

New and little known species of Dolichopodidae (Diptera) from China (X): The species of *Hercostomus* from Yunnan

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Abstract

The species of *Hercostomus* from Yunnan are revised in the present paper. 80 species known from Yunnan are listed. Among them 33 species are described as new to science: *H. (Gymnopternus) crassisetosus*, *H. (G.) dorsalis*, *H. (G.) latapicalis*, *H. (G.) meihuapuensis*, *H. (G.) niger*, *H. (G.) pingbianensis*, *H. (Hercostomus) bicolor*, *H. (H.) baishuihensis*, *H. (H.) biancistrus*, *H. (H.) brevispinus*, *H. (H.) dorsiniger*, *H. (H.) dorsiseta*, *H. (H.) filiformis*, *H. (H.) jingpingensis*, *H. (H.) jingxingensis*, *H. (H.) latilobatus*, *H. (H.) lijiangensis*, *H. (H.) longilobatus*, *H. (H.) longispinus*, *H. (H.) luchunensis*, *H. (H.) masunagai*, *H. (H.) medialis*, *H. (H.) pilicercus*, *H. (H.) pilifacies*, *H. (H.) quadriseta*, *H. (H.) shimai*, *H. (H.) singularis*, *H. (H.) subdigitatus*, *H. (H.) triseta*, *H. (H.) tuomunanus*, *H. (H.) uniformis*, *H. (H.) yongpingensis*, *H. (H.) yunlongensis*. The 3 new species-groups are established: *apiculatus*-group, *biancistrus*-group, *quadriseta*-group. A key to the known species of *Hercostomus* from Yunnan is presented.

Key words: Dolichopodidae, *Hercostomus*, Yunnan, China

Introduction

20 species of the genus *Hercostomus* LOEW, 1857 were recorded from Yunnan (YANG, 1997; WEI, 1997; YANG, 1998; YANG & GROOTAERT, 1999). Up to now, 80 species of the genus *Hercostomus* are known to occur in Yunnan. Based on the material collected by the second author with sweep net in 1997, 33 species are described as new to science. The following 3 new species-groups are established: *apiculatus*-group, *biancistrus*-group, and *quadriseta*-group. A key to the known species of the genus *Hercostomus* from Yunnan is given. 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.

Key to species (males) of *Hercostomus* from Yunnan

1. 5th pair of dc distinctly convergent; pteropleuron with one group of hairs in front of metaspiracle; R4+5 and M usually parallel (subgenus *Gymnopternus*) 2

- 5th pair of dc not convergent (rarely slightly convergent); pteropleuron without hairs; R4+5 and M usually convergent apically (rarely parallel)(subgenus *Hercostomus*) 14
2. First costal section slightly thickened medially; aedeagus with inner tiny denticles apically (*congruens*-group) 3
- First costal section simple; aedeagus without inner tiny denticles apically (*grandis*-group) 5
3. Male genitalia shorter than pregenital segments 4
- Male genitalia rather large, longer than pregenital segments *meihuapuensis* sp. nov.
4. Hind coxa yellow; R4+5 and M nearly straight and parallel; cercus yellow or brownish yellow
. *congruens* BECKER
- Hind coxa (except narrow apex) black; R4+5 and M weakly curved and apically convergent; cercus black *jishanensis* WEI
5. Legs chiefly black 6
- Legs mostly yellow 7
6. Antenna partly brownish yellow
. *crassisetosus* sp. nov.
- Antenna wholly black *niger* sp. nov.
7. First flagellomere short and subquadrate; arista subdorsal to subapical 8
- First flagellomere long and subtriangular; arista dorsal *dorsalis* sp. nov.
8. Cercus with distinct marginal denticles 9
- Cercus without marginal denticles 13
9. R4+5 and M parallel apically; pteropleuron with hairs in front of metaspiracle 10
- R4+5 and M distinctly convergent; pteropleuron without hairs in front of metaspiracle
. *bomiensis* YANG
10. Fore coxa black 11
- Fore coxa yellow 12
11. Cercus with obtuse ventral apex; lateral lobe on epandrium apically swollen and strongly curved
. *populus* WEI
- Cercus with acute ventral apex; lateral lobe on epandrium nearly straight *bisetus* sp. nov.
12. 5 dc; palpus black *guangxiensis* YANG
- 6 dc; palpus dark yellow *grandis* YANG et YANG

13. Antenna wholly black *latapicalis* sp. nov.
 – Antenna mostly brownish yellow
 *tenuilobus* YANG et GROOTAERT
14. Cercus long and slender, longer than epandrium
 (*longicercus*-group) 15
 – Cercus short and thick, distinctly shorter than
 epandrium 18
15. First flagellomere obtuse apically; cercus longer than
 epandrium 16
 – First flagellomere with acute upper and lower apical
 corners; cercus much shorter than epandrium; face
 with 2-4 black hairs on lower portion (above clypeus)
 *pilifacies* sp. nov.
16. acr uniseriate or only present in front of first dc . . 17
 – acr absent *longicercus* YANG et YANG
17. 3-5 acr uniseriate; face without hairs
 *filiformis* sp. nov.
 – 3-4 paired acr present in front of first dc; face (except
 upper portion) with pale hairs . . *pilicercus* sp. nov.
18. 5-6 dc; arista black with black hairs 19
 – Only 4 dc; arista with white apical segment bearing
 white hairs (*quadriseta*-group) . . *quadriseta* sp. nov.
19. Cercus *Dolichopus*-shaped (very large and nearly quad-
 rate); distance between 2 rows of acr very narrow and
 even disappearing anteriorly (*cyaneculus*-group) . . 20
 – Cercus not *Dolichopus*-shaped 22
20. Antenna mostly yellow 21
 – Antenna wholly black; first flagellomere obtuse
 apically *luchunensis* sp. nov.
21. Frons with pale gray pollen; antenna with entire
 pedicel and base of first flagellomere yellow
 *singularis* sp. nov.
 – Frons with brown yellow pollen; antenna red yellow,
 with dorsum of pedicel and first flagellomere dark .
 *cyaneculus* WEI
22. Cercus rather small and nearly triangular, usually
 with 2-4 distinct marginal denticles; hind femur with
 black or brown tip (*hamatus*-group) 23
 – Cercus different 31
23. Fore tarsus normal 24
 – Fore tarsomeres 3-4 black and thickened, tarsomere 5
 white *curvispinus* YANG et SAIGUSA
24. Arista nearly apical 25
 – Arista subapical 26
25. Hind coxa blackish *furcutus* WEI
 – Hind coxa yellow . . *apicularis* YANG et GROOTAERT
26. Thorax wholly metallic green 27
 – Thorax mostly or partly yellow 28
27. Hind coxa (except apex) black; palpus yellow
 *erectus* YANG et GROOTAERT
 – Hind coxa yellow; palpus black
 *wudangshanus* YANG
28. Thorax mostly yellow 29
 – Only metapleuron yellow
 *chaeturus* YANG et GROOTAERT
29. 5 dc 30
 – 6 dc *xishuangbannensis* YANG et GROOTAERT
30. First flagellomere 1.2 times longer than wide
 *xanthodes* YANG et GROOTAERT
- First flagellomere as long as wide
 *apiciniger* YANG et GROOTAERT
31. Thorax at least with metapleuron yellow 32
 – Thorax wholly metallic green 42
32. Abdomen at most with lateral margin of dorsum
 yellow basally; cercus with 1-2 strong apical spines
 directed inward (*subnovus*-group) 33
 – Abdominal segments 1-3 (or 4) mostly brownish
 yellow or yellow; cercus with some strong apical
 bristles (*flavimaculatus*-group) 41
33. Middle and lower postocular bristle pale 34
 – Postocular bristles wholly black 35
34. First flagellomere long and acute apically
 *zuoshuiensis* YANG et SAIGUSA
 – First flagellomere short and obtuse apically; cercus
 with wide apical margin . . *latus* YANG et SAIGUSA
35. Lateral lobe on epandrium rather short and indis-
 tinctly projected; palpus yellow or dark yellow 36
 – Lateral lobe on epandrium rather long and distinctly
 projected; palpus black 38
36. Mid tibia with 2-3 pv; lateral lobe on epandrium
 without long hairs 37
 – Mid tibia without pv; lateral lobe on epandrium with
 long apical hairs *flavimarginatus* YANG
37. Mid tibia with 3 pv *yunnanensis* WEI
 – Mid tibia with 2 pv *phaedrus* WEI
38. Epandrium with thick lateral lobe, that is not spine-
 like 39
 – Epandrium with spine-like lateral lobe 40
39. Lateral lobe on epandrium obtuse apically
 *subnovus* YANG et YANG
 – Lateral lobe on epandrium acute apically
 *yunlongensis* sp. nov.
40. Epandrium with long and strongly curved lateral
 spine *spiniger* YANG
 – Epandrium with short and weakly curved lateral
 spine *weii* YANG et SAIGUSA
41. Middle and lower postocular bristles pale
 *flavimaculatus* YANG
 – Postocular bristles wholly black
 *xiaolongmensis* YANG et SAIGUSA
42. Hind tibia thickened apically with strong spine; cer-
 cus furcate apically (*apiculatus*-group) 43
 – Hind tibia not thickened apically; cercus not furcate
 apically 46
43. Cercus deeply furcate 44
 – Cercus shallowly furcate *dorsiseta* sp. nov.
44. Arista not swollen apically 45
 – Arista with slightly swollen tip
 *longispinus* sp. nov.
45. Hypandrium with median process shorter than lateral
 process *brevispinus* sp. nov.
 – Hypandrium with median process as long as lateral
 process *tuomunanus* sp. nov.
46. Cercus with distinct outer and ventral marginal den-
 ticles; legs usually darker (*baishanzuensis*-group) 47
 – Cercus not as above; legs pale 54
47. acr present 48
 – acr absent *baishanzuensis* YANG et YANG

48. First flagellomere distinctly elongated and acute apically 49
 – First flagellomere short and nearly quadrate ... 50
49. Arista dorsal, arising at basal 1/3 of dorsal margin of first flagellomere *jingxingensis* sp. nov.
 – Arista subdorsal, arising at middle of dorsal margin of first flagellomere *baishuihensis* sp. nov.
50. All coxae yellow, mid coxa blackish to black except narrow apex 51
 – All coxae black 52
51. Antenna dark yellow with first flagellomere (except narrow base) black; lateral lobe on epandrium long and narrow *longilobatus* sp. nov.
 – Antenna wholly black; lateral lobe on epandrium rather wide *latilobatus* sp. nov.
52. First flagellomere angular apically; arista with basal segment 0.4-0.5 times as long as apical segment ..
 – First flagellomere obtuse apically; arista with basal segment 0.6 times as long as apical segment *masunagai* sp. nov.
53. Arista arising at basal 2/3 of dorsal margin of first flagellomere; cercus with some long marginal denticles *curviphallus* YANG et SAIGUSA
 – Arista arising at middle of dorsal margin of first flagellomere; cercus with short marginal denticles *medialis* sp. nov.
54. Epandrium with much expanded lateral lobe and 2 apical processes (*absimilis*-group) 55
 – Epandrium without expanded lateral lobe 58
55. Only mid coxa (except narrowly at apex) blackish 56
 – Mid and hind coxae (except narrowly at apex) blackish; fore tarsomeres 3-5 weakly thickened 57
56. Hind femur with brown apex *bigeminatus* YANG et GROOTAERT
 – Hind femur not darkened apically *quadratus* YANG et GROOTAERT
57. First flagellomere short, as long as wide, and obtuse apically *absimilis* YANG et GROOTAERT
 – First flagellomere long, 1.7 times as long as wide, and angular apically *emeiensis* YANG
58. Cercus long rhombous; first flagellomere rather thick and apically flat (except in *obesus*, first flagellomere acute apically)(*intactus*-group) 59
 – Cercus and first flagellomere different 63
59. First flagellomere flat apically 60
 – First flagellomere acute apically *obesus* WEI
60. Cercus with sparse short hairs 61
 – Cercus with dense long hairs *intactus* WEI
61. Cercus with apex curved downward (bearing longer hairs) 62
 – Cercus with apex curved upward (bearing short hairs) *dorsiniger* sp. nov.
62. Wing hyaline with apical half grayish brown *bicolor* sp. nov.
 – Wing with apical half not darker *uniformis* sp. nov.
63. Epandrium bifurcate apically (*longus*-group) .. 64
 – Epandrium not furcate apically 65
64. Mid and hind coxae (except narrow apex) blackish *yongpingensis* sp. nov.
 – All coxae yellow *triseta* sp. nov.
65. Cercus wide apically, with a large apical incision or with long finger-like apical processes, with strong bristles 66
 – Cercus narrow and strip-like; face with some hairs; arista nearly apical (*fluvius*-group) *fluvius* WEI
66. Cercus with 3-4 long finger-like apical processes (*prolongatus*-group) 67
 – Cercus at most with 1 finger-like apical process 69
67. Lateral lobe on epandrium not distinctly projecting 68
 – Lateral lobe on epandrium spine-like and distinctly projecting *prolongatus* YANG
68. First flagellomere acute apically *plumiger* YANG et SAIGUSA
 – First flagellomere obtuse apically *fupingensis* YANG et SAIGUSA
69. Lateral lobe on epandrium thick and located apically 70
 – Lateral lobe on epandrium very thin and located medially (*digitiformis*-group) *digitiformis* YANG et GROOTAERT
70. Cercus with large apical incision or with 1 finger-like apical process (*incisus*-group) 71
 – Cercus with weak oblique apical incision (*biancistrus*-group) 76
71. Cercus with a large mid-apical incision 72
 – Cercus without distinct incision but with a finger-like apical process 74
72. Arista subapical with basal segment shorter than apical segment 73
 – Arista dorsal with basal segment as long as apical segment *concisus* YANG et SAIGUSA
73. Fore tarsomere 5 black .. *acutus* YANG et SAIGUSA
 – Fore tarsomere 5 white .. *incisus* YANG et SAIGUSA
74. Arista with rather long basal segment (0.6-0.7 times as long as apical segment) 75
 – Arista with very short basal segment (0.15 times as long as apical segment) *jingdinganus* YANG et SAIGUSA
75. Hind femur not darkened apically . *digitatus* YANG
 – Hind femur with black tip ... *subdigitatus* sp. nov.
76. acr uniseriate; squama with black hairs 77
 – acr biseriate; squama with pale hairs 79
77. Antenna wholly blackish to black 78
 – Antenna partly yellow *shimai* sp. nov.
78. Hind femur without long ventral hairs *biancistrus* sp. nov.
 – Hind femur with long ventral hairs *jingpingensis* sp. nov.
79. Palpus yellow *apiculus* WEI
 – Palpus black *lijiangensis* sp. nov.

Subgenus *Gymnopternus*The *congruens*-group1. *Hercostomus (Gymnopternus) congruens* BECKER

Hercostomus congruens BECKER, 1922. *Capita Zool.* 1(4): 29. Type locality: Taiwan.

Distribution. China (Yunnan, Sichuan, Guizhou, Zhejiang, Fujian, Taiwan, Shaanxi, Henan).

2. *Hercostomus (Gymnopternus) jishanensis* WEI

Hercostomus (Gymnopternus) jishanensis WEI, 1997. *J. Guizhou Agric. Coll.* 16(1): 38. Type locality: Yunnan, Binchuan, Jizhushan.

Specimens examined. 192 males, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600), 1996. VI. 4, T. SAIGUSA; 10 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 7, T. SAIGUSA; 3 males, Yunnan: Yunlong, Zhichang (2400 m), 1996. VI. 7, T. SAIGUSA; 2 males, Yunnan: Yunlong, Caojian (2050 m), 1996. VI. 7, T. SAIGUSA; 10 males, Yunnan: Lijiang, Baishuihe (2950-3100 m), Yulongxueshan, 1996. VI. 13, T. SAIGUSA; 128 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 2 males, Yunnan: Zhongdian, Tuomunan (2900 m), 24 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA.

Distribution. China (Yunnan).

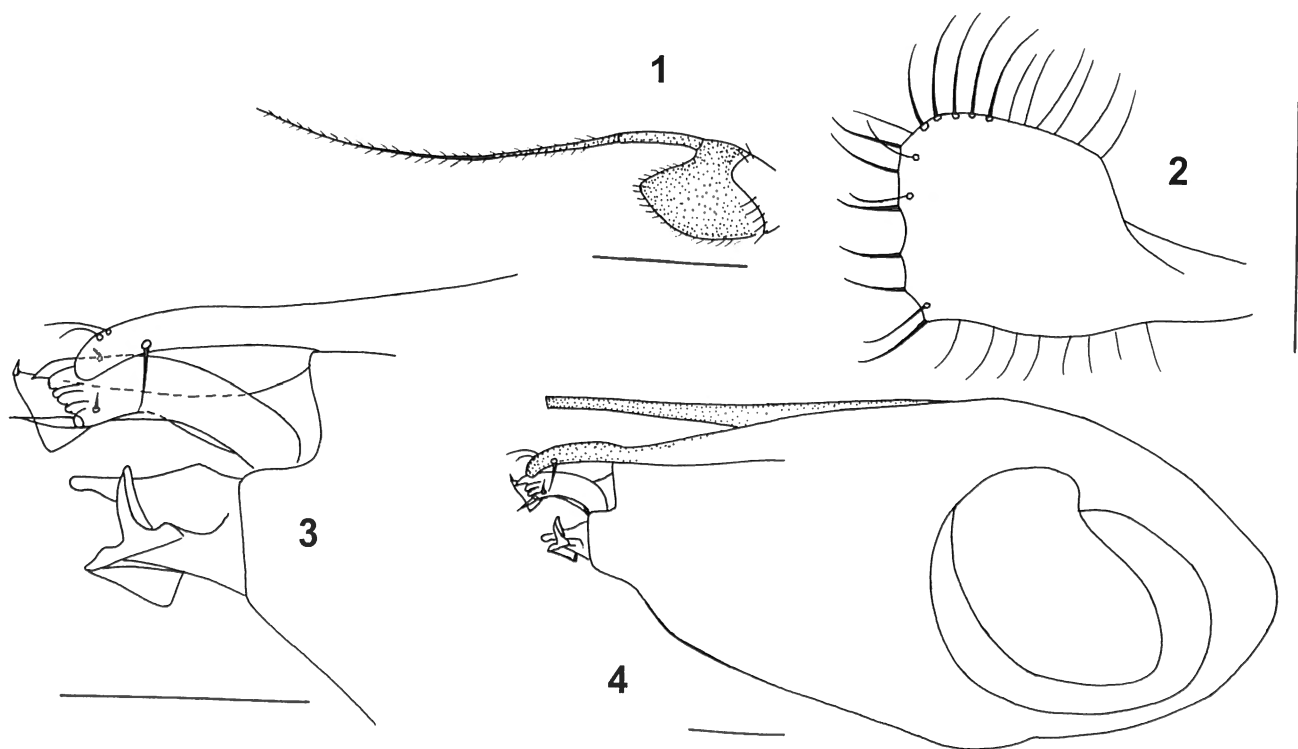
3. *Hercostomus (Gymnopternus) meihuapuensis* sp. nov. (Figs. 1-4)

Diagnosis. Antenna dark yellow with first flagellomere (except narrow base) blackish to black; first flagellomere 1.0-1.2 times as long as wide; arista with very short basal segment (0.2-0.25 times as long as apical segment). R4+5 and M nearly straight and parallel. Male genitalia longer than pregenital segments, with tip reaching thorax. First costal section indistinctly thickened medially.

Male. Body length 3.5-3.8 mm, wing length 3.9-4.1 mm.

Head metallic green with pale gray pollen; frons with pale gray brown pollen, face with pale gray pollen and as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 1) dark yellow with first flagellomere (except narrow base) blackish to black, sometimes black with pedicel and narrow base of first flagellomere brownish; first flagellomere 1.0-1.2 times as long as wide, obtuse apically; arista dorsal, black, with very short hairs, and with basal segment 0.2-0.25 times as long as apical segment. Proboscis dark brown with black hairs; palpus dark yellow or black with black hairs and 1 black apical bristle.

Thorax metallic green, with pale gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen. Hairs and bristles on thorax



Figs. 1-4 — *Hercostomus (Gymnopternus) meihuapuensis* sp. nov. (male). 1. antenna (excluding scape), lateral view; 2. cercus, lateral view; 3. apical genital processes, lateral view; 4. genitalia (excluding cercus), lateral view. Scale 0.25 mm.

black; 5-6 strong dc (4th or 5th pair of dc distinctly convergent), 5-7 irregularly paired acr, that are short and hair-like; scutellum with several short black marginal hairs (rarely with several black hairs on disc). Propleuron with pale and black hairs, with 1 black bristle on lower portion. Pteropleuron with 4-6 pale or blackish hairs. Metapleuron with 1-3 pale or black hairs on antero-lower corner. Legs yellow; all coxae (except narrow apex of mid and hind coxae) black, fore coxa sometimes dark yellow with black base; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; hind femur with partly pale ventral hairs; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 1 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, 2 av and 4 thin pv, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 2.0: 1.1: 0.5: 0.4: 0.3: 0.3; LII 3.0: 1.5: 0.9: 0.7: 0.5: 0.35; LIII 3.4: 1.1: 1.4: 0.8: 0.6: 0.4. Wing slightly tinged with grayish; veins dark brown, first costal section indistinctly thickened medially. R4+5 and M nearly straight and parallel; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; male genitalia with gray brown pollen, longer than pregenital segments, and with tip reaching thorax. Hairs and bristles on abdomen black. Male genitalia (Figs. 2-4): Epandrium with narrow lateral lobe bearing 3 hairs apically (without hair at middle); cercus nearly quadrate; hypandrium long and slender apically.

Female. Unknown.

Holotype: male, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 7, T. SAIGUSA (KIZ). *Paratypes:* 2 males, same data as holotype (KIZ); 2 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 4 (SKU); 11 males, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (SKU, CAU & IRSN); 3 males, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (SKU); 1 male, Yunnan: Jingping, Taiyangzhai (1700-1800 m), 1996. V. 27, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

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

Remarks. The new species is somewhat similar to *Hercostomus (Gymnopternus) solanus* WEI, 1997 from Guizhou, but may be separated from the latter by the lateral lobe on epandrium with 3 hairs apically (without hair at middle). In *solanus*, the lateral lobe on epandrium has 2 hairs apically and 1 hair at middle (WEI, 1997).

The *grandis*-group (= The *malthinus*-group)

4. *Hercostomus (Gymnopternus) bomiensis* YANG

Hercostomus (Hercostomus) bomiensis YANG, 1996. Ann. Soc. Ent. Fr. (N. S.) 32(4): 412. Type locality: Tibet, Bomi.

Specimens examined. 29 males, Yunnan: Lijiang, Baishuihe (2950-3100 m), Yulongxueshan, 1996. VI. 13, T. SAIGUSA; 7 males, Yunnan: Lijiang, Baishuihe (2950-3100 m), Yulongxueshan, 1996. VI. 14, T. SAIGUSA; 3 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA; 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 7, T. SAIGUSA.

Distribution. China (Yunnan, Tibet).

Remarks. This species is easily separated from other species by the pteropleuron without hairs and R4+5 and M convergent apically. Here it is moved into the subgenus *Gymnopternus*, based on the 5th pair of dc, that are distinctly convergent.

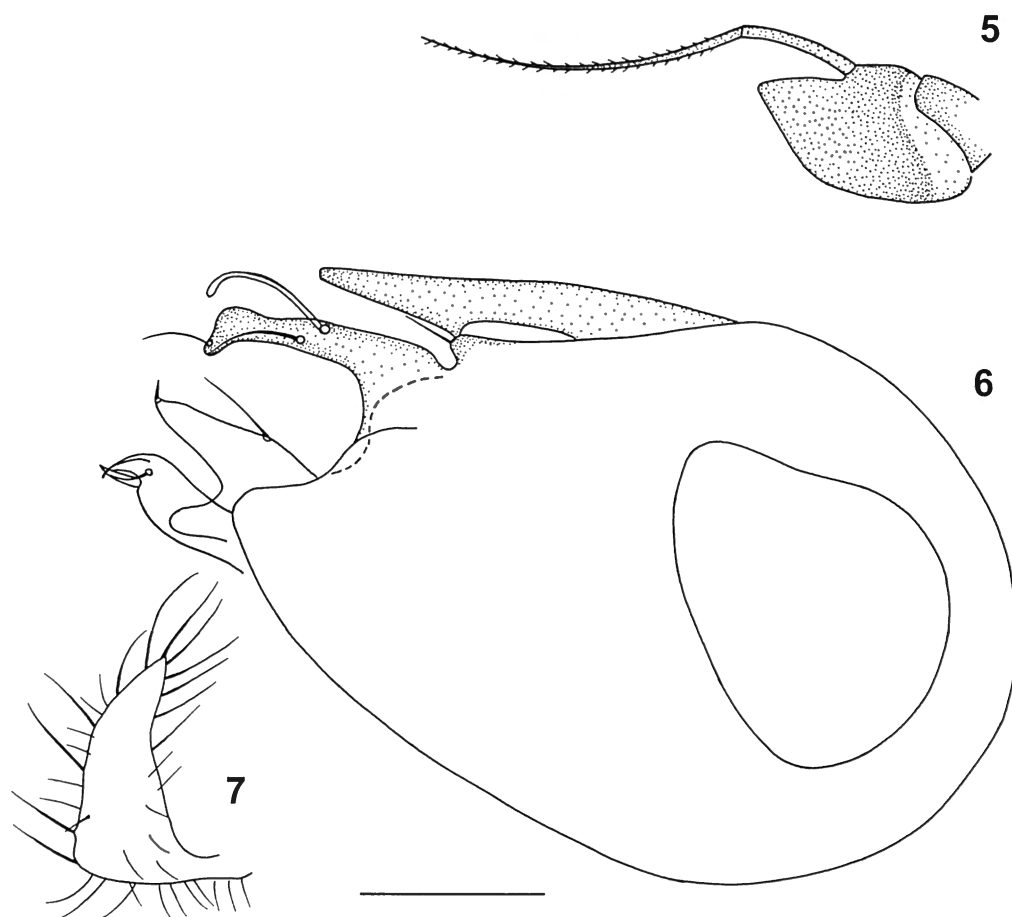
5. *Hercostomus (Gymnopternus) crassisetosus* sp. nov. (Figs. 5-7)

Diagnosis. Antenna blackish with pedicel and narrow base of first flagellomere brownish yellow; first flagellomere 1.5 times as long as wide, angular apically; arista subdorsal. Lateral lobe on epandrium with 1 thick bristle at middle.

Male. Body length 2.7-2.8 mm, wing length 3.3-3.4 mm.

Head metallic green with pale gray pollen; frons and face with dense silvery white pollen; face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 5) blackish with pedicel and narrow base of first flagellomere brownish yellow; first flagellomere 1.5 times as long as wide, angular apically; arista subdorsal, with very short hairs, and with basal segment 0.3 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 (mesonotum and scutellum tinged with purple metallic green), with pale gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 7-8 irregularly paired acr, that are short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Pteropleuron with 3 black hairs. Metapleuron with 3 black hairs on antero-lower corner. Legs black;



Figs. 5-7 — *Hercostomus (Gymnopternus) crassisetosus* sp. nov. (male). 5. antenna (excluding scape), lateral view; 6. genitalia (excluding cercus), lateral view; 7. cercus, lateral view. Scale 0.25 mm.

all coxae black; fore and mid femora with brownish yellow tips, hind femur wholly black; tibiae and tarsi yellow, tarsi from tip of tarsomere 1 onward brownish to brown. Hairs and bristles on legs black; fore coxa with 7 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd, 1-2 av and 4 thin pv, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 2.0: 1.1: 0.5: 0.4: 0.2: 0.15; LII 2.9: 1.2: 0.7: 0.6: 0.4: 0.2; LIII 3.4: 0.7: 1.1: 0.7: 0.5: 0.2. Wing nearly hyaline; veins dark brown, R4+5 and M nearly straight and parallel; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen; tergum 1 laterally with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 6-7): Epandrium with long outer lateral lobe bearing 1 hair apically and 2 bristles medially (1 bristle rather thick), and weak inner lateral lobe; cercus nearly triangular, with acute and slightly curved ventral apex; hypandrium with inner denticle at middle.

Female. Body length 2.3-3.6 mm, wing length 3.3-3.6 mm. Similar to male, but face wider than first flagellomere.

Holotype: male, Yunnan: Pingbian, Shuizhonghe (1500 m), 1996. V. 23, T. SAIGUSA (KIZ). Paratypes: 1 male 1 female, same data as holotype (KIZ); 2 males, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ); 2 males, Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA (SKU); 1 male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (SKU); 2 males 1 female, Yunnan: Luchun, 11.5 km SW of Yanjia (1750-1800 m), 1996. V. 30, T. SAIGUSA (SKU); 1 male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the lateral lobe on the epandrium with 1 thick bristle.

Remarks. The new species is somewhat similar to *Hercostomus (Gymnopternus) niger* sp. nov. in having chiefly black legs, but may be separated from the latter by the antenna, that is partly brownish yellow.

6. *Hercostomus (Gymnopternus) dorsalis* sp. nov.
(Figs. 8-10)

Diagnosis. First flagellomere distinctly elongated (2.1 times as long as wide), acute apically; arista dorsal. Pteropleuron with (or without) 4 pale hairs. R4+5 and M distinctly convergent apically.

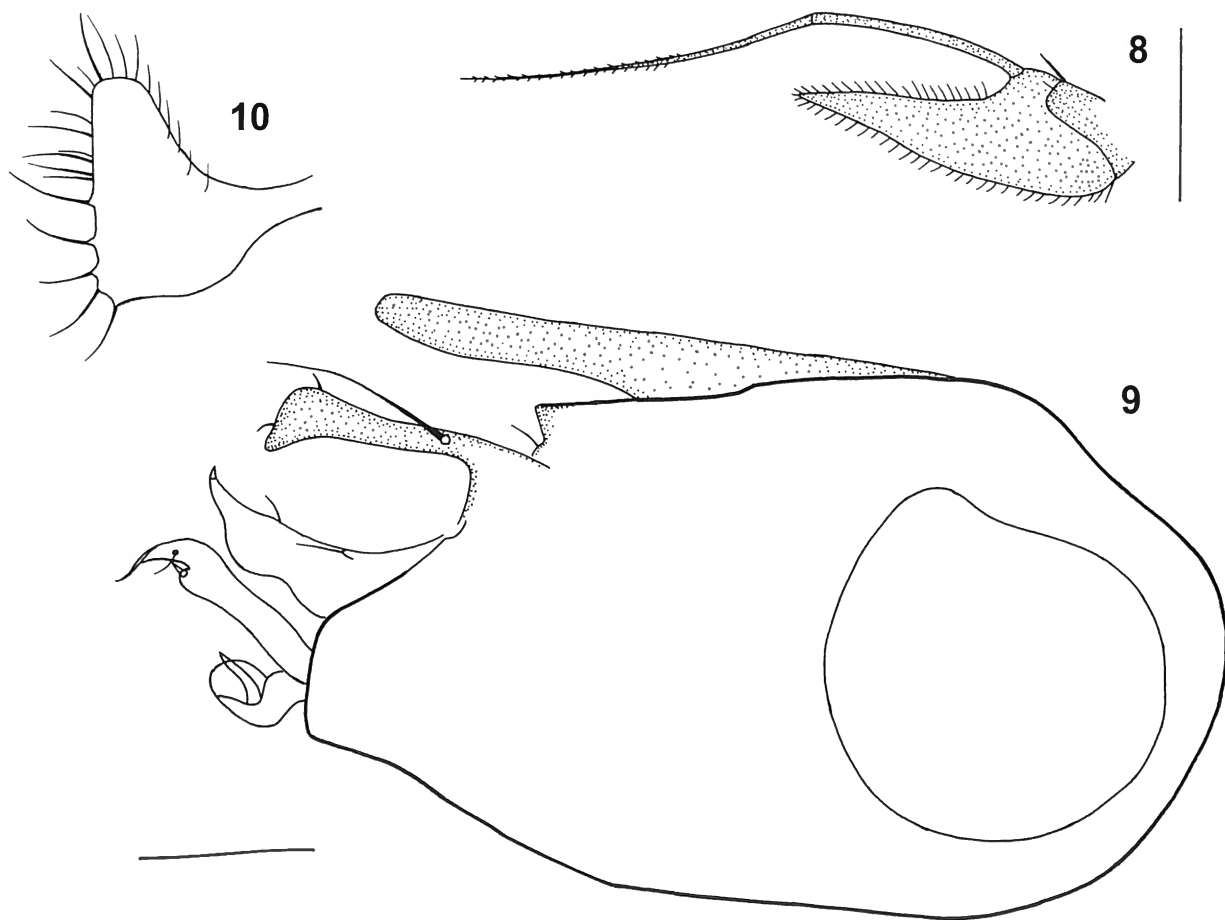
Male. Body length 2.7-3.6 mm, wing length 3.7-4.7 mm.

Head metallic green with pale gray pollen; frons and face silvery white pollinose. Face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 8) wholly black; first flagellomere large, distinctly elongated, 2.1 times as long as wide, acute apically, with distinct pale hairs; arista dorsal, black, with very short hairs, with basal segment 0.6 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 gray pollen; mesonotum and scutellum tinged with brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc

distinctly convergent), 6 irregularly paired acr, that are short and hair-like (the two rows somewhat close). Propleuron black haired, with 1 black bristle on lower portion. Pteropleuron with (or without) 4 pale hairs. Meta-pleuron with 4 black hairs on antero-lower corner. Legs yellow; coxae yellow, mid coxa (except apex) blackish, hind coxa sometimes tinged with brown basally; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 2.4: 1.4: 0.6: 0.5: 0.4: 0.3; LII 3.6: 1.6: 0.9: 0.8: 0.5: 0.4; LIII 4.0: 1.2: 1.5: 0.9: 0.6: 0.4. Wing hyaline, slightly tinged with grayish; veins dark brown, R4+5 weakly curved backward and M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs



Figs. 8-10 — *Hercostomus (Gymnopternus) dorsalis* sp. nov. (male). 8. antenna (excluding scape), lateral view; 9. genitalia (excluding cercus), lateral view; 10. cercus, lateral view. Scale 0.25 mm.

and bristles on abdomen black. Male genitalia (Figs. 9-10): Epandrium with long outer lateral lobe, and weak inner lateral lobe, that is angular apically; cercus with obtuse ventral apex, and with 4-5 weak marginal denticles; hypandrium nearly straight.

Female. Unknown.

Holotype: male, Yunnan: Lushui, Liuku-Lushui (1300 m), 1996. VI. 5, T. SAIGUSA (KIZ). Paratypes: 1 male, same data as holotype (KIZ); 1 male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA (SKU); 1 male, Yunnan: Yunlong, Zhichang (2400 m), 1996. VI. 7, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the dorsal arista.

Remarks. The new species is somewhat similar to *Hercostomus (Gymnopternus) flaccus* WEI, 1997 from Guizhou, but may be separated from the latter by the antenna, that is wholly black with distinctly elongated first flagellomere (2.1 times as long as wide) and by its dorsal arista. In *flaccus*, the antenna is partly yellow with slightly elongated first flagellomere (about 1.5 times as long as wide), and the arista is subdorsal (WEI, 1997).

7. *Hercostomus (Gymnopternus) grandis* YANG et YANG

Hercostomus (Gymnopternus) grandis YANG et YANG, 1995. In: Insects of Baishanzu Mountain, Eastern China, p. 513. Type locality: Zhejiang, Baishanzu.

Hercostomus (Gymnopternus) malthinus WEI, 1997. J. Guizhou Agric. Coll. 16(1): 36. Type locality: Guizhou, Fanjing Mountain. Syn. nov.

Specimens examined. 1 male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA; 1 male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 5, T. SAIGUSA.

Distribution. China (Yunnan, Guizhou, Zhejiang).

8. *Hercostomus (Gymnopternus) guangxiensis* YANG

Hercostomus (Gymnopternus) guangxiensis YANG, 1997. Studia dipterologica 4(1): 117. Type locality: Guangxi, Longsheng.

Specimens examined. 1 male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA; 1 male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA; 1 male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA.

Distribution. China (Yunnan, Guizhou, Guangxi).

9. *Hercostomus (Gymnopternus) latapicalis* sp. nov. (Figs. 11-13)

Diagnosis. Antenna wholly black; first flagellomere short (1.2 times as long as wide), obtuse apically; arista subapical. Fore coxa yellow. R4+5 and M nearly straight and parallel.

Male. Body length 3.2-3.3 mm, wing length 3.9-4.0 mm.

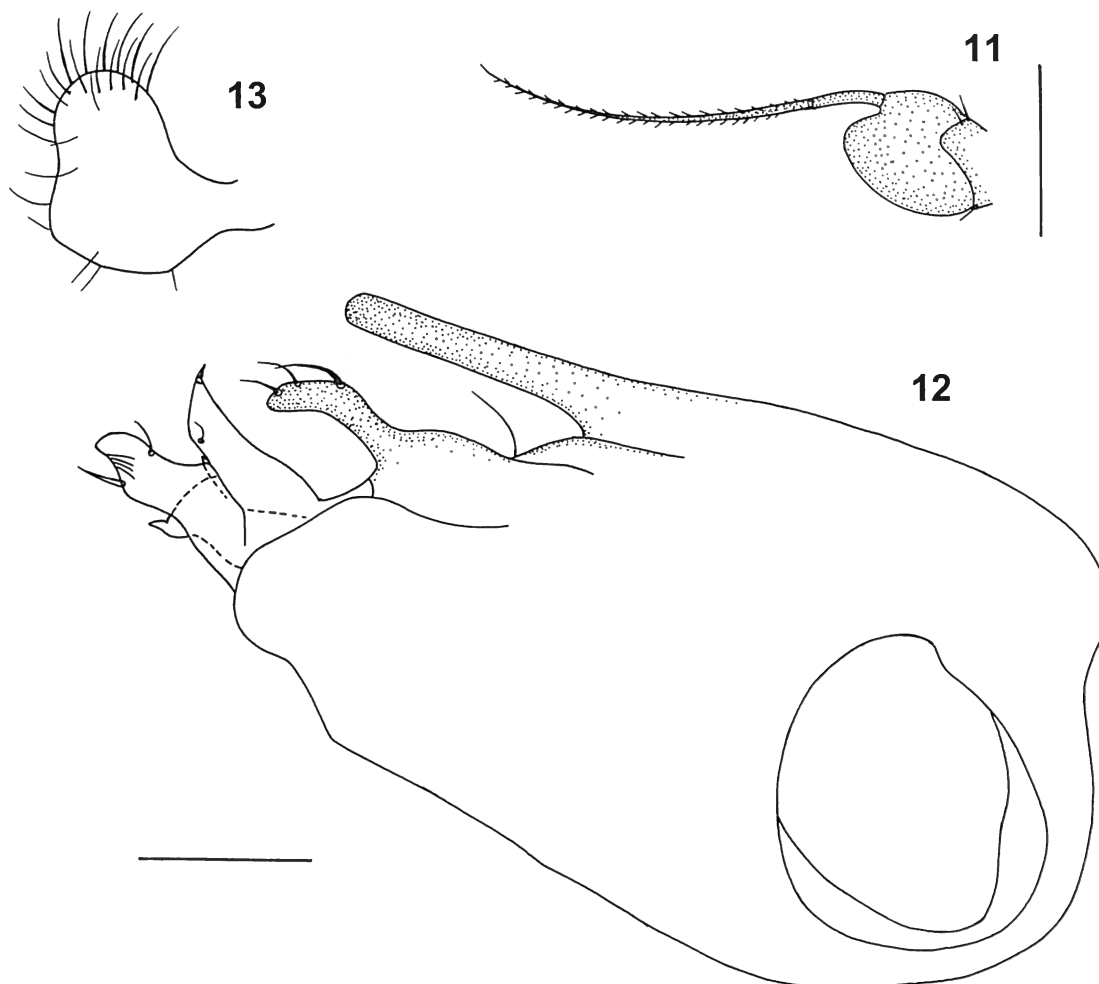
Head metallic green with pale gray pollen; frons white pollinose, face gray brown pollinose, clypeus silvery white pollinose; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 11) wholly black; first flagellomere short (1.2 times as long as wide), obtuse apically; arista subapical, with very short hairs, and with basal segment 0.25 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 gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 7 irregularly paired acr, that are short and hair-like; scutellum with 2 short blackish hairs between 2 apical bristles. Propleuron black haired, with 1 black bristle on lower portion. Pteropleuron with 2 blackish hairs. Metapleuron with 3 black hairs on antero-lower corner. Legs yellow; fore coxa yellow, mid coxa (except apex) blackish, hind coxa (except apical portion) brown or blackish; tarsi from tip of tarsomere 1 onward brownish. Hairs and bristles on legs black, mid and hind coxae with some very short pale hairs on antero-basal area; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 bristles and 1 very short apv (subequal to thickness of fore tibia); mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 3 pd, 2 av and 3-4 thin pv, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibiae and 5 tarsomeres LI 2.2: 1.2: 0.6: 0.5: 0.3: 0.2; LII 3.3: 1.7: 0.9: 0.8: 0.5: 0.3; LIII 3.7: 1.2: 1.5: 0.9: 0.6: 0.3. Wing hyaline, slightly tinged with grayish; veins dark brown, R4+5 weakly curved backward and M nearly straight, R4+5 and M nearly parallel apically; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 12-13): Epandrium with curved outer lateral lobe bearing 3 hairs apically, and indistinct inner lateral lobe; cercus with widely rounded ventral apex, its outer margin with short middle section weakly concave and bare; hypandrium nearly straight.

Female. Unknown.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ). Paratypes: 62 males, same data as holotype (SKU, KIZ, CAU & IRSN);



Figs. 11-13 — *Hercostomus (Gymnopternus) latapicalis* sp. nov. (male). 11. antenna (excluding scape); 12. genitalia (excluding cercus), lateral view; 13. cercus, lateral view. Scale 0.25 mm.

23 males, same data as holotype, 1996. V. 24, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the cercus with widely rounded ventral apex.

Remarks. The new species is somewhat similar to *Hercostomus (Gymnopternus) portentosus* WEI, 1997 from Guizhou, but may be separated from the latter by the wholly black antenna. In *portentosus*, the antenna is partly yellow (WEI, 1997).

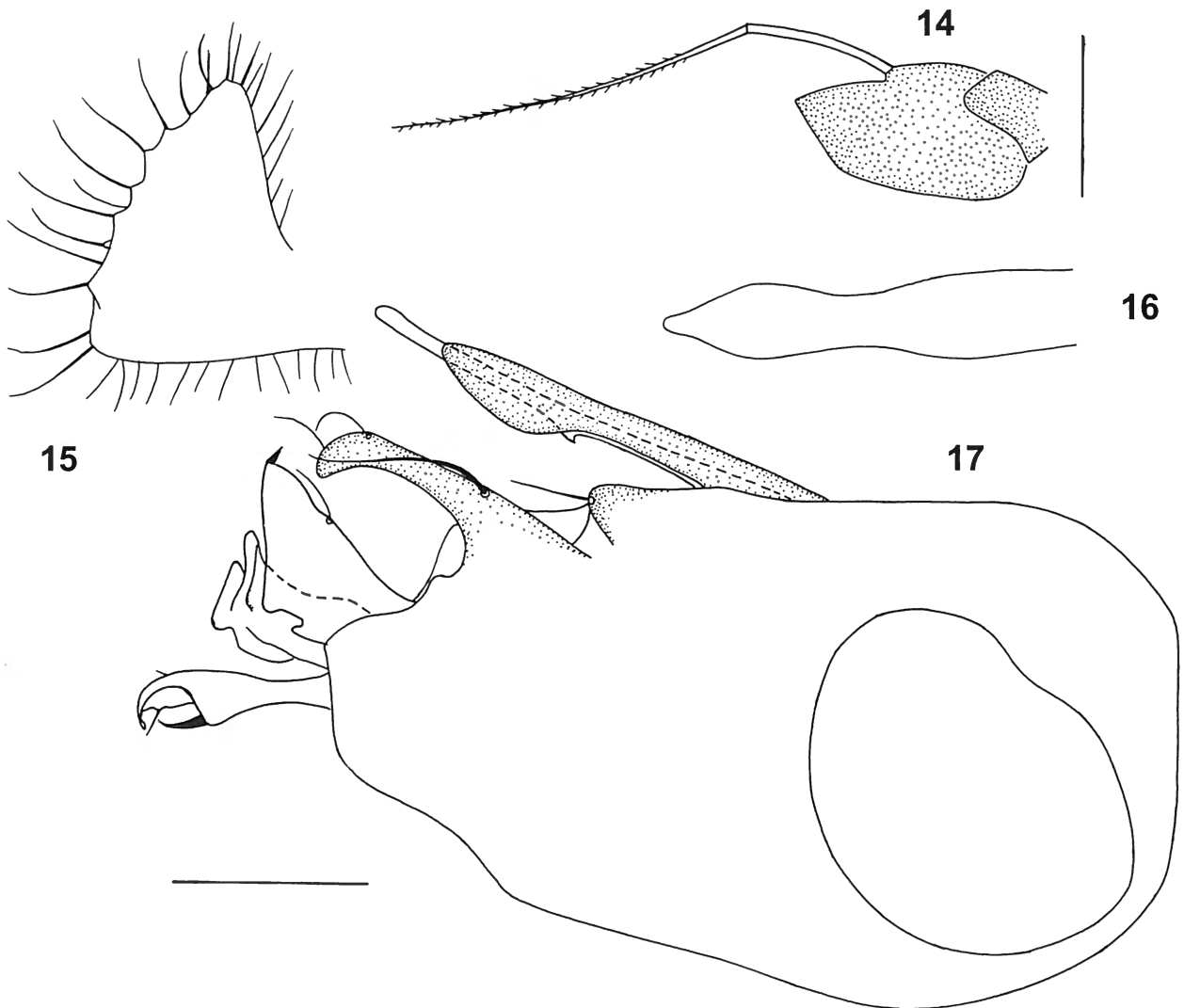
10. *Hercostomus (Gymnopternus) niger* sp. nov.
(Figs. 14-17)

Diagnosis. Antenna wholly black; first flagellomere 1.4 times as long as wide, angular apically; arista subapical.

Male. Body length 3.4-3.5 mm, wing length 4.3-4.7 mm.

Head metallic green with pale gray pollen; frons and face with dense silvery white pollen; face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 14) wholly black; first flagellomere 1.4 times as long as wide, angular apically; arista subapical, with very short hairs, and with basal segment 0.4 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 gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 5 irregularly paired acr, that are short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Pteropleuron with 2 pale hairs. Metapleuron without hairs on antero-lower corner. Legs black; all coxae black; femora with yellow tips; tibiae and tarsi yellow, tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically



Figs. 14-17 — *Hercostomus (Gymnopternus) niger* sp. nov. (male). 14. antenna (excluding scape); 15. cercus, lateral view; 16. hypandrium, ventral view; 17. genitalia (excluding cercus), lateral view. Scale 0.25 mm.

with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd, 1 av and 6-7 thin pv, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.55: 0.6: 0.6: 0.45: 0.4; LII 3.7: 1.9: 1.0: 0.9: 0.6: 0.4; LIII 4.5: 1.2: 1.5: 1.0: 0.6: 0.4. Wing nearly hyaline, weakly tinged with grayish; veins dark brown, R4+5 and M nearly straight and parallel; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen; terga 1-4 laterally with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 15-17): Epandrium with long outer lateral lobe bearing 2 hairs apically and 1 bristle near base, and weak inner lateral lobe; cercus nearly triangular with somewhat acute ventral apex, and with some weak marginal denticles; hypandrium without distinct inner denticle.

Female. Body length 2.8-3.3 mm, wing length 4.3-

4.7 mm. Similar to male, but face wider than first flagellomere.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (KIZ). Paratypes: 1 male 1 female, same data as holotype (KIZ); 2 males 1 female, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (SKU); 1 male, Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the wholly black antenna.

Remarks. The new species is similar to *Hercostomus (Gymnopternus) crassisetosus* sp. nov., but may be separated from the latter by the wholly black antenna.

11. *Hercostomus (Gymnopternus) pingbianensis* sp. nov.
(Figs. 18-20)

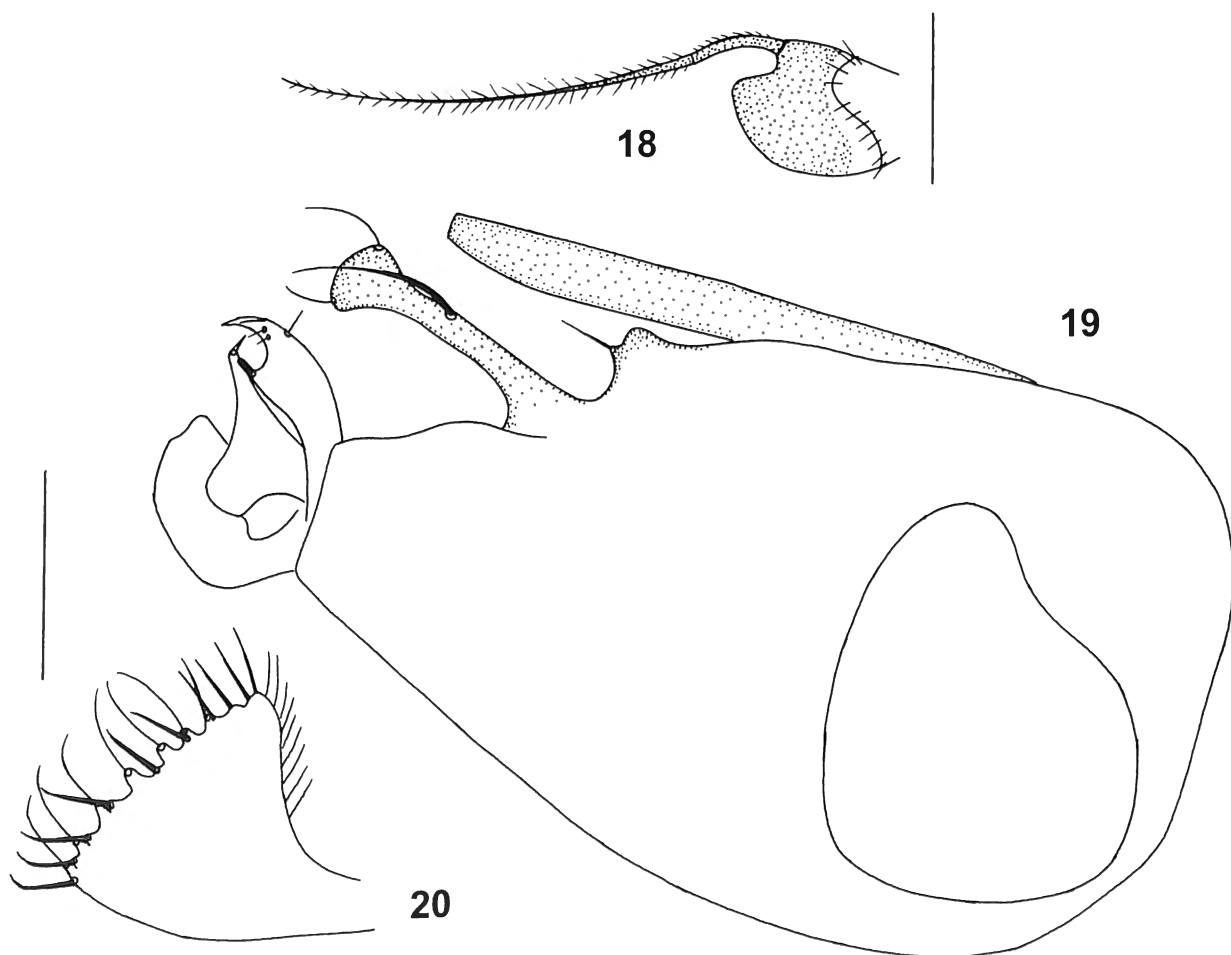
Diagnosis. Arista with longer hairs. Coxae (except narrowly apex of mid and hind coxae) black. Wing rather wide and weakly grayish. Fore tibia with 1 longer apv (1/3 as long as fore tarsomere 1), mid tibia with 2 av.

Male. Body length 4.1-4.5 mm, wing length 5.0-5.3 mm.

Head metallic green with pale gray pollen; occiput with gray brown pollen on upper portion, frons silvery white pollinose with gray brown pollen on anterior margin, face chiefly with gray brown pollen; face as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including most ventral hairs) black. Antenna (Fig. 18) brownish yellow; first flagellomere (except narrow base) black, as long as wide, obtuse apically; arista subapical, black, with longer hairs, with basal segment 0.25 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 gray pollen; mesonotum (except notopleural region) and scutellum with gray

brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 7 irregularly paired acr, that are short and hair-like; scutellum with pale marginal hairs and 2 pale discal hairs. Propleuron pale haired, with 1 black bristle on lower portion. Pteropleuron with more than 10 pale hairs; metapleuron with 7 pale hairs on antero-lower corner. Legs yellow; all coxae black, mid and hind coxae with narrowly yellow apex; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black, fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle; femora with some pale ventral hairs basally. Fore tibia with 2 ad and 2 pd, apically with 2 bristles and 1 distinct apv (1/3 as long as fore tarsomere 1); mid tibia with 3 ad, 2 pd and 2 av, apically with 5 bristles; hind tibia with 4 ad, 3 pd and 3-4 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 3.7: 1.5: 0.6: 0.5: 0.3: 0.3; LII 4.0: 1.9: 0.9: 0.7: 0.5: 0.3; LIII 4.5: 1.3: 1.5: 1.0: 0.6: 0.4. Wing rather wide and slightly grayish; veins dark brown, R4+5 and M nearly straight and parallel with apex slightly convergent; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.



Figs. 18-20 — *Hercostomus (Gymnopternus) pingbianensis* sp. nov. (male). 18. antenna (excluding scape); 19. genitalia (excluding cercus), lateral view; 20. cercus, lateral view. Scale 0.25 mm.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 19-20): Epandrium with long outer lateral lobe bearing 2 hairs apically and 1 bristle at middle, and short inner lateral lobe; cercus nearly triangular, with distinct marginal denticles; hypandrium rather thick and straight.

Female. Body length 4.2-4.3 mm, wing length 4.7-4.8 mm. Similar to male, but face wider than first flagellomere.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ). Paratypes: 1 male, same data as holotype (KIZ); 3 males, Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA (KIZ); 5 males 3 females, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (SKU); 5 males 2 females, Yunnan: Yonmgping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 4, T. SAIGUSA (CAU & IRSN).

Distribution. China (Yunnan).

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

Remarks. This new species is very similar to *Hercostomus (Gymnopternus) petilus* YANG et SAIGUSA, 1999, from Sichuan, but may be separated from the latter by the following characters: wing rather wide and weakly grayish, fore tibia with 1 longer apv (1/3 as long as fore tarsomere 1), mid tibia with 2 av; in *petilus*, wing somewhat narrow and hyaline, fore tibia with 1 short apv (1/5 as long as fore tarsomere 1), mid tibia with 1 av (YANG & SAIGUSA, 1999).

12. *Hercostomus (Gymnopternus) populus* WEI

Hercostomus (Gymnopternus) populus WEI, 1997. J. Guizhou Agric. Coll. 16(1): 38. Type locality: Guizhou, Fanjing Mountain.

Hercostomus (Hercostomus) tianmushanus YANG, 1998. Entomofauna 19(13): 235. Type locality: Zhejiang, Tianmushan Mountain. Syn. nov.

Distribution. China (Yunnan, Guizhou, Zhejiang).

13. *Hercostomus (Gymnopternus) tenuilobus* YANG et GROOTAERT

Hercostomus (Gymnopternus) tenuilobus YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 253. Type locality: Yunnan, Jinhong.

Distribution. China (Yunnan).

Subgenus *Hercostomus*

The *longicercus*-group

14. *Hercostomus (Hercostomus) filiformis* sp. nov. (Figs. 21-22)

Diagnosis. Antenna wholly black; first flagellomere as long as wide, obtuse apically. 3-5 uniseriate acr. Legs chiefly black. R4+5 and M weakly convergent apically.

Male. Body length 2.7-2.9 mm, wing length 2.9-3.1 mm.

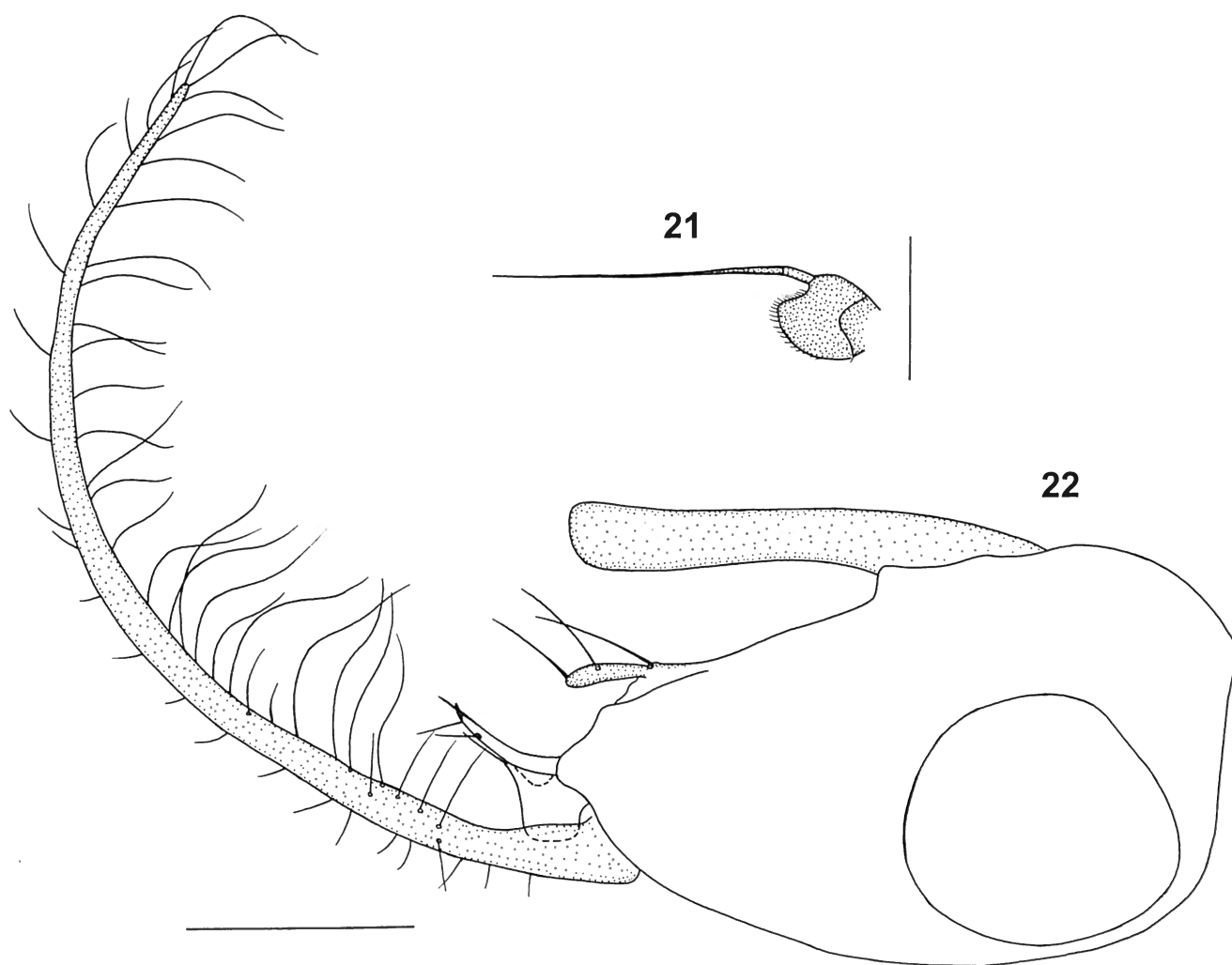
Head metallic green with pale gray pollen; frons and face with white pollen, but pollen on frons denser; face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 21) wholly black; first flagellomere rather small, as long as wide, obtuse apically; arista subapical, black, with indistinct hairs, with basal segment 0.13 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 gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 3-5 uniseriate acr, short and hair-like; scutellum with 5-6 pale marginal hairs between 2 apical bristles. Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 3 black hairs on antero-lower corner. Legs black; all coxae black; tibiae dark yellow with bases of all tibiae narrowly and apex of hind tibia broadly blackish to black (fore and mid tibiae sometimes with blackish tips). Hairs and bristles on legs black, fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd, apically with 2 bristles and 1 distinct apv; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 3-4 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Fore tarsomere 3 ventrally flat and bare (only with hairs on lateral margin); tarsomeres 4 somewhat flattened laterally and slightly convex ventrally, tarsomeres 4-5 with tiny ventral hairs. Relative lengths of tibia and 5 tarsomeres LI 1.6: 1.1: 0.4: 0.25: 0.2: 0.3; LII 2.4: 1.2: 0.7: 0.5: 0.4: 0.3; LIII 3.1: 1.0: 1.2: 0.8: 0.55: 0.4. Wing nearly hyaline; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M slightly convergent apically; CuAx ratio 0.8. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 22): Epandrium with short finger-like lateral lobe, bearing 3 bristles; cercus very long and filiform; hypandrium rather thick and straight.

Female. Body length 2.9 mm, wing length 3.4 mm. Similar to male, but face wider than first flagellomere.

Holotype: male, Yunnan: Luchun, 11.5 km SW of Yanjia



Figs. 21-22 — *Hercostomus (Hercostomus) filiformis* sp. nov. (male). 21. antenna (excluding scape); 22. genitalia, lateral view. Scale 0.25 mm.

(1750-1800 m), 1996. V. 30, T. SAIGUSA (KIZ). Paratypes: 1 male 1 female, same data as holotype (KIZ); 1 male, Yunnan: Jingping, Fenshuiling (1850 m), 1996. V. 25, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the filiform cercus.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) longicercus* YANG et YANG, 1995 from Yunnan and Zhejiang, but may be separated from the latter by having uniseriate acr. In *longicercus*, acr are absent (YANG et YANG, 1995).

15. *Hercostomus (Hercostomus) longicercus*
YANG et YANG

Hercostomus longicercus YANG et YANG, 1995. In: Insects of Baishanzu Mountain, Eastern China. p. 515. Type

locality: Zhejiang, Baishzu Mountain.

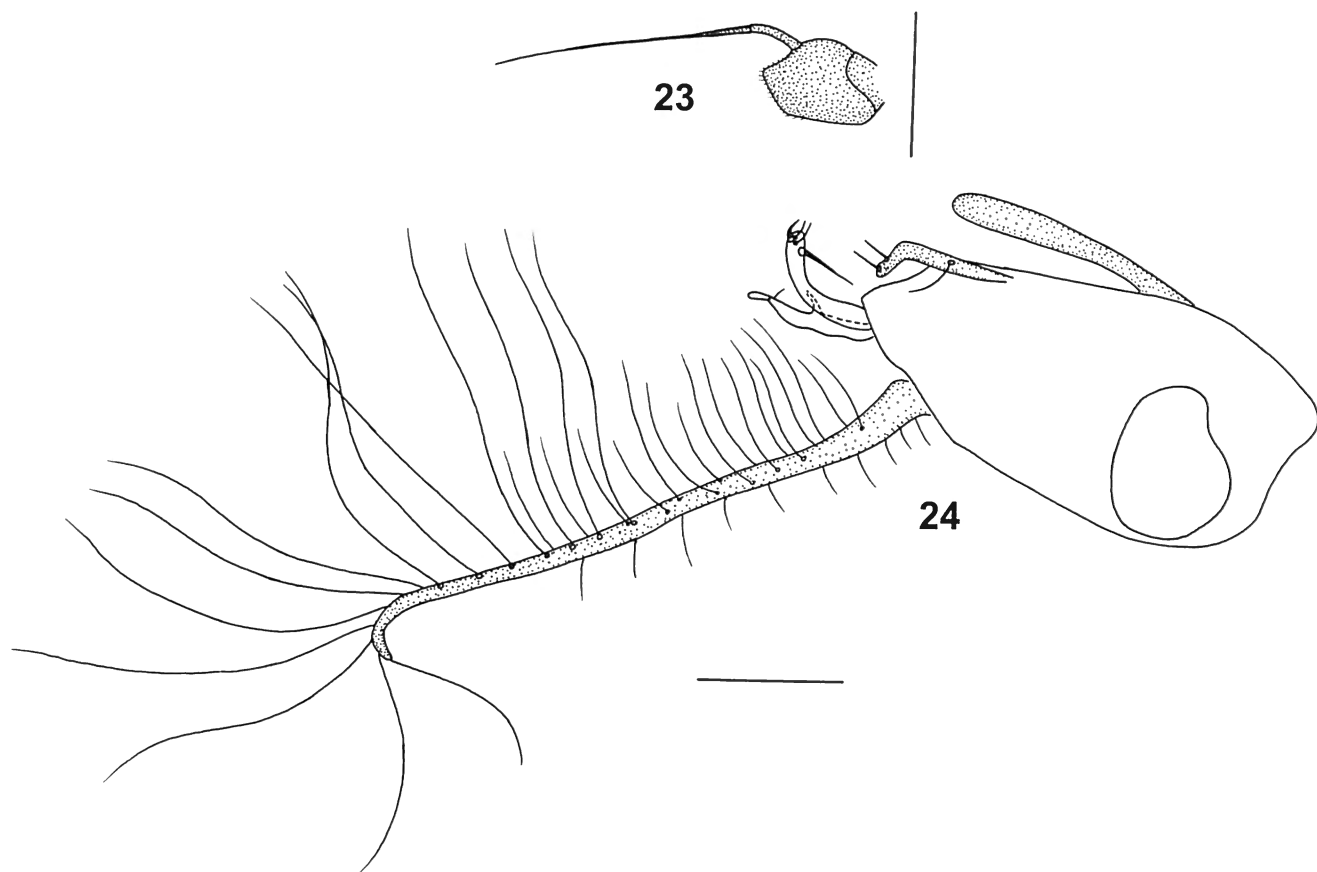
Specimens examined. 1 male, Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA; 4 males, Yunnan: Luchun, 11.5 km SW of Yanjia (1750-1800 m), 1996. V. 30, T. SAIGUSA; 3 males, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA.

Distribution. China (Yunnan, Zhejiang).

16. *Hercostomus (Hercostomus) pilicercus* sp. nov.
(Figs. 23-24)

Diagnosis. Face (except upper portion) with pale hairs. 3-4 paired acr present only in front of dc. Mid and hind femora with extreme tips black. Fore tarsomere 5 distinctly flattened dorso-ventrally. R4+5 and M weakly convergent apically.

Male. Body length 3.6-3.7 mm, wing length 3.8-4.0 mm.



Figs. 23-24 — *Hercostomus (Hercostomus) pilicercus* sp. nov. (male). 23. antenna (excluding scape); 24. genitalia, lateral view. Scale 0.25 mm.

Head metallic green with pale gray pollen; frons tinged with brown pollen, face with pale gray pollen and slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black; face (except upper portion) with pale hairs on lower portion. Antenna (Fig. 23) wholly black; first flagellomere rather small, 1.1 times as long as wide, obtuse apically; arista subapical, black, bare, with basal segment 0.2 times as long as apical segment. Proboscis black with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum with 4 brown pollen stripes, scutellum with brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc weakly convergent), 3-4 paired acr present only in front of dc; scutellum with 6-7 black marginal hairs between 2 apical bristles. Propleuron black haired, with 1 black bristle on lower portion. Metapleuron with 4 black hairs on antero-lower corner. Legs yellow; coxae yellow. Mid coxa with a black outer spot; mid and hind femora with extreme tips black; hind tibia with apex blackish; 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 bristles, mid and

hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd, apically with 2 bristles; mid tibia with 3 ad and 2 pd, apically with 5 bristles; hind tibia with 3 ad, 3 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 3 v. Fore tarsomere 5 distinctly flattened dorso-ventrally. Relative lengths of tibia and 5 tarsomeres LI 2.2: 1.3: 0.8: 0.8: 0.6: 0.45; LII 3.7: 2.3: 1.2: 1.0: 0.65: 0.5; LIII 4.3: 1.65: 1.7: 1.1: 0.65: 0.5. Wing grayish brown; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M slightly convergent apically; CuAx ratio 1.0. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; segment 6-7 somewhat elongated. Hairs and bristles on abdomen black. Male genitalia (Fig. 24): Epandrium with curved finger-like lateral lobe, bearing 2 hairs apically and 1 hair basally; cercus very long and filiform with some very long hairs; hypandrium rather thick and straight.

Female. Unknown.

Holotype: male, Yunnan: Dali, Daboqing (1900-2100 m), 7 km W of Xiaguan, 1996. VI. 16, T. SAIGUSA (KIZ).

Paratypes: 7 males, same data as holotype (KIZ & CAU); 17 males, Yunnan: Jingping, Fenshuiling (1850 m), 1996. V. 25, T. SAIGUSA (SKU & IRSN); 1 male, Yunnan: Yunlong, Zhichang (2400 m), 1996. VI. 7, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the cercus, that bears some very long hairs.

Remarks. The new species is easily separated from other known species of the group by having the 5th pair of dc weakly convergent and fore tarsomere 5 distinctly flattened dorso-ventrally.

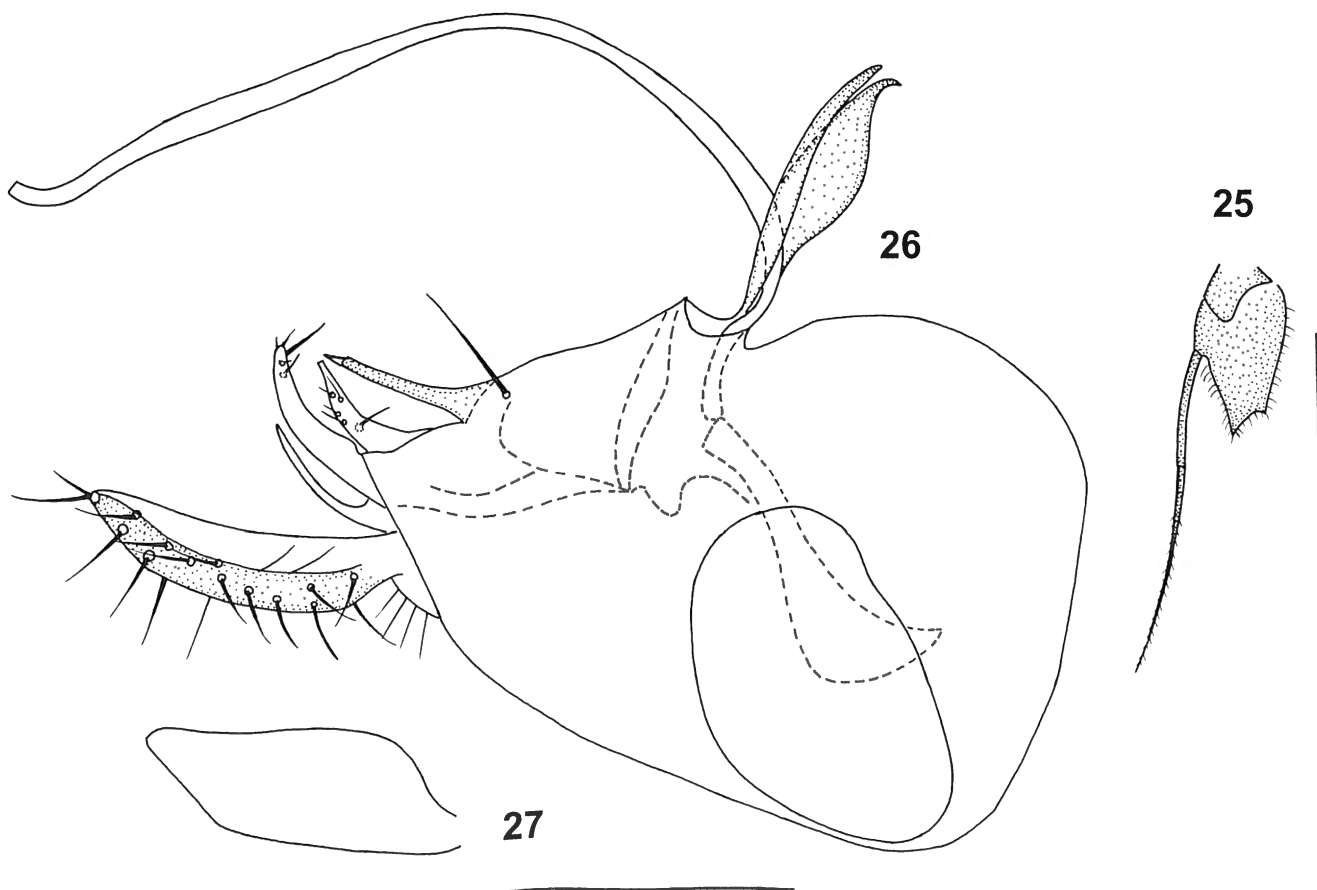
17. *Hercostomus (Hercostomus) pilifacies* sp. nov.
(Figs. 25-27)

Diagnosis. Face with black hairs on lower portion (just above clypeus). 5 dc; acr absent. First flagellomere with acute upper and lower apical corners.

Male. Body length 1.7-2.0 mm, wing length 2.4-2.7 mm.

Head metallic green with gray brown pollen; frons subshiny, with thin pollen, face with pale gray pollen and wider than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black; face with 2-4 black hairs on lower portion (just above clypeus). Antenna (Fig. 25) black; first flagellomere 1.8 times as long as wide, with acute upper and lower apical corners; arista dorsal, black, with very short hairs, and with basal segment 0.55 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 gray pollen; mesonotum and scutellum with brown pollen. Hairs and bristles on thorax black; 5 strong dc (4th pair of dc distinctly convergent), acr absent; scutellum with blackish marginal hairs. Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 2 blackish hairs on antero-lower corner. Legs yellow; all coxae yellow, mid coxa with brown outer spot; tarsi from tip of tarsomere 1 onward brownish yellow to brown. Hairs and bristles on legs black, fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1



Figs. 25-27 — *Hercostomus (Hercostomus) pilifacies* sp. nov. (male). 25. antenna (excluding scape); 26. genitalia, lateral view; 27. cercus, dorsal view. Scale 0.25 mm.

preapical bristle. Fore tibia without distinct d, apically with 2 short bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 2 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: 0.7: 0.4: 0.3: 0.2: 0.2; LII 2.1: 1.5: 0.6: 0.4: 0.2: 0.2; LIII 2.3: 0.65: 0.8: 0.45: 0.3: 0.2. Wing nearly hyaline; veins dark brown, R4+5 and M nearly straight and parallel; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 26-27): Epandrium with long thin lateral lobe (without distinct hairs); cercus somewhat quadrate in dorsal view; hypandrium branched.

Female. Body length 1.8-2.4 mm, wing length 2.4-2.8 mm. Similar to male, but eyes more widely separated.

Holotype: male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes: 43 males 14 females, same data as holotype (SKU, KIZ, CAU & IRSN).

Distribution. China (Yunnan).

Etymology. The specific name refers to the face, that

bears hairs on its lower portion.

Remarks. The new species is easily separated from other known species of the group by having the first flagellomere longer (1.8 times as long as wide) with acute upper and lower apical corners and cercus rather short.

The quadriseta-group

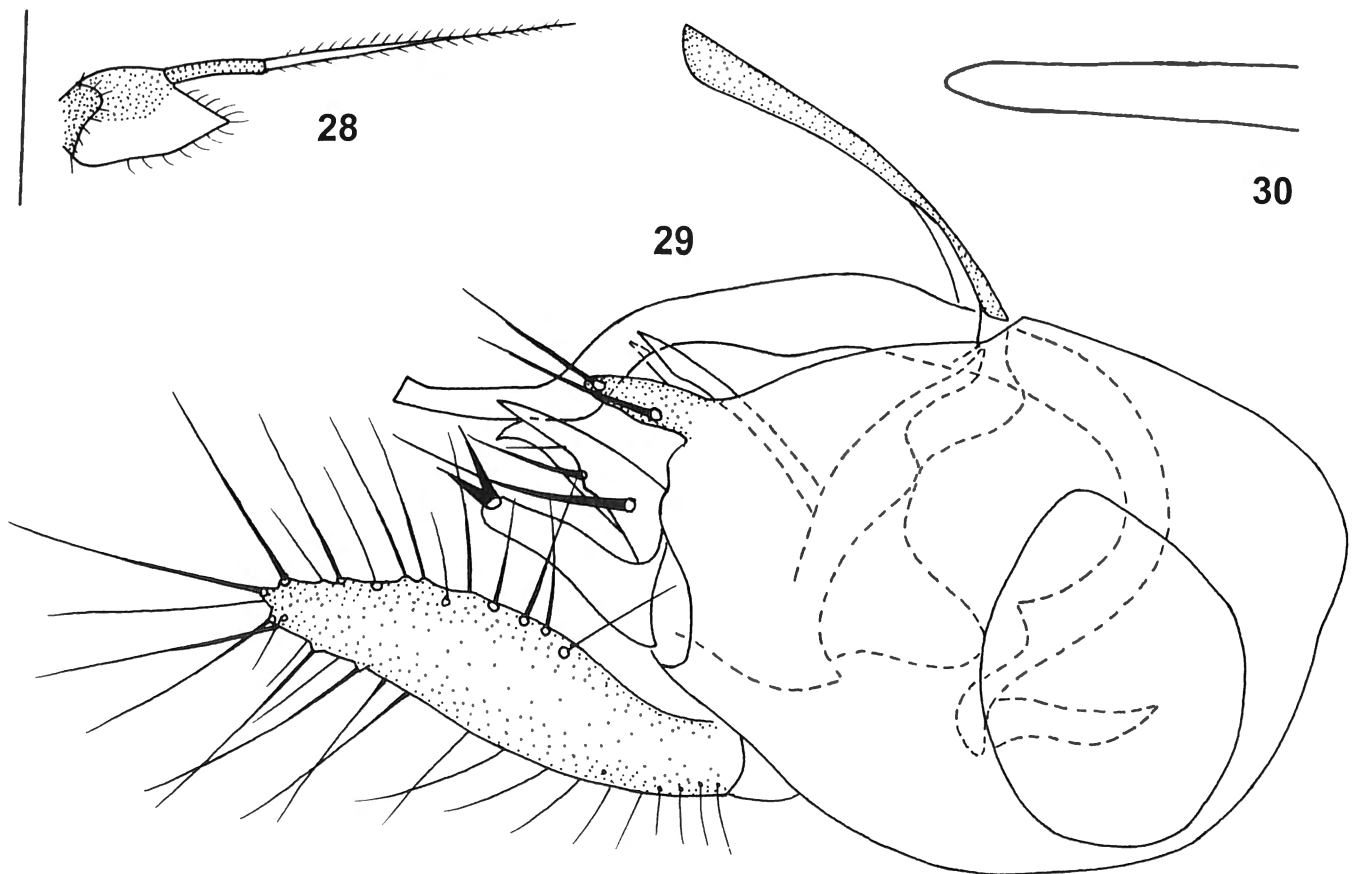
Diagnosis. Small-sized. First flagellomere acute apically; arista with dark brown basal segment, and white apical segment, bearing white hairs. 4 strong dc; acr absent.

18. *Hercostomus (Hercostomus) quadriseta* sp. nov. (Figs. 28-30)

Diagnosis. Antenna dark brown, first flagellomere pale yellow with dark brown dorsal portion; first flagellomere 1.9 times as long as wide, acute apically; arista dark brown; its white apical segment bearing white hairs. Halter dark brown with yellow base.

Male. Body length 1.7-1.9 mm, wing length 2.6-2.7 mm.

Head metallic green with pale gray pollen; frons purple metallic green, with gray brown pollen; face pale gray pollinose and wider than first flagellomere. Hairs and



Figs. 28-30 — *Hercostomus (Hercostomus) quadriseta* sp. nov. (male). 28. antenna (excluding scape); 29. genitalia, lateral view; 30. hypandrium, ventral view. Scale 0.25 mm.

bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 28) dark brown, first flagellomere pale yellow with dark brown dorsal portion; first flagellomere 1.9 times as long as wide, acute apically; arista dark brown; its white apical segment bearing white hair, with basal segment 0.3 times as long as apical segment. Proboscis brown with black hairs; palpus brown with black hairs and 1 black apical bristle.

Thorax dark metallic green with pale gray pollen; mesonotum and scutellum tinged with purple metallic green, with gray brown pollen. Hairs and bristles on thorax black; only 4 strong dc, acr absent; scutellum with 2 blackish marginal hairs between 2 apical bristles. Propleuron black-haired, with 1 black bristle on lower portion. Pteropleuron and metapleuron without hairs. Legs yellow; coxae yellow, mid coxa with blackish outer spot; tarsi from tip of tarsomere 1 onward brownish yellow to brown. Hairs and bristles on legs black; fore coxa with 7 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia without distinct d, apically with 2 short bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 2 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 1.45: 0.7: 0.3: 0.3: 0.2: 0.2; LII 2.0: 1.0: 0.5: 0.45: 0.3: 0.2; LIII 2.2: 0.6: 0.8: 0.5: 0.4: 0.25. Wing nearly hyaline; veins dark brown, R4+5 and M nearly straight and parallel; CuAx ratio 0.4. Squama yellow with black hairs. Halter dark brown with yellow base.

Abdomen dark metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 29-30): Epandrium with short finger-like lateral lobe, that bears 2 strong bristles; cercus long band-like; hypandrium narrow basally in lateral view; aedeagus strong, curved apically.

Female. Body length 1.9-2.0 mm, wing length 2.7-2.8 mm. Similar to male.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ). Paratypes: 1 male 2 females, same data as holotype (KIZ & SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the 4 dc.

Remarks. The new species is easily separated from other known species of the subgenus from China by having only 4 dc and arista with white apical segment.

The cyaneculus-group

19. *Hercostomus (Hercostomus) cyaneculus* WEI

Hercostomus (Hercostomus) cyaneculus WEI, 1997. J.

Guizhou Agric. Coll. 16(2): 41. Type locality: Yunnan, Dali.

Distribution. China (Yunnan).

20. *Hercostomus (Hercostomus) luchunensis* sp. nov. (Figs. 31-33)

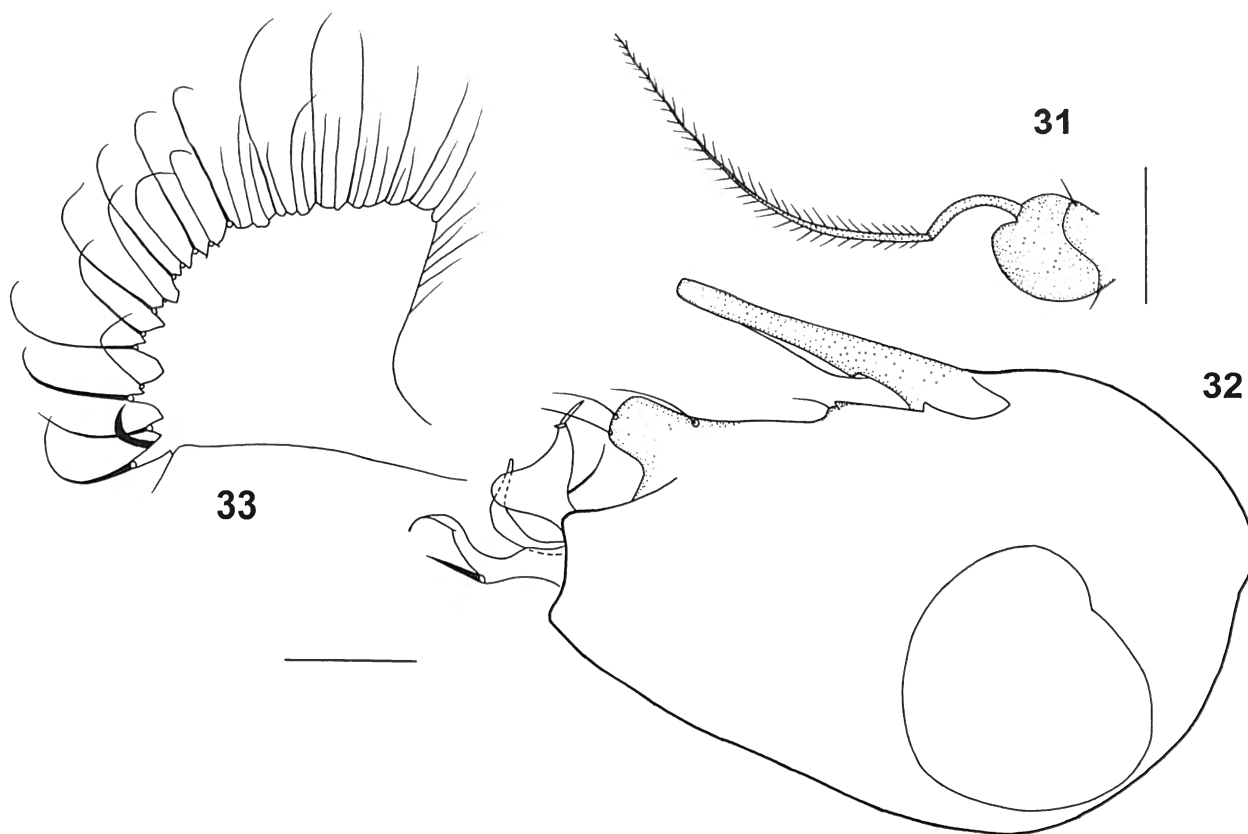
Diagnosis. R4+5 and M distinctly convergent apically. Mid and hind femora with one row of pale ventral hairs on basal 4/5 (their length subequal to 1/2 depth of femur). Hind tarsus with tarsomere 1 slightly longer than tarsomere 2.

Male. Body length 4.1-4.7 mm, wing length 5.7-6.0 mm.

Head metallic green with pale gray pollen; face silvery white pollinose, nearly as wide as first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna (Fig. 31) wholly black; first flagellomere rather small, as long as wide, obtuse apically, with indistinct pubescence; arista subapical, black, with long hairs; its basal segment 0.25 times as long as apical segment. Proboscis brownish yellow with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc slightly convergent), 12-13 irregularly uniseriate acr, rather short and hair-like; scutellum with pale or black marginal hairs. Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 3-4 mostly or wholly pale hairs on antero-lower corner. Legs yellow; coxae yellow, mid coxa (except apex) blackish, hind coxa tinged with brown basally; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black, fore coxa with pale hairs except apex, that bears black hairs and bristles, mid coxa with partly pale hairs on basal half; fore coxa with 7-8 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore femur with very short pale ventral hairs, mid and hind femora each with one row of pale ventral hairs on basal 4/5 (their length subequal to 1/2 depth of femur). Fore tibia with 1 ad, 2 pd and 1-2 pv, apically with 2 bristles and 1 distinct blackish apv; mid tibia with 3 ad, 2 pd and 2 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd, 2 distinct av on wide median portion and 3-4 weak v on basal portion, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 3.3: 1.7: 0.65: 0.55: 0.4: 0.4; LII 4.9: 2.1: 0.8: 0.7: 0.6: 0.5; LIII 5.9: 1.6: 1.5: 1.0: 0.6: 0.5. Wing nearly hyaline, with antero-apical area above R4+5 gray brown; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.7-0.8. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; cercus yellow with black margin. Hairs and bristles on abdomen black; terga 1-5 with some pale hairs laterally, sterna 2-3



Figs. 31-33 — *Hercostomus (Hercostomus) luchunensis* sp. nov. (male). 31. antenna (excluding scape); 32. genitalia (excluding cercus), lateral view; 33. cercus, lateral view. Scale 0.25 mm.

with wholly pale hairs. Male genitalia (Figs. 32-33): Epandrium with short wide outer lateral lobe, and indistinct inner lateral lobe; cercus very large, nearly quadrate, as long as wide, and with marginal denticles (which are distinct at apical margin); hypandrium narrowing toward apex, with a weak inner denticle at base.

Female. Unknown.

Holotype: male, Yunnan: Luchun, 7-8 km of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes: 4 males, same data as holotype (KIZ & SKU).

Distribution. China (Yunnan).

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

Remarks. The new species is somewhat similar to *Hercostomus potanini* STACKELBERG, 1934 from China, but differs from it in the following characters: R4+5 and M distinctly convergent apically, entire hind tibia and hind tarsomere 1 (except apex) yellow, mid and hind femora with short pale ventral hairs; in *potanini*, R4+5 and M slightly convergent apically, apex of hind tibia and entire hind tarsus black, mid and hind femora with longer pale

ventral hairs (length subequal to depth of femur) (STACKELBERG, 1934).

21. *Hercostomus (Hercostomus) singularis* sp. nov.
(Figs. 34-36)

Diagnosis. Face yellow with silvery white pollen. Antenna yellow with first flagellomere (except ventero-basal area) blackish. Palpus yellow. acr uniseriate. Hind femora with one row of distinct pale ventral hairs (slightly longer than 1/2 depth of femur). Hind tarsus with tarsomere 1 slightly longer than tarsomere 2. Wing rather wide with wide rounded apex.

Male. Body length 4.7-5.0 mm, wing length 5.7-6.3 mm.

Head metallic green with pale gray pollen; face yellow with silvery white pollen, slightly narrower than first flagellomere; frons subshiny purple metallic green, with thin pale gray pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna (Fig. 34) yellow; its first flagellomere (except ventero-basal area) blackish; first flagellomere 1.3 times as long as wide, somewhat acute apically, with indistinct pubescence; arista dorsal, black, with distinct hairs; its basal segment 0.3 times as long as apical

segment. Proboscis brownish yellow with black hairs; palpus yellow with black hairs and 1 black apical bristle.

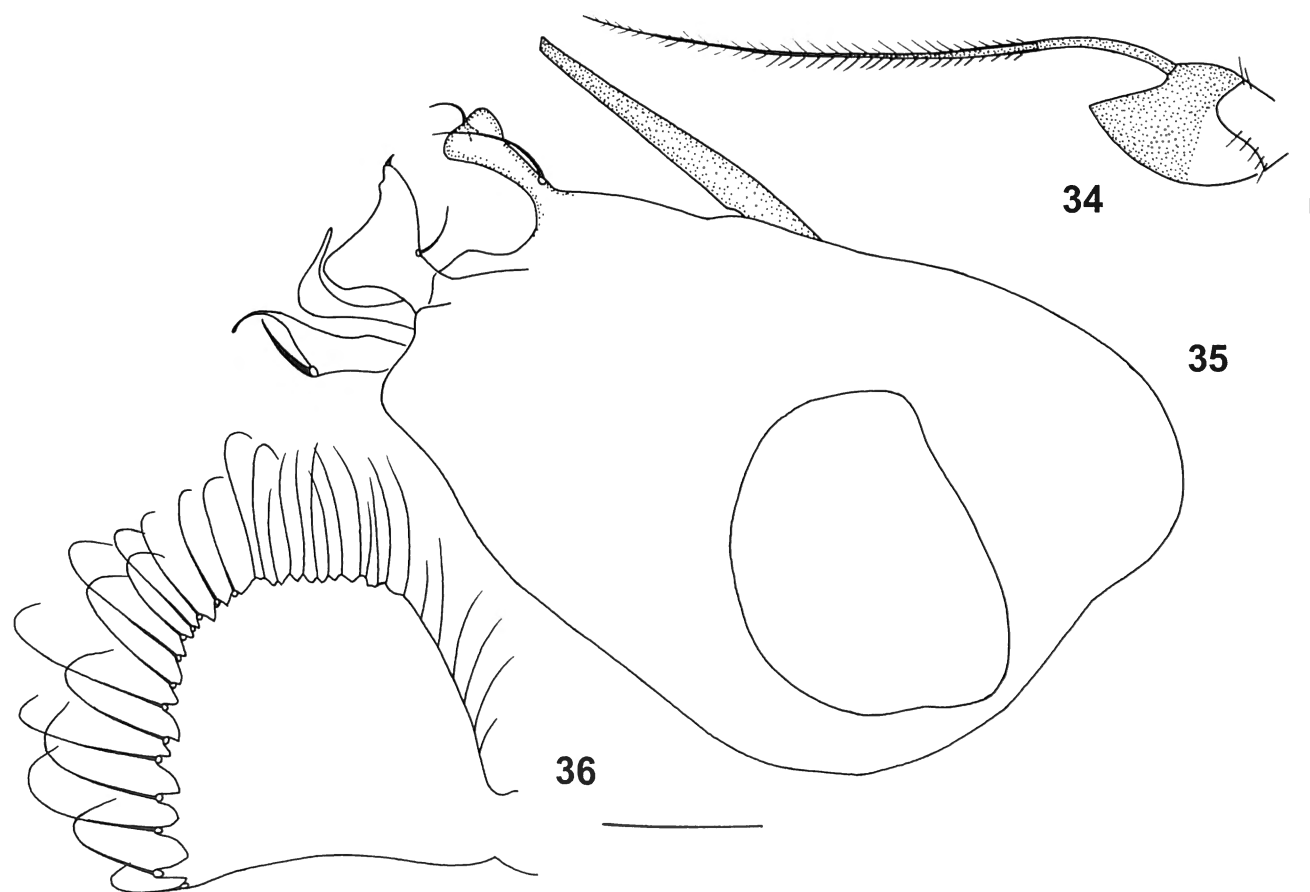
Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc slightly convergent), 16-18 uniseriate acr, rather short and hair-like; scutellum with pale or black marginal hairs. Propleuron pale haired, with 1 dark brown or black bristle on lower portion. Metapleuron with 3 brown hairs on antero-lower corner. Legs yellow; coxae yellow, mid coxa with a blackish outer spot; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black, fore and mid coxae with partly pale hairs on basal half; fore coxa with 8 apical bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore and mid femora with short pale ventral hairs, hind femora with one row of pale distinct ventral hairs (slightly longer than 1/2 depth of femur). Fore tibia with 1 ad, 2 pd and 1-2 pv, apically with 2 bristles and 1 rather short brown apv (shorter than depth of tibia); mid tibia with 3 ad, 2 pd and 2 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd, 1 av and 6-7 v, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of

tibia and 5 tarsomeres LI 2.9: 1.65: 0.6: 0.6: 0.45: 0.3; LII 4.6: 2.0: 0.9: 0.8: 0.6: 0.3; LIII 5.0: 1.65: 1.5: 0.9: 0.6: 0.45. Wing rather wide with wide rounded apex, hyaline with antero-apical field distinctly black; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M distinctly convergent apically; CuAx ratio 0.9. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; cercus yellow with black margin. Hairs and bristles on abdomen black; terga 1-5 with some pale hairs laterally, venter more or less with pale hairs. Male genitalia (Figs. 35-36): Epandrium with lateral lobe narrow basally, bearing 1 hair on apical margin; cercus quadrate, nearly as long as wide, with marginal denticles (which are distinct on apical margin); hypandrium narrowing toward apex.

Female. Body length 3.9 mm, wing length 5.3 mm. Similar to male, but face dark brownish yellow with thin white pollen, wider than first flagellomere.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (KIZ). Paratypes: 2 males 1 female, same data as holotype (KIZ); 1 male,



Figs. 34-36 — *Hercostomus (Hercostomus) singularis* sp. nov. (male). 34. antenna (excluding scape); 35. genitalia (excluding cercus), lateral view; 36. cercus, lateral view. Scale 0.25 mm.

Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA (SKU); 1 male, Yunnan: Lushui, Liuku-Lushui (1300 m), 1996. VI. 5, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the lateral lobe with only 1 hair on apical margin.

Remarks. The new species is similar to *Hercostomus (Hercostomus) cyaneculus* WEI, 1997 from Yunnan, but may be separated from the latter by having frons subshiny with pale gray pollen, antenna with entire pedicel and base of first flagellomere yellow, and lateral lobe on epandrium with 1 hair on apical margin. In *cyaneculus*, the frons has brown yellow pollen, the antenna is red yellow with the dorsal surface of pedicel and first flagellomere dark, and the lateral lobe on epandrium has 2 hairs on apical margin (WEI, 1997).

The *subnovus*-group

22. *Hercostomus (Hercostomus) flavimarginatus* YANG

Hercostomus (Hercostomus) flavimarginatus YANG, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 208. Type locality: Sichuan, Qingchengshan.

Specimens examined. 2 males, Yunnan: Pingbain, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan).

23. *Hercostomus (Hercostomus) latus* YANG et SAIGUSA

Hercostomus (Hercostomus) latus YANG et SAIGUSA, 2001, Dtsch. ent. Z. 48. Type locality: Shaanxi, Zuoshui.

Specimens examined. 9 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi).

24. *Hercostomus (Hercostomus) phaedrus* WEI

Hercostomus (Hercostomus) phaedrus WEI, 1997. J. Guizhou Agric. Coll. 16(2): 41. Type locality: Yunnan, Dali.

Specimen examined. 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 4, T. SAIGUSA.

Distribution. China (Yunnan).

25. *Hercostomus (Hercostomus) spiniger* YANG

Hercostomus (Hercostomus) spiniger YANG, 1997. Studia dipterol. 4(1): 120. Type locality: Type locality: Tibet, Yadong.

Specimens examined. 2 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 2 males, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA; 2 males, Yunnan: Lushui, Liuku-Lushui (1300 m), 1996. VI. 5, T. SAIGUSA; 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 4, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi, Tibet).

26. *Hercostomus (Hercostomus) subnovus* YANG et YANG

Hercostomus (Hercostomus) subnovus YANG et YANG, 1995. In: Insects of Baishanzu Mountain, Eastern China. p. 513. Type locality: Zhejiang, Baishanzu Mountain.

Specimens examined. 4 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Zhejiang).

27. *Hercostomus (Hercostomus) weii* YANG et SAIGUSA

Hercostomus (Hercostomus) weii YANG et SAIGUSA, 2000. Bull. Inst. R. Sci. Nat. Belg. Ent. 70: 223 (nom. n. for *Hercostomus lii* WEI, 1997).

Specimens examined. 2 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

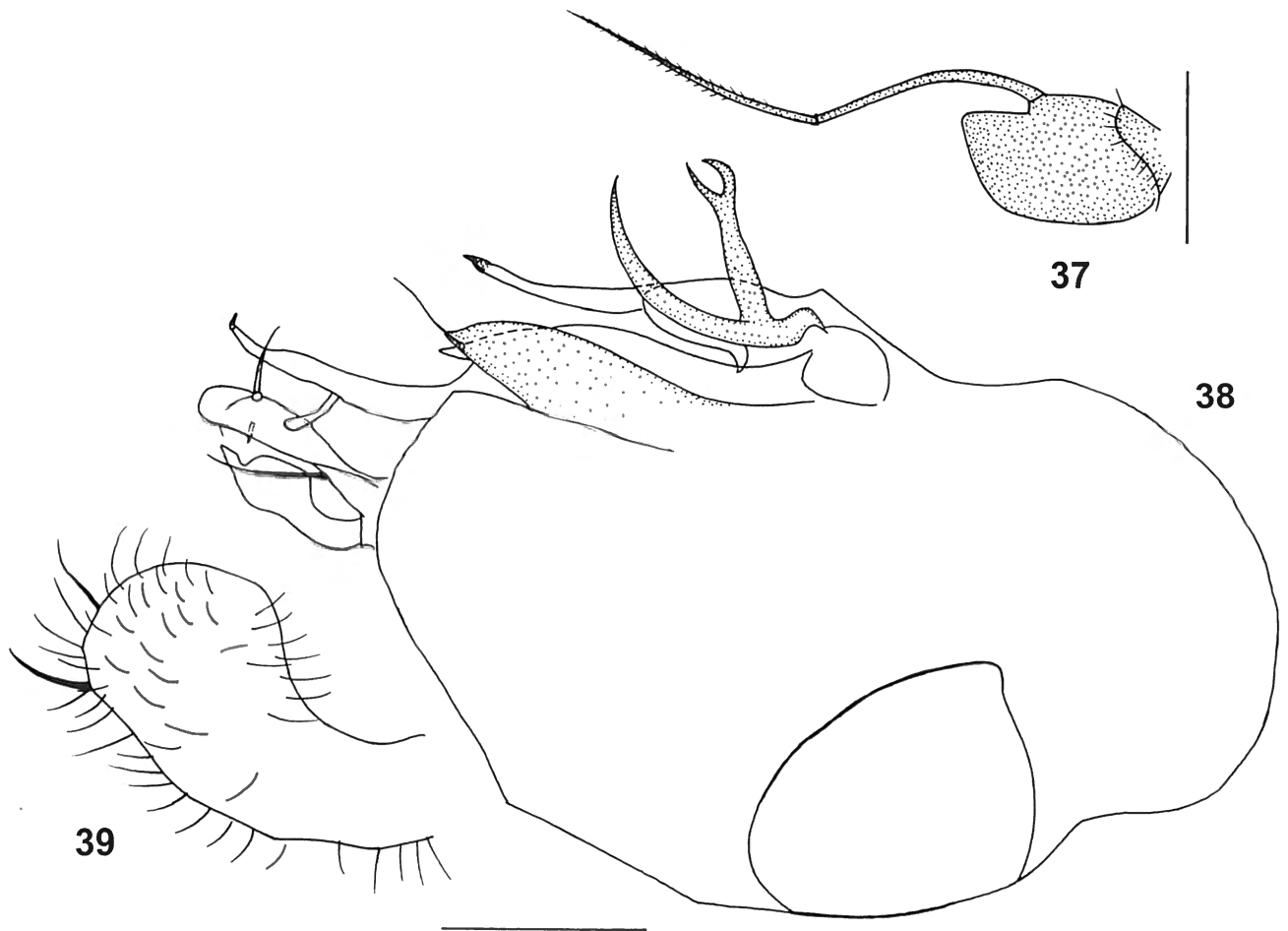
Distribution. China (Yunnan, Sichuan, Shaanxi).

28. *Hercostomus (Hercostomus) yunlongensis* sp. nov. (Figs. 37-39)

Diagnosis. First flagellomere slightly elongated (1.4 times as long as wide) and obtuse apically; arista subapical, with very long basal segment (0.9 times as long as apical segment). Lateral lobe on epandrium rather thick and apically nearly acute.

Male. Body length 3.9 mm, wing length 4.8 mm.

Head metallic green with pale gray 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 (Fig. 37) wholly black; first flagellomere slightly elon-



Figs. 37-39 — *Hercostomus (Hercostomus) yunlongensis* sp. nov. (male). 37. antenna (excluding scape); 38. genitalia (excluding cercus), lateral view; 39. cercus, lateral view. Scale 0.25 mm.

gated, 1.4 times as long as wide, obtuse apically; arista subapical, black, with very short hairs, with rather long basal segment (0.9 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 gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen; metapleuron yellow. Hairs and bristles on thorax black; 6 strong dc, 5-6 irregularly paired acr, that are short and hair-like; (two rows somewhat close). Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 1 pale hair 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 with 8 bristles, mid and hind coxae each with 1 outer bristle; femora with very short pale ventral hairs, mid and hind femora each with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 4 ad, 2 pd and 2 pv, apically with 5 bristles; hind tibia with 3 ad, 4 pd and 7 av (3 av weak), apically with 3 bristles. Hind tarsomere 1 with 3 v. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.6: 0.9: 0.7: 0.5: 0.4; LII 4.1: 2.2: 1.3: 0.9: 0.6: 0.45; LIII 4.9: 1.5: 1.9: 1.1: 0.6: 0.45. Wing weakly tinged with grayish

brown; veins dark brown, R4+5 weakly curved backward, M slightly bent, R4+5 and M strongly convergent apically; CuAx ratio 0.9. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; terga 1-2 with yellow lateral margin, sternum 2 blackish. Hairs and bristles on abdomen black. Male genitalia (Figs. 38-39): Epandrium with thick lateral lobe nearly acute apically; cercus widely rounded apically; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2900 m), 1996. VI. 5, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is very similar to *Hercostomus (Hercostomus) subnovus* YANG et YANG, 1995 from Zhejiang, but may be separated from the latter by having the

lateral lobe on epandrium nearly acute apically. In *subnovus*, the lateral lobe on epandrium is obtuse apically (YANG & YANG, 1995)

29. *Hercostomus (Hercostomus) yunnanensis* WEI

Hercostomus (Hercostomus) yunnanensis WEI, 1997. J. Guizhou Agric. Coll. 16(2): 41. Type locality: Yunnan, Dali.

Distribution. China (Yunnan).

**30. *Hercostomus (Hercostomus) zuoshuiensis*
YANG et SAIGUSA**

Hercostomus (Hercostomus) zuoshuiensis YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Zhuoshui.

Specimens examined. 2 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 2 males, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA; 1 male, Yunnan: Yunlong, Zhichang (2400 m), 1996. VI. 7, T. SAIGUSA; 1 male, Yunnan: Zhongdian, Jingxing (2100 m), 13 km N of Qiaotou, 1996. VI. 9, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi).

The *flavimaculatus*-group

31. *Hercostomus (Hercostomus) flavimaculatus* YANG

Hercostomus flavimaculatus YANG, 1998. Entomofauna, 19: 233. Type locality: Sichuan, Nanping.

Specimens examined. 8 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan, Shaanxi).

**32. *Hercostomus (Hercostomus) xiaolongmensis*
YANG et SAIGUSA**

Hercostomus (Hercostomus) xiaolongmensis YANG et SAIGUSA, 2001. Bull. Inst. R. Sci. Nat. Belg. Ent. 71. Type locality: Beijing.

Specimens examined. 1 male 4 females, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi, Beijing).

The *baishanzuensis*-group

**33. *Hercostomus (Hercostomus) baishanzuensis*
YANG et YANG**

Hercostomus (Hercostomus) baishanzuensis YANG et YANG, 1995. In: Insects of Baishanzu Mountain, Eastern China. p. 515. Type locality: Zhejiang, Baishanzu.

Specimens examined. 4 males 1 female, Yunnan: Jingping, Fengshuiling (2400-2500 m), 1996. V. 26, T. SAIGUSA.

Distribution. China (Yunnan, Zhejiang).

**34. *Hercostomus (Hercostomus) baishuihensis* sp. nov.
(Figs. 40-43)**

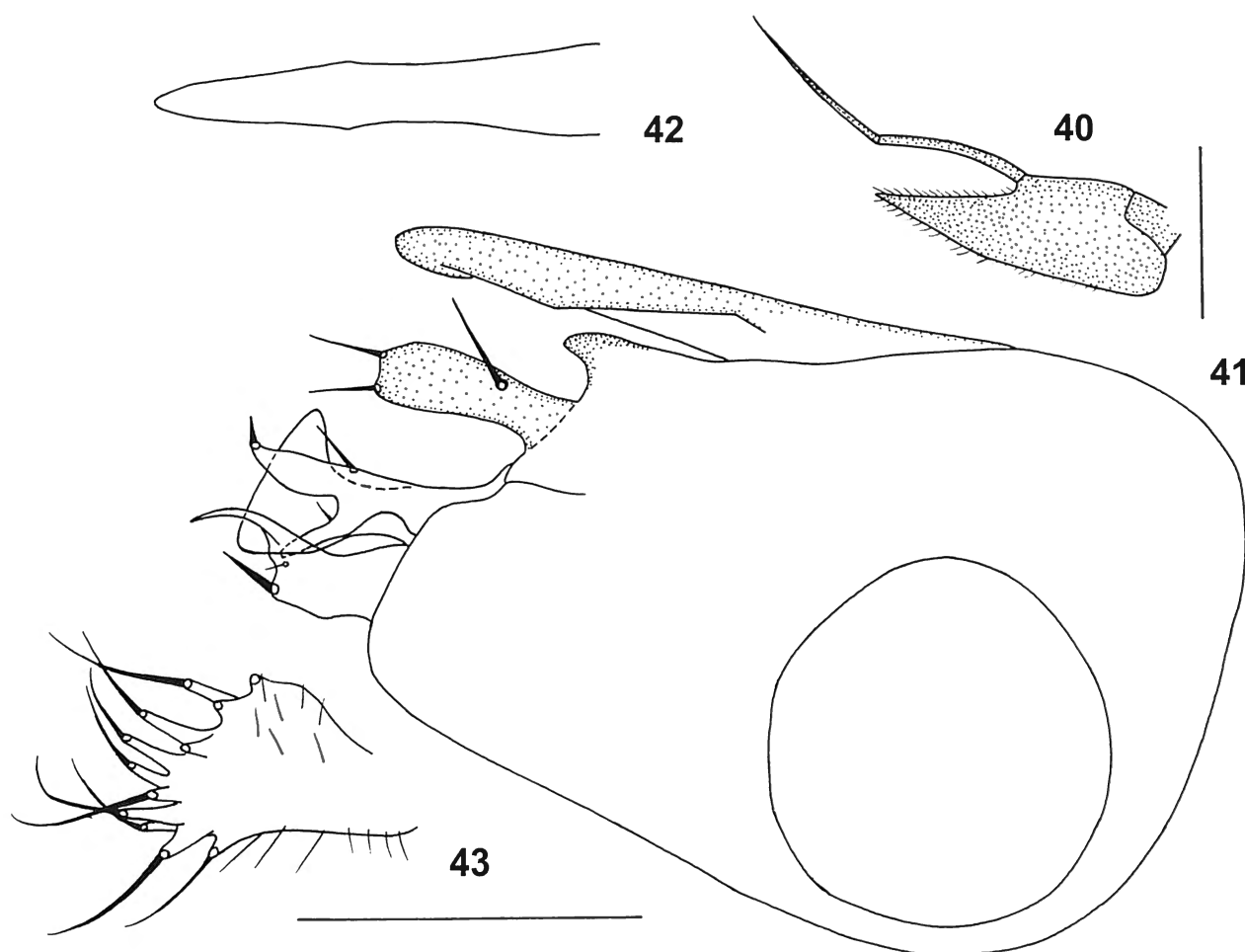
Diagnosis. First flagellomere rather elongated and apically acute; arista subdorsal, with rather long basal segment (as long as apical segment).

Male. Body length 2.0 mm, wing length 2.9 mm.

Head metallic green with pale gray pollen; face pale gray pollinose, nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 40) wholly black; first flagellomere rather elongated, 3.2 times as long as wide, acute apically; arista subdorsal, black, with indistinct hairs, with rather long basal segment (as long as apical segment). Proboscis black with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7-8 irregularly paired acr, short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs black; fore femur with brownish yellow tip; tibiae yellow, basally narrowly dark brown; fore and mid tarsi dark yellow, from tip of tarsomere 1 onward brown to dark brown, hind tarsus black. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 4 ad, 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: 0.6: 0.3: 0.2: 0.15: 0.15; LII 1.7: 0.8: 0.5: 0.4:?:?:; LIII 2.0: 0.6: 0.7: 0.5: 0.35: 0.2. Wing hyaline; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 41-43): Epandrium with long outer lateral lobe and short inner lateral lobe; cercus somewhat triangular, with chiefly long marginal denticles; hypandrium rather thick, with weak inner denticle at middle.



Figs. 40-43 — *Hercostomus (Hercostomus) baishuihensis* sp. nov. (male). 40. antenna (excluding scape); 41. genitalia (excluding cercus), lateral view; 42. hypandrium, ventral view; 43. cercus, lateral view. Scale 0.25 mm.

Female. Unknown.

Holotype: male, Yunnan: Lijiang, Baishuihe (2950-3100 m), Yulongxueshan, 1996. VI. 13, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is similar to *Hercostomus (Hercostomus) jingxingensis* sp. nov. in having the first flagellomere elongate and apically acute, but may be separated from the latter by having the arista subdorsal, arising at middle of dorsal margin of first flagellomere.

35. *Hercostomus (Hercostomus) curviphallus*
YANG et SAIGUSA

Hercostomus (Hercostomus) curviphallus YANG et SAIGUSA, 2001. Dtsch. Ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimens examined. 2 males, Yunnan: Lijiang: Baishuihe (2950-3100 m), Yulongxueshan, 1996. VI. 13, T. SAIGUSA; 1 male, Yunnan: Lijiang: Heshuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 1 male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA.

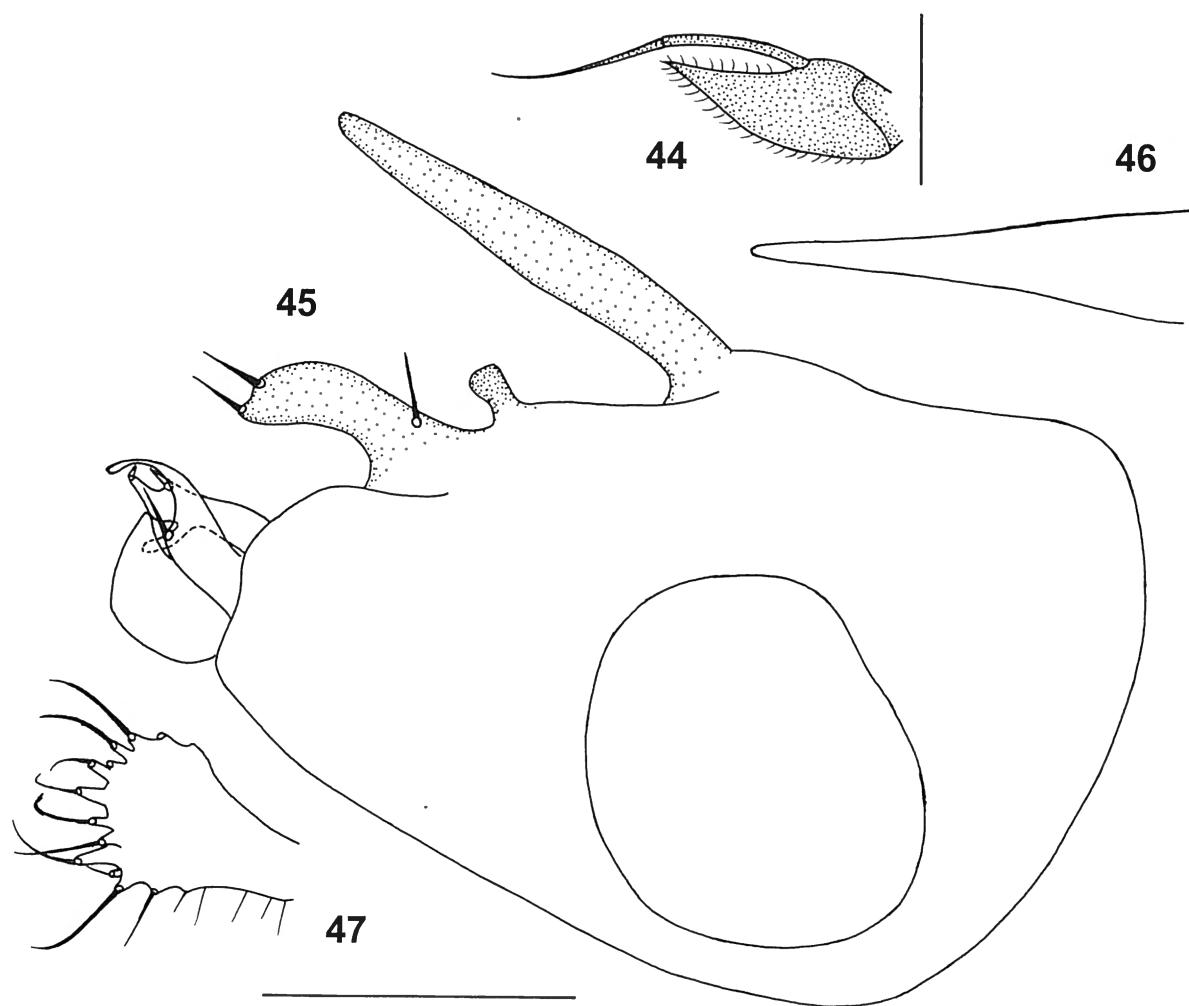
Distribution. China (Yunnan, Shaanxi).

36. *Hercostomus (Hercostomus) jingxingensis* sp. nov.
(Figs. 44-47)

Diagnosis. Face with rather wide upper portion (distinctly wider than first flagellomere). First flagellomere rather elongated and apically acute; arista dorsal, with rather long basal segment (0.8 times as long as apical segment). Fore tarsomere 4 shortened.

Male. Body length 2.1 mm, wing length 2.7 mm.

Head metallic green with pale gray pollen; face pale gray pollinose, with rather wide upper portion (distinctly wider than first flagellomere). Hairs and bristles on head



Figs. 44-47 — *Hercostomus (Hercostomus) jingxingensis* sp. nov. (male). 44. antenna (excluding scape); 45. genitalia (excluding cercus), lateral view; 46. hypandrium, ventral view; 47. cercus, lateral view. Scale 0.25 mm.

black; postocular bristles (including ventral hairs) black. Antenna (Fig. 44) wholly black; first flagellomere rather elongated, 2.4 times as long as wide, acute apically; arista dorsal, black, with indistinct hairs, with rather long basal segment (0.8 times as long as apical segment). Proboscis black with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 6-7 irregularly paired acr, short and hair-like. Propleuron pale and black haired, with 1 black bristle on lower portion. Legs [mid and hind tibiae and tarsi broken off] black; fore femur with brownish yellow tip; fore tibia and tarsus dark yellow, from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd, apically with 2 bristles. Fore tarsomere 4 shortened. Relative lengths of tibia and 5 tarsomeres LI 1.3: 0.6: 0.25: 0.2: 0.1: 0.2. Wing hyaline;

veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 45-47): Epandrium with long curved outer lateral lobe and short inner lateral lobe; cercus somewhat quadrate, with long and short marginal denticles; hypandrium without distinct inner denticle.

Female. Unknown.

Holotype: male, Yunnan: Zhongdian, Jingxing (2100 m), 13 km N of Qiaotou, 1996. VI. 9, . SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is similar to *Hercostomus (Hercostomus) baishuihensis* sp. nov., but may be sepa-

rated from the latter by having the arista dorsal, arising at basal 1/3 of dorsal margin of first flagellomere.

37. *Hercostomus (Hercostomus) latilobatus* sp. nov.
(Figs. 48-51)

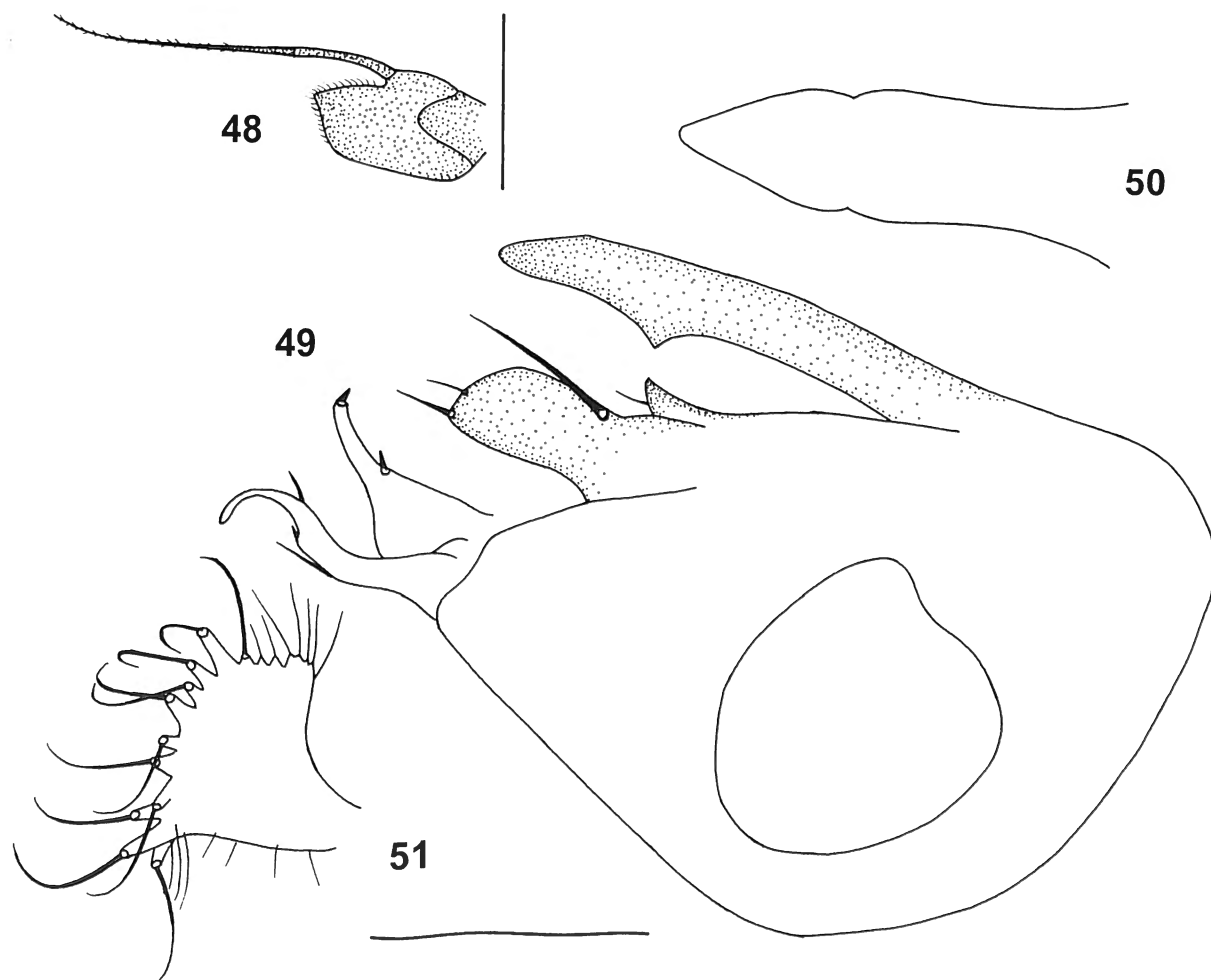
Diagnosis. Antenna wholly black; first flagellomere slightly elongated, somewhat quadrate, apically angular. Coxae yellow, mid coxa (except narrowly at apex) black. Fore tibia with 1 very long apv (nearly as long as fore tarsomere 1).

Male. Body length 1.7-1.8 mm, wing length 2.5-2.6 mm.

Head metallic green with pale gray pollen; frons grayish brown pollinose; face white pollinose, slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 48) wholly black; first flagellomere slightly elongated (1.6 times as long as wide), somewhat quadrate, apically angular; arista subdorsal, with short basal segment (0.4 times as long as apical segment), black, with indistinct hairs. Proboscis dark brown with

black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc slightly convergent), 5 irregularly paired acr, short and hair-like (the 2 rows close together). Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except narrow apex) black; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd and 1 pv, apically with 2 bristles and 1 very long apv (nearly as long as fore tarsomere 1); mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 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 1.3: 0.6: 0.3: 0.2: 0.2: 0.25; LII 1.8: 0.8: 0.6: 0.5: 0.3: 0.3; LIII 2.1: 0.55: 0.7: 0.55: 0.45: 0.4. Wing hyaline; veins dark brown, R4+5 and M nearly straight and apically convergent; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.



Figs. 48-51 — *Hercostomus (Hercostomus) latilobatus* sp. nov. (male). 48. antenna (excluding scape); 49. genitalia (excluding cercus), lateral view; 50. hypandrium, ventral view; 51. cercus, lateral view. Scale 0.25 mm.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 49-51): Epandrium with wide outer lateral lobe and short acute inner lateral process; cercus nearly quadrate, with short and long marginal denticles; hypandrium rather thick with distinct inner denticle subapically.

Female. Unknown.

Holotype: male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratype: 1 male, same data as holotype (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the rather wide lateral lobe on epandrium.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) longilobatus* sp. nov. in having pale legs, but may be separated from the latter by having the antenna wholly black.

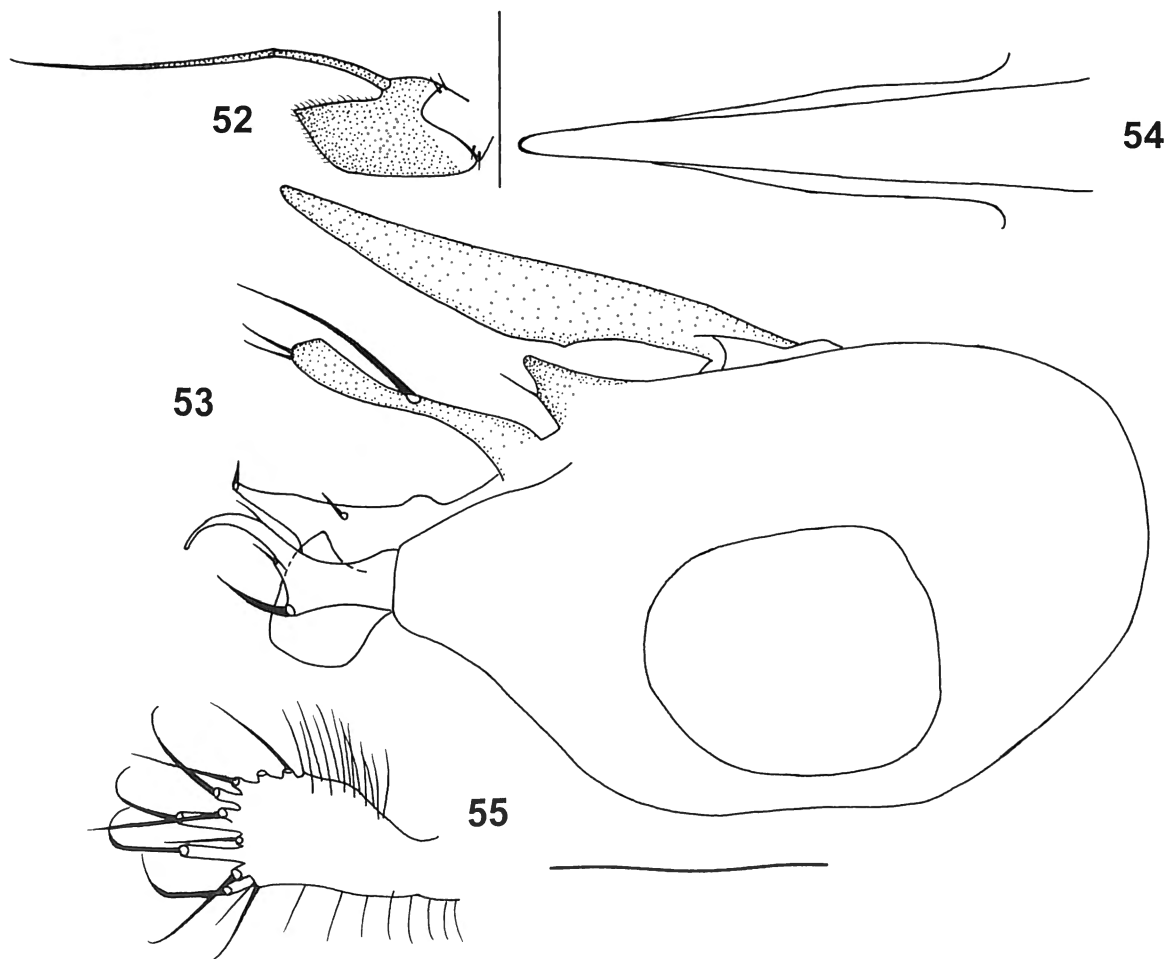
38. *Hercostomus (Hercostomus) longilobatus* sp. nov.
(Figs. 52-55)

Diagnosis. Antenna partly dark yellow; first flagellomere slightly elongated, somewhat quadrate, apically angular. Coxae yellow, mid coxa (except narrowly at apex) blackish. Fore tibia with 1 short apv.

Male. Body length 1.7 mm, wing length 2.7 mm.

Head metallic green with pale gray pollen; face pale gray pollinose, narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 52) dark yellow, with first flagellomere (except narrowly at base) black; first flagellomere slightly elongated (1.8 times as long as wide), somewhat quadrate, apically angular; arista dorsal, with short basal segment (0.5 times as long as apical segment), black, with indistinct hairs. Proboscis dark brown with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum with gray brown pollen. Hairs and bristles on thorax



Figs. 52-55 — *Hercostomus (Hercostomus) longilobatus* sp. nov. (male). 52. antenna (excluding scape); 53. genitalia (excluding cercus), lateral view; 54. hypandrium, ventral view; 55. cercus, lateral view. Scale 0.25 mm.

black; 6 strong dc (5th pair of dc weakly convergent), 4-5 irregularly paired acr, short and hair-like (the 2 rows rather close, nearly uniseriate). Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except narrowly at apex) black; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd and 1 pv, apically with 2 bristles and 1 short apv (longer than depth of fore tibia); mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 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 1.5: 0.7: 0.3: 0.25: 0.2; LII 2.1: 1.4: 0.55: 0.5: 0.4: 0.3; LIII 2.3: 0.65: 0.9: 0.6: 0.5: 0.4. Wing hyaline; veins dark brown, R4+5 and M nearly straight and apically convergent; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 53-55): Epandrium with very long outer lateral lobe, bearing 2 close apical hairs, and nearly acute inner lateral lobe; cercus nearly quadrate, with short and long marginal denticles; hypandrium rather thick with weak inner denticle near base.

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 very long lateral lobe on the epandrium.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) latilobatus* sp. nov. in having pale legs, but may be separated from the latter by having the antenna partly dark yellow.

39. *Hercostomus (Hercostomus) masunagai* sp. nov. (Figs. 56-59)

Diagnosis. Antenna wholly black; first flagellomere slightly elongated, somewhat quadrate, apically obtuse; arista nearly bare. Fore tibia with 1 short apv.

Male. Body length 1.9-2.0 mm, wing length 2.7-2.8 mm.

Head metallic green with pale gray pollen; frons brown pollinose; face pale gray pollinose, slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 56) black; first flagellomere slightly elongated (1.7 times as long as wide), somewhat quadrate, apically obtuse; arista dorsal, with basal segment 0.6 times as long as apical segment, black, nearly bare. Proboscis dark

brown with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7-8 irregularly paired acr, short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs blackish; coxae blackish; tibia and tarsi yellow, tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 2 pd, apically with 2 bristles and 1 short apv (slightly longer than tibia thickness); mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 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 1.3: 0.6: 0.3: 0.3: 0.2: 0.2; LII 1.8: 0.9: 0.5: 0.45: 0.3: 0.2; LIII 2.1: 0.6: 0.8: 0.5: 0.4: 0.2. Wing hyaline; veins dark brown, R4+5 slightly curved backward and M nearly straight, R4+5 and M apically convergent; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 57-59): Epandrium with slightly wide outer lateral lobe and thin inner lateral lobe; cercus nearly quadrate, with short and long marginal denticles; hypandrium rather thick with distinct inner denticle at middle.

Female. Unknown.

Holotype: male, Yunnan: Lijang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA (KIZ). Paratype: 1 male, Yunnan: Baishuihe (2950-3100 m), 1996. VI. 13, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The species is named in honour of Mr. Kazuhiro MASUNAGA.

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) curviphallus* YANG et SAIGUSA, 2001 from Shaanxi, but may be distinguished from the latter by the first flagellomere obtuse apically and epandrium with distinct inner lateral lobe. In *curviphallus*, the first flagellomere is angular apically, and epandrium has short thin inner lateral lobe (YANG & SAIGUSA, 2001).

40. *Hercostomus (Hercostomus) medialis* sp. nov. (Figs. 60-63)

Diagnosis. Antenna wholly black; first flagellomere slightly elongated, somewhat quadrate, apically angular; arista nearly bare. Fore tibia with 1 very short apv.

Male. Body length 2.6 mm, wing length 2.8 mm.

Head metallic green with pale gray pollen; frons brown pollinose; face pale gray pollinose, as wide as first fla-

gellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 60) black; first flagellomere slightly elongated (1.7 times as long as wide), somewhat quadrate, apically angular; arista subapical, with short basal segment (0.4 times as long as apical segment), black, nearly bare. Proboscis dark brown with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc slightly convergent), 5-6 irregularly paired acr, short and hair-like. Propleuron black haired, with 1 black bristle on lower portion. Legs black; all coxae and femora wholly black; tibiae yellow with bases of all tibiae and apex of hind tibia narrowly black; fore and mid tarsomere 1 brown, hind tarsus wholly black. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 bristles and 1 very short apv (not longer than depth of tibia); mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd and 1 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and

5 tarsomeres LI 1.5: 0.7: 0.4: 0.25: 0.15: 0.2; LII 2.0: 0.9: 0.6: 0.5: 0.4: 0.25; LIII 2.3: 0.7: 0.9: 0.6: ??:?. Wing hyaline, slightly tinged with gray; veins dark brown, R4+5 weakly curved backward, M nearly straight, R4+5 and M apically convergent; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow with dark brown base.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 61-63): Epandrium with long outer lateral lobe, bearing 2 close apical hairs, and weak inner lateral lobe; cercus nearly quadrate, with short marginal denticles; hypandrium without distinct inner denticle.

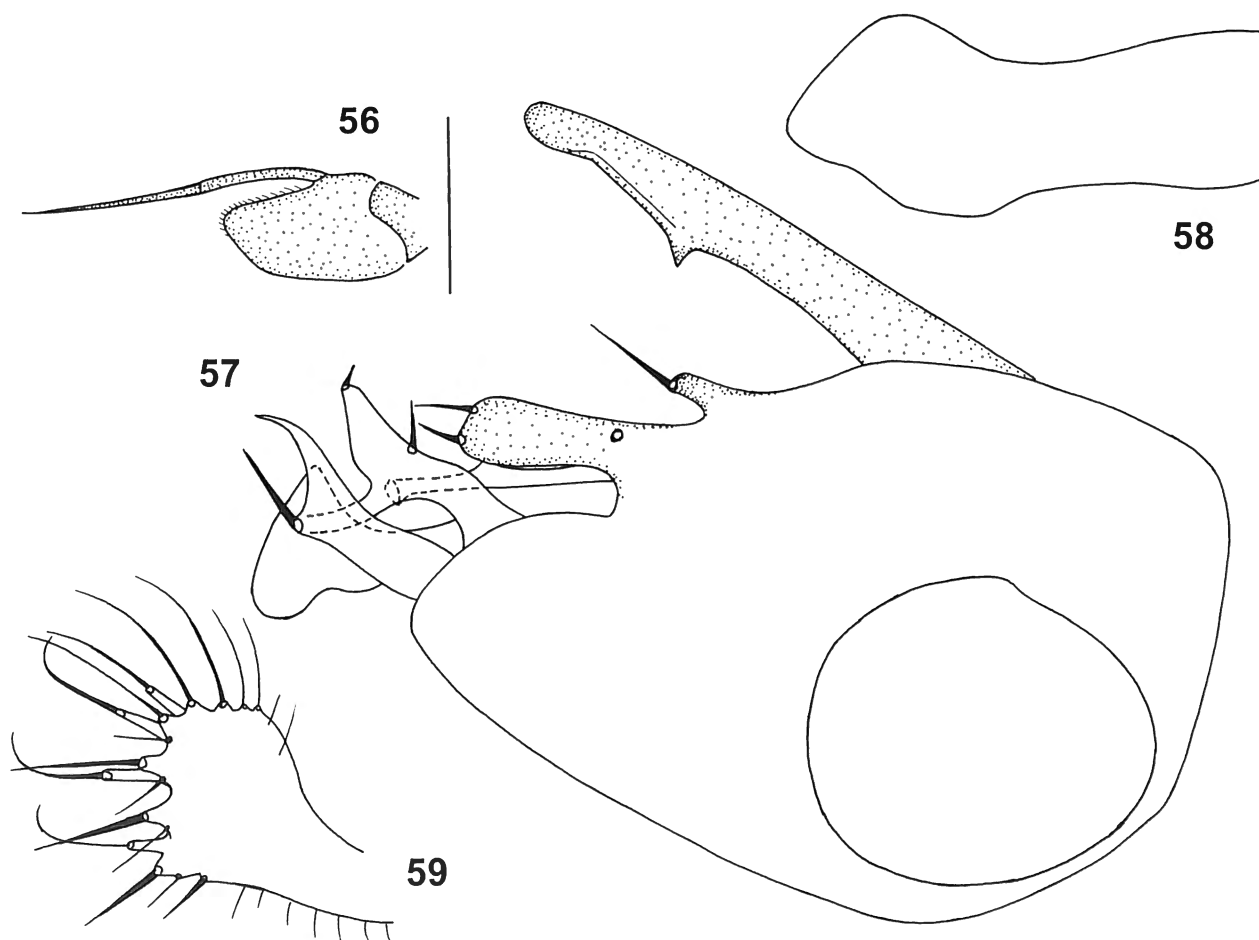
Female. Unknown.

Holotype: male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the arista arising at middle of dorsal margin of the first flagellomere.

Remarks. The new species is similar to *Hercostomus* (*Hercostomus*) *serratus* YANG et SAIGUSA, 1999 from



Figs. 56-59 — *Hercostomus* (*Hercostomus*) *masunagai* sp. nov. (male). 56. antenna (excluding scape); 57. genitalia (excluding cercus), lateral view; 58. hypandrium, ventral view; 59. cercus, lateral view. Scale 0.25 mm.

Sichuan, but may be distinguished from the latter by having the arista arising at middle of dorsal margin of the first flagellomere, and femora wholly black. In *serratus*, the arista is subdorsal, and the femora have pale tips (YANG & SAIGUSA, 1999).

The *absimilis*-group

41. *Hercostomus (Hercostomus) absimilis* YANG et GROOTAERT

Hercostomus (Hercostomus) absimilis YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 254. Type locality: Yunnan, Mengyang.

Distribution. China (Yunnan).

42. *Hercostomus (Hercostomus) begeminatus* YANG et GROOTAERT

Hercostomus (Hercostomus) begeminatus YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 255. Type locality: Yunnan, Mengyang.

Distribution. China (Yunnan).

43. *Hercostomus (Hercostomus) emeishanus* YANG

Hercostomus (Hercostomus) emeishanus YANG, 1997. Studia dipt. 4(1): 116. Type locality: Sichuan: Emei Mountain.

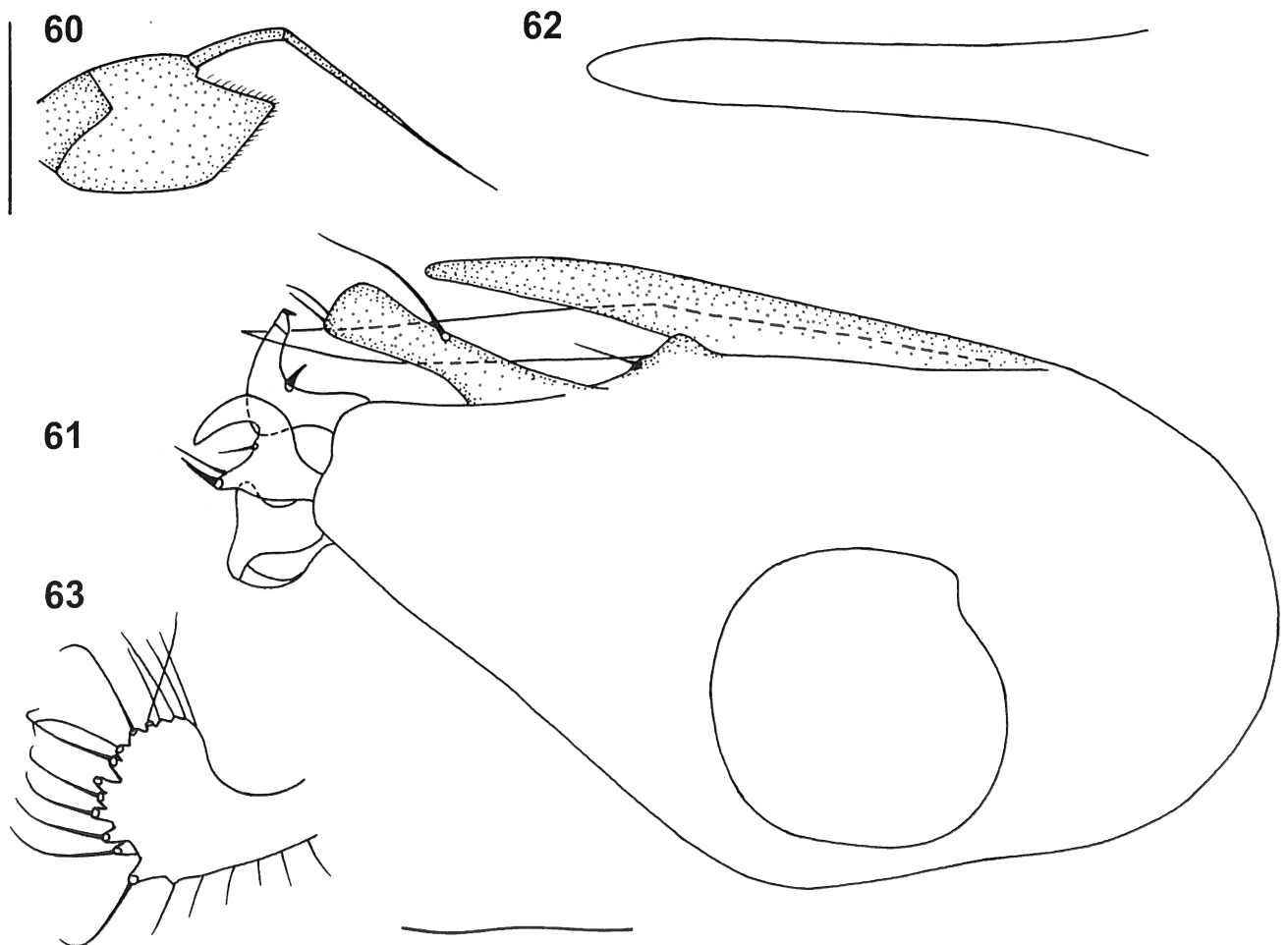
Specimens examined. 2 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan).

44. *Hercostomus (Hercostomus) quadratus* YANG et GROOTAERT

Hercostomus (Hercostomus) quadratus YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 256. Type locality: Yunnan, Menglun.

Distribution. China (Yunnan).



Figs. 60-63 — *Hercostomus (Hercostomus) medialis* sp. nov. (male). 60. antenna (excluding scape); 61. genitalia (excluding cercus), lateral view; 62. hypandrium, ventral view; 63. cercus, lateral view. Scale 0.25 mm.

The *apiculatus*-group

Diagnosis. Hind tibia weakly or distinctly thickened apically, with 1 distinct apical spine; hind tarsomere 1 basally with 1 distinct inner spine directed upward. Cercus weakly or strongly bifurcate apically.

45. *Hercostomus (Hercostomus) brevispinus* sp. nov. (Figs. 64-67)

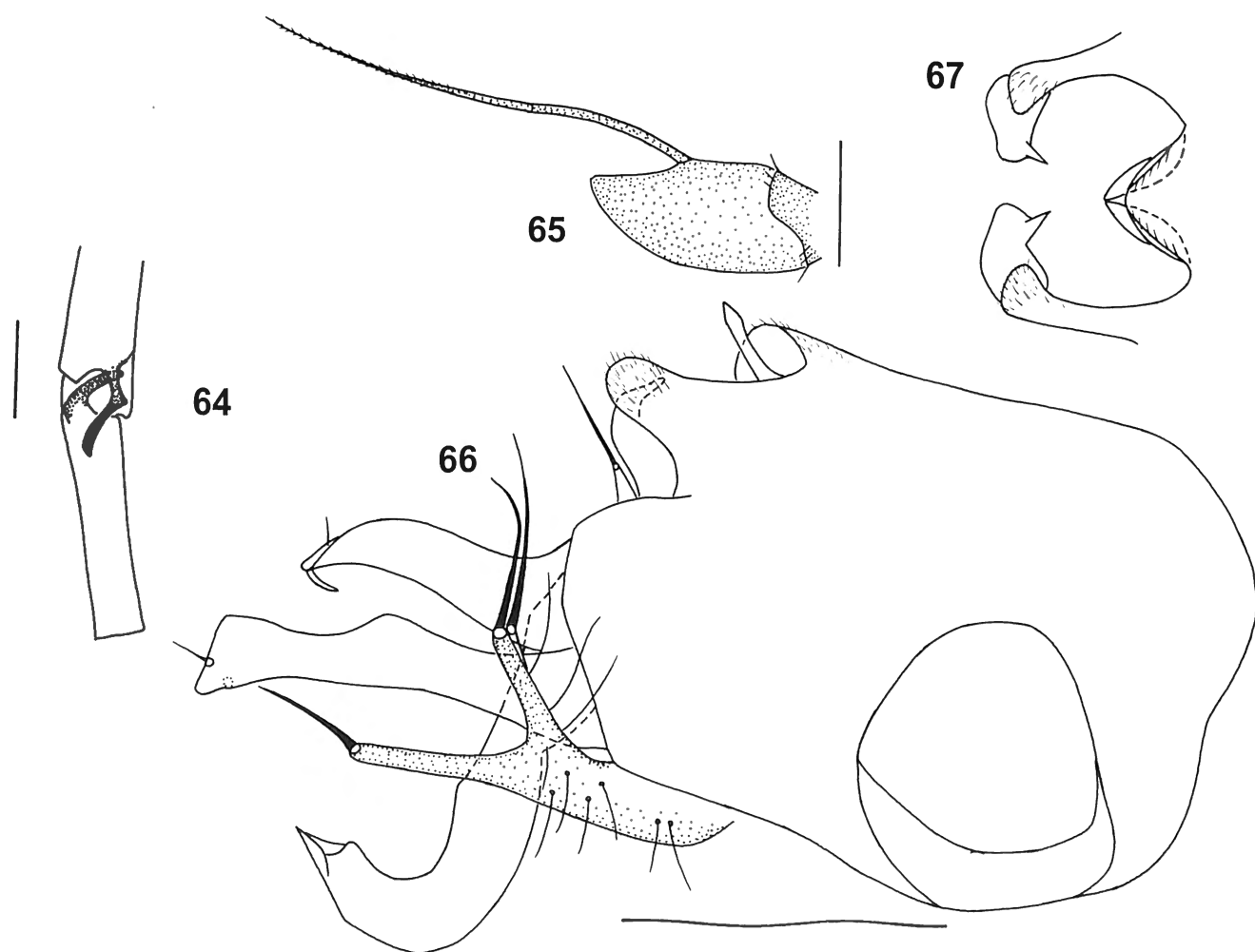
Diagnosis. Hind femur with three long pale ventral hairs basally. Hind tibia apically blackish and slightly thickened with 1 short inner spine strongly curved basally.

Male. Body length 3.6 mm, wing length 4.2 mm.

Head metallic green with pale gray pollen; vertex and frons gray brown pollinose, face white pollinose with gray brown pollen on narrow upper area. Face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 65) black, first flagellomere with basal margin brownish; first flagellomere distinctly elongated, 1.9

times as long as wide, somewhat acute apically, with indistinct hairs; arista subdorsal, black, with indistinct hairs, its basal segment 0.6 times as long as apical segment. Proboscis brownish with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 3-4 irregularly paired acr (the 2 rows somewhat close together). Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except narrowly at apex) black, hind coxa tinged with brown basally; apex of hind tibia blackish; fore tarsus with only tarsomere 5 brown, mid tarsus from tip of tarsomere 1 onward brownish to brown, hind tarsus black. Hairs and bristles on legs black; fore coxa with 6 thick and thin bristles, mid and hind coxae each with 1 outer bristle. Fore and mid femora with very short pale ventral hairs basally; hind femur with pale ventral hairs nearly along whole length (basal 3 hairs longer). Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 long av, apically with 4 bristles; hind tibia with 2 ad, 3 pd and 5-6 thin av, apically with 2 bristles. Hind



Figs. 64-67 — *Hercostomus (Hercostomus) brevispinus* sp. nov. (male). 64. apex of hind tibia and hind tarsomere 1, inner lateral view; 65. antenna (excluding scape); 66. genitalia, lateral view; 67. hypandrium, ventral view. Scale 0.25 mm.

tarsomere 1 with 1 v at base. Hind tibia slightly thickened apically with 1 short inner spine, that is strongly curved basally. Relative lengths of tibia and 5 tarsomeres LI 2.5: 1.35: 0.7: 0.55: 0.4: 0.35; LII 3.6: 1.7: 1.0: 0.9: 0.55: 0.35; LIII 4.25: 1.2: 1.5: 1.0: 0.6: 0.4. Wing tinged with grayish; veins dark brown, R4+5 slightly curved backward and M nearly straight, R4+5 and M strongly convergent apically; CuAx ratio 0.7. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 66-67): Epandrium with thin finger-like lateral lobe, bearing 1 apical bristle; cercus deeply furcate apically, with 2 finger-like branches; hypandrium with weak middle process and long lateral processes.

Female. Unknown.

Distribution. China (Yunnan).

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ).

Etymology. The specific name refers to the hind tibia apically with short inner spine.

Remarks. The new species is very similar to *Hercostomus*

(*Hercostomus*) *tuomunanus* sp. nov., but may be separated from the latter by the hind tibia, bearing at apex 1 inner spine, strongly curved basally.

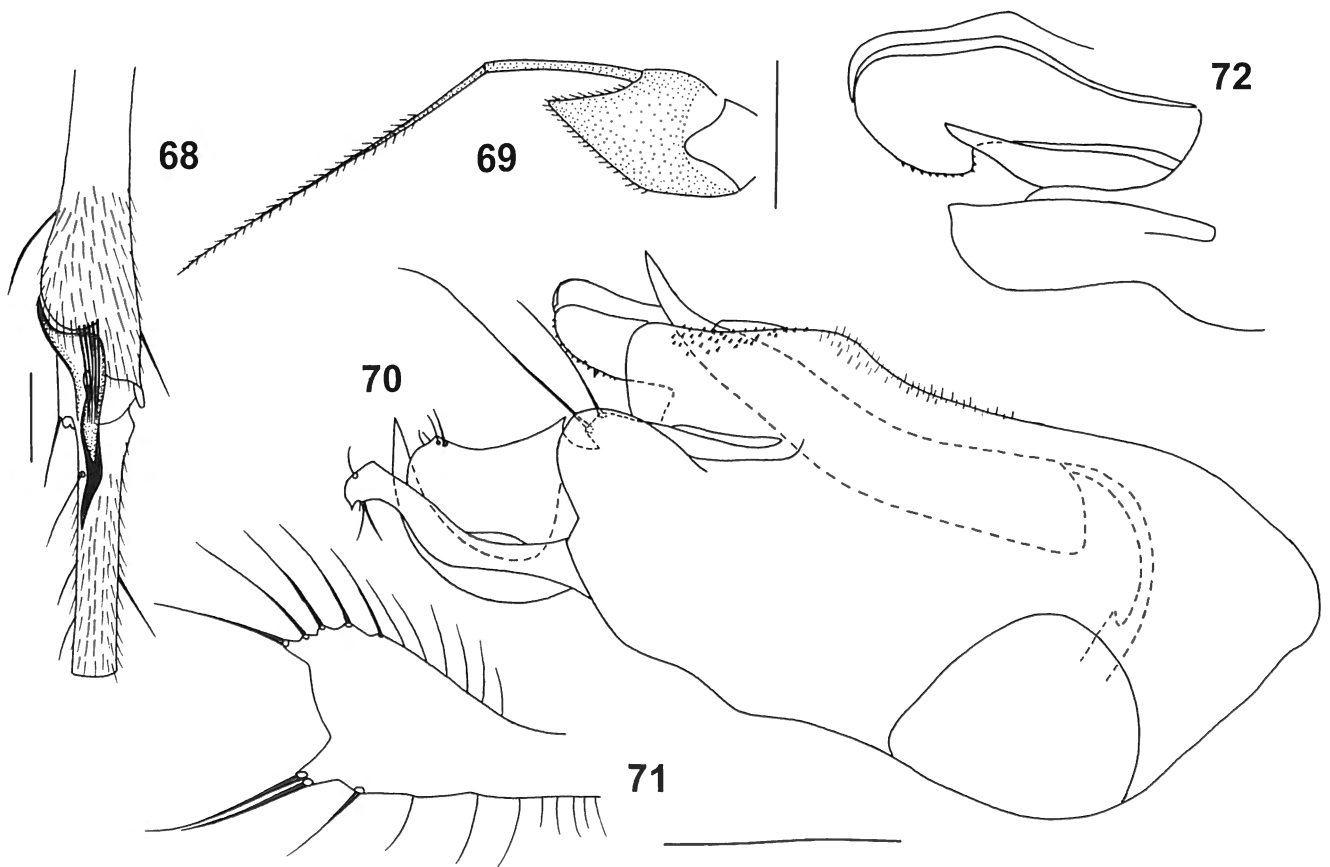
46. *Hercostomus* (*Hercostomus*) *dorsiseta* sp. nov.
(Figs. 68-72)

Diagnosis. Antenna partly yellow; arista dorsal. Hind tibia apically distinctly thickened with 1 long inner spine slightly curved. Hind tarsomere 1 with 1 ad.

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

Head metallic green with pale gray pollen; vertex and frons brown yellow pollinose, face white pollinose. Face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 69) yellow with first flagellomere (except narrowly at base) blackish; first flagellomere slightly elongated, 1.5 times as long as wide, acute apically, with very short hairs; arista dorsal, black, with very short hairs, its basal segment 0.45 times as long as apical segment. Proboscis dark yellow with blackish hairs; palpus dark yellow with blackish hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum with gray brown pollen. Hairs and



Figs. 68-72 — *Hercostomus* (*Hercostomus*) *dorsiseta* sp. nov. (male). 68. apex of hind tibia and hind tarsomere 1, inner lateral view; 69. antenna (excluding scape); 70. genitalia (excluding cercus), lateral view; 71. hypandrium, ventral view; 72. cercus, lateral view. Scale 0.25 mm.

bristles on thorax black; 6 strong dc, 6-7 irregularly uniseriate acr (which are paired posteriorly); scutellum with some pale marginal hairs. Propleuron pale and black haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except narrowly at apex) blackish; narrow apex of hind tibia brown; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 6 thick and thin bristles, mid and hind coxae each with 1 outer bristle. Femora with very short pale ventral hairs basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd, 4 thin av and 2 slightly distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 ad and 3 v. Hind tibia distinctly thickened apically with 1 long slightly curved inner spine. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.6: 0.8: 0.6: 0.4: 0.3; LII 4.1: 2.1: 1.2: 1.0: 0.6: 0.4; LIII 4.4: 1.6: 2.0: 1.2: 0.7: 0.4. Wing indistinctly tinged with grayish; veins dark brown, R4+5 curved backward and M nearly straight; R4+5 and M strongly convergent apically; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 70-72): Epandrium with broad lateral lobe (bearing 2 inner bristles); cercus wide apically, with slightly incised outer margin; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA (KIZ). Paratype: 1 male, same data as holotype (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the hind tarsomere 1 with 1 ad.

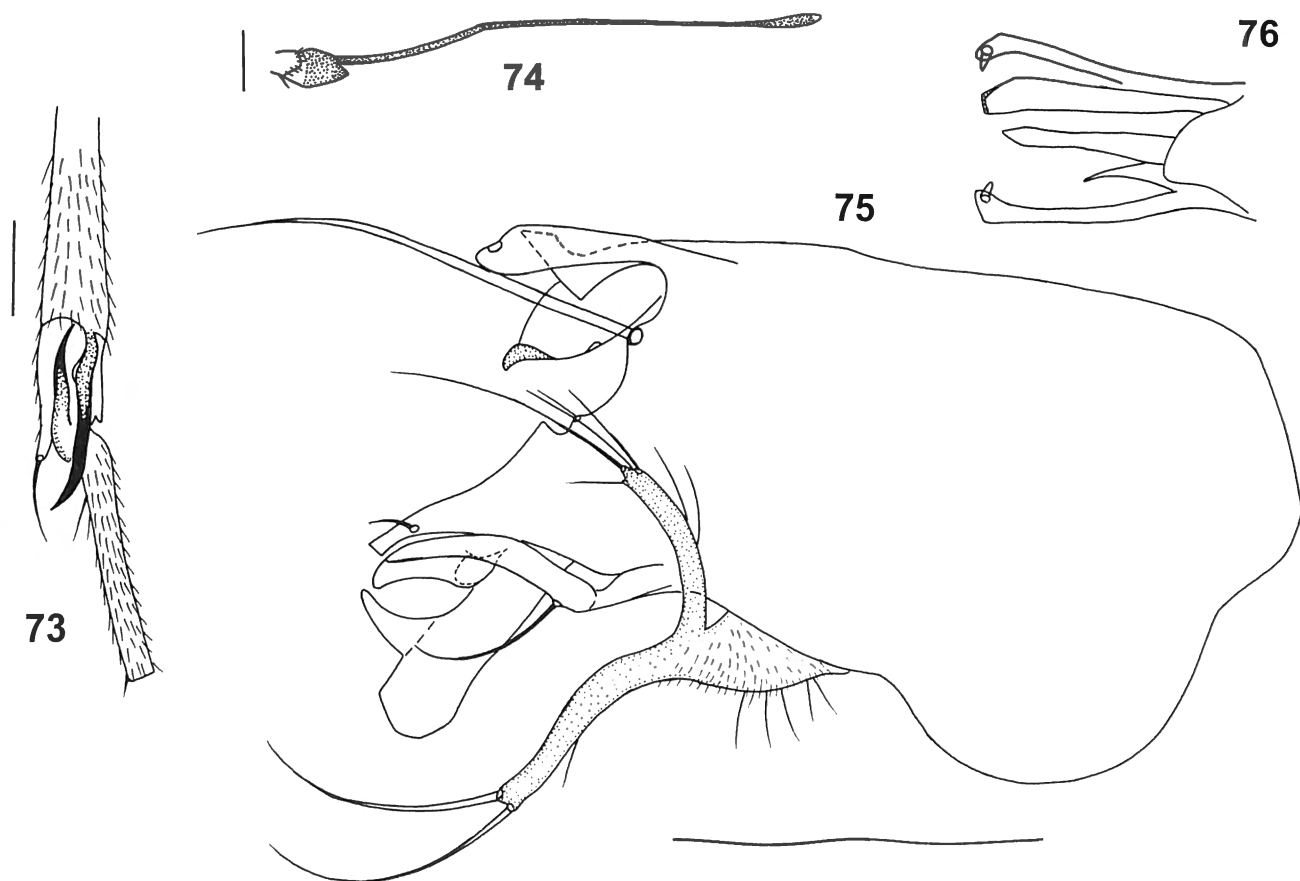
Remarks. The new species is easily separated from other species of the group by the hind tarsomere 1 with 1 ad.

47. *Hercostomus (Hercostomus) longispinus* sp. nov.
(Figs. 73-76)

Diagnosis. Antenna rather small, yellow with dorsal surface of scape and first flagellomere (except narrowly at base) black; arista subapical, rather long (nearly as long as head + thorax), with slightly swollen apex. Hind tibia thickened apically with 1 long inner spine.

Male. Body length 2.4-3.3 mm, wing length 3.7-4.0 mm.

Head metallic green with pale gray pollen; face white pollinose. Face distinctly narrower than first flagello-



Figs. 73-76 — *Hercostomus (Hercostomus) longispinus* sp. nov. (male). 73. apex of hind tibia and hind tarsomere 1, inner lateral view; 74. antenna (excluding scape); 75. genitalia, lateral view; 76. hypandrium, ventral view. Scale 0.25 mm.

mere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 74) yellow, dorsal surface of scape and first flagellomere (except narrow base) black, 1.5 times as long as wide, with indistinct hairs; arista subapical, rather long (nearly as long as head + thorax), with slightly swollen apex, with basal segment 0.5 times as long as apical segment. Proboscis blackish with black hairs; palpus black with black hairs and 1 black apical bristle.

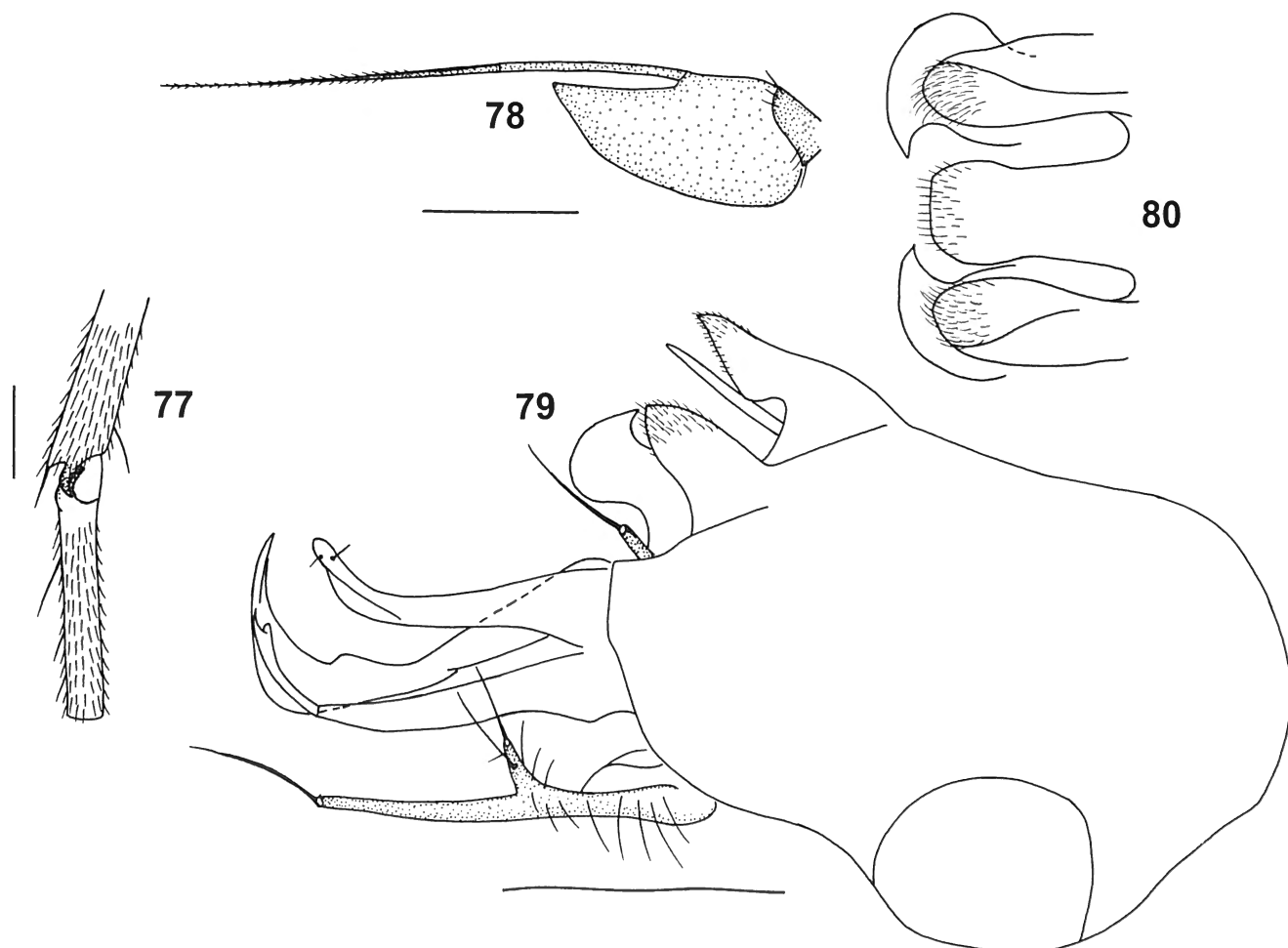
Thorax metallic green with pale gray pollen; mesonotum and scutellum with distinct brown pollen around bases of hairs and bristles, mesonotum with a median longitudinal brown pollen stripe. Hairs and bristles on thorax black; 6 strong dc, 4-5 irregularly paired acr (the 2 rows somewhat close together). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except narrow apex) black, tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore and mid coxae with partly pale hairs anteriorly, fore coxa with 4 bristles, mid and hind coxae each with 1 outer bristle. Fore and mid femora with very short pale ventral hairs basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 2 ad and 2 pd, apically with 5

bristles; hind tibia with 2 ad, 4 pd and 3 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Hind tibia thickened apically with 1 long inner spine. Relative lengths of tibia and 5 tarsomeres LI 2.4: 1.25: 0.65: 0.6: 0.3: 0.25; LII 3.7: 2.0: 1.0: 0.8: 0.5: 0.3; LIII 3.7: 1.5: 1.5: 0.9: 0.6: 0.3. Wing hyaline, indistinctly tinged with grayish; veins dark brown, R4+5 slightly curved backward, and M slightly curved, R4+5 and M strongly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with thin pale gray pollen; male genitalia dark brownish yellow. Hairs and bristles on abdomen black; terga 1-2 with some pale hairs laterally, sternum 2 with pale hairs. Male genitalia (Figs. 75-76): Epandrium with indistinct lateral lobe, bearing 1 very long bristle; cercus deeply furcate apically, with 2 finger-like branches; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA (KIZ). Paratypes 12 males, Yunnan: Pingbian, Daweishan (1800-2000 m), 1995. III. 21, T. SAIGUSA (KIZ & SKU).



Figs. 77-80 — *Hercostomus (Hercostomus) tuomunanus* sp. nov. (male). 77. apex of hind tibia and hind tarsomere 1, inner lateral view; 78. antenna (excluding scape); 79. genitalia, lateral view; 80. hypandrium, ventral view. Scale 0.25 mm.

Distribution. China (Yunnan).

Etymology. The specific name refers to the hind tibia, bearing apically a long inner spine.

Remarks. The new species is similar to *Hercostomus* (*Hercostomus*) *brevispinus* sp. nov., but may be separated from the latter by the rather small and partly yellow antenna and the arista with swollen tip.

48. *Hercostomus* (*Hercostomus*) *tuomunanus* sp. nov.
(Figs. 77-80)

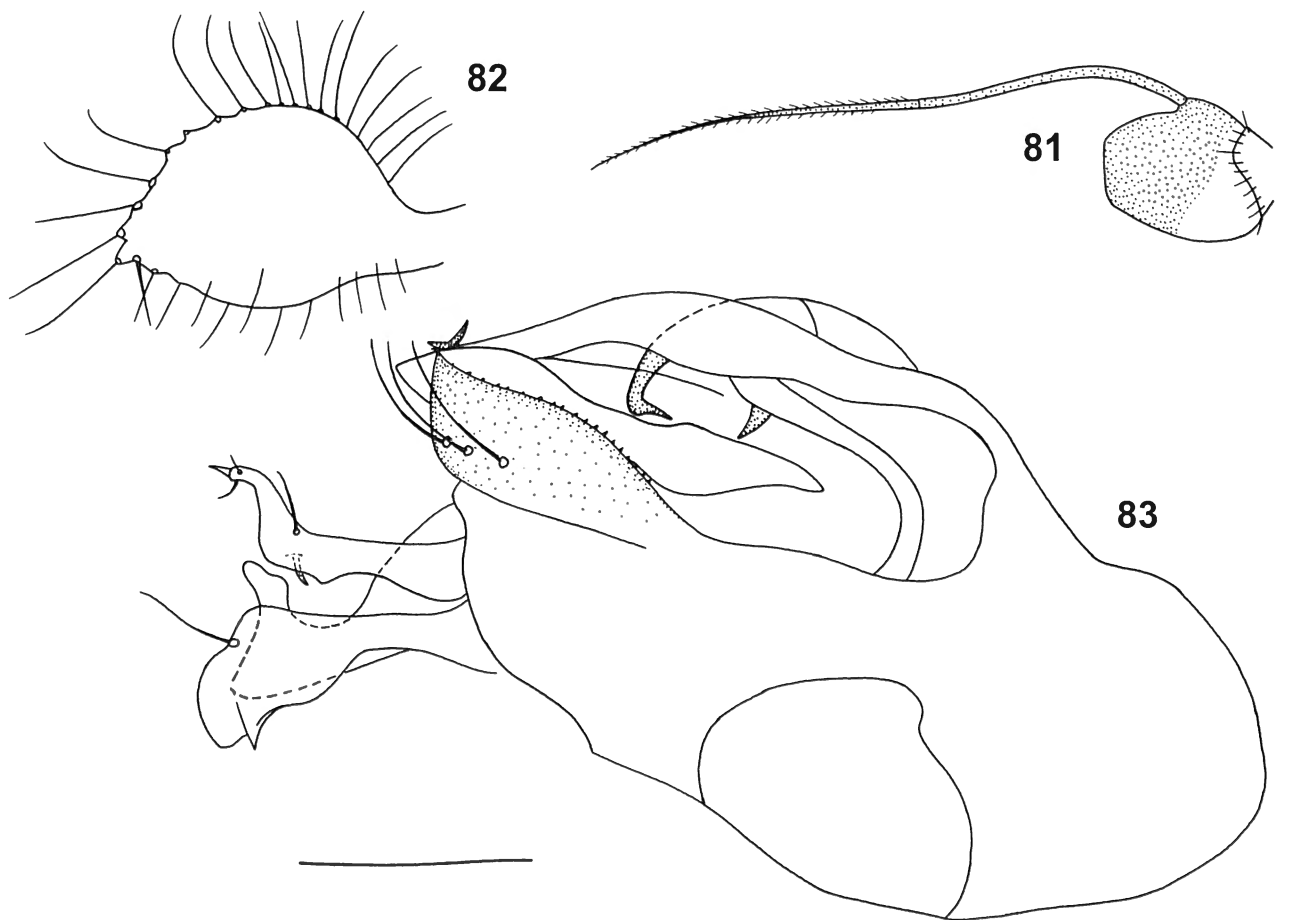
Diagnosis. Hind femur with three long pale ventral hairs basally. Fore tibia with 1 brown apv. Hind tibia apically blackish and slightly thickened with 1 short slightly curved inner spine.

Male. Body length 3.2 mm, wing length 4.0 mm.

Head metallic green with pale gray pollen; vertex and frons gray brown pollinose, face white pollinose with gray brown pollen on narrow upper area. Face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Anten-

na (Fig. 78) black; first flagellomere distinctly elongated, 1.9 times as long as wide, somewhat acute apically, with indistinct hairs; arista subdorsal, black, with indistinct hairs, with basal segment 0.6 times as long as apical segment. Proboscis brownish with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum with thin gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 3-4 irregularly paired acr distinct (th e2 rows somewhat close together). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; coxae yellow, mid coxa (except narrowly at apex) black, hind coxa tinged with brown basally; apex of hind tibia blackish; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 thick and thin bristles, mid and hind coxae each with 1 outer bristle. Fore and mid femora with very short pale ventral hairs basally; hind femur with pale ventral hairs on basal half (basal 3 hairs longer). Fore tibia with 1 ad and 2 pd, apically with 2 bristles and 1 brown thin apv; mid tibia with 2 ad, 2 pd and 1 very long av, apically with 5 bristles (1 pv very long); hind tibia with 2 ad, 4 pd, 6 thin av and 1 slightly distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Hind tibia slightly thickened,



Figs. 81-83 — *Hercostomus* (*Hercostomus*) *bicolor* sp. nov. (male). 81. antenna (excluding scape); 82. cercus, lateral view; 83. genitalia (excluding cercus), lateral view. Scale 0.25 mm.

apically with 1 short slightly curved inner spine. Relative lengths of tibia and 5 tarsomeres LI 2.4: 1.35: 0.7: 0.55: 0.4: 0.25; LII 3.6: 1.7: 1.0: 0.8: 0.5: 0.4; LIII 4.1: 1.2: 1.5: 1.0: 0.6: 0.4. Wing tinged with grayish; veins dark brown, R4+5 curved backward, M nearly straight, R4+5 and M strongly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen; male genitalia brownish yellow. Hairs and bristles on abdomen black. Male genitalia (Figs. 79-80): Epandrium with a thin, finger-like lateral lobe; cercus deeply furcate apically, with 2 finger-like branches; hypandrium with three processes, that are subequal in length.

Female. Unknown.

Holotype: male, Yunnan: Zhongdian, Tuomunan (3030-3500 m), 42 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is very similar to *Hercostomus (Hercostomus) brevispinus* sp. nov., but may be separated from the latter by the fore tibia with 1 brown thin apv.

The *intactus*-group

49. *Hercostomus (Hercostomus) bicolor* sp. nov. (Figs. 81-83)

Diagnosis. Palpus dark brownish yellow. Antenna red yellow, first flagellomere (except base) blackish. Wing with apical half uniformly grayish brown.

Male. Body length 3.6 mm, wing length 3.8 mm.

Head metallic green with pale gray pollen; frons with pale yellow pollen, face with white pollen. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, lower occiput with pale hairs. Antenna (Fig. 81) red yellow, first flagellomere (except base) blackish; first flagellomere short, 1.3 times as long as wide, wide and obtuse apically, with indistinct hairs; arista subdorsal, black, with very short hairs, its basal segment 0.7 times as long as apical segment. Proboscis dark brown with black hairs; palpus dark brownish yellow with blackish and pale hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum slightly tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 4-5 irregularly paired hair-like acr (the 2 rows rather close together). Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow, mid coxa with brown outer spot; tarsi from tip of

tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle. Femora with very short pale ventral hairs basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd, 4 thin and 3 distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.1: 1.2: 0.6: 0.5: 0.4: 0.25; LII 3.4: 1.6: 0.9: 0.7: 0.5: 0.3; LIII 3.9: 1.1: 1.4: 0.8: 0.5: 0.3. Wing nearly hyaline with apical half uniformly grayish brown; veins dark brown, R4+5 slightly curved backward, M weakly curved, R4+5 and M strongly convergent apically; CuAx ratio 0.75. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; cercus yellow with black apex. Hairs and bristles on abdomen black; sternum 2 with pale hairs. Male genitalia (Figs. 82-83): Epandrium apically with wide lateral lobe (not distinctly separated from epandrium), bearing 3 hairs; cercus short rhombic, with weak apical denticles; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the wing colour.

Remarks. The new species is similar to *Hercostomus (Hercostomus) intactus* WEI, 1997 from Yunnan, but may be separated from the latter by the hind femur with short pale hairs and its short cercus. In *intactus*, the hind femur has longer hairs on basal half, and the cercus is longer (WEI, 1997).

50. *Hercostomus (Hercostomus) dorsiniger* sp. nov. (Figs. 84-85)

Diagnosis. Palpus brownish yellow. Scutellum with pale hairs on dorsal surface and apical margin. Antenna yellow, first flagellomere with wide dorsal area blackish.

Male. Body length 4.0-4.3 mm, wing length 4.3-4.6 mm.

Head metallic green with pale gray pollen; vertex and frons with gray brown pollen, face with white pollen. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, lower occiput with mostly pale hairs. Antenna (Fig. 84) yellow, first flagellomere with wide dorsal area blackish; first flagellomere short, 1.2 times as long as wide, wide and obtuse apically, with indistinct hairs; arista dorsal, black, with very short hairs, its basal segment 0.7 times as long as apical segment. Proboscis dark brown with black hairs; palpus brownish yellow with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7-10 irregularly paired hair-like ac that extend backward near to 6th dc; scutellum with pale hairs on dorsal surface and apical margin. Propleuron with pale and black hairs on upper portion, and with pale hairs and 1 black bristle on lower portion. Metapleuron with 4-6 blackish hairs on antero-lower corner. Legs yellow; all coxae yellow, mid coxa with blackish outer spot; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle. Femora with short pale ventral hairs basally. Fore tibia with 2 ad basally and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3-4 ad, 3 pd, 3 thin av and 4 distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.5: 1.4: 0.6: 0.5: 0.3: 0.3; LII 3.7: 1.5: 1.0: 0.7: 0.5: 0.3; LIII 4.3: 1.1: 1.5: 0.9: 0.6: 0.35. Wing tinged with grayish brown; veins dark brown, R4+5 slightly 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 gray pollen. Hairs and bristles on abdomen black; tergum 1 with partly pale hairs laterally, sternum 2 with mostly pale hairs. Male genitalia (Fig. 85): Epandrium apically with weakly projected lateral lobe, bearing 2 hairs; cercus long rhombic, apically without strong bristles; hypandrium irregularly branched.

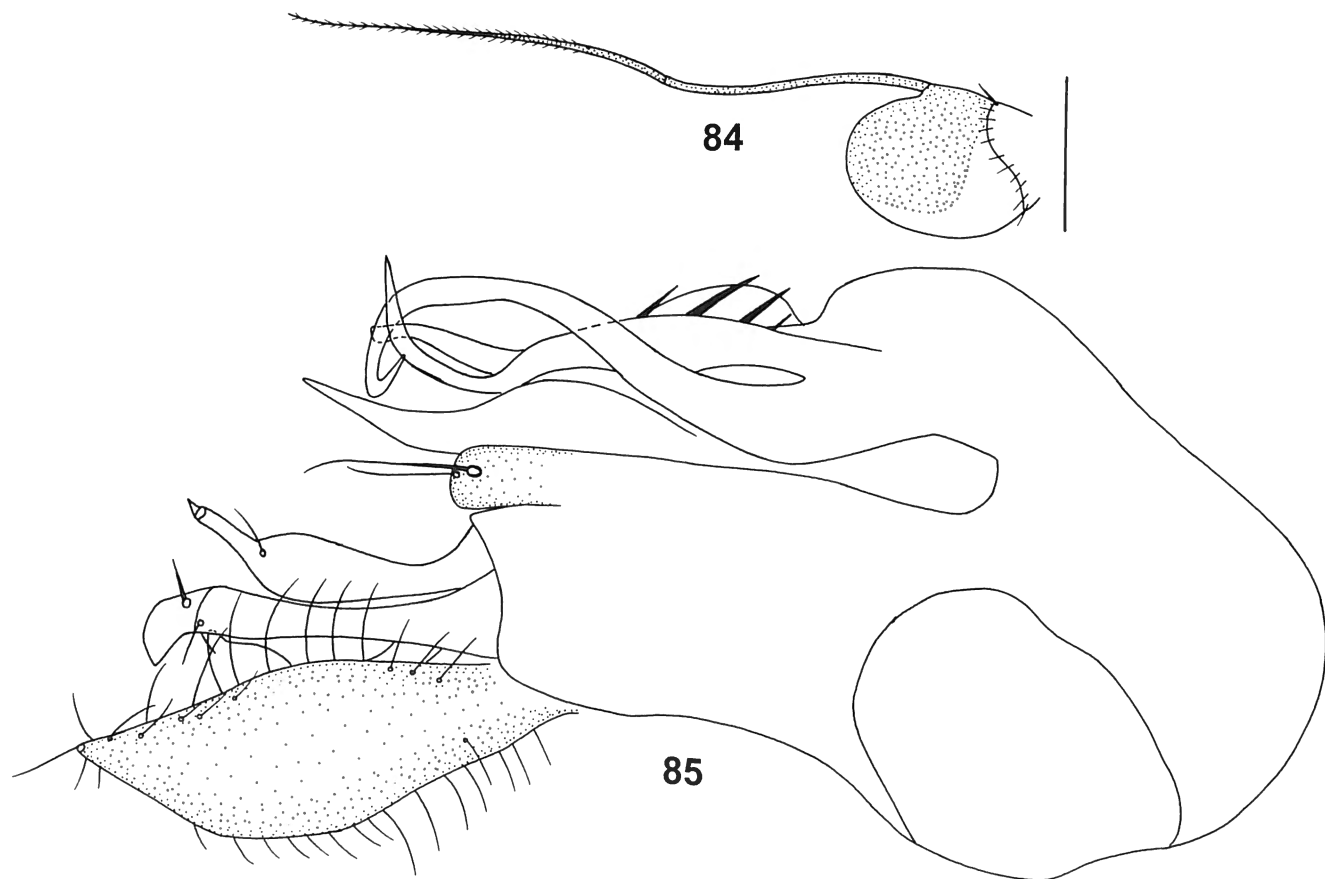
Female. Unknown.

Holotype: male, Yunnan: Luchun, 7-8 km E of Luchun (1900-2000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes: 36 males, same data as holotype (SKU, KIZ, CAU & IRSN).

Distribution. China (Yunnan).

Etymology. The specific name refers to the first flagellomere with blackish dorsal area.

Remarks. The new species is very similar to *Hercostomus (Hercostomus) intactus* WEI, 1997 from Yunnan, but may be separated from the latter by the hind femur with short pale hairs basally. In *intactus*, the hind femur has longer hairs on basal half (WEI, 1997).



Figs. 84-85 — *Hercostomus (Hercostomus) dorsiniger* sp. nov. (male). 84. antenna (excluding scape); 85. genitalia, lateral view. Scale 0.25 mm.

51. *Hercostomus (Hercostomus) intactus* WEI

Hercostomus (Hercostomus) intactus WEI, 1997. J. Guizhou Agric. Coll. 16(4): 32. Type locality: Yunnan, Binchuan.

Distribution. China (Yunnan).

52. *Hercostomus (Hercostomus) obesus* WEI

Hercostomus (Hercostomus) obesus WEI, 1997. J. Guizhou Agric. Coll. 16(4): 33. Type locality: Yunnan, Binchuan.

Distribution. China (Yunnan).

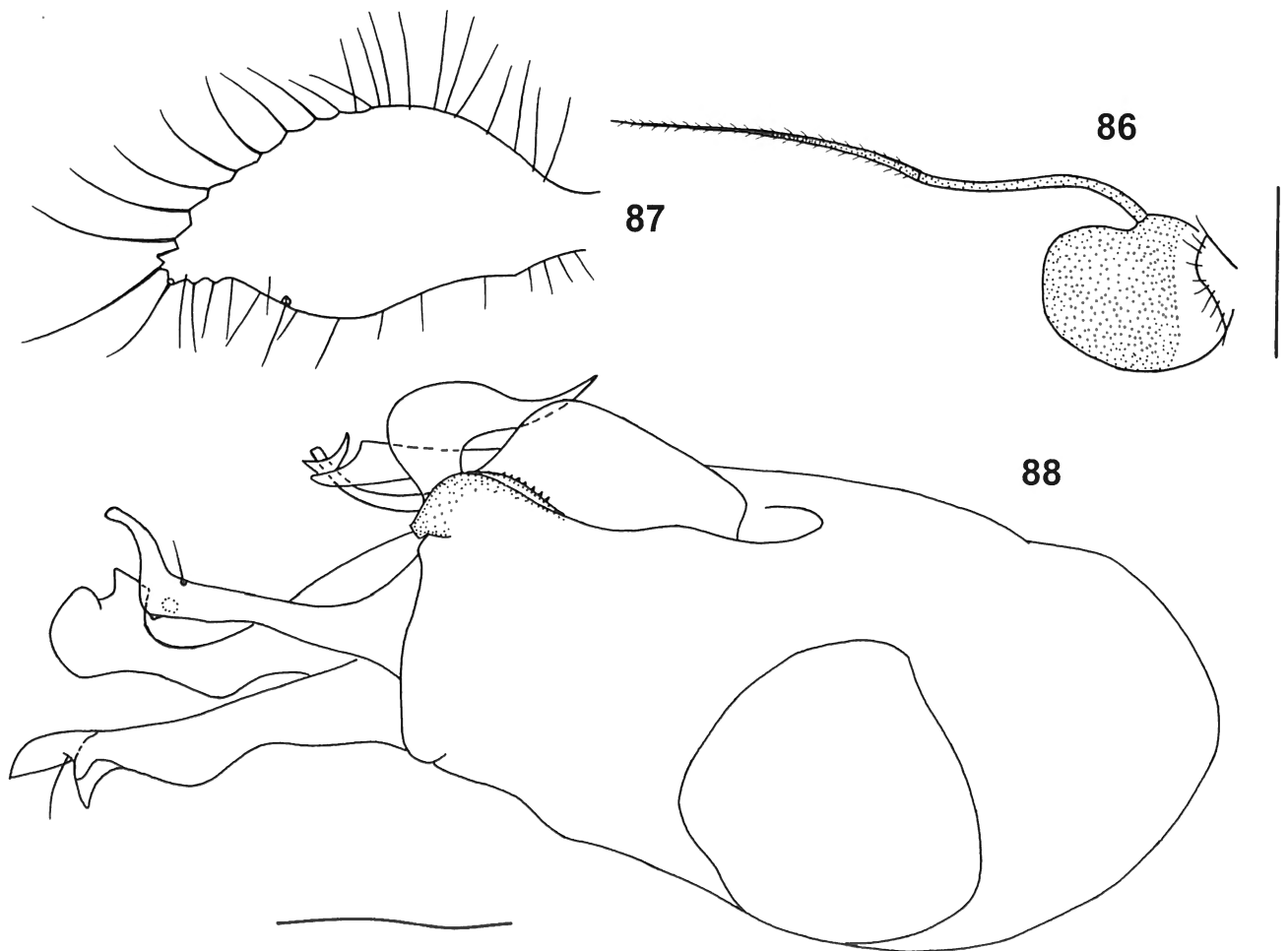
53. *Hercostomus (Hercostomus) uniformis* sp. nov.
(Figs. 86-88)

Diagnosis. Palpus yellow. Antenna red yellow, first flagellomere (except base) black. Wing indistinctly tinged with grayish.

Male. Body length 3.8 mm, wing length 4.3 mm.

Head metallic green with pale gray pollen; frons with yellow brown pollen, face with silvery white pollen. Face slightly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles black, lower occiput with pale hairs. Antenna (Fig. 86) red yellow, first flagellomere (except base) black; first flagellomere short, 1.2 times as long as wide, wide and obtuse apically, with indistinct hairs; arista dorsal, black, with very short hairs, its segment 0.9 times as long as apical segment. Proboscis brownish with black hairs; palpus yellow with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum slightly tinged with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7 irregularly paired hair-like acr. Propleuron with pale and black hairs, with 1 black bristle on lower portion. Legs yellow; all coxae yellow, mid coxa with blackish outer spot; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles. Femora with very short pale ventral hairs basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd, 5 thin and 2 distinct av, apically with 3 bristles. Hind



Figs. 86-88 — *Hercostomus (Hercostomus) uniformis* sp. nov. (male). 86. antenna (excluding scape); 87. cercus, lateral view; 88. genitalia (excluding cercus), lateral view. Scale 0.25 mm.

tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.3: 1.3: 0.6: 0.5: 0.4: 0.25; LII 3.6: 1.7: 1.0: 0.8: 0.5: 0.3; LIII 4.1: 1.1: 1.5: 1.0: 0.6: 0.4. Wing hyaline, indistinctly tinged with grayish; veins dark brown, R4+5 slightly curved backward, M nearly straight, R4+5 and M strongly convergent apically; CuAx ratio 0.75. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; cercus yellow with black base. Hairs and bristles on abdomen black. Male genitalia (Figs. 87-88): Epandrium apically with short and obtuse lateral lobe (not distinctly separated from epandrium); cercus long rhombic, with weak apical denticles; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA (KIZ).

Etymology. The specific name refers to the uniformly coloured wing.

Distribution. China (Yunnan).

Remarks. The new species is similar to *Hercostomus (Hercostomus) bicolor* sp. nov., but may be separated from the latter by the uniformly colored wing.

The hamatus-group

54. *Hercostomus (Hercostomus) apicularis* YANG et GROOTAERT

Hercostomus (Hercostomus) apicularis YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 257. Type locality: Yunnan, Menglung.

Distribution. China (Yunnan).

55. *Hercostomus (Hercostomus) apiciniger* YANG et GROOTAERT

Hercostomus (Hercostomus) apiciniger YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 258. Type locality: Yunnan, Mengla.

Distribution. China (Yunnan).

56. *Hercostomus (Hercostomus) chaeturus* YANG et GROOTAERT

Hercostomus (Hercostomus) chaeturus YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 259. Type locality: Yunnan, Menglung.

Distribution. China (Yunnan).

57. *Hercostomus (Hercostomus) curvispinus* YANG et SAIGUSA

Hercostomus (Hercostomus) curvispinus YANG et SAIGUSA, 2000. Bull. Inst. R. Sci. Nat. Belg. Ent. 70: 219. Type locality: Sichuan, Emei Mountain.

Specimens examined. 11 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan, Shaanxi).

58. *Hercostomus (Hercostomus) erectus* YANG et GROOTAERT

Hercostomus (Hercostomus) apicularis YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 259. Type locality: Yunnan, Menglung.

Distribution. China (Yunnan).

59. *Hercostomus (Hercostomus) furcutus* WEI

Hercostomus (Hercostomus) furcutus WEI, 1997. J. Guizhou Agric. Coll. 16(2): 48. Type locality: Guizhou, Fanjing Mountain.

Distribution. China (Yunnan, Sichuan, Guizhou).

60. *Hercostomus (Hercostomus) xanthodes* YANG et GROOTAERT

Hercostomus (Hercostomus) xanthodes YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 260. Type locality: Yunnan, Menglung.

Distribution. China (Yunnan).

61. *Hercostomus (Hercostomus) xishuangbannensis* YANG et GROOTAERT

Hercostomus (Hercostomus) xishuangbannensis YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 261. Type locality: Yunnan, Menglung.

Distribution. China (Yunnan).

62. *Hercostomus (Hercostomus) wudangshanus* YANG

Hercostomus wudangshanus YANG, 1997. Studia dipterol. 4(1): 121. Type locality: Hubei, Wudangshan Mountain.

Specimens examined. 11 males, Yunnan: Dali, Daboqing (1900-2100 m), 7 km W of Xiaguan, 1996. VI. 16, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi, Henan, Hubei).

The *digitiformis*-group

63. *Hercostomus (Hercostomus) digitiformis* YANG et GROOTAERT

Hercostomus (Hercostomus) digitiformis YANG et GROOTAERT, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 256. Type locality: Yunnan, Menglun.

Distribution. China (Yunnan).

The *longus*-group

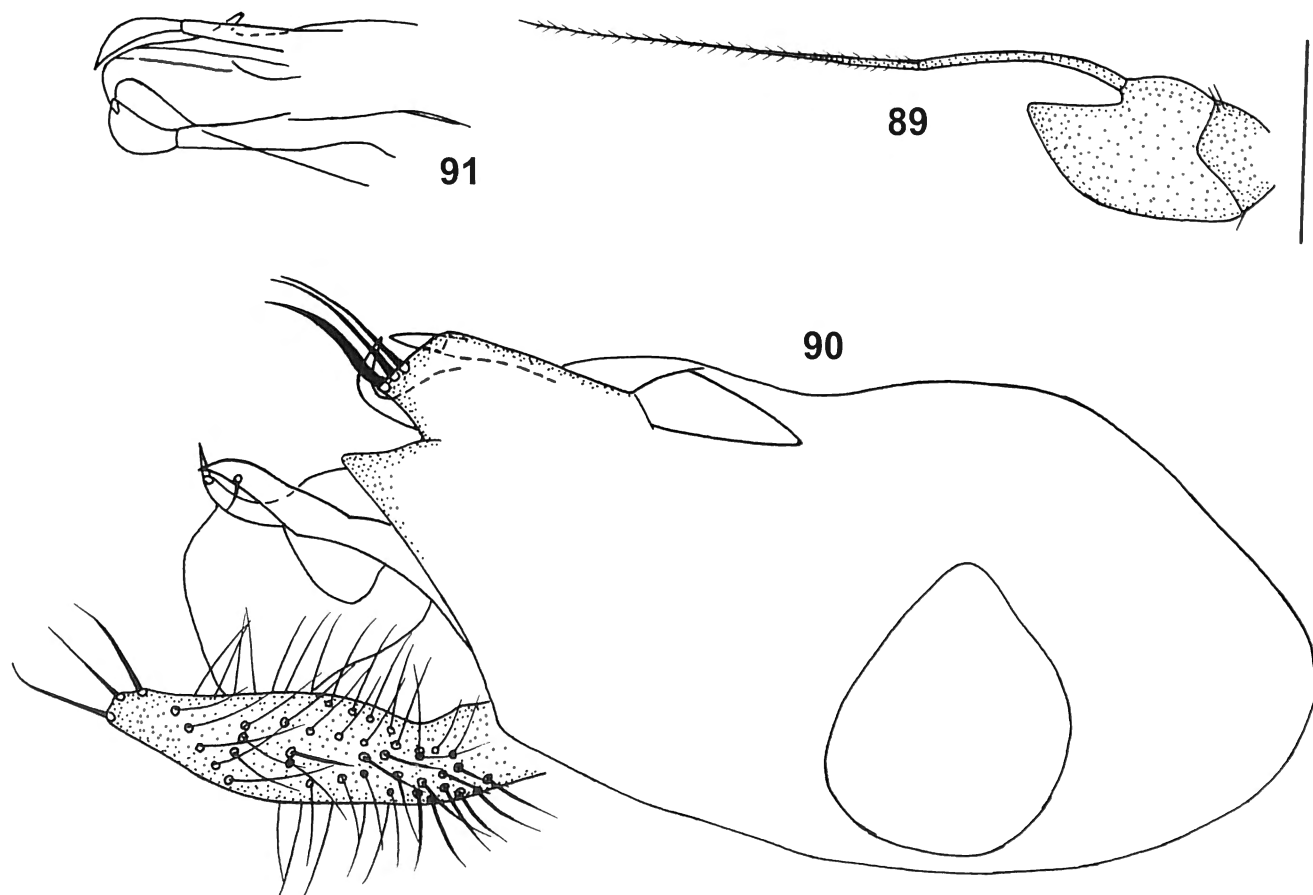
64. *Hercostomus (Hercostomus) trisetata* sp. nov. (Figs. 89-91)

Diagnosis. All coxae yellow. Mid and hind femora each with one row of long hair-like av on basal half.

Male. Body length 2.1 mm, wing length 2.9 mm.

Head metallic green with pale gray pollen; frons and face silvery white pollinose. Face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 89) wholly black; first flagellomere slightly elongated, 1.4 times as long as wide, angular apically, with indistinct hairs; arista subdorsal, black, with very short hairs, with its segment 0.5 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 gray pollen. Hairs and bristles on thorax black; 6 strong dc, 6 irregularly paired somewhat long acr; scutellum with short hairs on dorsal surface and apical margin. Propleuron black 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 to black. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle; mid and hind femora each with 1 preapical bristle and one row of long hair-like av on basal half. Fore tibia with 1 ad, one row of short ad on apical half and 2 pd, apically with 2 bristles and 1 very long brownish apv; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 2 ad and 3 pd, apically with 4 bristles. Hind tarsomere 1 with 1



Figs. 89-91 — *Hercostomus (Hercostomus) trisetata* sp. nov. (male). 89. antenna (excluding scape); 90. genitalia, lateral view; 91. hypandrium, ventral view. Scale 0.25 mm.

distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 1.9: 1.0: 0.5: 0.4: 0.3: 0.2; LII 2.6: 1.3: 0.75: 0.6: 0.4: 0.2; LIII 2.8: 0.9: 1.1: 0.7: 0.5: 0.25. Wing hyaline, weakly tinged with grayish; veins dark brown, R4+5 slightly curved backward, M nearly straight, R4+5 and M convergent apically; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; sterna 1-2 yellow. Hairs and bristles on abdomen black. Male genitalia (Figs. 90-91): Epandrium furcate apically, with wide lateral lobe, bearing 3 thick bristles; cercus long, band-like, with 3 apical bristles; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the 3 apical bristles on the cercus.

Remarks. The new species is very similar to *Hercostomus (Hercostomus) longus* YANG et SAIGUSA, 2000 from Sichuan, but may be separated from the latter by having all

coxae yellow. In *longus*, mid coxa is blackish except apex (YANG & SAIGUSA, 2000).

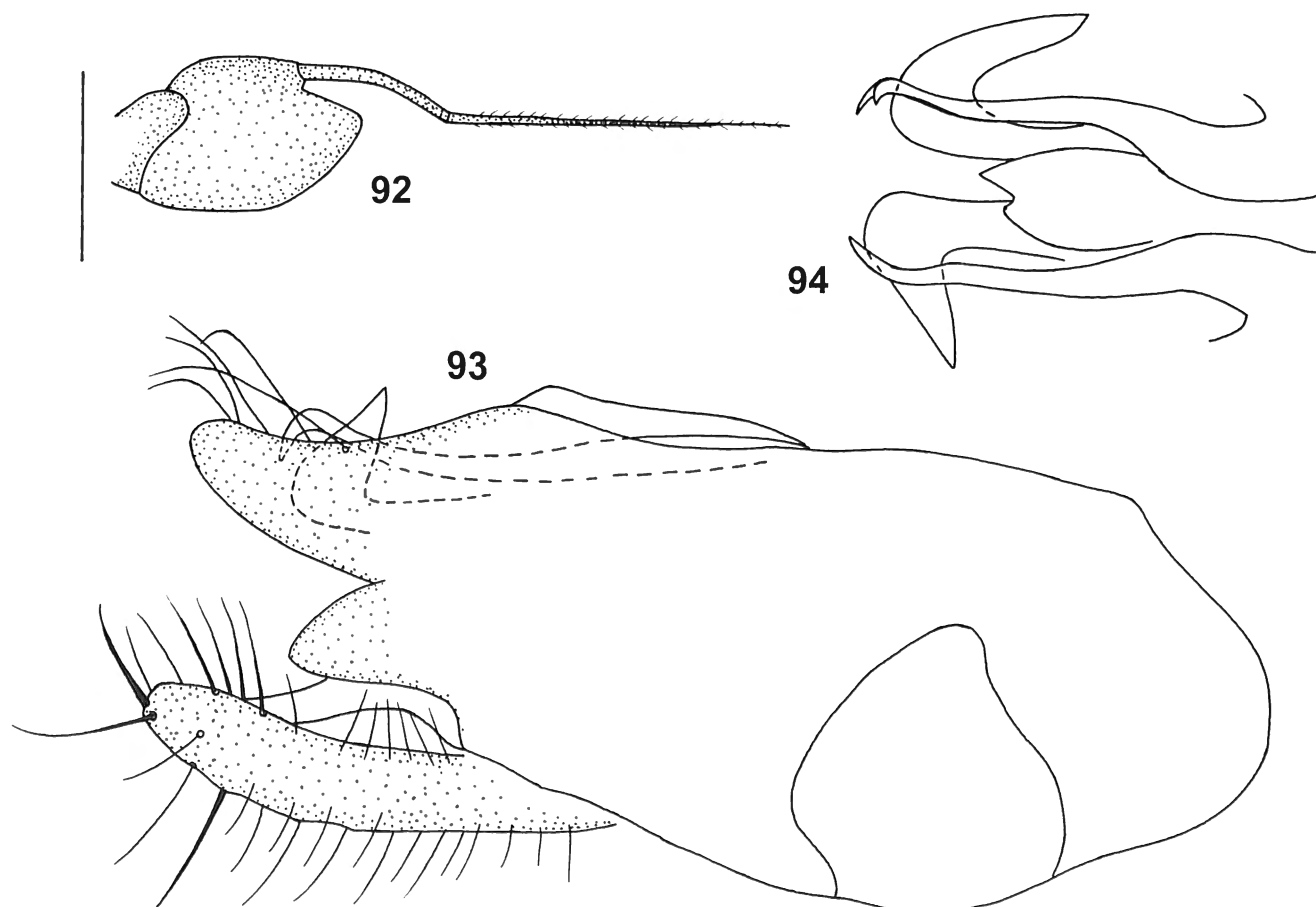
65. *Hercostomus (Hercostomus) yongpingensis* sp. nov.
(Figs. 92-94)

Diagnosis. Mid and hind coxae (except narrowly at apex) blackish. Mid femur with more or less two rows of hair-like av basally.

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

Head metallic green with pale gray pollen; frons and face silvery white pollinose. Face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 92) wholly black; first flagellomere slightly elongated, 1.5 times as long as wide, angular apically, with indistinct hairs; arista subapical, black, with very short hairs, its basal segment 0.5 times as long as apical segment. Proboscis black with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum weakly tinged with brown pollen. Hairs and bristles on thorax black; 6 strong dc, 5-6 irregularly paired somewhat long acr; scutellum with



Figs. 92-94 — *Hercostomus (Hercostomus) yongpingensis* sp. nov. (male). 92. antenna (excluding scape); 93. genitalia, lateral view; 94. hypandrium, ventral view. Scale 0.25 mm.

short hairs on dorsal surface and apical margin. Propleuron black haired, with 1 black bristle on lower portion. Metapleuron with 3 black hairs on antero-lower corner. Legs yellow; coxae yellow, mid and hind coxae (except narrowly at apex) blackish; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 5 bristles, mid and hind coxae each with 1 outer bristle; fore femur with some short pale ventral hairs basally, mid femur more or less with two rows of hair-like av basally. Fore tibia with 1 ad and 2 pd, apically with 3 bristles; mid tibia with 3 ad, 3 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 3 pd and 6 thin av, apically with 3 bristles. Hind tarsomere 1 with 1 distinct v at base. Relative lengths of tibia and 5 tarsomeres LI 2.2: 1.2: 0.55: 0.4: 0.3: 0.2; LII 3.1: 1.6: 0.9: 0.65: 0.5: 0.3; LIII 3.5: 1.1: 1.4:?:?:?. Wing hyaline, slightly tinged with gray; veins dark brown, R4+5 slightly curved backward, M nearly straight, R4+5 and M convergent apically; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 93-94): Epandrium furcate apically, with long lateral lobe, bearing long pale outer hairs; cercus long, band-like; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is somewhat similar to *Hercostomus (Hercostomus) sublongus* YANG et SAIGUSA, 2000 from Sichuan in the shape of hypandrium, but may be separated from the latter by its mid femur, bearing short anterior ventral hairs, and by its subapical arista. In *sublongus*, mid and hind femora have long ventral hairs, and the arista is dorsal (YANG & SAIGUSA, 2000).

The *biancistrus*-group

Diagnosis. First flagellomere distinctly elongated; arista usually with long basal segment (0.6-0.7 times as long as apical segment). Cercus rather large, with oblique outer margin weakly incised, and with strong apical bristles.

66. *Hercostomus (Hercostomus) apiculus* WEI

Hercostomus (Hercostomus) apiculus WEI, 1997. J. Guizhou Agric. Coll. 16(4): 33. Type locality: Yunnan, Binchuan, Jizhushan.

Specimen examined. 1 male, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1994. VI. 4, T. SAIGUSA.

Distribution. China (Yunnan).

67. *Hercostomus (Hercostomus) biancistrus* sp. nov. (Figs. 95-98)

Diagnosis. First flagellomere distinctly elongated (3.0 times as long as wide) and acute apically. acr uniseriate.

Male. Body length 2.7 mm, wing length 3.6 mm.

Head metallic green with gray brown pollen; frons gray brown pollinose, with silvery white pollen medially, face silvery white pollinose. Face slightly wider than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black; ocellar tubercle with 4 posterior hairs. Antenna (Fig. 95) wholly blackish; first flagellomere distinctly elongated, 3.0 times as long as wide, acute apically, with indistinct hairs; arista subdorsal, black, with indistinct hairs; its basal segment 0.7 times as long as apical segment. Proboscis dark brownish yellow with black hairs; palpus black, with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7 uniseriate acr, that are somewhat long posteriorly. Propleuron black haired, with a 1 black bristle on lower portion. Legs yellow; all coxae yellow, mid coxa with a blackish outer spot; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle. Fore tibia with 1 ad and 2 pd, apically with 2 long pd; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 5 pd, 6 thin and 1 thick av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.0: 1.0: 0.45: 0.4: 0.3: 0.25; LII 2.65: 1.3: 0.7: 0.6: 0.45: 0.45; LIII 3.3: 0.9: 1.1: 0.8: 0.5: 0.4. Wing hyaline, indistinctly tinged with grayish; veins dark brown, R4+5 and M nearly straight and apically convergent; CuAx ratio 0.9. Squama yellow with black hairs. Halter yellow.

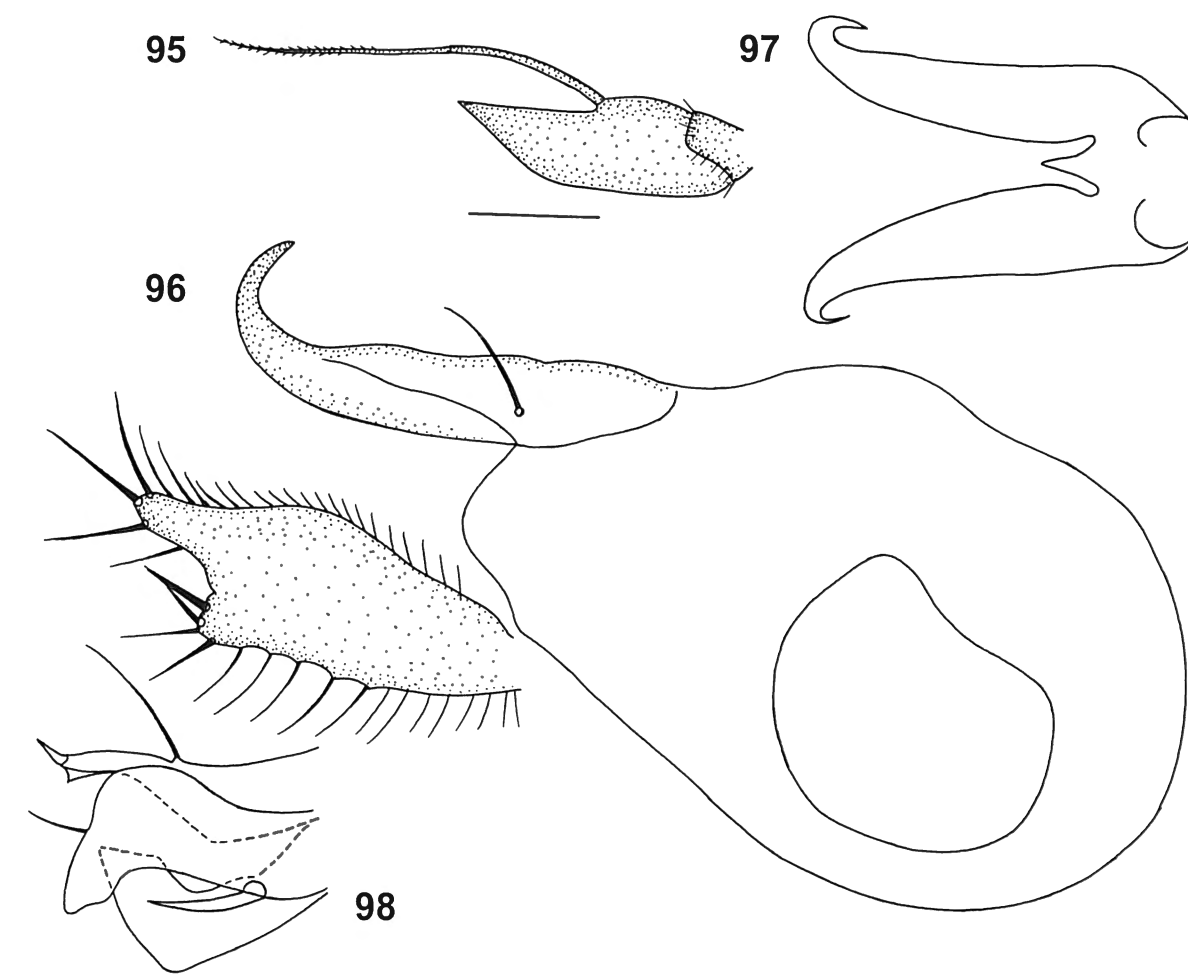
Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 96-98): Cercus rather large, with oblique outer margin concave, and with strong apical bristles; hypandrium with one pair of hook-like lateral arms.

Female. Unknown.

Holotype: male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

Etymology. The specific name refers to the hypandrium with one pair of hook-like lateral arms.



Figs. 95-98 — *Hercostomus (Hercostomus) biancistrus* sp. nov. (male). 95. antenna (excluding scape); 96. genitalia, lateral view; 97. hypandrium, ventral view; 98. apical genital processes, lateral view. Scale 0.25 mm.

Remarks. The new species is similar to *Hercostomus (Hercostomus) jingpingensis* sp. nov., but may be separated from the latter by the long first flagellomere (3.0 times as long as wide), that is distinctly acute apically.

68. *Hercostomus (Hercostomus) jingpingensis* sp. nov.
(Figs. 99-102)

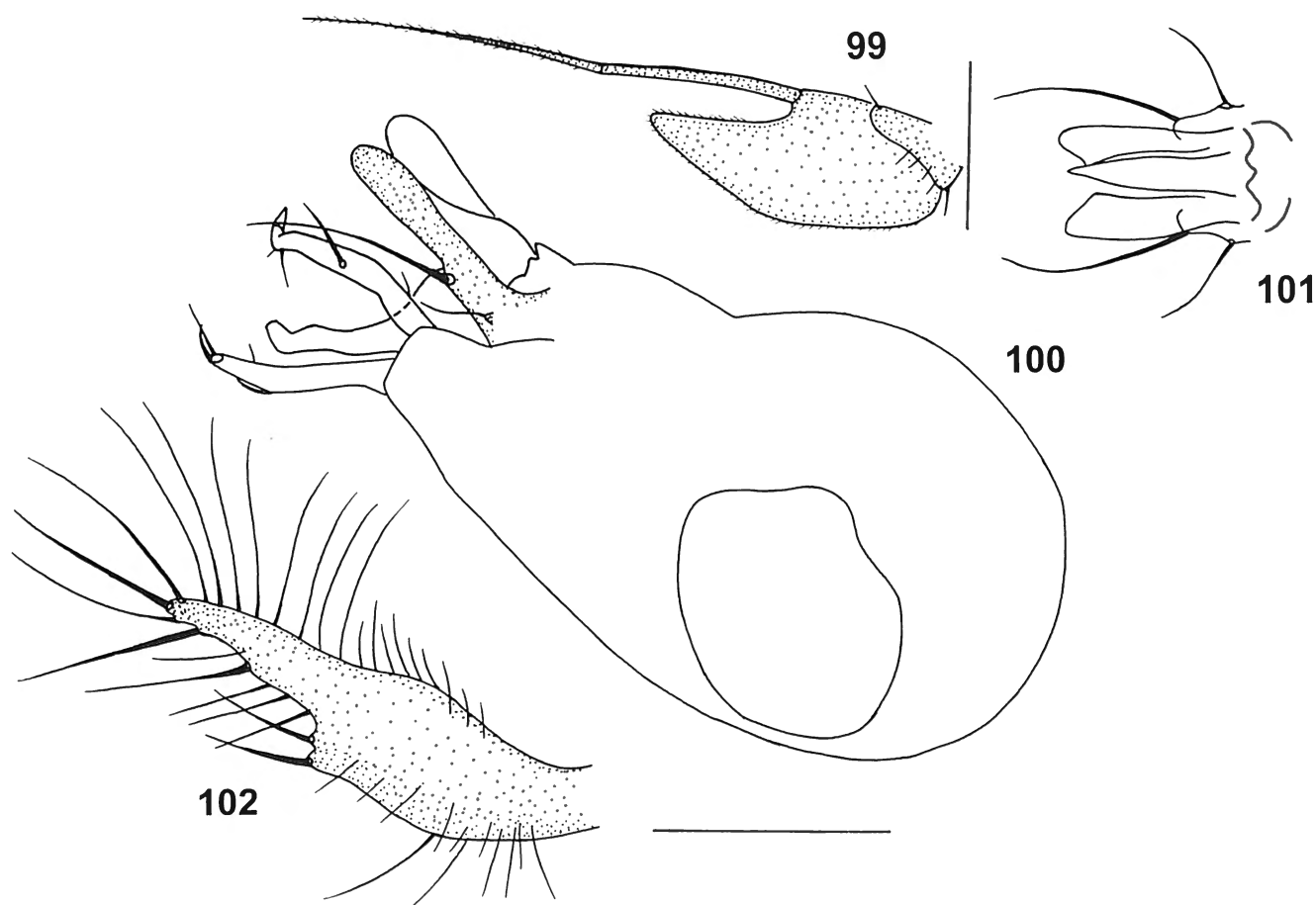
Diagnosis. First flagellomere distinctly elongated (2.2 times as long as wide) and nearly acute apically. Face rather wide, distinctly wider than first flagellomere. Hind femur with three rows of long ventral hairs.

Male. Body length 3.1 mm, wing length 3.9 mm.

Head metallic green with gray brown pollen; frons gray brown pollinose, with thin silvery white pollen medially; face thinly silvery white pollinose. Face rather wide, distinctly wider than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 99) wholly black; first flagellomere distinctly elongated, 2.2 times as long as

wide, nearly acute apically, with indistinct hairs; arista dorsal, black, with indistinct hairs, its basal segment 0.7 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 gray pollen; humeri dark brownish yellow; mesonotum and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 dc (first dc weak), 9 irregularly uniseriate short and hair-like acr. Propleuron black haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow, mid coxa with 1 black outer spot; fore and mid tarsi from tip of tarsomere 1 onward dark brown, hind tarsus dark brown to black. Hairs and bristles on legs black; fore coxa with 7 bristles, mid and hind coxae each with 1 outer bristle. Hind femur with three rows of long ventral hairs (posterior ventral hairs longest). Fore tibia with 1 pd, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 2 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 2.1: 1.0: 0.4: 0.35: 0.2: 0.25; LII 3.0: 1.4: 0.7: 0.6: 0.45:



Figs. 99-102 — *Hercostomus (Hercostomus) jingpingensis* sp. nov. (male). 99. antenna (excluding scape); 100. genitalia (excluding cercus), lateral view; 101. hypandrium, ventral view; 102. cercus, lateral view. Scale 0.25 mm.

0.4; LIII 3.5: 1.0: 1.1: 0.65: 0.45: 0.4. Wing hyaline, weakly tinged with grayish yellow; veins dark brown, R4+5 and M nearly straight and apically convergent; CuAx ratio 0.75. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with thin gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 100-102): Cercus rather large, with oblique outer margin distinctly concave, its apex finger-like with long bristles; hypandrium with one pair of short lateral arms bearing 2 bristles.

Female. Unknown.

Holotype: male, Yunnan: Jingping, Fenshuiling (2400-2500 m), 1996. V. 26, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

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

Remarks. The new species is similar to *Hercostomus (Hercostomus) biancistrus* sp. nov., but may be separated

from the latter by the face distinctly wider than first flagellomere and hind femur with long ventral hairs.

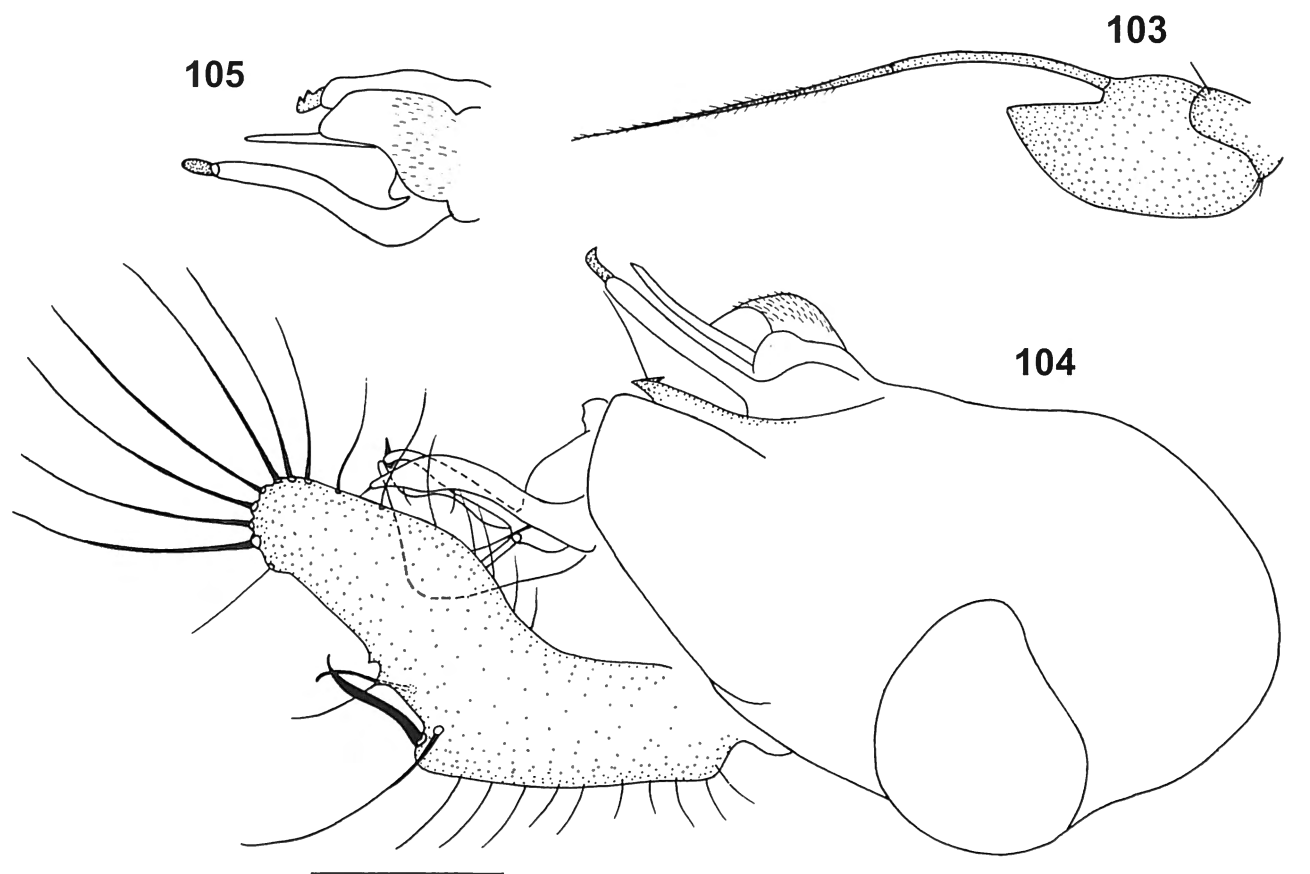
69. *Hercostomus (Hercostomus) lijiangensis* sp. nov.
(Figs. 103-105)

Diagnosis. R4+5 and M strongly convergent apically. Squama with pale hairs. Coxae with chiefly pale hairs.

Male. Body length 4 mm, wing length 4.1 mm.

Head metallic green with pale gray pollen; frons and face silvery white pollinose. Face narrower than first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna (Fig. 103) wholly black; first flagellomere slightly elongated, 1.8 times as long as wide, angular apically, with indistinct hairs; arista subapical, black, with indistinct hairs, its basal segment 0.6 times as long as apical segment. Proboscis dark brownish yellow with black hairs; palpus black with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum more or less with pale gray pollen.



Figs. 103-105 — *Hercostomus (Hercostomus) lijiangensis* sp. nov. (male). 103. antenna (excluding scape); 104. genitalia, lateral view; 105. hypandrium, ventral view. Scale 0.25 mm.

Hairs and bristles on thorax black; 6 strong dc, 7 irregularly paired somewhat long acr. Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 2 pale hairs on antero-lower corner. Legs yellow; all coxae yellow; fore and mid tarsi from tip of tarsomere 1 onward dark brown, hind tarsus dark brown to black. Hairs and bristles on legs black; coxae with pale hairs and black bristles; fore coxa with 8 bristles, mid coxa with 1 black anterior bristle, apically with black hairs and bristles, hind coxa with 1 black outer bristle; femora with very short pale ventral hairs. Fore tibia with 1 ad, 2 pd and 1 short pv, apically with 2 bristles; mid tibia with 4 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 3 ad, 4 pd and 7 thin av, apically with 3 bristles. Hind tarsomere 1 with 1 weak v at base. Relative lengths of tibia and 5 tarsomeres LI 2.7: 1.6: 0.7: 0.55: 0.35: 0.3; LII 4.2: 2.1: 1.2: 1.0: 0.6: 0.4; LIII 5.3: 1.5: 2.1: 1.1: 0.6: 0.45. Wing tinged with grayish; veins dark brown, R4+5 curved backward and M curved, R4+5 and M strongly convergent apically; CuAx ratio 0.6. Squama yellow with pale hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; cercus yellow with black apical portion. Hairs and bristles on abdomen black; terga 1-2 with pale hairs and bristles laterally, sterna 2-3 with pale hairs. Male genitalia (Figs. 104-105): Epandrium with weak lateral lobe, bearing 1 long apical hair; cercus rather large, with oblique

outer margin weakly incised, and with long apical bristles; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA (KIZ).

Distribution. China (Yunnan).

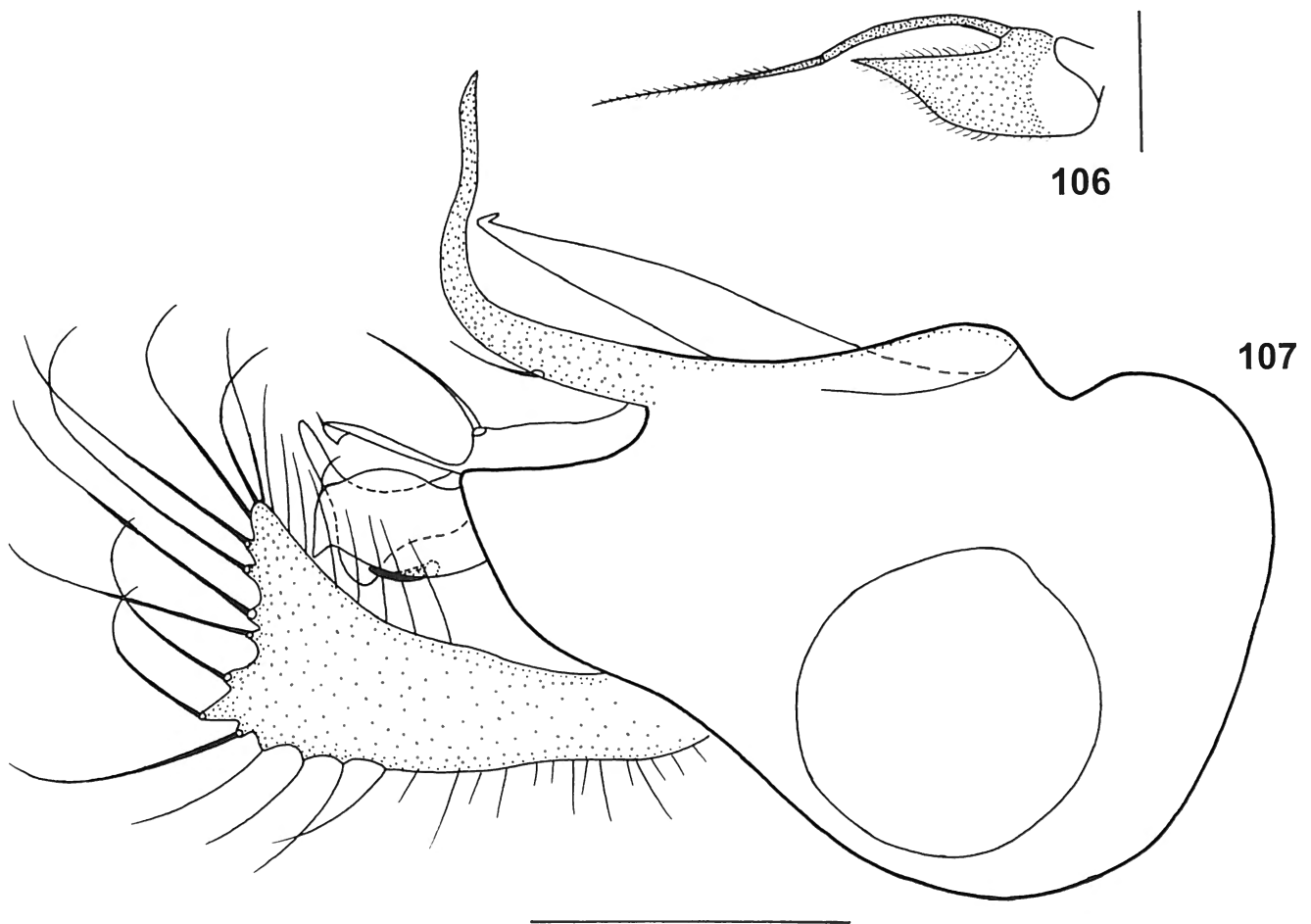
Etymology. The specific name refers to the type locality Lijiang.

Remarks. By the key of BECKER (1922), the new species runs to *Hercostomus (Hercostomus) neglectus* BECKER from Taiwan. In *neglectus*, the palpus is yellow, and the postocular bristles are black (BECKER, 1922).

70. *Hercostomus (Hercostomus) shimai* sp. nov.
(Figs. 106-107)

Diagnosis. Antenna partly yellow; first flagellomere obliquely acute apically; arista dorsal. Metapleuron with yellow lower portion.

Male. Body length 3.0-3.1 mm, wing length 3.5-3.7 mm.



Figs. 106-107 — *Hercostomus (Hercostomus) shimai* sp. nov. (male). 106. antenna (excluding scape); 107. genitalia, lateral view. Scale 0.25 mm.

Head metallic green with gray brown pollen; lower occiput pale gray pollinose, 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 (Fig. 106) black, with pedicel and baso-ventral area of first flagellomere yellow; first flagellomere distinctly elongated, 2.4 times as long as wide, obliquely acute apically, with short hairs; arista dorsal, black, with indistinct hairs, its basal segment 0.8 times as long as apical segment. Proboscis yellow with black hairs; palpus dark brown with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum and scutellum tinged with gray brown pollen; metapleuron with yellow lower portion. Hairs and bristles on thorax black; 6 strong dc, 5-6 uniseriate short and hairlike acr. Propleuron pale and black haired, with 1 black bristle on lower portion. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with 6 bristles. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 5 bristles; hind tibia with 2 ad, 4 pd and 4 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.0: 1.1: 0.6: 0.55: 0.4: 0.25; LII

2.9: 1.4: 0.8: 0.65: 0.45: 0.4; LIII 3.4: 1.0: 1.25: 0.7: 0.55: 0.3. Wing indistinctly tinged with grayish; veins dark brown, R4+5 and M weakly curved and distinctly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with gray brown pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 107): Cercus long, band-like, with weakly incised outer margin, bearing marginal denticles and long hairs; hypandrium with long lateral arm strongly curved and acute apically.

Female. Unknown.

Holotype: male, Yunnan: Lushui, Liuku-Lushui (1300 m), 1996. VI. 5, T. SAIGUSA (KIZ). Paratypes: 1 male, same data as holotype (KIZ); 4 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 4, T. SAIGUSA (KIZ & SKU); 1 male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The species is named in honour of Prof. Hiroshi SHIMA.

Remarks. This new species is somewhat similar to *Hercostomus (Hercostomus) biancistrus* sp. nov. and *H. (H.) jingpingensis* sp. nov., but may be separated from them by the partly yellow antenna.

The *digitatus*-group

71. *Hercostomus (Hercostomus) acutus* YANG et SAIGUSA

Hercostomus (Hercostomus) acutus YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimen examined. 1 male, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi).

72. *Hercostomus (Hercostomus) concisus* YANG et SAIGUSA

Hercostomus (Hercostomus) concisus YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimens examined. 2 males, Yunnan: Lijiang, Heishuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA; 55 males, Yunnan: Zhongdian, Tuomunan (3030-3500 m), 42 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan).

73. *Hercostomus (Hercostomus) digitatus* YANG

Hercostomus (Hercostomus) digitatus YANG, 1997. Studia dipt. 4(1): 115. Type locality: Yunnan: Ruili.

Specimen examined. 1 male, Yunnan: Pingbain, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA.

Distribution. China (Yunnan).

74. *Hercostomus (Hercostomus) incisus* YANG et SAIGUSA

Hercostomus (Hercostomus) incisus YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimens examined. 1 male, Yunnan: Pingbain, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA; 3 males, Yunnan: Pingbain, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA.

Distribution. China (Yunnan).

75. *Hercostomus (Hercostomus) jingdinganus* YANG et SAIGUSA

Hercostomus (Hercostomus) jingdinganus YANG et SAIGUSA, 2000. Bull. Inst. R. Sci. Nat. Belg. Ent. 70: 221. Type locality: Sichuan, Emei Mountain.

Specimens examined. 1 male, Yunnan: Lijiang, Baishuihe (3100-3200 m), Yulongxueshan, 1996. VI. 14, T. SAIGUSA; 2 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 7, T. SAIGUSA; 3 males, Yunnan: Yunlong, Caojian (2050 m), 1996. VI. 7, T. SAIGUSA; 21 males, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 4, T. SAIGUSA; 1 male, Yunnan: Lushui, Liuku-Lushui (1300 m), 1996. VI. 5, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan).

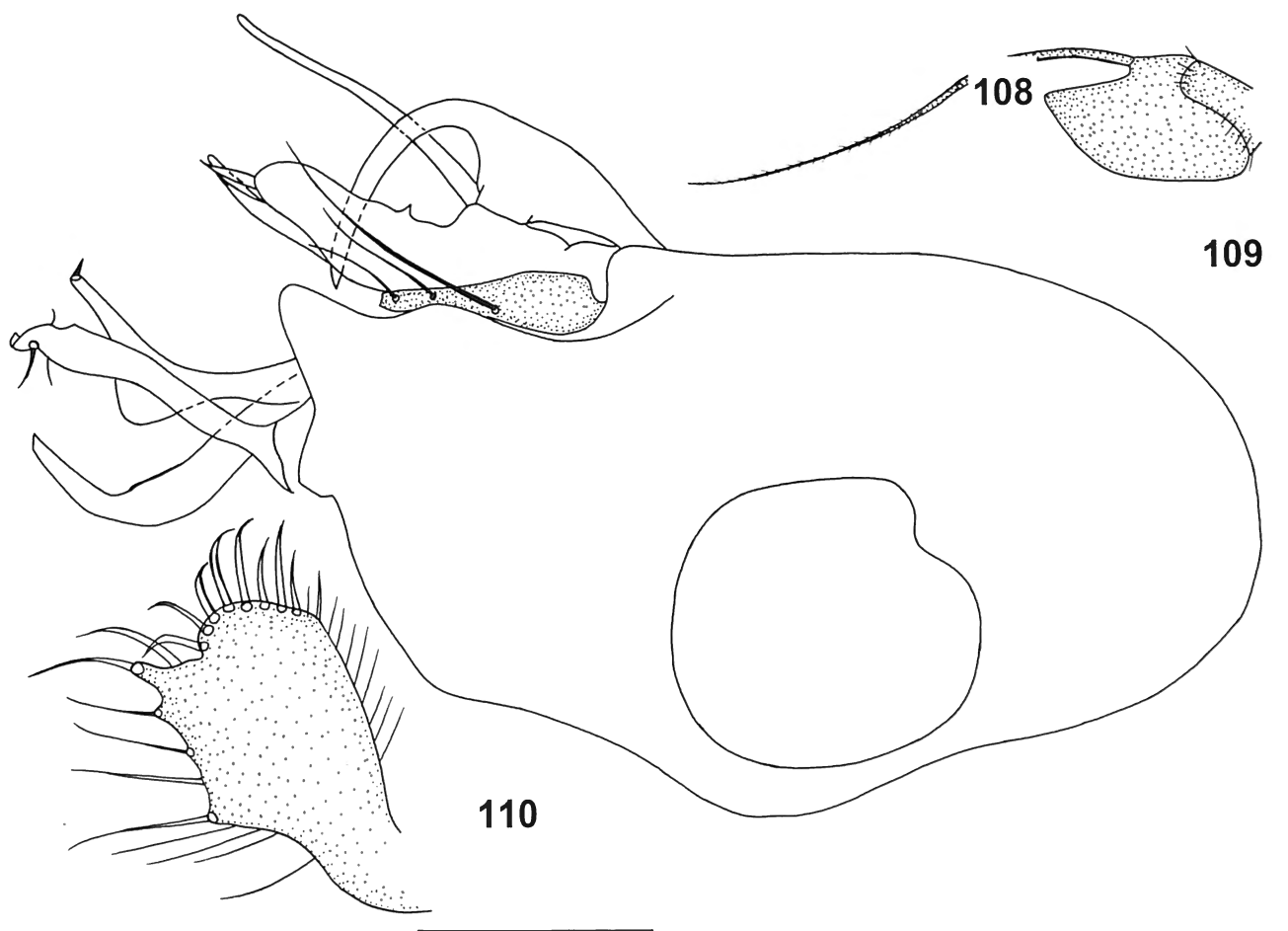
76. *Hercostomus (Hercostomus) subdigitatus* sp. nov. (Figs. 108-110)

Diagnosis. Palpus yellow. Hind femur with dark brown or black tip. Wing distinctly tinged with grayish brown. R4+5 and M strongly convergent apically.

Male. Body length 3.7-3.9 mm, wing length 4.6-4.8 mm.

Head metallic green with pale gray pollen; frons and face with dense silvery white pollen. Face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna (Fig. 108) black; first flagellomere slightly elongated, 1.65 times as long as wide, somewhat angular apically, with indistinct hairs; arista dorsal, black, with very short hairs, its basal segment 0.6 times as long as apical segment. Proboscis dark brown or black with black hairs; palpus yellow with black hairs and 1 black apical bristle.

Thorax metallic green with pale gray pollen; mesonotum (except notopleural region) and scutellum with gray brown pollen. Hairs and bristles on thorax black; 6 strong dc, 7-8 irregularly paired hair-like acr. Propleuron pale haired, with 1 black bristle on lower portion. Metapleuron with 3 blackish hairs on antero-lower corner. Legs yellow; fore coxa yellow, mid and hind coxae (except narrowly at apex) blackish; hind femur with dark brown or black tip; tarsi from tip of tarsomere 1 onward dark brown to black, hind tarsomere 1 darker. Hairs and bristles on legs black; fore coxa with 6 bristles, mid and hind coxae each with 1 outer bristle. Femora with short pale ventral hairs basally. Fore tibia with 1 ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 2 v, apically with 5 bristles; hind tibia with 3 ad, 4 pd, 2 thin and 3 distinct av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative lengths of tibia and 5 tarsomeres LI 2.8: 1.4: 0.7: 0.6: 0.45: 0.4; LII 4.0: 1.6: 0.95: 0.9: 0.4: 0.3; LIII 4.5: 1.2: 1.5: 0.9: 0.6: 0.4. Wing distinctly tinged with grayish brown; veins dark brown, R4+5 slightly curved backward, and M weakly curved, R4+5 and M



Figs. 108-110 — *Hercostomus (Hercostomus) subdigitatus* sp. nov. (male). 108. antenna (excluding scape); 109. genitalia (excluding cercus), lateral view; 110. cercus, lateral view. Scale 0.25 mm.

strongly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black; sterna 2-3 with pale hairs. Male genitalia (Figs. 109-110): Epandrium with indistinctly projected lateral lobe, bearing 3 hairs; cercus with 1 finger-like apical process, and with some strong apical bristles; hypandrium irregularly branched.

Female. Unknown.

Holotype: male, Yunnan: Lijian, Heshuihe (2800-2900 m), Yulongxueshan, 1996. VI. 15, T. SAIGUSA (KIZ). *Paratypes:* 6 males, same data as holotype (KIZ & SKU); 2 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (SKU).

Distribution. China (Yunnan).

Etymology. The specific name refers to the similarity with *digitatus*.

Remarks. The new species is very similar to *Hercostomus (Hercostomus) digitatus* YANG, 1997 from Yunnan, but may be separated from the latter by having the first flagellomere rather long (1.65 times as long as wide) with an oblique outer margin. In *digitatus*, the first flagellomere is rather short (1.5 times as long as wide) with weakly oblique outer margin (YANG, 1997).

The *prolongatus*-group

77. *Hercostomus (Hercostomus) fupingensis* YANG et SAIGUSA

Hercostomus (Hercostomus) fupingensis YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimen examined. 1 male, Yunnan: Yunlong, 3 km NNW of Zhichang (2500-2600 m), 1996. VI. 5, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi).

**78. *Hercostomus (Hercostomus) plumiger*
YANG et SAIGUSA**

Hercostomus (Hercostomus) plumiger YANG et SAIGUSA, 2001. Dtsch. ent. Z. 48. Type locality: Shaanxi, Fuping.

Specimen examined. 1 male, Yunnan: Lijiang, Baishuihe (3100-3200 m), Yulongxueshan, 1996. VI. 14, T. SAIGUSA.

Distribution. China (Yunnan, Shaanxi).

79. *Hercostomus (Hercostomus) prolongatus* YANG

Hercostomus (Hercostomus) prolongatus YANG, 1996. Ann. Soc. Entomol. Fr. (N.S.), 32(4): 414. Type locality: Tibet, Bomi.

Specimens examined. 4 males, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 22, T. SAIGUSA; 1 male, Yunnan: Pingbian, Daweishan (1800-2000 m), 1996. V. 24, T. SAIGUSA; 2 males, Yunnan: Yongping, Meihuapu (2300 m), 83 km of Xiaguan, 1996. VI. 7, T. SAIGUSA.

Distribution. China (Yunnan, Sichuan, Shaanxi, Tibet).

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The *fluvius*-group

80. *Hercostomus (Hercostomus) fluvius* WEI

Hercostomus (Hercostomus) fluvius WEI, 1997, J. Guizhou Agric. Coll. 16(4): 40. Type locality: Guizhou, Fanjingshan Mountain.

Specimens examined. 1 male, Yunnan: Luchun, 11.5 km SW of Yanjia (1750-1800 m), 1996. V. 30, T. SAIGUSA; 1 male, Yunnan: Pingbian, Daweishan (1600-1700 m), 1996. V. 23, T. SAIGUSA.

Distribution. China (Yunnan, Guizhou, Shaanxi).

Acknowledgments

DY is very grateful to Prof. H. SHIMA, Prof. O. YATA and Assoc. Prof. K. ARAYA (Kyushu University, Fukuoka), Mr. K. MASUNAGA (Lake Biwa Museum, Shiga), and Dr. P. GROOTAERT (Royal Belgian Institute of Natural Sciences, Brussels) for their kind help in many ways. TS express his thanks to Prof. Jiang XIONG (Kunming Institute of Zoology, Kunming) for his assistance during the survey to Yunnan in 1996. The research is partially supported by the Japan Society for the Promotion of Science under Postdoctoral Fellowships for Foreign Researchers to DY, a Grant-in-Aid for Field Research of the Monbusho International Science Research Program, Japan (No. 07041141), and the National Natural Science Foundation of China (No. 30070100). The present paper is contribution No. XX from the Biosystematics Laboratory, Graduate School of Social and Cultural Studies, Kyushu University.

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