly curved forward toward R4+5; CuAx ratio 0.83. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 4-5): Epandrium with a distinct lateral lobe, that is somewhat narrow medially; cercus nearly triangular, with finger-like apico-dorsal process, bearing 3 branched hairs; hypandrium rather thick, with acute apex.

Female. Body length 4.7-4.9 mm, wing length 4.9-5.1 mm. Similar to male, but face rather wide (distinctly wider than first flagellomere) and nearly parallel-sided, 2 lowest postocular bristles black.

Holotype male, Guizhou: Leishan, 8 km N of Leishan (800 m), 1995. VII. 26, T. SAIGUSA (KIZ). Paratypes 1 male, 2 females, same data as holotype (KIZ & SKU).

Distribution. China (Guizhou).

Etymology. The specific name refers to the furcate cercus.

Remarks. The new species is somewhat similar to *Paraclius serrulatus* YANG et GROOTAERT from Yunnan, but

may be separated from the latter by the pronotum with black bristles and CuAx ratio less than 1. In *serrulatus*, the pronotum has yellow bristles, and CuAx ratio is larger than 1 (YANG & GROOTAERT, 1999).

III. Genus *Hercostomus* LOEW

Subgenus *Ahercostomus* subgen. nov.

Diagnosis. Face narrowing downward. Clypeus projecting beyond lower margin of eyes. First flagellomere rather short, as long as wide, rounded apically; arista subapical, nearly bare and with very short basal segment. 6 strong dc, 5th pair of dc strongly convergent and shifted inward from dc row; biseriatae short and hair-like; 1 h and 2 humeral hairs, 1 ph, 1 ih, 1 su, 2 npl, 2 sa and 1 psa; basal scutellar bristle very short. Propleuron haired, with 1 black bristle on lower portion. Pteropleuron without hairs. R4+5 and M distinctly convergent apically. Hind coxa with 1 outer bristle at middle. Hind femur rather narrow. Male genitalia: Epandrium apically with spine-like and furcate lateral lobe; cercus rather large, nearly as long as epandrium, furcate and with distinct marginal denticles.

Type species. *Hercostomus (Ahercostomus) jiangchenganus* sp. nov.

Remarks. The new subgenus seems to be an intermediate group between *Gymnopternus* and *Hercostomus*. It is similar to *Gymnopternus* in having the 5th pair of dc rather convergent, and to *Hercostomus* in having the pteropleuron without hairs and R4+5 and M distinctly convergent apically. But it may be easily separated from *Gymnopternus* and *Hercostomus* by having the clypeus projecting beyond lower margin of eyes.

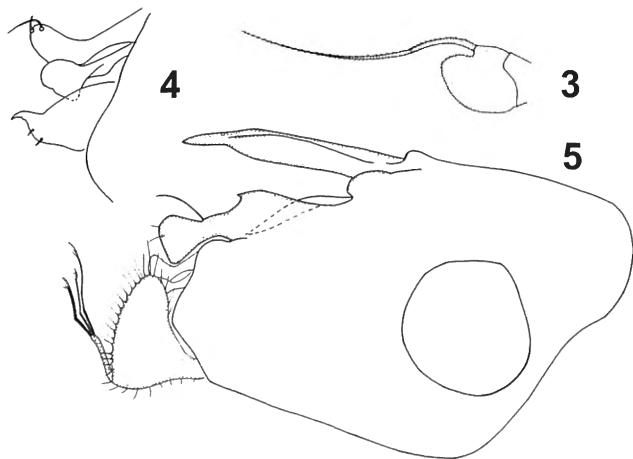
7. *Hercostomus (Ahercostomus) jiangchenganus* sp. nov. (Figs. 6-9)

Diagnosis. Legs chiefly black. Mid tarsomeres 3-5 weakly thickened and flattened. Wing distinctly tinged with greyish brown.

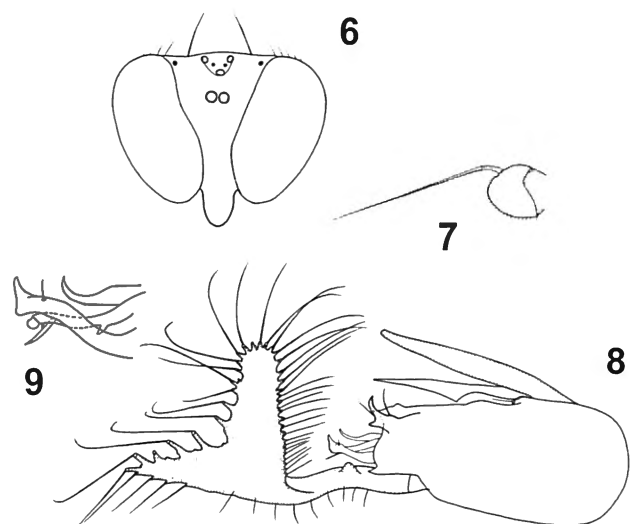
Male. Body length 3.3-3.5 mm, wing length 3.3-3.4 mm.

Head metallic green with pale grey pollen; upper occiput and frons grey brown pollinose, frons with white pollen on antero-lateral corner; face slightly wider than first flagellomere, densely silvery white pollinose; clypeus distinctly projecting beyond lower margin of eyes. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere as long as wide, rounded apically; arista subapical, black, nearly bare, with basal segment 0.15 times as long as apical segment. Proboscis dark brown with black hairs.

Thorax metallic green with pale grey pollen; meso-



Figs. 3-5 — *Paraclius furcatus* sp. nov., male. 3. antenna (excluding scape); 4. genitalia, lateral view; 5. apical genital processes, lateral view.



Figs. 6-9 — *Hercostomus (Ahercostomus) jiangchenganus* sp. nov., male. 6. head, anterior view; 7. antenna (excluding scape); 8. genitalia, lateral view; 9. apical genital processes, lateral view.

tum and scutellum grey brown pollinose. Hairs and bristles on thorax black; 6 strong dc, 5th pair of dc strongly convergent; 4-5 irregularly paired acr short and hair-like (reaching level of 4th dc); basal scutellar bristle about 1/5 as long as apical scutellar bristle. Propleuron black haired, with 1 black bristle on lower portion. Legs black; coxae black, fore and mid coxae narrowly dark yellow at apex; trochanters dark yellow to blackish; tibiae brownish yellow; fore tarsomere 1 brown with dark brown tip, mid tarsomere 1 brownish yellow with dark brown tip. Mid tarsomeres 3-5 weakly thickened and flattened. Hairs and bristles on legs black; fore coxa with 4 bristles, mid and hind coxae each with 1 outer bristle, mid and hind femora each with 1 preapical bristle. Fore tibia with 2 ad and 2 pd, apically with 2 bristles and 1 very long apv (more than 1/2 as long as tarsomere 1); mid tibia with 3 ad and 2 pd, apically with 4 bristles; hind tibia with 3 ad, 3 pd, 1 short av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.5: 0.9: 0.4: 0.3: 0.2: 0.25; LII 3.6: 2.1: 1.4: 0.9: 0.6: 0.35; LIII 3.65: 1.5: 1.7: 0.95: 0.6: 0.4. Wing distinctly tinged with greyish brown; veins black, R4+5 distinctly curved backward, M slightly curved forward, R4+5 and M distinctly convergent apically; CuAx ratio 0.7. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green, chiefly with pale grey pollen. Hairs and bristles on abdomen black. Cercus brownish yellow with pale hairs and bristles. Male genitalia (Figs. 8-9): Epandrium apically with lateral lobe, that is spine-like and furcate; cercus rather large and furcate, nearly as long as epandrium, with distinct marginal denticles; hypandrium somewhat thick; aedeagus acute apically and with a distinct inner denticle at middle.

Female. Unknown.

Holotype male, Yunnan: Jiangcheng, 28 km SW of Jiangcheng (1125 m), 1995. III. 12, T. SAIGUSA (KIZ). Paratype 1 male, same data as holotype, 1995. III. 11 (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the type locality Jiangcheng.

Subgenus *Hercostomus* LOEW

8. *Hercostomus (Hercostomus) basiflavus* YANG

Hercostomus basiflavus YANG, 1996. Entomofauna 17(18): 317. Type locality: Zhejiang (Gutianshan).

New record. 3 males, Guizhou: Zunyi, Loushanguan(1200 m), 1995. VIII. 4, T. SAIGUSA; 12 males, Guizhou: Zunyi, Loushanguan(1200 m), 1995. VIII. 5, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

9. *Hercostomus (Hercostomus) curvativus* YANG et SAIGUSA

Hercostomus (Hercostomus) curvativus YANG et SAIGUSA, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 239. Type locality: Sichuan (Emei Mountain).

New record. 1 male, Guizhou: Kaili, Zhouxi (665 m), 12 km SSW of Kaili, 1995. VII. 25, T. SAIGUSA.

Distribution. China (Guizhou, Sichuan).

10. *Hercostomus (Hercostomus) acutangulatus* YANG et SAIGUSA

Hercostomus (Hercostomus) acutangulatus YANG et SAIGUSA, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 237. Type locality: Sichuan (Emei Mountain).

New record. 2 males, Guizhou: Zunyi, Loushanguan (1200 m), 1995. VIII. 5, T. SAIGUSA.

Distribution. China (Guizhou, Sichuan).

11. *Hercostomus (Hercostomus) henanus* YANG

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

New record. 2 males, Guizhou: Zunyi, Loushanguan (1200 m), 1999. VIII. 5, T. SAIGUSA.

Distribution. China (Guizhou, Henan).

12. *Hercostomus (Hercostomus) brevicercus* sp. nov.
(Figs. 10-13)

Diagnosis. Belonging to *biancistrus*-group. First flagellomere distinctly elongated (2.5 times as long as wide) and nearly acute apically. Fore tarsomere 5 weakly thickened.

Male. Body length 3.3-3.5 mm, wing length 4.3-4.7 mm.

Head metallic green with pale grey pollen; upper occiput and frons grey brown pollinose, frons with thin silvery white pollen medially; face thinly silvery white pollinose. Face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black except first flagellomere, that has baso-ventral area brownish yellow; first flagellomere distinctly elongated, 2.5 times as long as wide, nearly acute apically; arista nearly subdorsal, black, with indistinct hairs; its basal segment 0.8 times as long as apical segment. Proboscis blackish with black hairs; palpus black with black hairs and 1 black apical bristle.

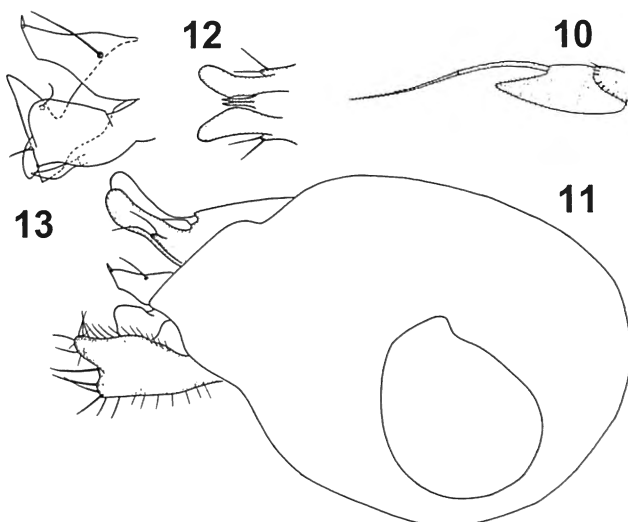
Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7 nearly uniseriate acr, short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa with a blackish outer spot; tarsi from tip of tarsomere 1 onward dark brown to black. Fore tarsomere 5 weakly thickened. Hairs and bristles on legs black; fore coxa with 6-7 bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 2 short ad and 2 pd, apically with 2 bristles and 1 very short apv; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd, 4-5 thin and 1 distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.3: 1.1: 0.6: 0.5: 0.3: 0.4; LII 3.5: 1.6: 1.0: 0.7: 0.6: 0.4; LIII 3.9: 1.2: 1.5: 0.9: 0.6: 0.5. Wing hyaline, weakly tinged with greyish; veins dark brown, R4+5 and M nearly straight and apically convergent; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 11-13): Cercus short, with oblique outer margin distinctly concave, its apex short finger-like with short hairs; hypandrium with one pair of short lateral arms, that are slightly curved outward.

Female. Unknown.

Holotype male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 7, T. SAIGUSA (KIZ). Paratype 1 male, same data as holotype (SKU).

Distribution. China (Yunnan).



Figs. 10-13 — *Hercostomus (Hercostomus) brevicercus* sp. nov., male. 10. antenna (excluding scape); 11. genitalia; 12. hypandrium, ventral view; 13. apical genital processes, lateral view.

Etymology. The specific name refers to the short cercus.

Remarks. The new species is similar to *Hercostomus (Hercostomus) jingpingensis* YANG et SAIGUSA from Yunnan, but may be separated from the latter by having the first tarsomere 5 weakly thickened and by its short cercus. In *jingpingensis*, the fore tarsus is normal, and the cercus is long (YANG & SAIGUSA, 2001b).

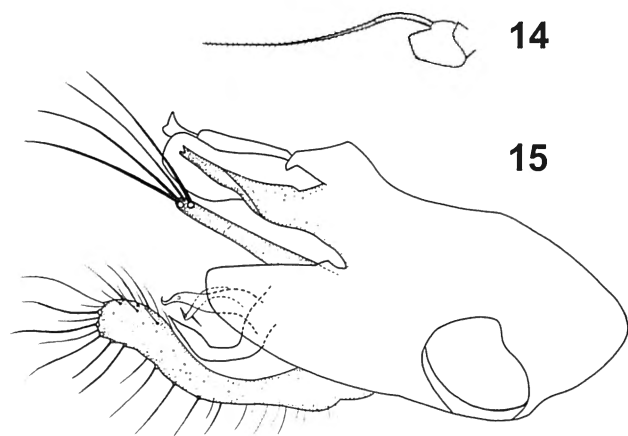
13. *Hercostomus (Hercostomus) marginatus* sp. nov.
(Figs. 14-15)

Diagnosis. Belonging to the *flavimaculatus*-group. Metapleuron yellow. Fore tarsomeres 4-5 weakly thickened. 2nd costal section slightly concave backward basally. 5th pair of dc weakly convergent.

Male. Body length 3.6-3.7 mm, wing length 4.0-4.3 mm.

Head metallic green with pale grey pollen; frons and face densely silvery white pollinose. Face slightly wider than first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black, scape dark yellow ventrally; first flagellomere small, 1.1 times as long as wide, obtuse apically; arista nearly dorsal, black, with distinct hairs, with basal segment 0.35 times as long as apical segment. Proboscis brown with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Metapleuron yellow. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc weakly convergent), 6-7 irregularly paired acr, that are short and hair-like; scutellum with pale discal and marginal hairs. Propleuron pale haired, with 1 black



Figs. 14-15 — *Hercostomus (Hercostomus) marginatus* sp. nov., male. 14. antenna (excluding scape), lateral view; 15. genitalia, lateral view.

bristle on lower portion. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward brown to dark brown. Fore tarsomeres 4-5 weakly thickened. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 1 ad and 2 pd, apically with 3 short bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 3 pd and 7-8 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Hind tarsomere 1 with inner basal spur, that is long, spine-like and curved apically. Relative lengths of tibia and 5 tarsomeres LI 2.4: 1.5: 0.9: 0.6: 0.4: 0.4; LII 3.8: 2.0: 1.1: 0.8: 0.5: 0.4; LIII 4.1: 1.4: 1.5: 0.9: 0.6: 0.4. Wing hyaline, weakly tinged with greyish; veins dark brown, 2nd costal section slightly concave backward basally, R4+5 curved backward, M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.7. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; tergum 1 with yellow lateral portion, terga 2-4 with yellow lateral margins; venter yellow; genitalia chiefly yellow. Hairs and bristles on abdomen black. Male genitalia (Fig. 15): Epandrium with long finger-like lateral lobe, bearing long apical bristles; cercus long and band-like, with long hairs; hypandrium irregularly furcate.

Female. Unknown.

Holotype male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1995. VIII. 15, T. SAIGUSA (KIZ). Paratypes 7 males, same data as holotype (KIZ, SKU & IRSN).

Distribution. China (Yunnan).

Etymology. The specific name refers to the partly concave anterior margin of the wing.

Remarks. The new species is similar to *Hercostomus (Hercostomus) curviseta* YANG et SAIGUSA from Shaanxi,

but may be separated from the latter by having the fore tarsomeres 4-5 dark brown and weakly thickened. In *curviseta*, the fore tarsus is normal, with white tarsomere 5 (YANG & SAIGUSA, 2001c).

14. *Hercostomus (Hercostomus) brevifurcatus* sp. nov.
(Figs. 16-17)

Diagnosis. Belonging to *subnovus*-group. acr nearly uniseriate. Hind tarsomere 1 with 3 v. Lateral arm on hypandrium with short and furcate posterior process.

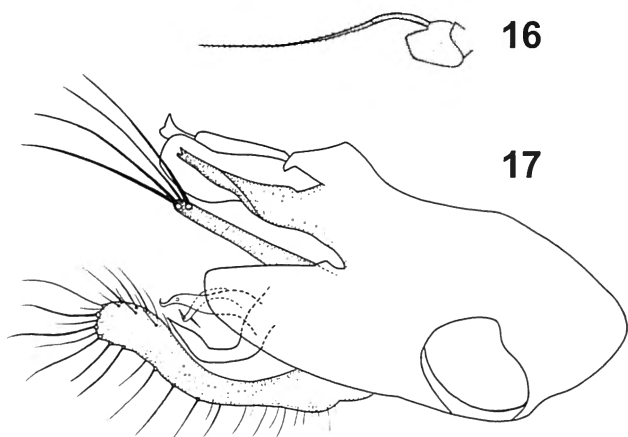
Male. Body length 3.9-4.0 mm, wing length 4.6-4.7 mm.

Head metallic green with pale grey pollen; frons and face densely silvery white pollinose. Face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere rather large, 1.5 times as long as wide, obtuse apically; arista subapical, black, with very short hairs, its basal segment 0.8 times as long as apical segment. Proboscis dark yellow with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum indistinctly tinged with grey brown pollen. Metapleuron yellow. Hairs and bristles on thorax black; 6 strong dc, 5-6 irregularly paired acr, that are short and hair-like (the two rows very close, nearly uniseriate). Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 3 pale hairs on antero-lower corner. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black, fore coxa (except apex) with pale hairs; fore coxa with 7-8 lateral and apical bristles, mid and hind coxae each with 1 outer bristle; hind femur with pale ventral hairs on basal half. Fore tibia with 1 ad and 2 pd, apically with 3 short bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 2-3 pd and 5-6 av, apically with 3 bristles. Hind tarsomere 1 with 3 v. Hind tibia with inner apical spur, that is spine-like, apically curved and weakly furcate. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.8: 1.0: 0.75: 0.5: 0.4; LII 4.0: 2.4: 1.4: 1.1: 0.6: 0.45; LIII 4.7: 1.6: 1.9: 1.2: 0.7:?. Wing hyaline; veins dark brown, R4+5 distinctly curved backward, M slightly curved forward, R4+5 and M strongly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; terga 1-2 with yellow lateral margins; sternum 2 blackish. Cercus with yellow base. Hairs and bristles on abdomen black; terga 1-3 with pale hairs laterally, sterna 2-4 with pale hairs. Male genitalia (Fig. 17): Epandrium with narrow lateral lobe, that is acute apically; cercus rather large and somewhat rounded apically; hypandrium irregularly furcate, its lateral arm with a short and furcate posterior process.

Female. Unknown.



Figs. 16-17 — *Hercostomus (Hercostomus) brevifurcatus* sp. nov., male. 16. antenna (excluding scape); 17. genitalia, lateral view.

Holotype male, Yunnan: Yunlong, 3 km NNW from Zhichang (2500-2600 m), 1996. VI. 7, T. SAIGUSA (KIZ). Paratype 1 male, Yunnan: Lushui, Gaoliekungshan (2550-2700 m), 1995. VIII. 13, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the lateral arm on hypandrium, that bears short and furcate posterior process.

Remarks. The new species is similar to *Hercostomus (Hercostomus) zunyianus* sp. nov. in having the lateral arm of epandrium with short posterior branches, but may be separated from the latter by the fact that the lateral arm on the epandrium bears a long spine-like anterior process and that the aedeagus is not furcate apically.

15. *Hercostomus (Hercostomus) projectus* sp. nov.
(Figs. 18-19)

Diagnosis. Belonging to *subnovus*-group. Arista located on a distinct projection of first flagellomere. Hind tarsomere 1 with 3 v.

Male. Body length 4.2-4.3 mm, wing length 4.9-5.0 mm.

Head metallic green with pale grey pollen; frons and face densely silvery white pollinose. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere rather large, 1.8 times as long as wide, obtuse apically; arista subapical, located on a distinct projection of first flagellomere, black, with very short hairs; its basal segment 0.9 times as long as apical segment. Proboscis dark brown with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum tinged with

grey brown pollen. Metapleuron yellow. Hairs and bristles on thorax black; 6 strong dc, 5-6 irregularly paired acr, that are short and hair-like (the two rows somewhat close). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 7-8 lateral and apical bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 1 ad and 2 pd, apically with 3 short bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 3 pd and 7 av, apically with 3 bristles. Hind tarsomere 1 with 3 v. Hind tibia with a brownish yellow, nearly spine-like inner apical spur. Relative lengths of tibia and 5 tarsomeres LI 2.6: 1.8: 1.0: 0.8: 0.5: 0.45; LII 4.0: 2.2: 1.9: 1.0: 0.6: 0.45; LIII 4.7: 1.5: 2.0: 1.1: 0.6: 0.5. Wing hyaline, weakly tinged with greyish; veins dark brown, R4+5 distinctly curved backward, M nearly straight, R4+5 and M strongly convergent apically; CuAx ratio 0.8. Squama yellow with black hairs. Halter yellow.

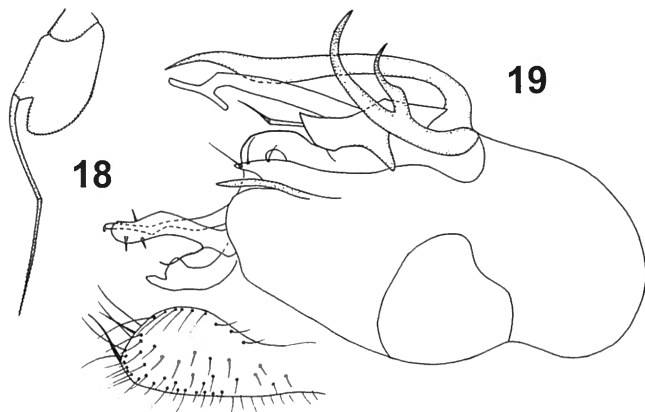
Abdomen metallic green with pale grey pollen; terga 1-2 with yellow lateral are as, terga 3-4 with yellow lateral margins; sternum 2 dark yellow or blackish. Cercus with yellow base. Hairs and bristles on abdomen black; sterna 2-3 with pale hairs. Male genitalia (Fig. 19): Epandrium with narrow lateral lobe, that is acute apically; cercus rather large and somewhat rounded apically; hypandrium irregularly furcate, its lateral arm with 2 spine-like branches, that are curved backward apically.

Female. Unknown.

Holotype male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1995. VIII. 15, T. SAIGUSA (KIZ). Paratype 1 male, same data as holotype (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the arista, located on a distinct projection of the first flagellomere.



Figs. 18-19 — *Hercostomus (Hercostomus) projectus* sp. nov., male. 18. antenna (excluding scape); 19. genitalia, lateral view.

Remarks. The new species may be easily separated from the other known species of the *subnovus*-group by having the arista located on a distinct projection of the first flagellomere.

16. *Hercostomus (Hercostomus) zunyianus* sp. nov.
(Figs. 20-21)

Diagnosis. Belonging to *subnovus*-group. Fore tarsomere 1 apically with 2 somewhat long bristles. Hind tarsomere 1 with 3-4 v. Lateral arm on epandrium with a short and furcate posterior process.

Male. Body length 3.9 mm, wing length 3.9 mm.

Head metallic green with grey brown pollen; frons and face silvery white pollinose. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere rather large, 1.5 times as long as wide, obtuse apically; arista subapical, black, with indistinct hairs; its basal segment as long as apical segment. Proboscis dark brown with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum tinged with grey brown pollen. Metapleuron yellow. Hairs and bristles on thorax black; 6 strong dc, 5-6 irregularly paired acr, that are short and hair-like (the two rows very close). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 7-8 lateral and apical bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 1 ad and 2 pd, apically with 2 somewhat long bristles; mid tibia with 4 ad, 2 pd and 2 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd and 7-8 av, apically with 3 bristles. Hind tarsomere 1 with 3-4 v. Hind tibia with inner apical spur spine-like, apically curved. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.6: 0.9:

0.7: 0.55: 0.4; LII 4.1: 2.1: 1.4: 1.0: 0.65: 0.5; LIII 4.7: 1.5: 2.0: 1.1: 0.65: 0.5. Wing nearly hyaline; veins dark brown, R4+5 distinctly curved backward, M slightly curved forward, R4+5 and M strongly convergent apically; CuAx ratio 0.7. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; sterna 2-3 blackish. Cercus brown. Hairs and bristles on abdomen black; sterna 2-3 with pale lateral hairs. Male genitalia (Fig. 21): Epandrium with narrow lateral lobe, that is acute apically; cercus rather large and somewhat rounded apically; hypandrium irregularly furcate, its lateral arm with a short acute anterior process and a short furcate posterior process.

Female. Unknown.

Holotype male, Guizhou: Zunyi, Loushanguan (1200 m), 1995. VIII. 5, T. SAIGUSA (KIZ).

Distribution. China (Guizhou).

Etymology. The specific name refers to the type locality Zunyi.

Remarks. The new species is similar to *Hercostomus (Hercostomus) brevifurcatus* sp. nov. in having the lateral arm of the epandrium with a short and furcate posterior process, but may be separated from the latter by the lateral arm on the epandrium, that bears a short spine-like anterior process and by its aedeagus, that is furcate apically.

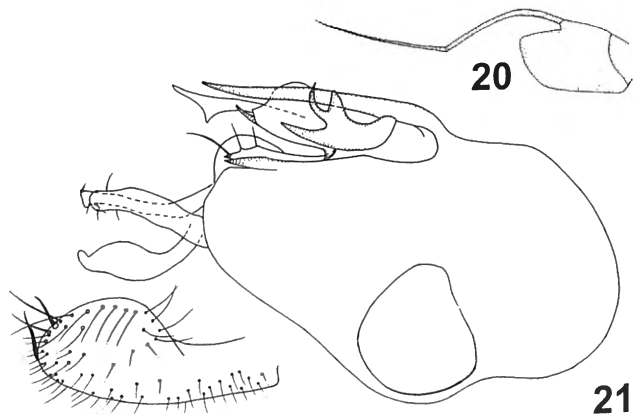
17. *Hercostomus (Hercostomus) crassiseta* sp. nov.
(Figs. 22-23)

Diagnosis. Belonging to *curvus*-group. Fore coxa black basally, mid and hind coxae (except narrowly at apex) black; apex of hind femur black. Male cercus curved and finger-like.

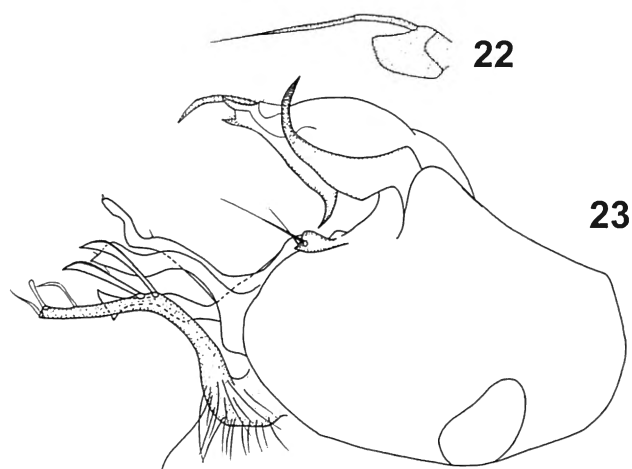
Male. Body length 3.1 mm, wing length 3.6 mm.

Head metallic green with pale grey pollen; frons white pollinose, face grey brown pollinose; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig.) black; first flagellomere 1.4 times as long as wide, obtuse apically; arista dorsal, black, with indistinct hairs, its basal segment 0.45 times as long as apical segment. 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, 5 irregularly uniserial acr, that are very short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; fore coxa black basally, mid and hind coxae (except narrowly at apex) black; apex of hind femur black; fore and mid tarsi from tip of tarsomere 1 onward



Figs. 20-21 — *Hercostomus (Hercostomus) zunyianus* sp. nov., male. 20. antenna (excluding scape); 21. genitalia, lateral view.



Figs. 22-23 — *Hercostomus (Hercostomus) crassiseta* sp. nov., male. 22. antenna (excluding scape); 23. genitalia, lateral view.

dark brown, hind tarsus black. Hairs and bristles on legs black; fore coxa with 4 apical bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with one row of short ad and 2 pd, apically with 2 bristles and 1 short apv; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 4 ad, 3 pd and 5-6 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.1: 1.4: 0.45: 0.4: 0.2: 0.25; LII 3.0: 1.6: 0.7: 0.7: 0.5: 0.35; LIII 3.6: 0.9: 1.4: 0.65: 0.5: 0.4. Wing tinged with greyish; veins dark brown, R4+5 curved backward, M nearly straight, R4+5 and M convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Cercus (except base) brownish yellow. Hairs and bristles on abdomen black. Male genitalia (Fig. 23): Epandrium with very short lateral lobe; cercus very narrow, finger-like, distinctly curved, apically with thick bristles; hypandrium irregularly furcate, with strongly curved lateral arm, that is acute apically.

Female. Unknown.

Holotype male, Yunnan: Xiaguan, Daboqing, 1995. VIII. 16, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the cercus, bearing thick bristles.

Remarks. The new species is similar to *Hercostomus (Hercostomus) curvus* YANG et SAIGUSA from Shaanxi, but may be separated from the latter by having the fore coxa yellow with narrowly black base and uniseriate acr. In *curvus*, the fore coxa (except narrowly at apex) is black, and acr are biseriate (YANG et SAIGUSA, 2001c).

18. *Hercostomus (Hercostomus) loushanguanus* sp. nov.
(Figs. 24-26)

Diagnosis. Belonging to *absimilis*-group. Face rather narrow, distinctly narrower than first flagellomere. First flagellomere rather small, as long as wide; arista with rather short basal segment (0.1 times as long as apical segment). Aedeagus apically with 4 branches.

Male. Body length 3.5-3.6 mm, wing length 3.9-4.0 mm.

Head metallic green with grey brown pollen; frons and face white pollinose. Face rather narrow, distinctly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere rather small, as long as wide, obtuse apically; arista subapical, black, with short hairs; its basal segment 0.1 times as long as apical segment. Proboscis yellow with black hairs; palpus yellow with black hairs and 1 black apical bristle.

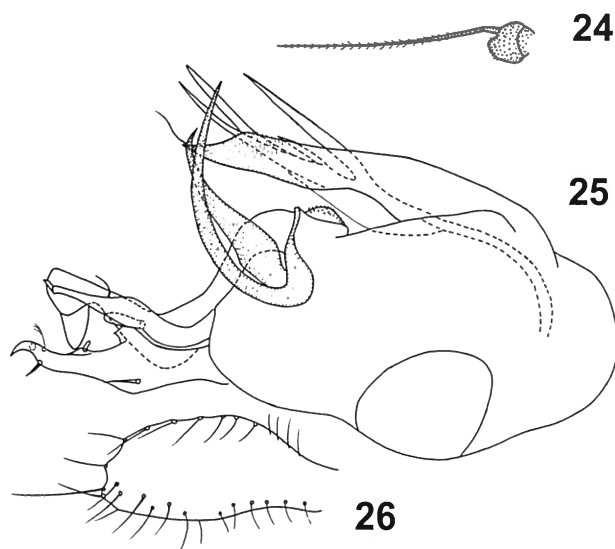
Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum tinged with grey brown pollen. Metapleuron yellow with upper portion narrowly blackish. Hairs and bristles on thorax black; 6 strong dc, 8 irregularly paired acr, that are short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow; hind femur with extreme tip brown; tarsi from tip of tarsomere 1 onward dark brown. Fore tarsomeres 4-5 a little thickened, fore tarsomere 5 with narrowly white apex. Hairs and bristles on legs black; fore coxa with 4 apical bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 1 short ad and 2 pd, apically with 3 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 4 pd and 7 av, apically with 4 bristles. Hind tarsomere 1 with 3 v. Hind tibia with inner apical spur apically acute and curved. Relative lengths of tibia and 5 tarsomeres LI 2.5: 1.45: 1.0: 0.65: 0.45: 0.4; LII 3.2: 1.8: 1.3: 0.7: 0.5: 0.4; LIII 3.9: 0.95: 1.8: 0.9: 0.5: 0.4. Wing tinged with greyish; veins dark brown, R4+5 slightly curved backward, M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.8-0.9. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 25-26): Epandrium apically with 2 long lateral spines; cercus rather large and somewhat quadrate; hypandrium rather long and thick, apically nearly acute; aedeagus furcate with 4 branches.

Female. Unknown.

Holotype male, Guizhou: Zunyi, Loushanguan (1200 m), 1995. VIII. 5, T. SAIGUSA (KIZ). Paratypes 6 males, same data as holotype (KIZ, SKU & IRSN); 2 males, same data as holotype, 1995. VIII. 4 (SKU).

Distribution. China (Guizhou).



Figs. 24-26 — *Hercostomus (Hercostomus) loushanguangus* sp. nov., male. 24. antenna (excluding scape); 25. genitalia (excluding cercus), lateral view; 26. cercus, lateral view.

Etymology. The specific name refers to the type locality Loushanguan.

Remarks. The new species is similar to *Hercostomus (Hercostomus) emeiensis* YANG from Sichuan, but may be separated from the latter by having the first flagellomere rather short with obtuse apex (as long as wide). In *emeiensis*, the first flagellomere is rather large with acute apex (1.7 times longer than wide) (YANG, 1998c).

19. *Hercostomus (Hercostomus) longipilosus* sp. nov.
(Figs. 27-29)

Diagnosis. Belonging to *cyaneculus*-group. Antenna wholly black. Mid and hind femora with long pale ventral hairs, that are nearly as long as depth of femur. R4+5 and M distinctly convergent apically.

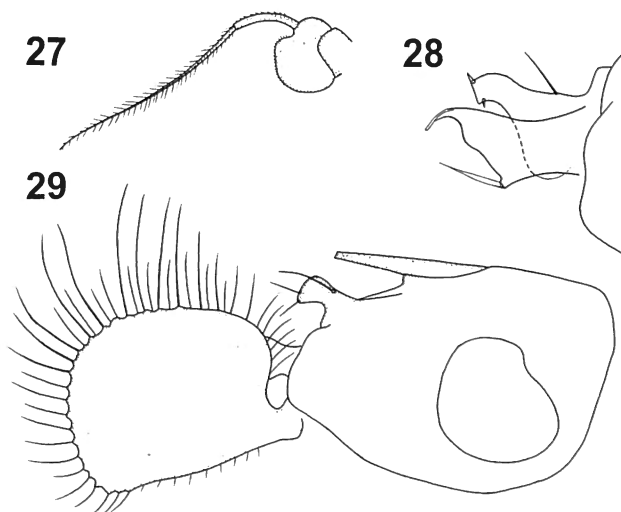
Male. Body length 4.9-5.1 mm, wing length 5.0-5.3 mm.

Head metallic green with pale grey pollen; frons subshiny, with thin pale grey pollen, face with somewhat dense silvery white pollen (tinged with brownish yellow pollen on upper 2/3). Face slightly narrower than first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather small, nearly as long as wide, obtuse apically; arista subapical, black, with long hairs; its basal segment 0.3 times as long as apical segment. Proboscis dark brown with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesono-

tum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 5th pair of dc weakly convergent; 9-10 irregularly paired acr, that are short and hair-like (the two rows very close). Scutellum with pale marginal hairs. Propleuron pale haired, with 1 black bristle on lower portion; metapleuron with pale hairs on mid-posterior margin. Legs yellow; coxae yellow, mid coxa with a black outer spot; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with pale hairs, except apical margin that bears black hairs and 4-5 black bristles; mid coxa with pale hairs basally. Mid femur with one row of long pale posteroventral hairs and hind femur with one row of long pale anteroventral hairs, which are nearly as long as depth of femur; hind femur with one row of dorsal bristles basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles and 1 long apv (about 1/2 as long as fore tarsomere 1); mid tibia with 4 ad, 2 pd and 5 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd and 6-9 av, apically with 4 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 3.4: 1.5: 0.6: 0.5: 0.3: 0.4; LII 4.6: 1.8: 0.85: 0.65: 0.5: 0.4; LIII 5.0: 1.4: 1.55: 0.9: 0.6: 0.5. Wing nearly hyaline; veins dark brown, R4+5 curved backward, M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.9-1.0. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; sterna 3-4 mostly shiny without pollen; genitalia apically nearly reaching thorax. Cercus yellow with black outer and ventral margin. Hairs and bristles on abdomen black; tergum 1 with some pale lateral hairs, sterna 2-3 with pale hairs. Male genitalia (Figs. 28-29): Epandrium with short outer lateral lobe, bearing 2 somewhat closely located apical bristles, and a weak inner lateral lobe; cercus



Figs. 27-29 — *Hercostomus (Hercostomus) longipilosus* sp. nov., male. 27. antenna (excluding scape); 28. genitalia, lateral view; 29. apical genital processes, lateral view.

very large, longer than wide, with weak marginal denticles; hypandrium narrow and straight.

Female. Body length 4.9-5.0 mm, wing length 5.0-5.3 mm. Similar to male, but face wider than first flagellomere and nearly parallel-sided with pale pollen.

Holotype male, Guizhou: Zunyi, Loushangan (1300-1400 m), 1995. VIII. 4, T. SAIGUSA (KIZ). Paratypes 21 males 11 females, same data as holotype (KIZ, SKU, CAU & IRSN).

Distribution. China (Guizhou).

Etymology. The specific name refers to the mid and hind femora, that bear long ventral hairs.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) luchunensis* YANG et SAIGUSA from Yunnan, but may be separated from the latter by the mid and hind femora that bear rather long ventral hairs, that are as long as depth of femur. In *luchunensis*, the mid and hind femora have shorter pale ventral hairs, about 1/2 as long as depth of femur (YANG & SAIGUSA, 2001b).

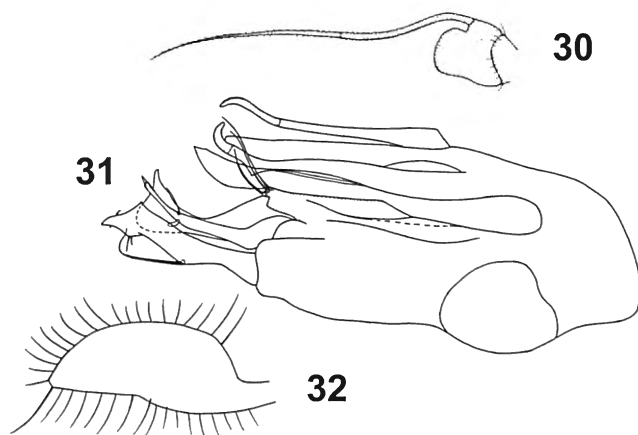
20. *Hercostomus (Hercostomus) incilis* sp. nov.
(Figs. 30-32)

Diagnosis. Belonging to *intactus*-group. Antenna yellow, except first flagellomere, that is black with yellow base. Scutellum with pale discal and marginal hairs.

Male. Body length 4.1 mm, wing length 4.1 mm.

Head metallic green with pale grey pollen; frons pale pollinose, tinged with brownish yellow pollen on anterior portion, face brownish yellow pollinose. Face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black, first flagellomere black with yellow base; first flagellomere 1.1 times as long as than wide, flat apically; arista subapical, black, with very short hairs; its basal segment 0.75 times as long as apical segment. Proboscis brown with black hairs; palpus brownish yellow with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 6 irregularly paired acr. Scutellum with sparse pale discal and marginal hairs. Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa with a blackish outer spot; mid and hind tarsi from tip of tarsomere 1 onward brownish. Hairs and bristles on legs black; fore coxa with 5-6 bristles. Fore tibia with 1 ad and 2 pd, apically with 2 bristles and 1 short thin apv; mid tibia with 3 ad, 3 pd and 1 av, apically with 4 bristles; hind tibia with 5 ad, 4 pd and 11-12 av, apically with 3 bristles. Hind



Figs. 30-32 — *Hercostomus (Hercostomus) incilis* sp. nov., male. 30. antenna (excluding scape), lateral view; 31. genitalia (excluding cercus), lateral view; 32. cercus, lateral view.

tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.45: 1.4: 0.6: 0.5: 0.3: 0.25; LII 3.5: 1.7: 1.0: 0.8: 0.5: 0.25; LIII 4.1: 1.0: 1.6: 1.0: 0.6: 0.3. Wing weakly tinged with greyish; veins dark brown, R4+5 nearly straight; M weakly curved forward, R4+5 and M distinctly convergent apically; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey and grey brown pollen. Hairs and bristles on abdomen black; sterna 2-3 with pale hairs. Male genitalia (Figs. 31-32): Epandrium with short lateral lobe, that is incised apically (bearing 3 apical bristles); cercus long and rhombous; hypandrium irregularly furcated with long branches.

Female. Unknown.

Holotype male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1995. VIII. 15, T. SAIGUSA (KIZ).

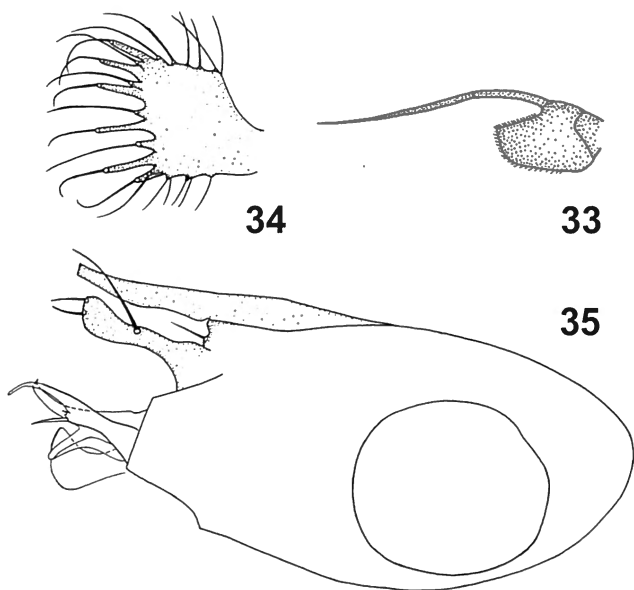
Distribution. China (Yunnan).

Etymology. The specific name refers to the lateral lobe on epandrium that is incised apically.

Remarks. The new species is similar to *Hercostomus (Hercostomus) dorsiniger* YANG et SAIGUSA from Yunnan, but may be separated from the latter by the first flagellomere with yellow base, and by the cercus, that is somewhat curved downward. In *dorsiniger*, the first flagellomere has a yellow ventral surface, and its cercus is curved upward (YANG & SAIGUSA, 2001b).

21. *Hercostomus (Hercostomus) longidigitatus* sp. nov.
(Figs. 33-35)

Diagnosis. Belonging to *baishanzuensis*-group. Arista nearly bare. acr absent. Cercus quadrate with long finger-like marginal denticles.



Figs. 33-35 — *Hercostomus (Hercostomus) longidigitatus* sp. nov., male. 33. antenna (excluding scape); 34. genitalia (excluding cercus), lateral view; 35. cercus, lateral view.

Male. Body length 2.1-2.3 mm, wing length 2.7-2.8 mm.

Head metallic green with pale grey pollen; frons grey brown pollinose, face pale grey pollinose. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere 1.4 times as long as wide, obtuse apically; arista nearly dorsal, black, nearly bare; its basal segment 0.5 times as long as apical segment. Proboscis dark brown with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 5th pair of dc weakly convergent; acr absent. Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except narrowly at apex) blackish; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 5 bristles. Fore tibia with 1 ad, 2 pd and 1 pv, apically with 2 bristles and 1 long apv (about 1/2 as long as fore tarsomere 1); mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2-3 ad, 2-3 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 1.4: 0.65: 0.4: 0.4: 0.25: 0.25; LII 2.0: 0.9: 0.6: 0.4: 0.35: 0.25; LIII 2.2: 0.65: 0.9: 0.6: 0.45: 0.3. Wing hyaline; veins dark brown, R4+5 and M apically weakly curved backward and weakly convergent; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale grey and grey brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 34-35): Epandrium with long outer lateral lobe

and weak inner lateral lobe; cercus quadrate with long finger-like marginal denticles; hypandrium with weak inner denticle.

Female. Unknown.

Holotype male, Yunnan: Lushui, Gaolikushan (2550-2700 m), 1995. VIII. 13, T. SAIGUSA (KIZ). Paratypes 9 males, same data as holotype (KIZ, IRSN & CAU); 2 males, Yunnan: Lushui, Lushui-Gaolikushan (2010 m), 1995. VIII. 14, T. SAIGUSA (SKU); 9 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1995. VIII. 15, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the long finger-like marginal denticles on cercus.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) baishanzuensis* YANG et YANG from China in having the acr absent, but may be separated from the latter by the legs that are mostly yellow. In *baishanzuensis*, the legs are chiefly black (YANG & YANG, 1995).

Subfamily Hydrophorinae

IV. Genus *Liancalus* LOEW

22. *Liancalus lasius* WEI et LIU

Liancalus lasius WEI et LIU, 1995. J. Guizhou Agric. Coll. 14(4): 36. Type locality: Guizhou (Puding, Fanjingshan).

Diagnosis. acr uniseriate. Scutellum usually with 6 bristles, but sometimes with 8 bristles (basal pair of bristles slightly weak). Wing usually with a black apical spot, but sometimes without such a spot.

New record. 1 male 1 female, Yunnan: Nanxi-Quiatou (200 m), 37 km from Hekou, 1995. II. 26, T. SAIGUSA; 1 male 1 female, Yunnan: Hekou, Longge Shanzhung (300 m), 4 km NE Nanxi, 1995. II. 28, T. SAIGUSA.

Distribution. China (Yunnan, Guizhou, Sichuan).

Subfamily Sciapodinae

V. Genus *Amblysilopus* BIGOT

23. *Amblysilopus crassatus* YANG

Amblysilopus crassatus YANG, 1997. Bull. Inst. R. Sci. Nat. Belg. Ent. 67: 133. Type locality: Zhejiang (Hangzhou).

New record. 6 males, Guizhou: Zunyi, Fenghuashan (890 m), 1995. VIII. 3, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

VI. Genus *Chrysosoma* GUÉRIN-MÉNEVILLE

24. *Chrysosoma pallipilosum* sp. nov. (Fig. 36)

Diagnosis. Head with pale hairs and bristles, except oc, that are black. Antenna yellow. Fore and mid coxae yellow, hind coxa (except narrowly at apex) blackish.

Male. Body length 5.7 mm, wing length 5.4 mm.

Head metallic green with dense pale grey pollen; vertex distinctly excavated. Hairs and bristles on head pale, except oc, that are black; postocular bristles (including ventral hairs) pale. Frons with 1 pale anterior hair on postero-lateral slope; vt shorter than oc. Antenna yellow; pedicel with 1 long dorsal bristle and 1 long ventral bristle; first flagellomere short conical, as long as wide; arista apical, bare, dark brown, slightly longer than head + thorax. Proboscis yellow with pale hairs; palpus yellow with pale hairs and 2 pale bristles.

Thorax subshiny metallic green with pale grey pollen. Hairs and bristles on thorax chiefly black; 2 strong posterior dc and 3 pale short hairs anteriad, 2 long paired acr; 1 pale hair-like h, 1 pale hair-like su, anterior sa short, hair-like; basal scutellar bristles absent. Propleuron pale haired. Legs yellow; fore and mid coxae yellow, hind coxa (except narrowly at apex) blackish; fore tarsomere 5 black with yellow base, mid and hind tarsomere 5 dark brown. Hairs and bristles on legs black; coxae with pale hairs and bristles; fore coxa with 3 bristles, hind coxa with 1 outer bristle at basal 1/3. Fore tibia with one row of sparse short, erect posteroventral hairs, except apical portion, and 1 long curved posteroventral hair near apex, apically with 2 bristles; mid tibia with 2 ad and 1 pd,

apically with 3 bristles; hind tibia with 7-8 short pd and 6-7 short av, apically with 2 bristles. Fore tarsomere 1 with one group of very dense pale posteroventral hairs at extreme base and 4-5 black v at base, fore tarsomeres 2-4 somewhat flattened laterally, fore tarsomere 5 distinctly thickened and flattened dorso-ventrally, with lateral bristles. Hind tarsomere 1 with 1 v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 4.3: 4.1: 1.35: 1.25: 0.9: 0.3; LII 5.1: 3.9: 1.15: 0.75: 0.4: 0.25; LIII 7.2: 3.7: 1.3: 0.8: 0.5: 0.25. Wing hyaline; veins brown, m-cu straight; CuAx ratio 1.4. Squama yellow with margin narrowly black, bearing pale hairs. Halter yellow.

Abdomen dark metallic green with pale pollen; tergum 2 with a brownish yellow median spot, terga 3-4 yellow, except anterior and posterior areas, that are black. Hairs and bristles on abdomen black; terga 1-2 with pale lateral hairs. Male genitalia (Fig. 36): Epandrium apically with short finger-like lateral lobe; surstylus short, with distinct apical denticles; cercus long and narrow, apically with long bristles.

Female. Unknown.

Holotype male, Yunnan: Jiangcheng, 28 km SW from Jiangcheng (1125 m), 1995. III. 12, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the head bearing pale hairs and bristles.

Remarks. The new species is somewhat similar to *Chrysosoma jingpinganum* YANG et SAIGUSA from Yunnan, but may be separated from the latter by having the hairs and bristles on head nearly wholly pale and thorax wholly metallic green. In *jingpinganum*, the head has mostly black hairs and bristles, and the thorax is chiefly dark yellow (YANG & SAIGUSA, 2001a).

25. *Chrysosoma crassum* sp. nov. (Fig. 37)

Diagnosis. Coxae and trochanters black. Halter dark brown. Femora with long pale ventral hairs on basal half.

Male. Body length 3.5-4.1 mm, wing length 4.0-4.7 mm.

Head subshiny metallic green with pale grey pollen; vertex distinctly excavated. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Frons with 1 pale thin anterior hair on postero-lateral slope; vt rather long. Antenna black; pedicel with 1 long dorsal bristle and 2 long ventral bristles; first flagellomere short conical, 1.1 times as long as wide; arista apical, bare, black, nearly as long as head + thorax. Proboscis dark yellow with black hairs; palpus black with pale hairs and 2 black bristles.

Thorax subshiny metallic green with pale grey pollen. Hairs and bristles on thorax black; 2 strong posterior dc



Fig. 36 — *Chrysosoma pallipilosum* sp. nov., male genitalia, lateral view.

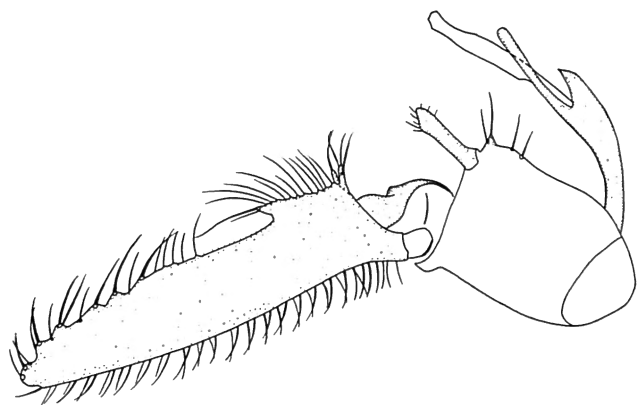


Fig. 37 — *Chrysosoma crassum* sp. nov., male genitalia, lateral view.

and 3 short hairs anteriad, 3 long paired acr; 1 hair-like h; basal scutellar bristle about 1/7 as long as apical scutellar bristle. Propleuron pale haired. Legs yellow; coxae and trochanters black; hind femur with extreme tip brown; tarsi dark brown. Hairs and bristles on legs black; coxae with pale hairs and bristles; fore coxa with 3 bristles; femora with long pale ventral hairs on basal half. Fore tibia with 1 ad, 2 pd and 1 thin pv, apically with 2 bristles and 1 hair-like apv; mid tibia with 3 ad, 1 d, 3 pd and 1 av, apically with 3 bristles; hind tibia with 1 ad, 4 pd and 2-3 short av, apically with 2 bristles. Hind tarsomere 1 with 1 v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 2.5: 1.9: 0.65: 0.5: 0.4: 0.25; LII 4.1: 3.0: 0.95: 0.6: 0.4: 0.25; LIII 5.7: 2.5: 1.1: 0.6: 0.4: 0.25. Wing hyaline; veins brown, m-cu weakly curved; CuAx ratio 2.3. Squama yellow with margin narrowly black, bearing pale hairs. Halter yellow.

Abdomen subshiny metallic green with pale pollen, but darker with grey brown pollen from segment 6 onward. Hairs and bristles on abdomen black; terga 1-2 with pale lateral hairs. Male genitalia (Fig. 39): Epandrium apically with short conical lateral lobe; surstylus short and nearly straight; cercus long and rather thick, with weak denticles on ventral margin; hypandrium with a long lateral arm.

Female. Unknown.

Holotype male, Yunnan: Jiangcheng, 28 km SW from Jiangcheng (1125 m), 1995. III. 12, T. SAIGUSA (KIZ). Paratype 1 male, same data as holotype (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the thick cercus.

Remarks. The new species is somewhat similar to *Chrysosoma luchunanum* YANG et SAIGUSA from Yunnan, but may be separated from the latter by its black coxae. In *luchunanum*, the coxae are yellow (YANG & SAIGUSA, 2001a).

Subfamily Neurigoninae

VII. Genus *Neurigona* RONDANI

26. *Neurigona zhejiangensis* YANG

Neurigona zhejiangensis YANG, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 202. Type locality: Zhejiang (Baishanzu).

New record. 1 male, Guizhou: Zunyi, Fenghuanshan (890 m), 1995. VIII. 3, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

Subfamily Diaphorinae

VIII. Genus *Diaphorus* MEIGEN

27. *Diaphorus nigricans* MEIGEN

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

New record. 1 male, Guizhou: Kaili, Zhouxi (665 m), 1995. VII. 25, T. SAIGUSA; 5 males, Guizhou: Zunyi, Fenghuashan (890 m), 1995. VIII. 3, T. SAIGUSA.

Distribution. China (Guizhou, Zhejiang).

Subfamily Rhapsiinae

IX. Genus *Rhaphium* MEIGEN

28. *Rhaphium palliaristatum* sp. nov. (Figs. 38-41)

Diagnosis. First flagellomere much elongated (5.1 times as long as wide); arista rather short (0.4 times as long as first flagellomere), pale with black base. Hind tibia and tarsus dark brown.

Male. Body length 2.5-2.7 mm, wing length 2.7-2.9 mm.

Head metallic green with pale grey pollen; upper occiput grey brown pollinose; frons subshiny with thin pale grey pollen, face distinctly narrower than first flagellomere, with dense silvery white pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere much elongated (5.1 times as long as wide); arista rather short (0.4 times as long as first flagellomere), pale with black base. Proboscis black with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum with grey brown pollen. Hairs and bristles on thorax black; 5 strong dc, 8-9 irregularly paired acr, short and hair-like (the two

rows close); basal scutellar bristle about 1/5 as long as apical scutellar bristle. Propleuron pale haired. Legs yellow; all coxae yellow, mid coxa tinged with blackish basally; fore and mid tarsi yellow, hind tibia and tarsus dark brown. Hairs and bristles on legs black; coxae with pale hairs and black bristles, fore coxa with 4 apical bristles, hind coxa with 1 outer bristle rather near to base. Mid femur with 1 preapical bristle. Fore tibia with 2 ad and 1 pd, apically with 3 bristles; mid tibia with 3 ad, 2 pd and 1 short pv, apically with 5 bristles; hind tibia with 2 ad and 2 pd, apically with 3 bristles. Hind tarsomere 1 without v at base. Relative lengths of tibia and 5 tarsomeres LI 1.65: 0.7: 0.3: 0.25: 0.15: 0.15; LII 2.2: 1.0: 0.5: 0.45: 0.3: 0.15; LIII 3.0: 0.9: 1.1: 0.8: 0.5: 0.3. Wing weakly tinged with greyish; veins dark brown, R4+5 and M nearly straight and parallel; CuAx ratio 0.4. Squama yellow with pale hairs. Halter yellow.

Abdomen metallic green with grey pollen. Hairs and bristles on abdomen black; terga 1-2 with pale hairs laterally, venter with pale hairs. Male genitalia (Figs. 39-41): Epandrium slightly longer than wide, with short, wide lateral lobe, surstylus rather long, with a short thin process directed inward near base and 4 thick marginal bristles; cercus long, finger-like in lateral view; hypandrium furcate, with lateral process curved inward apically.

Female. Unknown.

Holotype male, Guizhou: Yinjian, Fanjingshan, Tuanlon (1200 m), 1995. VII. 31, T. SAIGUSA (KIZ). Paratypes 2 males, same data as holotype (SKU).

Distribution. China (Guizhou).

Etymology. The specific name refers to the pale arista.

Remarks. The new species is somewhat similar to *Rhaphium xinjiangense* YANG from Xinjiang, but may be separated from the latter by its arista, that is pale with black base, and by its dark brown hind tibia. In *xinjiangense*, the arista is wholly black, and the hind tibia is yellow (YANG, 1998a).

Subfamily Peloropeodinae

X. Genus *Neurigonella* ROBINSON

16 species of *Neurigonella* were known to occur in China (YANG & SAIGUSA, 2001d). Here 4 new species are added to the fauna of China.

29. *Neurigonella bidentata* sp. nov.

(Figs. 42-43)

Diagnosis. Scutellum dark yellow with dark brown basal spot. Hypandrium with 2 acute apical denticles.

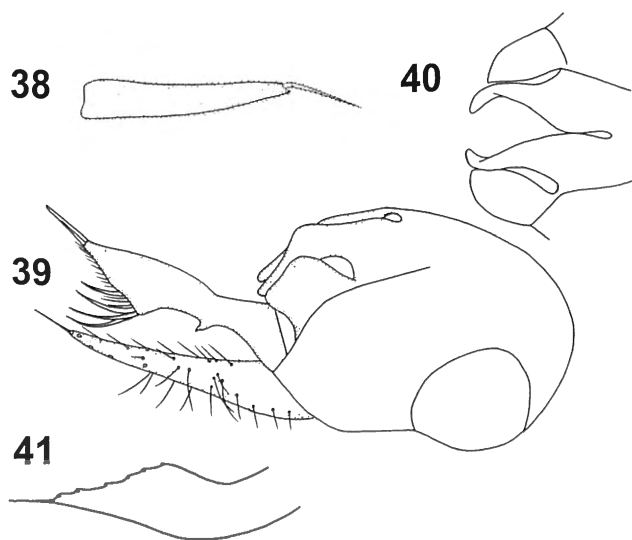
Male. Body length 2.0 mm, wing length 2.1 mm.

Head dark metallic green with grey pollen; frons grey brown pollinose, face pale grey pollinose. Hairs and bristles on head black; postocular bristles black, lower occiput with pale hairs. Antenna [first flagellomere broken] dark brownish yellow. Proboscis brownish with black hairs; palpus black with black hairs and 1 black apical bristle.

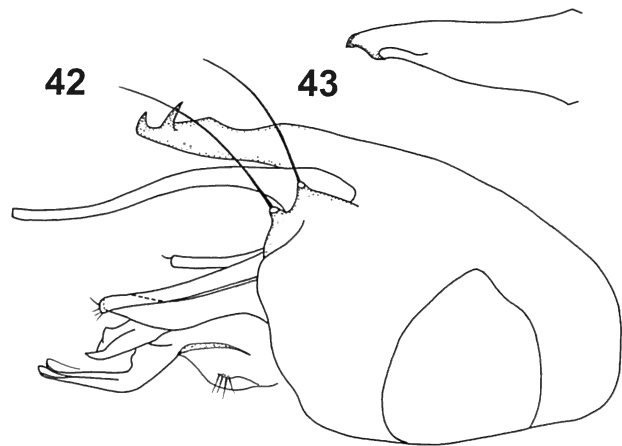
Thorax dark brown with grey brown pollen; scutellum dark yellow with dark brown basal spot. Hairs and bristles on thorax black; 5 strong dc, 4-5 irregularly paired acr, that are short and hair-like; scutellum with 2 pairs of bristles; basal pair weak and about 1/6 as long as apical pair. Propleuron with 2 pale hairs on upper portion, with 2 pale hairs and 1 brown bristle on lower portion. Legs yellow; all coxae yellow; tarsomere 5 brown. Hairs and bristles on legs black; fore coxa with 5 apical bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 ad, apically with 3 bristles; mid tibia with 2 ad and 2 pd, apically with 4 bristles; hind tibia with 2 pd, apically with 3 bristles. Hind tarsomere 1 with one pair of v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 1.5: 0.8: 0.6: 0.55: 0.4: 0.2; LII 2.0: 1.1: 0.65: 0.55: 0.4: 0.2; LIII 2.5: 0.55: 0.9: 0.6: 0.45:?. Wing hyaline; veins dark brown, R4+5 and M parallel apically; CuAx ratio 0.4. Squama yellow with black hairs. Halter yellow.

Abdomen dark metallic green with grey brown pollen. Hairs and bristles on abdomen black; sternum 2-3 with pale hairs. Male genitalia (Figs. 44-45): Surstylus with a slightly thick dorsal lobe, that is weakly curved, and a narrow ventral lobe, that is nearly straight; cercus basally with one group of 4 hairs on an indistinct tubercle; hypandrium with 2 acute apical denticles; aedeagus rather narrow apically.

Female. Unknown.



Figs. 38-41 — *Rhaphium palliaristatum* sp. nov., male. 38. first flagellomere; 39. genitalia, lateral view; 40. hypandrium, ventral view; 41. cercus, dorsal view.



Figs. 42-43 — *Neurigonella bidentata* sp. nov., male. 42. genitalia, lateral view; 43. hypandrium, ventral view.

Holotype male, Guizhou: Tongzi, Yunwushanzhuang (1600-1700 m), 1995. VIII. 5, T. SAIGUSA (KIZ).

Distribution. China (Guizhou).

Etymology. The specific name refers to the hypandrium with 2 apical denticles.

Remarks. The new species may be separated from other known species of the genus from China by the hypandrium, that bears acute apical denticles.

30. *Neurigonella pallipilosa* sp. nov. (Figs. 44-46)

Diagnosis. Fore tarsus with apical portion of tarsomere 3 and entire tarsomere 4 white with pale ventral hairs. R4+5 and M convergent apically. Cercus with spine-like process.

Male. Body length 2.8 mm, wing length 3.0 mm.

Head dark metallic green with grey pollen; frons grey brown pollinose, face pale grey pollinose. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere 0.6 times as long as wide, with distinct lower apical corner. Proboscis brown with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax dark metallic green with grey brown pollen. Hairs and bristles on thorax black; 5 strong dc, 4-5 irregularly paired acr, that are short and hair-like; scutellum with 2 pairs of bristles; basal pair weak and about 1/5 as long as apical pair. Propleuron without hairs on upper portion, with 1 brown hair and 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except narrowly at apex) brown; tarsomere 5 brown; fore tarsus with apical portion of tarsomere 3 and entire tarsomere 4 white with pale ventral hairs. Hairs and bristles on legs black; fore coxa with 6 lateral and

apical bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia apically with 3 bristles; mid tibia with 2 ad and 2 pd, apically with 4 bristles; hind tibia with 1 ad and 3 pd, apically with 3 bristles. Hind tarsomere 1 with 1 v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 2.0: 1.55: 1.2: 0.65: 0.45: 0.15; LII 2.6: 1.6: 1.0: 0.8: 0.5: 0.15; LIII 3.2: 0.7: 1.55: 1.0: 0.6: 0.15. Wing hyaline, slightly tinged with greyish; veins dark brown, R4+5 and M convergent apically; CuAx ratio 0.5. Squama yellow with dark brown margin, bearing black hairs. Halter yellow with dark brown knob.

Abdomen dark metallic green with grey brown pollen; venter brown. Hairs and bristles on abdomen black. Male genitalia (Figs. 45-46): Surstylus with thick dorsal lobe bearing a lateral spine near apex and a narrow ventral lobe, that is distinctly curved apically; cercus basally with a spine-like process and one group of 4 hairs on an indistinct tubercle; hypandrium furcate apically, with marginal denticles; aedeagus rather thick with distinct inner process.

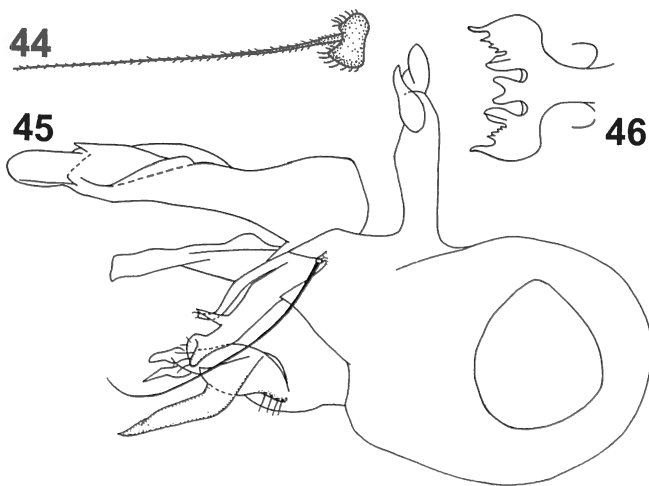
Female. Unknown.

Holotype male, Yunnan: Nanxi-Quiatou (200 m), 37 km from Hekou, 1995. II. 26, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the pale ventral hairs on fore tarsomeres 3-4.

Remarks. The new species is somewhat similar to *Neurigonella crassata* YANG et SAIGUSA from Yunnan, but may be separated from the latter by the first flagellomere, that is wider than long. In *crassata*, the first flagellomere is longer than wide (YANG & SAIGUSA, 2001d).



Figs. 44-46 — *Neurigonella pallipilosa* sp. nov., male. 44. first flagellomere; 45. genitalia, lateral view; 46. hypandrium, ventral view.

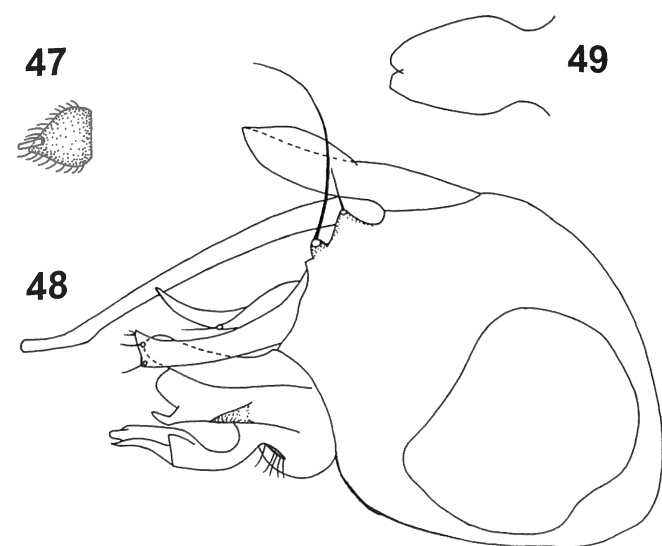
31. *Neurigonella pingbiana* sp. nov.
(Figs. 47-49)

Diagnosis. First flagellomere nearly triangular; arista apico-lateral. Scutellum dark yellow with dark brown basal spot. Basal scutellar bristle and acr absent; ih short and hair-like.

Male. Body length 1.8 mm, wing length 2.3 mm.

Head dark metallic green with pale grey pollen; upper occiput grey brown pollinose on a large median area; frons grey brown pollinose, face pale grey pollinose. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere nearly triangular, 0.9 times as long as wide; arista [apical segment broken off] black, apico-lateral. Proboscis dark brown with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax dark brown with grey brown pollen; scutellum dark yellow with dark brown basal spot. Hairs and bristles on thorax black; 5 strong dc, acr absent, ih short and hair-like; basal scutellar bristle absent. Propleuron without hairs, but with 1 black bristle on lower portion. Legs dark yellow; fore coxa dark yellow, mid and hind coxae yellow; tarsomere 5 brown. Fore tarsomeres 4-5 indistinctly thickened. Hairs and bristles on legs black; fore coxa with 7 lateral and apical bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia apically with 2 weak bristles and 1 short distinct subapical v; mid tibia with 1 ad and 2 pd, apically with 4 bristles; hind tibia with 1 ad and 2 pd, apically with 3 bristles. Hind tarsomere 1 with 1 v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 1.3: 0.8: 0.7: 0.55: 0.3: 0.2; LII 1.9: 1.0: 0.65: 0.55: 0.3: 0.2; LIII 2.15: 0.55: 0.9: 0.6: 0.4: 0.2. Wing hyaline; veins dark brown, R4+5 and M nearly parallel apically; CuAx ratio 0.4.



Figs. 47-49 — *Neurigonella pingbiana* sp. nov., male. 47. first flagellomere; 48. genitalia, lateral view; 49. hypandrium, ventral view.

Squama yellow with dark brown margin, bearing black hairs. Halter yellow with dark brown knob.

Abdomen dark metallic green with grey brown pollen; sterna 8 and genitalia dark brownish yellow. Hairs and bristles on abdomen black. Male genitalia (Figs. 48-49): Surstylus with dorsal lobe and ventral lobe subequal in length, basally with 1 finger-like process bearing 1 apical bristle; cercus basally with one group of 5 hairs on an indistinct tubercle; hypandrium rather thick, with weak apical incision; aedeagus rather narrow apically.

Female. Unknown.

Holotype male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the type locality Pingbian.

Remarks. The new species is somewhat similar to *Neurigonella flava* YANG et SAIGUSA from Yunnan, but may be separated from the latter by its wholly black antenna and its hypandrium, that has a weak apical incision. In *flava*, the antennal scape and pedicel are yellow, and the hypandrium has no apical incision (YANG & SAIGUSA, 2001d).

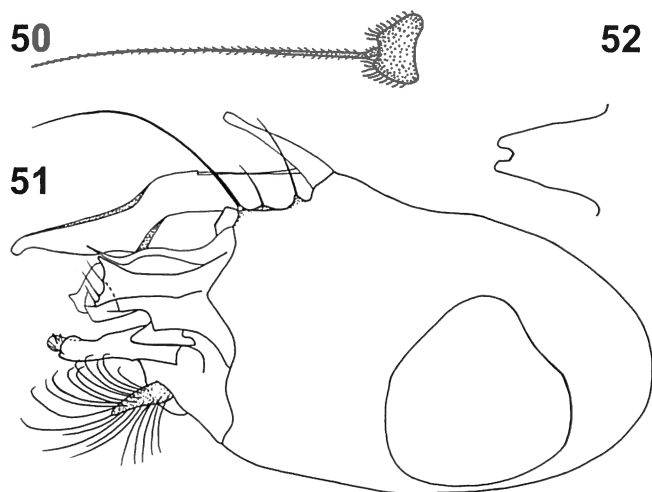
32. *Neurigonella pilifera* sp. nov.
(Figs. 50-52)

Diagnosis. Scutellum with basal pair of bristles somewhat long (about 1/3 as long as apical pair). Cercus with long finger-like basal tubercle bearing many long pale hairs.

Male. Body length 2.7-2.9 mm, wing length 3.5-3.7 mm.

Head dark metallic green with grey pollen; frons and face pale grey pollinose. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere 0.6 times as long as wide; arista black, with very short hairs. Proboscis black with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax dark metallic green with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 6 irregularly paired acr, that are short and hair-like; scutellum with 2 pairs of bristles, basal pair somewhat long and about 1/3 as long as apical pair. Propleuron with 2 black hairs on upper portion, with 3 black hairs and 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except narrow apex) brownish; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 5 apical bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia apically with 3 bristles; mid tibia with 2 ad and 2 pd, apically with 4 bristles; hind tibia with 2 ad and 2 pd, apically with 3



Figs. 50-52 — *Neurigonella pilifera* sp. nov., male. 50. first flagellomere; 51. genitalia, lateral view; 52. hypandrium, ventral view.

bristles. Hind tarsomere 1 with 1 v at extreme base. Relative lengths of tibia and 5 tarsomeres LI 1.9: 0.8: 0.7: 0.45: 0.3; LII 2.7: 1.6: 1.0: 0.7: 0.45: 0.25; LIII 3.6: 0.9: 1.4: 0.9: 0.6: 0.3. Wing hyaline; veins dark brown, costal basal section before crossvein h distinctly thickened, R4+5 and M weakly convergent apically; CuAx ratio 0.35. Squama yellow with black hairs. Halter yellow.

Abdomen dark metallic green with grey brown pollen. Hairs and bristles on abdomen black; sterna 2-3 with pale hairs. Male genitalia (Figs. 51-52): Surstylus with a thick dorsal lobe, that is irregularly incised apically, and a narrow ventral lobe slightly, that is wide apically, with acute apical corners; cercus basally with long finger-like tubercle, bearing many long pale hairs; hypandrium with small apical incision; aedeagus rather thick and distinctly curved apically.

Female. Unknown.

Holotype male, Yunnan: Lushui, Gaoliekungshan (2550-2700 m), 1995. VIII. 13, T. SAIGUSA (KIZ). Paratypes 2 males, same data as holotype (KIZ); 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1995. VIII. 15, T. SAIGUSA; 2 males, Yunnan: Yunlong, 3 km NNW from Zhichang (2500-2600 m), 1996. VI. 7, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the basal tubercle on the cercus, bearing many long hairs.

Remarks. The new species is somewhat similar to *Neurigonella daweshanna* YANG et SAIGUSA from Yunnan, but may be separated from the latter by its wholly yellow halter, and its cercus with a long finger-like basal tuber-

cle. In *daweshanna*, the halter is dark brown with yellow base, and the cercus has a weak basal tubercle (YANG & SAIGUSA, 2001d).

Subfamily Sympycninae

XI. Genus *Chaetogonopteron* DE MEIJERE

33. *Chaetogonopteron guizhouense* sp. nov. (Figs. 53-54)

Diagnosis. First flagellomere much elongated; arista dorsal. Hind tarsomeres 3-5 a little flattened with long posterior hairs.

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

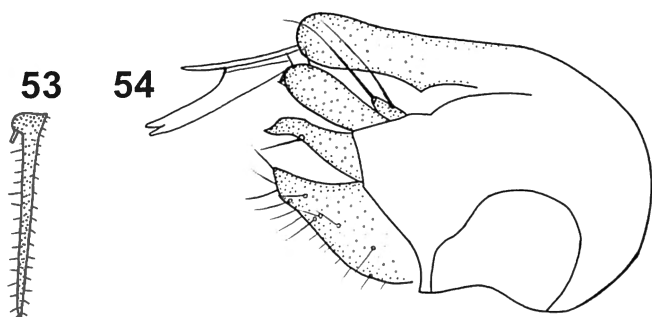
Head metallic green with pale grey pollen; frons subshiny with thin pale grey pollen, face with dense white pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere much elongated, 7.0 times as long as wide; arista (partly broken off) black, dorsal. Proboscis dark brown with black hairs; palpus brownish with black hairs and 1 black apical bristle.

Thorax metallic green with pale grey pollen; metapleuron with yellow lower portion. Hairs and bristles on thorax black; 6 strong dc, 9-10 nearly uniseriate acr, that are short and hair-like; scutellum with basal pair of bristles about 1/5 as long as apical pair. Propleuron with 2 blackish hairs on upper portion, with 1 black hair and 1 black bristle on lower portion. Legs yellow; all coxae yellow; tarsomere 5 brown. Hairs and bristles on legs black, fore coxa with pale hairs basally; fore coxa with 4 apical bristles, hind coxa with 1 outer bristle near base. Fore tibia apically with 2 short bristles; mid tibia with 2 ad, 1 pd and 4 pv, apically with 3 bristles; hind tibia with 1 pd and 3 pv, apically with 3 bristles. Hind tarsomeres 3-5 a little flattened with long posterior hairs, hind tarsomere 3 distinctly shortened. Relative lengths of tibia and 5 tarsomeres LI 1.0: 0.6: 0.35: 0.2: 0.1: 0.1; LII 1.45: 0.65: 0.3: 0.2: 0.1: 0.1; LIII 1.7: 0.3: 0.5: 0.1: 0.25: 0.15. Wing hyaline; veins dark brown, R4+5 and M weakly divergent apically; CuAx ratio 0.4. Squama yellow with dark brown margin, bearing black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen; venter blackish. Hairs and bristles on abdomen black. Male genitalia (Fig. 54): Surstylus with a narrow dorsal lobe, that is curved and somewhat acute apically, and a thick ventral lobe, that is rounded apically, basally with a short finger-like projection bearing 2 long bristles; cercus rather narrow and somewhat acute apically; hypandrium rather thick and apically rounded; aedeagus furcate apically.

Female. Unknown.

Holotype male, Guizhou: Zunyi, Fenghuanshan (890 m), 1995. VIII. 3, T. SAIGUSA (KIZ). Paratypes 1 male, same



Figs. 53-54 — *Chaetogonopteron guizhouense* sp. nov., male. 53. first flagellomere; 54. genitalia, lateral view.

data as holotype (SKU); 1 male, Guizhou: Leishan, 8 km N of Leishan (800 m), 1995. VII. 26, T. SAIGUSA (KIZ); 2 males, Guizhou: Kaili, Zhouxi (665 m), 12 km SSW from Kaili, 1995. VII. 25, T. SAIGUSA (SKU).

Distribution. China (Guizhou).

Etymology. The specific name refers to the type locality Guizhou.

Remarks. The new species is similar to *Chaetogonopteron concavum* YANG et GROOTAERT from Yunnan, but may be separated from the latter by the nearly wholly metallic green thorax, and its pale middle and lower postocular bristles. In *concavum*, the thorax is mostly yellow, and the postocular bristles are wholly black (YANG & GROOTAERT, 1999).

XII. Genus *Syntormon* LOEW

34. *Syntormon emeiense* YANG et SAIGUSA

Syntormon emeiense YANG et SAIGUSA, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 248. Type locality: Sichuan (Emei Mountain).

New record. 1 male, Guizhou: Kaili, Kaili-Xianglushan (850 m), 1995. VII. 22, T. SAIGUSA.

Distribution. China (Guizhou, Sichuan).

35. *Syntormon luishuiense* sp. nov. (Figs. 55-56)

Diagnosis. First flagellomere (1.8 times as long as wide); arista about 1.8 times as long as first flagellomere). Coxae black (except fore coxa yellow apically).

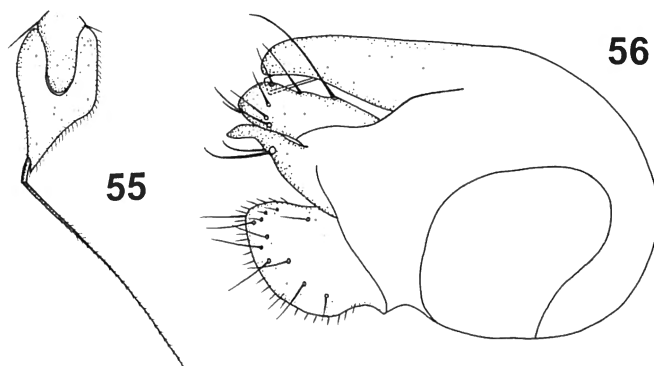
Male. Body length 2.7 mm, wing length 2.8 mm.

Head metallic green with pale grey pollen; upper occiput grey brown pollinose; frons subshiny purple metal-

lic green with thin pollen, face distinctly narrower than first flagellomere with dense silvery white pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere short, 1.8 times as long as wide; arista nearly apical, about 1.8 times as long as first flagellomere. Proboscis dark brown with black hairs.

Thorax metallic green with pale grey pollen; mesonotum tinged with grey brown pollen posteriorly, and with three dark, grey brown pollinose stripes along dc and acr, scutellum tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc slightly convergent), 12 irregularly uniseriate acr, that are short and hair-like; scutellum with basal scutellar bristle about 1/5 as long as apical scutellar bristle, and with 2 black marginal hairs between 2 apical scutellar bristles. Propleuron pale haired; metapleuron with pale hairs on mid-posterior margin. Legs yellow; coxae black, except fore coxa, that is yellow apically; trochanters blackish; fore femur (except apex) blackish, hind femur with brown dorsal spot apically; fore and mid tarsi dark brown from tip of tarsomere 1 onward, hind tarsus dark brown. Hairs and bristles on legs black; fore and mid coxae with mostly pale hairs; fore coxa with 3 apical bristles, hind coxa with 1 outer bristle near base. Fore femur with 4 v basally, mid femur with 2 long ventral hairs basally. Fore tibia with 1 pd, apically with 2 bristles; mid tibia with 2 ad, 1 pd, 1 av and one row of long posteroventral hairs, apically with 4 bristles; hind tibia with 1 ad and 3 pd, apically with 3 bristles. Mid and hind tarsi with one row of erect dorsal hairs. Fore tarsomere 2 distinctly shortened and thickened; hind tarsomeres 1-3 thickened. Relative lengths of tibia and 5 tarsomeres LI 1.5: 0.7: 0.2: 0.4: 0.2: 0.2; LII 1.9: 1.15: 0.45: 0.4: 0.2: 0.2; LIII 2.75: 1.0: 0.5: 0.45: 0.3: 0.2. Wing hyaline; veins dark brown, R4+5 and M nearly parallel apically; CuAx ratio 0.7. Squama yellow with dark brown margin, bearing black hairs. Halter yellow.

Abdomen metallic green with pale grey pollen. Hairs and bristles on abdomen black; terga 1-2 with pale hairs laterally, sterna 1-2 with pale hairs. Male genitalia (Fig. 56): Epandrium slightly longer than wide, surstylus



Figs. 55-56 — *Syntormon luishuiense* sp. nov., male. 55. antenna (excluding scape), inner lateral view; 56. genitalia, lateral view.

with a narrow dorsal lobe, that is curved and nearly acute apically, and a rather wide ventral lobe; cercus short and thick; hypandrium rather thick, apically slightly narrow.

Female. Unknown.

Holotype male, Yunnan: Lushui, Lushui-Gaoliekungshan (2300 m), 1995. VIII. 14, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the type locality Lushui.

Remarks. The new species is somewhat similar to *Syntormon trisetum* YANG from Fujian, but may be separated

from the latter by its black fore coxa, and its squama with black hairs. In *trisetum*, the fore coxa is yellow, and the squama has pale hairs (YANG, 1998b).

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References

- BECKER, T. 1922. Dipterologische Studien, Dolichopodidae der Indo-Australischen Region. *Capita Zoologica*, 1(4): 1-247.
- DYTE, D. E. 1975. Family Dolichopodidae. In Delfinado, M. D. & HARDY, D. E. (eds.): *A catalog of the Diptera of the Oriental region 2*: 212-258. Honolulu.
- NEGROBOV, O. P. 1991. Family Dolichopodidae. In SOOS, A. & PAPP, L. (eds.): *Catalogue of Palaearctic Diptera 7*: 11-139. Akademiai Kiado, Budapest.
- YANG, D. 1998a. New and little known species of Dolichopodidae from China (I). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologie*, 68: 151-164.
- YANG, D. 1998b. New and little known species of Dolichopodidae from China (II). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologie*, 68: 165-176.
- YANG, D. 1998c. Eight new species of *Hercostomus* from China (Diptera, Dolichopodidae). *Studia dipterologica*, 4(1): 115-124.
- YANG, D. & GROOTAERT, P. 1999. Dolichopodidae (Diptera: Empidoidea) from Xishuangbanna (China, Yunnan province): the Dolichopodinae and the genus *Chaetogonopteron* (I). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologie*, 69: 251-277.
- YANG, D. & LI, Z. 1998. Diptera: Dolichopodidae. In: *Insects of Longwanshan*, p. 318-322.
- YANG, D. & SAIGUSA, T. 2001a. New and little known species of Dolichopodidae from China (IX). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologie*, 71.
- YANG, D. & SAIGUSA, T. 2001b. New and little known species of Dolichopodidae from China (X): The species of *Hercostomus* from Yunnan. *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologie*, 71.
- YANG, D. & SAIGUSA, T. 2001c. The species of *Hercostomus* from the Qinling Mountains of Shaanxi, China (Diptera: Empidoidea, Dolichopodidae). *Deutsche Entomologische Zeitschrift*, 48.
- YANG, D. & SAIGUSA, T. 2001d. The species of *Neurigonella* from China (Diptera: Empidoidea, Dolichopodidae). *Annales Societe Entomologique Frances (N.S.)* 37.
- YANG, D. & YANG, C. 1995. Diptera: Dolichopodidae. In: *Insects of Baishanzu Mountain, Eastern China*. p. 510-519.

Ding YANG
Department of Entomology
China Agricultural University
Haidian, Beijing 100094, China

(Temporary address: Biosystematics Laboratory
Graduate School of Social and Cultural Studies
Kyushu University, Ropponmatsu,
Fukuoka, 810-8560 Japan)

Toyohei SAIGUSA
7-1-402, Baikoen 2-Chome
Fukuoka, 810-0035 Japan