

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

by Ding YANG and Toyohei SAIGUSA

### Abstract

28 species of Dolichopodidae are described as new to science: *Hercostomus (Gymnopternus) yatai*, *Hercostomus (Hercostomus) dawuishanus*, *H. (H.) huanglianshanus*, *H. (H.) intraneus*, *Phalacrosona postiseta*, *Ludovicicus compressus*, *Paraclius yongpinganus*, *Medetera brevispina*, *M. compressa*, *M. yunnanensis*, *Neurigona centralis*, *Raphium zhongdianum*, *Campsicnemus yunnanensis*, *Teuchophorus yunnanensis*, *Chrysotimus bispinus*, *C. digitatus*, *C. incisus*, *C. lijianganus*, *C. pingbianus*, *C. yunlonganus*, *Sinosciapus yunlonganus*, *Chrysosoma daliana*, *C. jingpingana*, *C. luchunana*, *C. serrata*, *C. yunnanensis*, *Plagiozopelma luchunana*, *Mesorhaga longiseta*.

**Key words:** Dolichopodidae, new species, Yunnan, Sichuan

### Introduction

In the present paper, 28 species of Dolichopodidae from Yunnan and Sichuan of Southwest China are described as new to science, mainly based on the material collected by the second author in Yunnan in 1996. 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 Sciences (IRSN) in Brussels. The abbreviations used here are the same as in the serial papers.

### Subfamily Dolichopodinae

#### 1. *Hercostomus (Gymnopternus) yatai* sp. nov. (Figs. 1-3)

**Diagnosis.** Belonging to *congruens*-group. Antenna wholly black; first flagellomere 1.0-1.1 times longer than wide; arista subapical. All coxae (except narrow apex) black. Male genitalia much elongated, slightly longer than pregenital segments, apically reaching thorax.

**Male.** Body length 3.9-4.0 mm, wing length 4.1-4.3 mm.

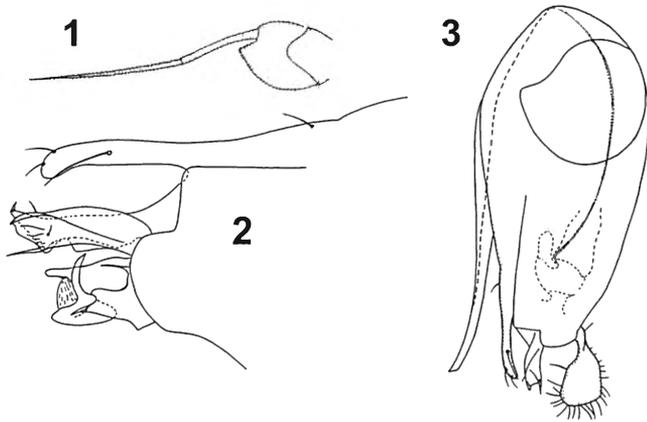
**Head** metallic green with pale grey pollen; frons pale grey pollinose, face grey brown pollinose (except lower portion with pale grey pollen); face nearly as wide as first

flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere rather short, 1.0-1.1 times longer than wide, angular apically; arista subapical, black, very short pubescent, with basal segment 0.4-0.5 times as long as apical segment. Proboscis black, with black hairs; palpus black, with black hairs and 1 black bristle.

**Thorax** metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 7-13 irregularly paired acr short and hair-like (sometimes reaching level of 6th dc); scutellum with many short black hairs on disc and posterior margin, and two pairs of bristles (basal pair weak, not easily distinguished from marginal hairs). Propleuron pale and black haired, with 1 black bristle on lower portion; pteropleuron with 4 mostly black hairs just in front of metaspiracle; metapleuron with 4 black hairs on antero-lower corner. Legs yellow; all coxae (except narrow apex) black; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; coxae with some pale hairs basally; fore coxa with 6 bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 1 ad, 2 pd and 1 pv, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 4 pd and 2 av, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative length of tibia and 5 tarsomeres LI 3.2: 1.6: 0.8: 0.7: 0.4: 0.5; LII 4.6: 2.2: 1.4: 1.0: 0.7: 0.6; LIII 5.2: 1.6: 2.0: 1.4: 0.7: 0.6. Wing slightly tinged with greyish; veins dark brown, first costal section slightly thickened medially, R4+5 and M distinctly convergent apically; CuAx ratio 0.6. Squama yellow with black hairs. Halter yellow.

**Abdomen** metallic green with pale grey pollen; male genitalia much elongated (slightly longer than pregenital segments) and reaching thorax apically. Hairs and bristles on abdomen black. Male genitalia (Figs. 2-3): Epandrium with lateral lobe rather narrow, apically weakly curved; cercus nearly quadrate; hypandrium long and slender.

**Female.** Unknown.



Figs. 1-3 — *Hercostomus (Gymnopternus) yatai*, sp. nov., male. 1. antenna (excluding scape); 2. apical genital processes, lateral view; 3. genitalia, lateral view.

*Holotype male*, Sichuan, Emei Mountain, Jingding (2,900-3,030 m), 1998. VIII. 8, T. SAIGUSA (CAU). Paratypes 5 males, same data as holotype (CAU, SKU & IRSN).

*Distribution*. China (Sichuan).

*Etymology*. The species is named after Prof. O. YATA.

*Remarks*. The new species is similar to *Hercostomus (Gymnopternus) prorsus* WEI, 1997 from Guizhou, but may be separated from the latter by the arista subapical and arising at the apical 1/3 of dorsal margin of first flagellomere. In *prorsus*, the arista is arising nearly at middle of dorsal margin of first flagellomere (WEI, 1997).

## 2. *Hercostomus (Hercostomus) huanglianshanus* sp. nov. (Figs. 4-6)

*Diagnosis*. Belonging to *apiculatus*-group. Antenna black except scape dark yellow with black dorsal surface; first flagellomere 1.1 times longer than wide. Hind tarsomere 1 basally with one pair of v.

*Male*. Body length 2.7 mm, wing length 3.3 mm.

*Head* metallic green with pale grey pollen; frons with grey brown pollen on anterior portion (except lateral margin); face distinctly narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; scape dark yellow with black dorsal surface; first flagellomere rather short, 1.1 times longer than wide, obtuse apically; arista subapical, black, very short pubescent, with basal segment 0.2 times as long as apical segment. Proboscis brown, with black hairs; palpus black, with black hairs and 1 black bristle.

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

with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc weakly convergent), 3 uniseriate acr short and hair-like; scutellum with 2 pale marginal pairs between 2 apical bristles. Propleuron pale haired sparsely, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae (except narrow apex) black; fore tarsomere 5, mid and hind tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; fore and mid coxae with some pale hairs basally; femora with some short pale ventral hairs basally; fore coxa with 6-7 bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 2 pd, apically with 3 bristles; mid tibia with 2 ad and 2 pd, apically with 4 bristles; hind tibia with 2 ad and 3 pd, apically with 3 bristles. Hind tarsomere 1 basally with one pair of v (1 av and 1 pv at same level). Relative length of tibia and 5 tarsomeres LI 2.1: 1.1: 0.55: 0.45: 0.3: 0.2; LII 3.0: 1.7: 0.9: 0.65: 0.45: 0.3; LIII 3.1: 1.2: 1.2: 0.75: 0.5: 0.3. Wing nearly hyaline; veins black, R4+5 and M distinctly curved and apically strongly convergent; CuAx ratio 0.45. Squama yellow with black hairs. Halter yellow.

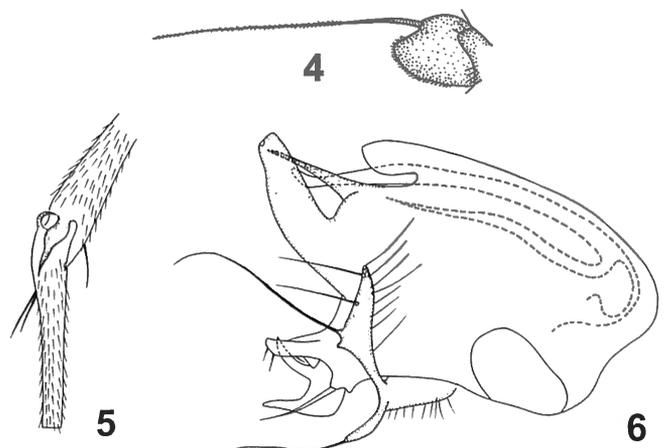
*Abdomen* metallic green with pale grey pollen; male genitalia blackish. Hairs and bristles on abdomen black; terga 1-2 with pale hairs laterally, sternum 2 with pale hairs. Male genitalia (Fig. 6): Epandrium with lateral lobe strongly curved (which is rather large and flattened in ventral view); cercus deeply furcate, with dorsal arm short and finger-like; hypandrium with long and acute lateral arm.

*Female*. Unknown.

*Holotype male*, Yunnan: Huanglianshan, 1995. III. 10, T. SAIGUSA (KIZ).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the type locality Huanglianshan.



Figs. 4-6 — *Hercostomus (Hercostomus) huanglianshanus*, sp. nov., male. 4. antenna (excluding scape); 5. apical portion of hind tibia and hind tarsomere 1, inner lateral view; 6. genitalia, lateral view.

*Remarks.* The new species may be separated from other known species of the *apiculatus*-group by the hind tarsomere 1 basally with one pair of v.

### 3. *Hercostomus (Hercostomus) intraneus* sp. nov.

(Figs. 7-8)

*Diagnosis.* Belonging to *apiculatus*-group. Legs chiefly black. Wing slightly wide apically. Cercus deeply furcate.

*Male.* Body length 2.4-3.0 mm, wing length 2.9-3.1 mm.

*Head* metallic green with pale grey pollen; frons and face with dense white pollen; face as wide as first flagellomere. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, as long as wide, obtuse apically; arista subapical, black, nearly 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 bristle.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc (5th pair of dc distinctly convergent), 5-6 irregularly paired acr short and hair-like. Propleuron pale haired, with 1 black bristle on lower portion. Legs black; fore and mid femora with blackish tips; tibiae and tarsi brownish 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 with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 1 ad, 2 pd and 2 pv, apically with 2 bristles and 1 short apv (its length subequal to tibia thickness); mid tibia with 3 ad and 2 pd, 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 length of tibia and 5 tarsomeres LI 2.0: 0.8: 0.4: 0.25: 0.2: 0.25; LII 3.0: 1.4: 0.8: 0.65: 0.45: 0.3; LIII 3.4: 1.1: 1.3: 0.8: 0.5: 0.3. Wing greyish, slightly wide apically; veins black, R4+5 and M distinctly curved and apically strongly convergent; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

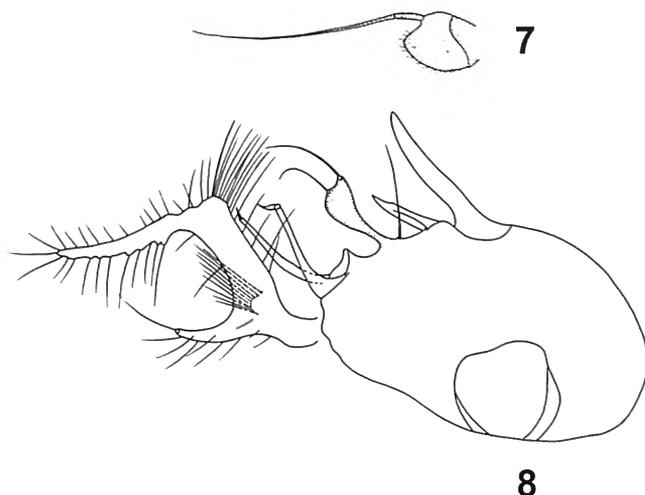
*Abdomen* metallic green with pale grey pollen; cercus brown. Hairs and bristles on abdomen black. Male genitalia (Fig. 8): Epandrium with long lateral lobe rather narrow basally and rather wide apically (bearing 2 long apical hairs); cercus deeply furcate, with short dorsal arm finger-like and rather long ventral arm strongly bent; hypandrium nearly straight.

*Female.* Unknown.

*Holotype male*, Yunnan: Huanglianshan, 1995. III. 10, T. SAIGUSA (KIZ). Paratype 1 male, Yunnan: Daweishan (1,800-2,000 m), 1995. III. 2, T. SAIGUSA (SKU).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the cercus with



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

group of long hairs on inner surface.

*Remarks.* The new species may be separated from other known species of the *apiculatus*-group by the wing slightly wide apically and hind tibia and tarsomere 1 without spine-like process.

### 4. *Hercostomus (Hercostomus) daweishanus* sp. nov.

(Figs. 9-11)

*Diagnosis.* Belonging to *absimilis*-group. Tarsi rather thin; fore tarsomeres 4-5 weakly thickened and flattened.

*Male.* Body length 4.1-4.3 mm, wing length 4.8-5.0 mm.

*Head* metallic green with pale grey pollen; frons and face with silvery white pollen; face as wide as first flagellomere. Hairs and bristles on head black; postocular bristles black, lower occiput with partly pale hairs. Antenna black; first flagellomere rather short, as long as wide, obtuse apically; arista subapical, black, short pubescent, with basal segment 0.2 times as long as apical segment. Proboscis dark yellow, with black hairs; palpus black, with black hairs and 1 black bristle.

*Thorax* metallic green with pale grey pollen; posterior portion of mesonotum and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 4 irregularly paired acr, short and hair-like. Propleuron mostly pale haired, with 1 black bristle on lower portion. Legs yellow; fore coxa yellow, mid and hind coxae black; hind femur with narrow black tip; apex of hind tibia and entire hind tarsus black. Tarsi somewhat thin, particularly fore tarsus distinctly thin with tarsomeres 4-5 weakly thickened and flattened laterally. Hairs and bristles on legs black; fore coxa with 3 distinct bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 1

short ad and 2 pd, apically with 2 bristles; mid tibia with 3 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 3 ad, 3 pd and 6-7 weak av, apically with 3 bristles. Hind tarsomeres LI 3.0: 2.4: 1.5: 1.0: 0.55: 0.35; LII 4.1: 2.4: 1.45: 1.0: 0.5: 0.4; LIII 5.0: 1.4: 2.0: 1.0: 0.6: 0.5. Wing greyish; veins black, R4+5 and M distinctly curved and apically strongly convergent; CuAx ratio 0.9. Squama yellow with black hairs. Halter yellow.

*Abdomen* metallic green with pale grey pollen; cercus blackish. Hairs and bristles on abdomen black. Male genitalia (Figs. 9-10): Epanthrium with short outer lateral lobe finger-like and long inner lateral lobe spine-like; cercus somewhat quadrate, with long marginal hairs; hypandrium irregularly furcate.

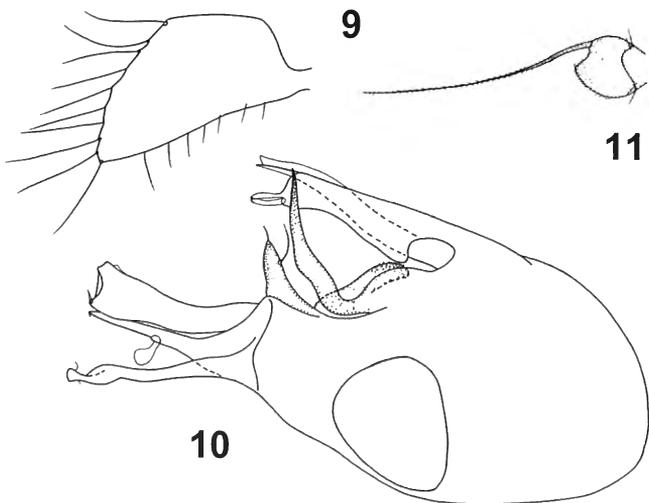
*Female*. Unknown.

*Holotype male*, Yunnan: Daweishan (1,800-2,000 m), 1995. III. 2, T. SAIGUSA (KIZ). Paratypes 3 males, same data as holotype (KIZ & SKU).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the type locality Daweishan.

*Remarks*. The new species is similar to *Hercostomus (Hercostomus) emeiensis* YANG, 1997 from Sichuan, but may be separated from the latter by the first flagellomere being rather short (as long as wide) and hind femur and tibia with black tips. In *emeiensis*, the first flagellomere is longer (1.7 times longer than wide), hind femur and tibia are wholly yellow (YANG, 1997).



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

## 5. *Phalacrosona postiseta* sp. nov.

(Figs. 12-14)

*Diagnosis*. Legs with long claws. Fore tibia apically with 1 very long posterior bristle.

*Male*. Body length 4.5-4.6 mm, wing length 4.1-4.3 mm.

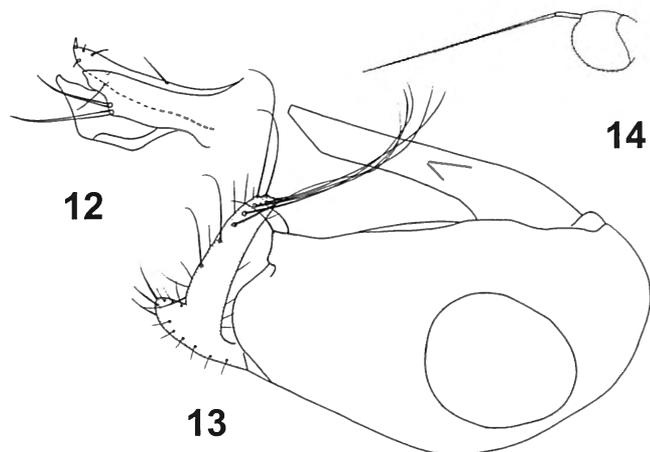
*Head* metallic green with pale grey pollen; upper occiput with brown pollen, vertex weakly excavated, frons subshiny with thin brown pollen; face rather wide, much wider than first flagellomere, nearly parallel-sided, with upper 2/3 weakly concave. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere short, as long as wide, rounded apically; arista upper-apical, black, indistinctly pubescent, with basal segment 0.1 times as long as apical segment. Proboscis rather thick, black with black hairs; palpus black, with black hairs and 1 black bristle.

*Thorax* metallic green with pale grey pollen; mesonotum and scutellum with grey brown pollen. Hairs and bristles on thorax black; 5 strong dc, 4th pair of dc weakly convergent; 5-7 irregularly paired (two rows very close) or 3 uniseriate acr; scutellum with (or without) 4 marginal hairs between 2 apical bristles. Propleuron pale haired, with 1 black bristle on lower portion. Legs yellow; coxae with pale grey pollen, fore coxa yellow, mid and hind coxae black; fore and mid tarsi from tip of tarsomere 1 onward black; tip of hind tibia and entire hind tarsus black. Legs with long claws. Hairs and bristles on legs black; coxae with partly pale hairs; fore coxa with 5 apical bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 2 short ad, 2 pd and 1 pv, apically with 1 ad, 1 short apv (slightly longer than tibia thickness) and 1 very long p (nearly as long as fore tarsomere 1); mid tibia with 4 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 4 ad, 3 pd, 3 av and 4 weak pv, apically with 3 bristles. Hind tarsomere 1 with 1 v at base. Relative length of tibia and 5 tarsomeres LI 2.6: 1.3: 0.5: 0.4: 0.25: 0.4; LII 3.6: 2.0: 1.0: 0.7: 0.45: 0.55; LIII 4.3: 1.6: 1.6: 1.1: 0.6: 0.6. Wing greyish; veins black, R4+5 and M weakly curved and apically distinctly convergent; CuAx ratio 1.2. Squama yellow with black hairs. Halter yellow.

*Abdomen* metallic green with pale grey pollen. Hairs and bristles on abdomen black; terga 1-5 with pale hairs on lateral margin. Male genitalia (Figs. 12-13): Epanthrium with indistinct lateral lobe bearing 2 hairs; cercus long band-like, with short basal process; hypandrium rather thick with narrow apex.

*Female*. Body length 4.4 mm, wing length 5.0 mm. Similar to male, but 3-4 paired acr (distance between 2 row distinct posteriorly), scutellum with 2 marginal hairs between 2 apical bristles. CuAx ratio 1.0.

*Holotype male*, Yunnan: Mengla-Jingping (650 m), 1995. III. 5, T. SAIGUSA (KIZ). Paratypes 1 male 1 female, same data as holotype (SKU).



Figs. 12-14 — *Phalacrosona postiseta*, sp. nov., male. 12. apical genital processes, lateral view; 13. genitalia, lateral view; 14. antenna (excluding scape).

*Distribution.* China (Yunnan).

*Etymology* The specific name refers to the long posterior bristle on fore tibia.

*Remarks.* The new species is very similar to *Phalacrosona sichuanense* YANG et SAIGUSA, 1999 from Sichuan, but may be separated from the latter by the fore tibia with 1 very long posterior bristle apically. In *sichuanense*, the fore tibia has no long posterior bristle apically (YANG & SAIGUSA, 1999).

#### 6. *Ludovicicus acutatus* YANG

*Ludovicicus acutatus* YANG, 1996. Bull. Inst. R. Sci. Nat. Belg. Ent. 66: 87. Type locality: Sichuan, Maerkang.

*Specimens examined.* 7 males, Yunnan: Zhongdian, Tuomunan (3,030-3,500 m), 42 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA.

*Distribution.* China (Yunnan, Sichuan).

#### 7. *Ludovicicus biaristatus* YANG

*Ludovicicus acutatus* YANG, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 204. Type locality: Henan, Neixiang.

*Specimens examined.* 5 males, Yunnan: Yongping, Meihuapu (2,300 m), 8 km from Xiaguan, 1996. VI. 7. T. SAIGUSA; 3 males, Yunnan: Yongping, Meihuapu (2,300 m), 8 km from Xiaguan, 1996. VI. 4. T. SAIGUSA.

*Distribution.* China (Yunnan, Henan).

#### 8. *Ludovicicus compressus* sp. nov.

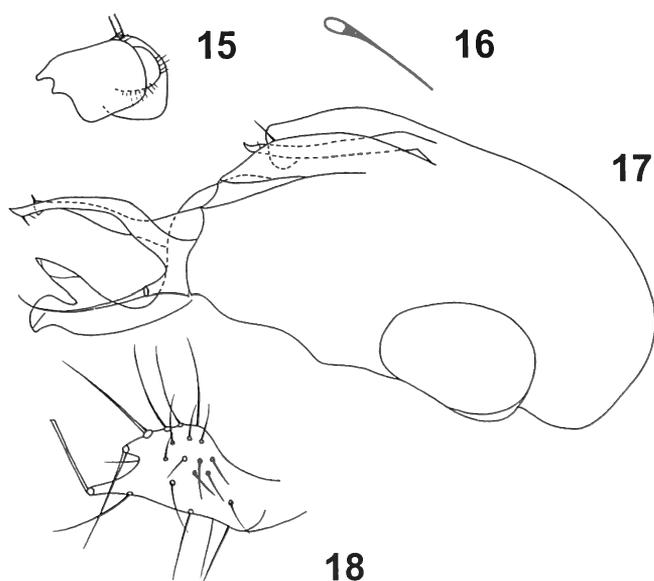
(Figs. 15-18)

*Diagnosis.* Belonging to *acutatus*-group. Antenna yellow, somewhat compressed, and with scape, pedicel and first flagellomere partly overlapped. Postocular bristles wholly black.

*Male.* Body length 3.0-3.2 mm, wing length 3.4-3.5 mm.

*Head* metallic green with pale grey pollen; frons with brown pollen on anterior margin, face with dense yellow pollen; face narrower than first flagellomere. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna yellow, with scape, pedicel and first flagellomere somewhat compressed and partly overlapped; first flagellomere rather short, as long as wide, obtuse apically; arista dorsal, black, and bare, with apical flag apically. Proboscis black, with black hairs; palpus black, with black hairs.

*Thorax* metallic green with pale grey pollen; mesonotum (except lateral portion) and scutellum tinged with grey brown pollen. Hairs and bristles on thorax black; 6 strong dc, 6-7 irregularly paired acr short and hair-like; scutellum with two pairs of bristles (basal pair weak, about 1/6 as long as apical pair). Propleuron black haired, with 1 black bristle on lower portion. Legs black; femora with yellow tips; tibiae and tarsi yellow; tarsi from tip of tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; fore coxa with 7 bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 1 ad and 2 pd, apically with 2 short bristles; mid tibia with 3 ad, 2 pd and 1 av,



Figs. 15-18 — *Ludovicicus compressus*, sp. nov., male. 15. antenna (excluding arista), lateral view; 16. apical portion of arista; 17. genitalia (excluding cercus), lateral view; 18. cercus, lateral view.

apically with 4 bristles; hind tibia with 2 ad and 5 pd, apically with 3 bristles. Hind tarsomere 1 with 3 short v. Relative length of tibia and 5 tarsomeres LI 2.2: 1.3: 0.8: 0.6: 0.45: 0.3; LII 3.3: 2.0: 1.2: 0.85: 0.55: 0.3; LIII 3.7: 1.3: 1.7: 0.9: 0.55: 0.35. Wing slightly tinged with greyish; veins dark brown, R4+5 distinctly bent, M weakly curved, R4+5 and M strongly convergent apically; CuAx ratio 0.5. Squama yellow with black hairs. Halter dark brown with yellow knob.

*Abdomen* metallic green with pale grey pollen; cercus dark yellow with narrow apex black. Hairs and bristles on abdomen black. Male genitalia (Figs. 17-18): Epandrium with lateral lobe not distinctly projected; cercus with 2 finger-like apical processes; hypandrium with long lateral arm acute apically.

*Female.* Unknown.

*Holotype male*, Yunnan: Lijiang, Yulongxueshan, Heshuihe (2,800-2,900 m), 1996. VI. 15, T. SAIGUSA (KIZ). Paratypes 2 males, same data as holotype (KIZ & SKU); 1 male, Yunnan: Yongping, Meihuapu (2,300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (SKU).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the compressed antenna.

*Remarks.* The new species may be separated from other known species of the *acutatus*-group by the antenna distinctly flattened and postocular bristles wholly black.

### 9. *Paraclius stiptatus* YANG (Fig. 19)

*Paraclius stiptatus* YANG, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 205. Type locality: Qincheng Mountain.

The male genitalia of this species are illustrated for the first time.

*Specimen examined.* 1 male, Sichuan: Qincheng Mountain, Tianrantuhua (900 m), 1998. VIII. 20, T. SAIGUSA.

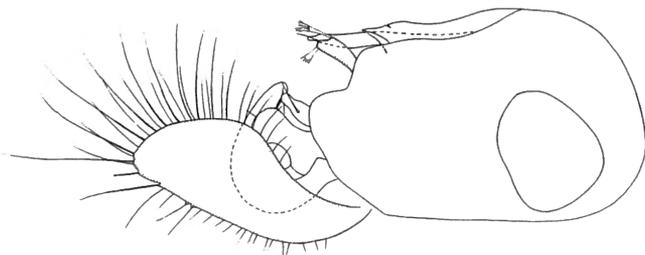


Fig. 19 — *Paraclius stiptatus* YANG, male genitalia, lateral view.

*Distribution.* China (Sichuan).

### 10. *Paraclius yongpinganus* sp. nov. (Figs. 20-22)

*Diagnosis.* First flagellomere 1.5 times longer than wide, nearly acute apically. Postocular bristles wholly black. Hind femur with extreme tip brown.

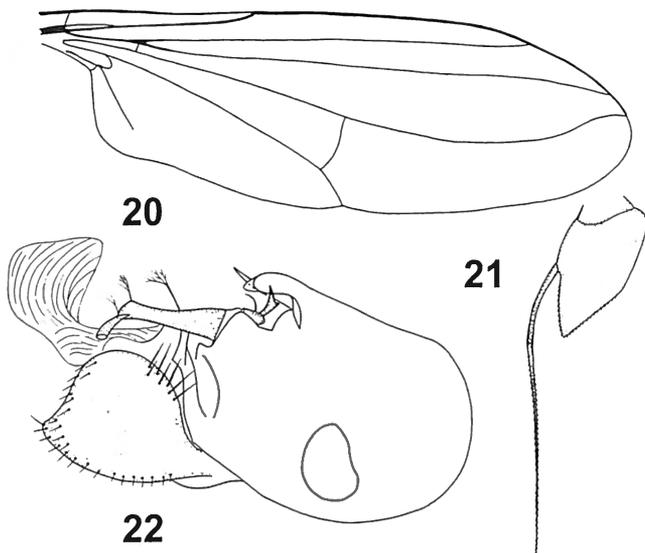
*Male.* Body length 4.9-5.0 mm, wing length 5.9-6.0 mm. *Head* metallic green with pale grey pollen; frons and face silvery white pollinose, face nearly as wide as first flagellomere. Hairs and bristles on head black; postocular bristles wholly black, lower occiput medially with pale hairs and black bristles. Antenna black; first flagellomere 1.5 times longer than wide, nearly acute apically; arista arising at middle of dorsal margin of first flagellomere, black, very short pubescent, with basal segment 0.35 times as long as apical segment. Proboscis black, with black hairs; palpus black, with black hairs and 1 black bristle.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 6 dc (becoming stronger backward), 7-9 irregularly paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair weak, about 1/5 as long as apical pair). Propleuron pale and black haired, with 1 black bristle on lower portion; metapleuron with 4 black hairs on antero-lower corner and several black hairs on mid-posterior margin. Legs yellow; fore coxa wholly yellow, mid and hind coxae (except narrow apex) blackish; tarsi from tip of tarsomere 1 onward dark brown to black, but fore tarsus pale. Hairs and bristles on legs black; fore coxa with 8 bristles; mid and hind coxae with 1 outer bristle; mid and hind femur with 1 preapical bristle. Fore tibia with 3 ad and 2 pd, apically with 2 bristles; mid tibia with 5 ad, 5 pd and 3 av, apically with 4 bristles; hind tibia with 5 ad, 5 pd and 7 weak av, apically with 3 bristles. Hind tarsomere 1 with 2 v, and with 1 distinct basal process curved upward on inner surface. Relative length of tibia and 5 tarsomeres LI 4.0: 2.5: 1.1: 0.9: 0.6: 0.45; LII 5.5: 2.6: 1.85: 1.5: 0.8: 0.45; LIII 6.4: 2.0: 2.5: 1.65: 0.9: 0.5. Wing nearly hyaline; veins black, M distinctly curved toward R4+5; CuAx ratio 1.2. Squama yellow with black hairs. Halter yellow.

*Abdomen* metallic green with pale grey and brown pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 22): Epandrium with long and thick lateral lobe with 3 branched hairs; cercus rather large and nearly triangular; hypandrium rather short.

*Female.* Unknown.

*Holotype male*, Yunnan: Yongping, Meihuapu (2,300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA (KIZ). Paratype 1 male, same data as holotype (SKU).



Figs. 20-22 — *Paraclius yongpinganus*, sp. nov., male. 20. wing; 21. antenna (excluding scape); 22. genitalia, lateral view.

*Distribution.* China (Yunnan).

*Etymology.* The species is named after the type locality Yongping.

*Remarks.* The new species is similar to *Paraclius emeiensis* YANG et SAIGUSA, 1999 from Yunnan and Sichuan, but may be separated from the latter by the hind femur with extreme tip brown, and scutellum without marginal hairs. In *emeiensis*, the hind femur is wholly yellow; the scutellum has marginal hairs (YANG & SAIGUSA, 1999).

### Subfamily Medeterinae

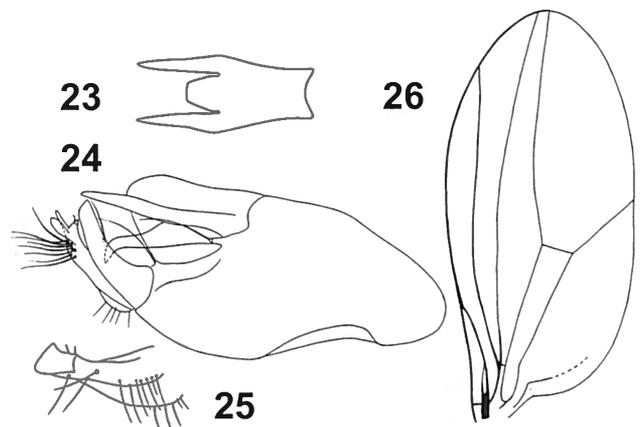
#### 11. *Medetera brevispina* sp. nov. (Figs. 23-26)

*Diagnosis.* Wing somewhat wide, with brownish yellow veins. Hind tibia with 1 short black spine apically.

*Male.* Body length 1.8 mm, wing length 2.4 mm.

*Head* dark metallic green with pale grey pollen. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antennal scape black [pedicel and first flagellomere broken]. Proboscis black, with black hairs; palpus black, with black hairs and 1 black bristle.

*Thorax* dark metallic green with pale grey pollen. Hairs and bristles on thorax black; 4 dc (2 anterior dc rather short), 6 irregularly paired acr short and hair-like; scutellum with 2 pairs of strong bristles (basal pair distinctly shorter than apical pair). Propleuron with 2 black bristles on lower portion. Legs black; femora blackish with yellow apex; tibiae and tarsi yellow; tarsi from tip of tarsomere 1 onward brownish to brown. Hairs and bristles on legs black; fore coxa with 6 lateral and apical bristles; hind femur with 3 av apically; mid tibia with 1 ad and 1 pd at base, apically with 3 bristles; hind tibia with 2



Figs. 23-26 — *Medetera brevispina*, sp. nov., male. 23. hypandrium, ventral view; 24. genitalia, lateral view; 25. cercus, lateral view; 26. wing.

brown ad on apical portion (which are closely located), apically with 2 brown bristles and 1 short curved black spine. Relative length of tibia and 5 tarsomeres LI 1.2: 0.55: 0.3: 0.2: 0.15: 0.2; LII 1.5: 0.7: 0.4: 0.25: 0.15: 0.15; LIII 1.7: 0.5: 0.6: 0.4: 0.2: 0.15. Wing somewhat wide, hyaline; veins brownish yellow; R4+5 and M convergent apically; CuAx ratio 0.4. Squama dark yellow with dark brown margin, with black hairs. Halter yellow.

*Abdomen* dark metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 23-25): Epandrium with 2 very short finger-like lateral processes bearing 1 or 2 long apical bristles; surstylus with dorsal and ventral arms deeply cleft and subequal in length, its dorsal arm with a group of bristles apically; hypandrium with acute lateral arm.

*Female.* Unknown.

*Holotype male*, Yunnan: Lijiang, Yulongxueshan, Heshuihe (2,800-2,900 m), 1996. VI. 15, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

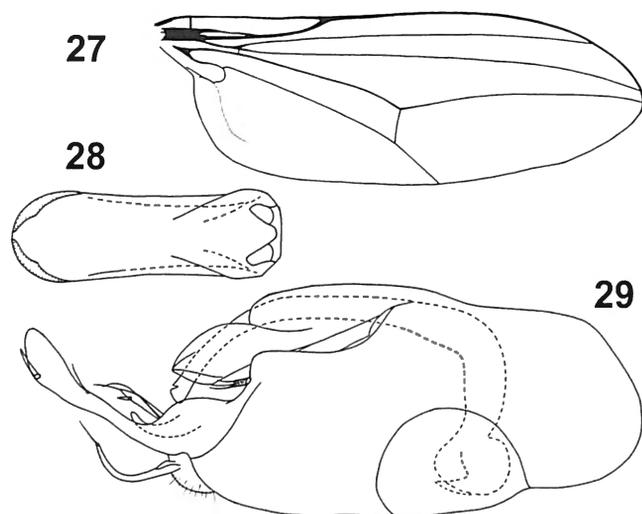
*Etymology.* The specific name refers to the short apical spine on hind tibia.

*Remarks.* This species is peculiar, and easily separated from other known species of the genus from China by the wing rather wide and special shape of hypandrium.

#### 12. *Medetera compressa* sp. nov. (Figs. 27-29)

*Diagnosis.* Belonging to *aberrans*-group. Antenna yellow with first flagellomere dark brown. Fore tarsomere 1 with a apico-ventral process, tarsomeres 2-3 flattened dorso-ventrally.

*Male.* Body length 4.0 mm, wing length 4.3 mm.



Figs. 27-29 — *Medetera compressa*, sp. nov., male. 27. wing; 28. hypandrium, ventral view; 29. genitalia, lateral view.

process bearing 2 apical hairs; surstylus curved and rather narrow medially, with slightly thick apex; cercus with long finger-like process distinctly curved (bearing 1 apical hair).

*Female.* Unknown.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the partly compressed fore tarsus.

*Remarks.* The new species is similar to *Medetera platychira* DE MEIJERE, 1916 from the Oriental region, but may be separated from the latter by having the antenna yellow with first flagellomere dark brown; first flagellomere nearly as long as wide; arista dark brown, very short pubescent. In *platychira*, the antenna is dark brown with first flagellomere yellowish (BICKEL, 1987).

### 13. *Medetera yunnanensis* sp. nov.

(Figs. 30-34)

*Diagnosis.* Belonging to *diadema-veles* group. Propleuron with 2 black bristles. Legs black, femora with extreme tips brownish yellow.

*Male.* Body length 1.9-2.4 mm, wing length 2.6-2.7 mm.

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

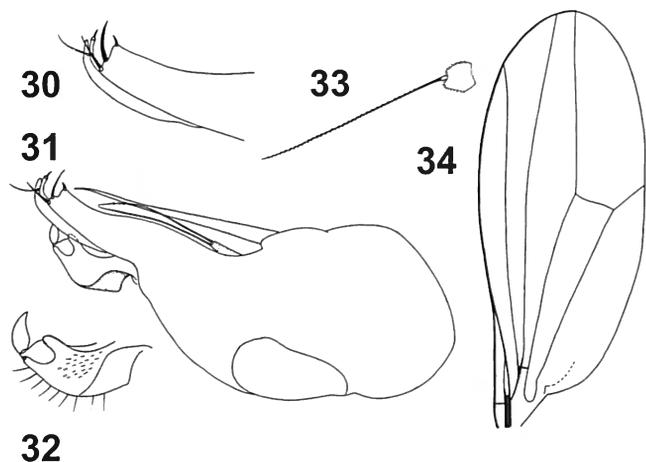
*Head* metallic green with pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna yellow with first flagellomere dark brown; first flagellomere nearly as long as wide; arista apical, dark brown, very short pubescent. Proboscis dark brown, with pale hairs; palpus black, with pale hairs and 1 blackish bristle.

*Thorax* brilliant metallic green with pale grey pollen. Hairs and bristles on thorax black; 4 dc (2 anterior dc slightly short), 5-6 irregularly paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair slightly shorter than apical pair) and 1 short lateral hair near basal pair. Propleuron with 3 hairs and 1 bristle on lower portion (which are arranged in a vertical row). Legs black; femora with yellow tips; tibiae and tarsi yellow, fore tarsomeres 3-5 dark brown, mid and hind tarsi from tip of tarsomere 1 onward brown to dark brown. Hind tibia with black apical tooth on inner surface (which is received into weak excavation on hind tarsomere 1). Fore tarsomere 1 with an apico-ventral process, tarsomeres 2-3 distinctly flattened dorso-ventrally. Hairs and bristles on legs black; fore coxa with hairs and bristles partly pale; femora with some pale ventral hairs, mid femur with long pale antero-ventral hairs on basal 2/3, hind femur with long bristle-like dorsal hairs on basal 1/3 and one row of anterior bristles; tibiae and tarsomere 1 with mostly pale hairs. Mid tibia with 2 ad and 1 short pd at base, apically with 4 bristles; hind tibia with 1 short ad at base and 1 long pd at apex, apically with 2 bristles. Relative length of tibia and 5 tarsomeres LI 2.8: 1.1: 1.0: 0.65: 0.8: 0.4; LII 3.5: 2.1: 1.1: 0.8: 0.45: 0.4; LIII 4.1: 1.0: 2.0: 1.1: 0.5: 0.4. Wing hyaline; veins dark brown, R4+5 and M strongly convergent apically; CuAx ratio 0.6. Squama brown with pale hairs. Halter yellow.

*Abdomen* brilliant metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 28-29): Epandrium with short finger-like lateral

*Thorax* dark metallic green with grey brown pollen. Hairs and bristles on thorax black; 4 dc (2 anterior dc very short), 7-8 irregularly paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair about 1/2 as long as apical pair). Propleuron with 2 black bristles on lower portion (which are subequal in length). Legs black; femora with brownish yellow extreme tips. Hind tibia with black apical tooth on inner surface. Hairs and bristles on legs black. Hind femur with short dorsal bristles on basal 1/2. Mid tibia with 1 ad and 1 pd at base, apically with 4 bristles; hind tibia with 1 ad at base and 1 pd subapically, apically with 2 bristles. Relative length of tibia and 5 tarsomeres LI 1.65: 0.7: 0.55: 0.4: 0.2: 0.2; LII 2.0: 1.1: 0.6: 0.45: 0.25: 0.2; LIII 2.35: 0.5: 1.0: 0.55: 0.25: 0.2. Wing hyaline; veins dark brown, R4+5 and M convergent apically; CuAx ratio 0.8-0.9. Squama dark yellow with brown margin, with pale hairs. Halter brownish yellow.

*Abdomen* dark metallic green with grey pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 30-32): Epandrium with short finger-like lateral process



Figs. 30-34 — *Medetera yunnanensis*, sp. nov., male. 30. surstylus, lateral view; 31. genitalia, lateral view; 32. cercus, lateral view; 33. first flagellomere; 34. wing.

bearing 2 very long apical bristles; surstylus with narrow dorsal arm furcate apically, and thick ventral arm.

*Female.* Body length 1.9-2.6 mm, wing length 2.4-2.8 mm. Similar to male.

*Holotype male*, Yunnan: Lijiang, Yulongxueshan, Baishuihe (3,100-3,200 m), 1996. VI. 14, T. SAIGUSA (KIZ). Paratypes 1 male, same data as holotype (KIZ); 1 male 2 females, Yunnan: Dali, Daboqing (1,900-2,100 m), 7 km W of Xiaguan, 1996. VI. 16, T. SAIGUSA (SKU).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the type locality Yunnan.

*Remarks.* The new species is similar to *Medetera grises-cens* DE MEIJERE, 1916 from the Oriental region, but may be separated from the latter by the black legs with tips of femora brownish yellow. In *grises-cens*, the legs are dark yellow (BICKEL, 1987).

#### Subfamily Neurigininae

##### 14. *Neurigona centralis* sp. nov. (Figs. 35-37)

*Diagnosis.* Middle and lower postocular bristles pale. Mesonotum with a black middle stripe on mid-posterior depression.

*Male.* Body length 3.9 mm, wing length 4.4 mm.

*Head* metallic green with pale grey pollen; eyes contiguous on median portion of face. Hairs and bristles on head black; middle and lower postocular bristles pale. Antenna yellow, except first flagellomere tinged with brownish; first flagellomere as long as wide, obtuse api-

cally; arista subapical, blackish, very short pubescent, with basal segment very short. Proboscis brownish yellow, with pale hairs; palpus pale yellow, with pale hairs and 1 pale bristle.

*Thorax* subshiny yellow with thin pale grey pollen; mesonotum with a black middle stripe on mid-posterior depression, scutellum with a rather small blackish middle spot at base; metanotum nearly black. Mesopleuron with 1 black dot on post-upper corner, pteropleuron with 1 black dot on antero-upper corner, and laterotergite with a black dot on antero-upper corner. Hairs and bristles on thorax black; 6 dc (short anteriorly), 10 irregularly paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair weak, about 1/6 as long as apical pair). Propleuron with 1 pale hair on upper portion, and with 2 pale hairs and 1 pale bristle on lower portion. Legs yellow with tarsomeres 2-5 dark brown. Hairs and bristles on legs black; fore coxa with pale hairs and 5 pale apical bristles; hind coxa with 1 outer bristle near base. Fore tibia with 2 weak bristles apically; mid tibia with 3 ad, apically with 3 bristles; hind tibia with 3 ad, 3 pd, 4-5 short v and 1 longer pv, apically with 3 bristles as well as 2 long curved bristles under a comb of dense bristles. Mid tarsus with a row of erect antero-ventral hairs, mid tarsomere 1 with 1 pv at base and 1 d at middle; hind tarsomere 1 basally with convex ventral margin (bearing a row of long hairs). Relative length of tibia and 5 tarsomeres LI 3.2: 2.6: 1.9: 1.6: 1.2: 0.55; LII 4.1: 4.3: 1.65: 1.1: 0.7: 0.4; LIII 6.3: 2.5: 2.2: 1.2: 0.7: 0.4. Wing hyaline; veins dark brown, M distinctly curved toward R4+5; CuAx ratio 0.4. Squama dark yellow with pale hairs. Halter yellow.

*Abdomen* subshiny yellow with thin pale grey pollen; terga 2-5 each with a large black spot, tergum 2 with yellow basal margin; male genitalia shiny black. Hairs and bristles on abdomen black. Male genitalia (Fig. 37): Epandrium short and wide; surstylus with dorsal lobe rather short and strongly convex outward, and with ventral lobe longer (bearing 2 hairs apically).

*Female.* Unknown.



Figs. 35-37 — *Neurigona centralis*, sp. nov., male. 35. wing; 36. antenna; 37. genitalia, lateral view.

*Holotype male*, Yunnan: Lijiang, Yulongxueshan, Heshuihe (2,800-2,900 m), 1996. VI. 15, T. SAIGUSA (KIZ).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the central stripe on the mesonotum.

*Remarks*. The new species is similar to *Neurigona micropyga* NEGROBOV, 1987 from Russia and China (Henan), but may be separated from the latter by the simple fore tarsus. In *micropyga*, the fore tarsomere 5 is slightly thickened with strong bristles on ventral surface (NEGROBOV, 1987; YANG, 1999).

### Subfamily Raphiinae

#### 15. *Raphium furcatum* YANG et SAIGUSA

*Raphium furcatum* YANG et SAIGUSA, 2000. Bull. Inst. R. Sci. Nat. Belg. Ent. 70: 235. Type locality: Sichuan, Emei Mountain.

*Specimen examined*. 1 male, Yunnan: Yongping, Meihuapu (2,300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA.

*Distribution*. China (Yunnan, Sichuan).

#### 16. *Raphium sichuanense* YANG et SAIGUSA

*Raphium sichuanense* YANG et SAIGUSA, 1999. Bull. Inst. R. Sci. Nat. Belg. Ent. 69: 247. Type locality: Sichuan, Emei Mountain.

*Specimens examined*. 3 males, Yunnan: Yongping, Meihuapu (2,300 m), 83 km from Xiaguan, 1996. VI. 4, T. SAIGUSA; 1 male, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA.

*Distribution*. China (Yunnan, Sichuan).

#### 17. *Raphium zhongdianum* sp. nov. (Figs. 38-41)

*Diagnosis*. Scutellum only with one pair of bristles. First flagellomere 8.0 times longer than wide. Hairs and bristles on coxae pale.

*Male*. Body length 2.4-2.6 mm, wing length 3.1-3.4 mm.

*Head* metallic green with pale grey 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 black; first flagellomere 8.0 times longer than wide; arista black, 0.25 times as long as first flagellomere. Proboscis

black with black hairs; palpus black with black hairs and 1 black bristle.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum slightly tinged with grey brown pollen. Hairs and bristles on thorax black; 5 strong dc, 5-8 irregularly paired acr short and hair-like; scutellum only with 1 pair of bristles. Propleuron pale haired. Legs yellow; fore coxa yellow with black base, mid and hind coxae (except narrow apex) black; tarsi from tarsomere 1 onward dark brown to black. Hairs and bristles on legs black; coxae with pale hairs and bristles. Fore tibia with 2 ad, 2 pd and 1 pv, apically with 3 bristles; mid tibia with 2 ad, 2 pd and 1 av, apically with 4 bristles; hind tibia with 2 ad, 2-3 pd and 3 av, apically with 3 bristles. Relative length of tibia and 5 tarsomeres LI 1.65: 0.9: 0.5: 0.4: 0.2: 0.2; LII 2.25: 1.2: 0.6: 0.45: 0.25: 0.2; LIII 3.0: 0.85: 0.85: 0.55: 0.4: 0.25. Wing hyaline, slightly tinged with greyish; veins dark brown, R4+5 and M slightly convergent apically; CuAx ratio 0.35. Squama yellow with pale hairs. Halter yellow.

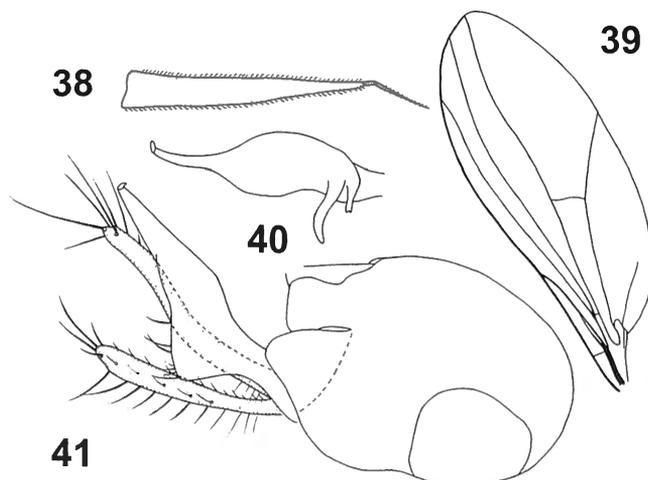
*Abdomen* metallic green with pale grey pollen. Hairs and bristles on abdomen black; terga 1-5 with pale hairs laterally, sterna 1-4 with pale hairs. Male genitalia (Figs. 40-41): Epandrium slightly longer than wide, with long curved surstylus (which is thick basally and narrow apically); cercus deeply furcate, with 2 rather long branches.

*Female*. Unknown.

*Holotype male*, Yunnan: Zhongdian, Tuomunan (3,030-3,500 m), 42 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA (KIZ). Paratypes 2 males, same data as holotype (SKU).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the type locality Zhongdian.



Figs. 38-41 — *Raphium zhongdianum*, sp. nov., male. 38. antenna (excluding scape and pedicel); 39. wing; 40. surstylus, dorsal view; 41. genitalia, lateral view.

*Remarks.* The new species is similar to *Raphium sichuanense* YANG et SAIGUSA, 1999 from Sichuan and Yunnan, but may be separated from the latter by 5 dc and scutellum only with 1 pair of bristles. In *sichuanense*, 4 dc are present, and the scutellum has 2 pairs of bristles (YANG & SAIGUSA, 1999).

### Subfamily Sympycninae

#### 18. *Campsicnemus yunnanensis* sp. nov.

(Figs. 42-43)

*Diagnosis.* Thorax uniformly metallic green. Coxae black except for fore coxa brownish yellow with black base. Mid tarsomeres 2-5 with long dorsal hairs.

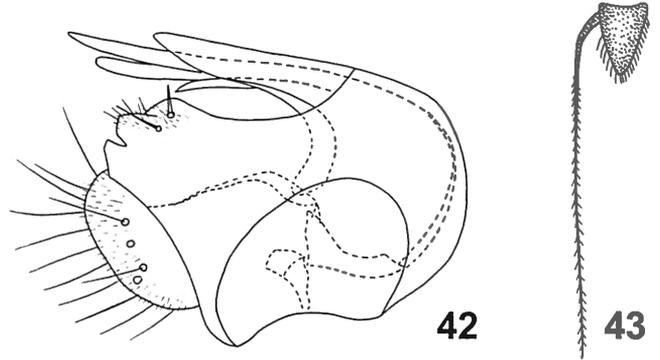
*Male.* Body length 1.9-2.0 mm, wing length 1.5-1.6 mm.

*Head* metallic green with pale grey pollen; face narrow medially and with brown pollen on lower portion. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere conical, 2.0 times longer than wide; arista dorsal and black. Proboscis black with black hairs; palpus black with black hairs.

*Thorax* metallic green with pale grey pollen; mesonotum and scutellum grey brown pollinose. Hairs and bristles on thorax black; 5 dc (first dc rather short), 6-7 uniseriate ac; scutellum with two pairs of bristles (basal pair weak and 1/5 as long as apical pair) and 3-4 pale marginal hairs between 2 apical bristles. Propleuron pale haired, with 1 black bristle on lower portion. Legs brownish yellow; fore coxa brownish yellow with black base, mid and hind coxae black; mid tibia black; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with partly pale hairs and 6 black bristles. Mid femur with one row of 17 av on apical portion; hind femur (except apical 1/3) with each 2 row of av and pv. Fore tibia with 1 pd, apically with 1 bristle; mid tibia slightly thickened and curved, with 1 pd and two rows of v (which are stronger at base), apically with 3 bristles; hind tibia with 3 ad, 3 pd and 2 av, apically with 4 bristles. Mid tarsomeres 2-5 with long dorsal hairs slightly curved. Relative length of tibia and 5 tarsomeres LI 1.4: 0.8: 0.3: 0.2: 0.15: 0.2; LII 2.0: 0.65: 0.5: 0.3: 0.2: 0.35; LIII 2.6: 0.7: 0.7: 0.5: 0.25: 0.3. Wing nearly hyaline; veins dark brown, R4+5 and M nearly parallel apically; CuAx ratio 0.7. Squama yellow with black hairs. Halter reddish yellow.

*Abdomen* short and somewhat compressed dorso-ventrally, metallic green with pale grey pollen. Hairs and bristles on abdomen black. Male genitalia (Fig. 42): Epandrium slightly longer than wide; surstylus rather short and shallowly cleft apically; cercus rather short and thick; hypandrium somewhat acute apically.

*Female.* Body length 2.1 mm, wing length 2.1 mm. Similar to male, but all tibiae brownish yellow.



Figs. 42-43 — *Campsicnemus yunnanensis*, sp. nov., male. 42. genitalia, lateral view; 43. first flagellomere.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes 3 males 1 female, same data as holotype (KIZ & SKU); 1 male, Yunnan, Pingbian, Daweishan (1,800-2,000 m), 1996. V. 22, T. SAIGUSA (SKU); 1 male, Yunnan, Pingbian, Daweishan (1,600-1,700 m), 1996. V. 23, T. SAIGUSA (SKU); 1 male, Yunnan, Pingbian, Shuizhonghe (1,500 m), 1996. V. 23, T. SAIGUSA (IRSN); 1 male, Yunnan: Lijiang, Yulongxueshan, Baishuihe (3,100-3,200 m), 1996. VI. 14, T. SAIGUSA (CAU).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the type locality Yunnan.

*Remarks.* The new species may be easily separated from other known species of the genus from the Oriental region by the uniformly metallic green thorax and black coxae except for the fore coxa that are brownish yellow with a black base (BECKER, 1924; FREY, 1925).

#### 19. *Teuchophorus yunnanensis* sp. nov.

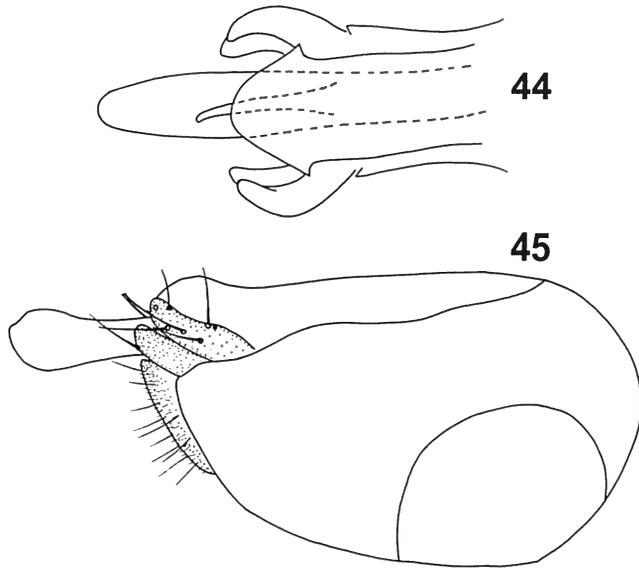
(Figs. 44-45)

*Diagnosis.* 6 strong dc. Hind femur with each row of long hair-like av and pv; hind tibia with 2 pd and one row of 9-10 long hair-like av.

*Male.* Body length 1.3-1.4 mm, wing length 1.6-1.8 mm.

*Head* dark metallic green with grey brown pollen. Eyes distinctly separated on face. Hairs and bristles on head black; postocular bristles (including ventral hairs) black. Antenna black; first flagellomere nearly triangular, as long as wide; arista dorsal, black, with very short basal segment. Proboscis dark brown, with black hairs; palpus black, with black hairs and 1 black bristle.

*Thorax* dark metallic green with grey brown pollen.



Figs. 44-45 — *Teuchophorus yunnanensis*, sp. nov., male. 44. apical portion of genitalia, ventral view; 45. genitalia, lateral view.

Hairs and bristles on thorax black; 6 strong dc, 6-7 uniseriate acr short and hair-like; scutellum with two pairs of bristles (basal pair very short, hair-like) and 3-4 very short marginal hairs between 2 apical bristles. Legs yellow; coxae wholly yellow; tarsi from tip of tarsomere 1 onward brownish yellow to brown. Hairs and bristles on legs black; fore coxa with 6-7 lateral and apical bristles; hind coxa with 1 outer bristle near base. Fore femur with 3 pv apically; hind femur with each row of long hair-like av and pv. Mid tibia with 2 ad, 1 pd and 1 av, apically with 4 bristles; hind tibia with 2 pd and a row of 9-10 long hair-like av. Relative length of tibiae and 5 tarsomeres LI 1.0: 0.5: 0.25: 0.2: 0.2: 0.2; LII 1.4: 0.6: 0.35: 0.25: 0.2: 0.2; LIII 1.5: 0.4: 0.5: 0.3: 0.2: 0.2. Wing nearly hyaline; veins dark brown, R4+5 and M parallel apically; costal callus absent; CuAx ratio 0.4. Squama yellow with dark brown margin, with black hairs. Halter yellow.

*Abdomen* dark metallic green with grey brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 44-45): Epandrium distinctly longer than wide; surstylus with dorsal lobe and ventral lobe subequal in length; cercus somewhat acute apically; aedeagus with thick apex.

*Female.* Body length 1.3 -1.4 mm, wing length 1.8-1.9 mm. Similar to male.

*Holotype male*, Yunnan: Luchun, 11.5 km SW of Yanjia (1,750-1,800 m), 1996. V. 30, T. SAIGUSA (KIZ). Paratypes 1 male 2 females, same data as holotype (KIZ); 6 males 11 females, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (SKU, CAU & IRSN)

*Distribution.* China (Yunnan).

*Etymology.* The species is named after the type locality Yunnan.

*Remarks.* The new species is similar to *Teuchophorus sinensis* YANG et SAIGUSA, 2000 from Henan, but may be separated from the latter by the hind tibia with 2 pd and a row of 9-10 av. In *sinensis*, the hind tibia has 3-4 pd and a row of 5-7 av (YANG & SAIGUSA, 2000).

### Subfamily Peloroepodinae

#### 20. *Chrysotimus bispinus* sp. nov.

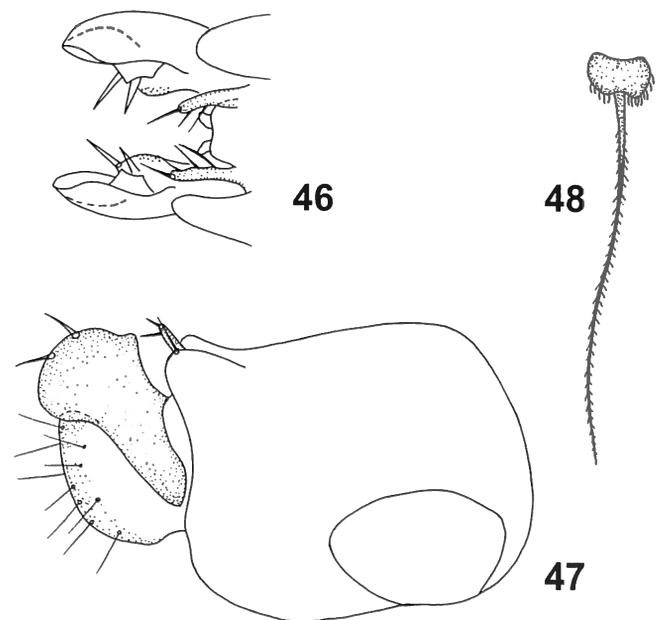
(Figs. 46-48)

*Diagnosis.* Palpus dark brown. Hairs and bristles on head and thorax dark brown. 4 strong dc; acr absent. Hind tarsomere 1 with group of 12 short black ventral bristles on basal 1/5.

*Male.* Body length 1.6 mm, wing length 2.4 mm.

*Head* metallic green with pale grey pollen; eyes distinctly separated, face slightly narrowing downward. Hairs and bristles on head dark brown; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, 0.7 times longer than wide; arista arising at middle of concave apical margin of first flagellomere. Proboscis black with black hairs; palpus dark brown, with pale hairs and 2 brown bristles.

*Thorax* brilliant metallic green with pale grey pollen; pleuron with brown pollen. Hairs and bristles on thorax dark brown; 4 strong dc, acr absent; scutellum with two



Figs. 46-48 — *Chrysotimus bispinus* sp. nov., male. 46. apical portion of genitalia, ventral view; 47. genitalia, lateral view; 48. first flagellomere.

pairs of bristles (basal pair about 1/3 as long as apical pair). Propleuron with 1 pale hair on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs blackish; coxae with dark yellow hairs and bristles, fore coxa with 6 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 2 pd, apically with 3 bristles; hind tibia with 1 ad and 2 pd, apically with 2 bristles. Hind tarsomere 1 with group of 12 black ventral bristles on basal 1/5. Relative length of tibia and 5 tarsomeres LI 1.4: 0.7: 0.4: 0.3: 0.2: 0.15; LII 1.7: 0.9: 0.45: 0.3: 0.15: 0.15; LIII 2.0: 0.7: 0.5: 0.4: 0.2: 0.15. Wing hyaline; veins brownish yellow, R4+5 and M parallel apically; CuAx ratio 0.3. Squama brownish yellow with dark brown hairs. Halter yellow.

*Abdomen* dark metallic green with grey brown pollen. Hairs and bristles on abdomen blackish. Male genitalia (Figs. 46-47): Epandrium slightly longer than wide, with finger-like lateral process; surstylus rather thick and rounded apically, with 2 strong spines on inner surface; cercus short and thick.

*Female*. Unknown.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the 2 inner spines on the surstylus.

*Remarks*. The new species is somewhat similar to *Chrysotimus shennongjianus* YANG et SAIGUSA, 2001 from Hubei in having a dark palpus and absent acr, but may be easily separated from the latter by the hind tarsomere 1 with sparse black ventral bristles at its base. In *shennongjianus*, the hind tarsomere 1 has a tiny bundle of black ventral bristles at its base (YANG & SAIGUSA, 2001).

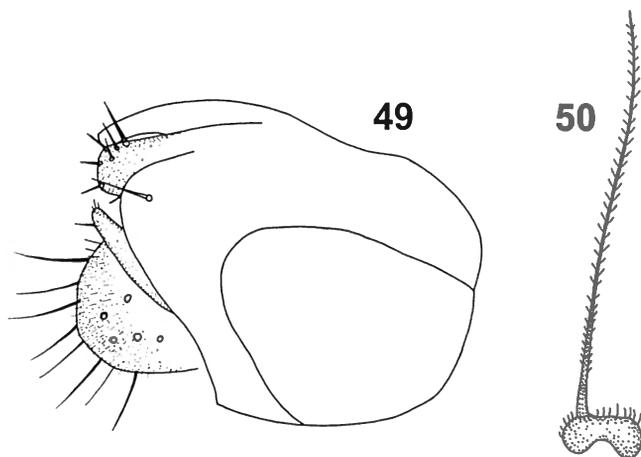
## 21. *Chrysotimus digitatus* sp. nov. (Figs. 49-50)

*Diagnosis*. Palpus pale yellow. Hairs and bristles on head and thorax yellow. Hind tarsomere 1 with group of 14-15 short black ventral bristles on basal 1/6 (which contains 1-2 small tight bundles and 1 large loose bundle).

*Male*. Body length 1.6 mm, wing length 3.1 mm.

*Head* metallic green with grey pollen; eyes distinctly separated, face slightly narrowing downward. Hairs and bristles on head yellow; postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, 0.6 times longer than wide; arista upper-apical. Proboscis black with black hairs; palpus pale yellow, with pale hairs and 2 pale bristles.

*Thorax* brilliant metallic green with grey pollen; pleuron darker. Hairs and bristles on thorax yellow; 6 dc (first dc rather short), 8 irregularly paired acr very short and



Figs. 49-50 — *Chrysotimus digitatus* sp. nov., male. 49. genitalia, lateral view; 50. first flagellomere.

hair-like; scutellum with two pairs of bristles (basal pair about 1/3 as long as apical pair). Propleuron with 1 long pale bristle-like hair on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs brownish yellow; coxae with yellow hairs and bristles, fore coxa with 7 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 2 pd, apically with 4 bristles; hind tibia with 2 ad and 1 pd, apically with 2 bristles. Hind tarsomere 1 with group of 14-15 black ventral bristles on basal 1/6, which are close located and contains 1-2 small tight bundles composed of 2 bristles and 1 large loose bundle. Relative length of tibia and 5 tarsomeres LI 1.55: 0.85: 0.4: 0.35: 0.15: 0.2; LII 2.0: 1.2: ? : ? : ? : ? ; LIII 2.3: 1.0: 0.55: 0.4: 0.2: 0.2. Wing hyaline; veins brownish yellow, R4+5 and M nearly parallel apically; CuAx ratio 0.2. Squama yellow with dark yellow hairs. Halter yellow.

*Abdomen* subshining metallic green with grey brown pollen; sterna 1-5 dark brownish yellow. Hairs and bristles on abdomen dark yellow. Male genitalia (Fig. 49): Epandrium slightly longer than wide, with rather wide lateral process; surstylus rather narrow and finger-like; cercus short and thick.

*Female*. Unknown.

*Holotype male*, Yunnan: Zhongdian, Tuomunan (3,030-3,500 m), 42 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA (KIZ).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the finger-like surstylus.

*Remarks*. The new species may be easily separated from other known species of the genus in China by the hind tarsomere 1 with partly bundled ventral bristles and finger-like surstylus.

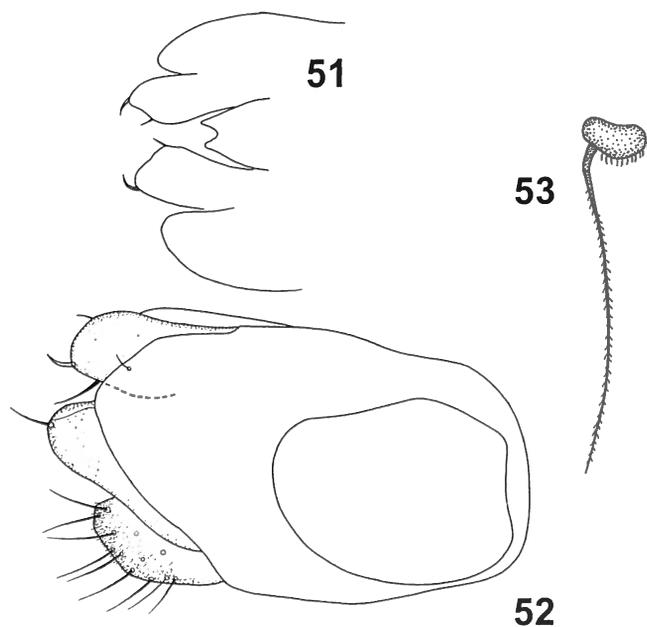
22. *Chrysotimus incisus* sp. nov.  
(Figs. 51-53)

*Diagnosis.* Palpus dark brown. Hind tarsomere 1 with rather small group of 12 short black ventral bristles on basal 1/6.

*Male.* Body length 1.7 mm, wing length 3.2 mm.

*Head* metallic green with pale grey pollen; eyes distinctly separated, face slightly narrowing downward. Hairs and bristles on head yellow; postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, 0.6 times longer than wide; arista subapical. Proboscis dark brown with blackish hairs; palpus dark brown, with blackish hairs and 2 blackish bristles.

*Thorax* brilliant metallic green with pale grey pollen; pleuron darker. Hairs and bristles on thorax yellow; 6 dc (first dc rather short), 8 irregularly paired acr very short and hair-like; scutellum with two pairs of bristles (basal pair about 1/4 as long as apical pair). Propleuron with 1 pale hair on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs blackish; coxae with dark yellow hairs and bristles, fore coxa with 6-7 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 2 pd, apically with 3 bristles; hind tibia with 2 ad and 2 pd, apically with 2 bristles. Hind tarsomere 1 with rather small group of 12 black ventral bristles on basal 1/6 (which are closely located). Relative length of tibia and 5 tarsomeres LI 1.7: 0.9: 0.4: 0.3: 0.15: 0.15; LII 2.1: 1.3: 0.5: 0.4: 0.15: 0.15; LIII 2.3: 1.0: 0.6: 0.4: 0.2: 0.15. Wing hyaline; veins dark brownish yellow, R4+5 and M parallel apically; CuAx ratio 0.2. Squama yellow with dark brown hairs. Halter yellow.



Figs. 51-53 — *Chrysotimus incisus* sp. nov., male. 51. apical portion of genitalia, ventral view; 52. genitalia, lateral view; 53. first flagellomere.

*Abdomen* dark metallic green with grey brown pollen; sterna 1-4 yellow, sternum 5 blackish. Hairs and bristles on abdomen black. Male genitalia (Figs. 51-52): Epanandrium distinctly longer than wide, with rather wide lateral process; surstylus rather wide basally and rounded apically; cercus short and thick; hypandrium with small apical incision.

*Female.* Unknown.

*Holotype male*, Yunnan: Zhongdian, Tuomunan (2,900 m), 34 km N of Qiaotou, 1996. VI. 11, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the small apical incision in the hypandrium.

*Remarks.* The new species is similar to *Chrysotimus pingbianus* sp. nov., but may be separated from the latter by having the hairs and bristles on head and thorax yellow.

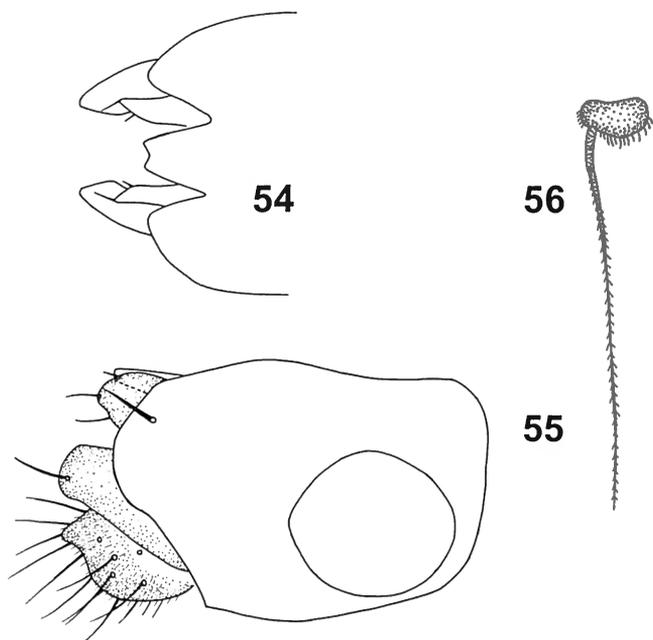
23. *Chrysotimus lijianganus* sp. nov.  
(Figs. 54-56)

*Diagnosis.* Palpus pale yellow. Hairs and bristles on head and thorax yellow. Propleuron with 2 pale hairs on lower portion. Hind tarsomere 1 with group of 7-8 short blackish ventral bristles on basal 1/6. Cercus with distinctly narrow apex.

*Male.* Body length 1.7 mm, wing length 2.8 mm.

*Head* metallic green with pale grey pollen; eyes distinctly separated, face slightly narrowing downward. Hairs and bristles on head yellow; postocular bristles (including ventral hairs) yellow. Antenna black; first flagellomere rather short, 0.6 times longer than wide; arista subapical. Proboscis dark brown with black hairs; palpus pale yellow, with pale hairs and 2 pale bristles.

*Thorax* brilliant metallic green with pale grey pollen. Hairs and bristles on thorax yellow; 6 dc (first dc rather short), 6 irregularly paired acr very short and hair-like; scutellum with two pairs of bristles (basal pair about 1/5 as long as apical pair). Propleuron with 2 pale hairs on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs yellow or dark yellow; coxae with yellow hairs and bristles, fore coxa with 6-7 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 1 pd, apically with 3 bristles; hind tibia with 2 ad and 1 pd, apically with 2 bristles. Hind tarsomere 1 with rather small group of 7-8 blackish ventral bristles on basal 1/6. Relative length of tibia and 5 tarsomeres LI 1.5: 0.9: 0.4: 0.25: 0.15: 0.15; LII 1.9: 1.1: 0.45: 0.3: 0.15: 0.15; LIII 2.2: 1.0: 0.5: 0.4: 0.2: 0.2. Wing hyaline; veins brownish yellow, R4+5 and M parallel apically; CuAx ratio 0.23. Squama dark yellow with dark brown hairs. Halter yellow.



Figs. 54-56 — *Chrysotimus lijianganus* sp. nov., male. 54. apical portion of genitalia, ventral view; 55. genitalia, lateral view; 56. first flagellomere.

*Abdomen* subshiny metallic green with pale grey and grey brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 54-55): Epandrium distinctly longer than wide, with short wide lateral process; surstylus rather wide with nearly straight dorsal margin; cercus short and thick, with distinctly narrow apex.

*Female.* Unknown.

*Holotype male*, Yunnan: Lijang, Yulongxueshan, Heishuihe (2,800-2,900 m), 1996. VI. 15, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

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

*Remarks.* The new species is somewhat similar to *Chrysotimus incisus* sp. nov., but may be separated from the latter by having a pale yellow palpus. In *incisus*, the palpus is dark brown.

#### 24. *Chrysotimus pingbianus* sp. nov. (Figs. 57-59)

*Diagnosis.* Palpus dark brown. Hairs and bristles on head and thorax dark brown. Hind tarsomere 1 with a group of 15-16 short blackish ventral bristles on basal 1/5.

*Male.* Body length 2.0 mm, wing length 3.1 mm.

*Head* metallic green with pale grey pollen; eyes

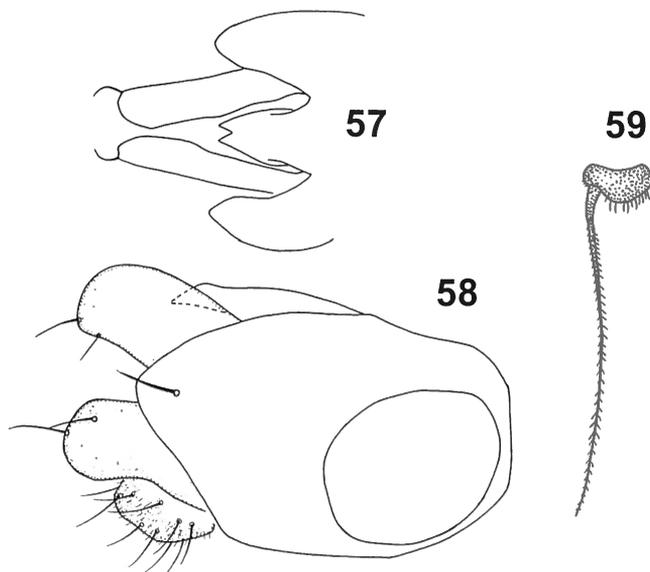
distinctly separated, face slightly narrowing downward. Hairs and bristles on head dark brown; middle and lower postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, 0.6 times longer than wide; arista subapical. Proboscis dark brown with blackish hairs; palpus dark brown, with blackish hairs and 2 blackish bristles.

*Thorax* brilliant metallic green with grey brown pollen; pleuron darker. Hairs and bristles on thorax dark brown; 6 dc (first dc rather short), 6-7 irregularly paired acr very short and hair-like; scutellum with two pairs of bristles (basal pair about 1/4 as long as apical pair). Propleuron with 1 pale hair on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs blackish; coxae with dark yellow hairs and bristles, fore coxa with 6-7 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 1 pd, apically with 3 bristles; hind tibia with 2 ad and 1 pd, apically with 2 bristles. Hind tarsomere 1 with group of 15-16 blackish ventral bristles on basal 1/5. Relative length of tibia and 5 tarsomeres LI 1.65: 0.85: 0.45: 0.35: 0.15: 0.15; LII 2.1: 1.2: 0.5: 0.4: 0.15: 0.15; LIII 2.4: 1.0: 0.6: 0.45: 0.25: 0.2. Wing hyaline; veins dark brownish yellow, R4+5 and M parallel apically; CuAx ratio 0.25. Squama dark yellow with dark brown hairs. Halter yellow.

*Abdomen* purple metallic green with grey brown pollen. Hairs and bristles on abdomen black. Male genitalia (Figs. 57-58): Epandrium distinctly longer than wide, with rather large lateral process; surstylus rather wide with distinctly curved dorsal margin; cercus short and thick; hypandrium with small apical incision.

*Female.* Unknown.

*Holotype male*, Yunnan: Pingbian, Daweishan (1,800-2,000 m), 1996. V. 22, T. SAIGUSA (KIZ).



Figs. 57-59 — *Chrysotimus pingbianus* sp. nov., male. 57. apical portion of genitalia, ventral view; 58. genitalia, lateral view; 59. first flagellomere.

*Distribution.* China (Yunnan).

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

*Remarks.* The new species is similar to *Chrysotimus incisus* sp. nov., but may be separated from the latter by having the hairs and bristles on head and thorax dark brown.

### 25. *Chrysotimus yunlonganus* sp. nov.

(Figs. 60-62)

*Diagnosis.* Palpus brown. 3-4 irregularly paired acr. Hind tarsomere 1 with group of 8 blackish ventral bristles on basal 1/5 (which are somewhat sparse). CuAx ratio 0.35.

*Male.* Body length 1.5 mm, wing length 2.2 mm.

*Head* metallic green with pale grey pollen; eyes distinctly separated, face slightly narrowing downward. Hairs and bristles on head yellow; postocular bristles (including ventral hairs) pale. Antenna black; first flagellomere rather short, 0.6 times longer than wide; arista subapical. Proboscis dark brown with blackish hairs; palpus brown, with blackish hairs and 2 blackish bristles.

*Thorax* brilliant metallic green with pale grey pollen. Hairs and bristles on thorax yellow; 6 dc (first dc rather short), 3-4 irregularly paired acr very short and hair-like; scutellum with two pairs of bristles (basal pair about 1/3 as long as apical pair). Propleuron with 1 pale hair on lower portion. Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs blackish; coxae with dark

yellow hairs and bristles, fore coxa with 6-7 lateral and apical bristles. Fore tibia without distinct bristles; mid tibia with 2 ad and 2 pd, apically with 3 bristles; hind tibia with 2 ad and 2 pd, apically with 2 bristles. Hind tarsomere 1 with group of 8 blackish ventral bristles on basal 1/5 (which are somewhat sparse). Relative length of tibia and 5 tarsomeres LI 1.2: 0.7: 0.4: 0.25: 0.15: 0.15; LII 1.6: 0.9: 0.4: 0.25: 0.15: 0.15; LIII 1.75: 0.7: 0.5: 0.35: 0.15: 0.15. Wing hyaline; veins dark brownish yellow, R4+5 and M nearly parallel apically; CuAx ratio 0.35. Squama yellow with dark brown hairs. Halter yellow.

*Abdomen* metallic green with grey brown pollen; venter blackish. Hairs and bristles on abdomen black. Male genitalia (Figs. 60-61): Epandrium distinctly longer than wide, with lateral process rather thick basally and somewhat narrow apically; surstylus rather wide and obtuse apically; cercus short and thick.

*Female.* Unknown.

*Holotype male,* Yunnan: Yunlong, 3 km NNW of Zhi-chang (2,500-2,600 m), 1996. VI. 4, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

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

*Remarks.* The new species is somewhat similar to *incisus* sp. nov., but may be separated by having the 3-4 irregularly paired acr and hind tarsomere 1 with 8 somewhat sparse bristles on basal 1/5. In *incisus*, 8 irregularly paired acr are present, and the hind tarsomere 1 has 12 tight ventral bristles on basal 1/6.

### Subfamily Sciapodinae

### 26. *Sinosciapus yunlonganus* sp. nov.

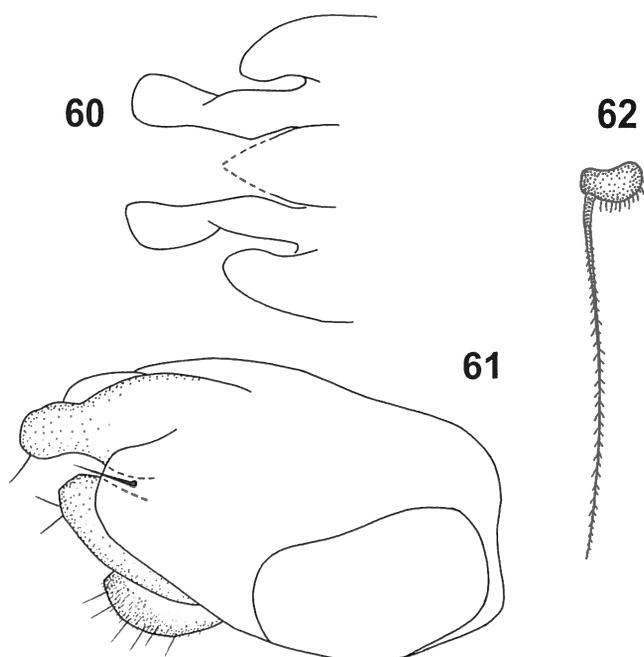
(Figs. 63-64)

*Diagnosis.* Thorax and abdomen chiefly metallic green with yellow markings. Antenna black; first flagellomere nearly semicircular, as long as wide.

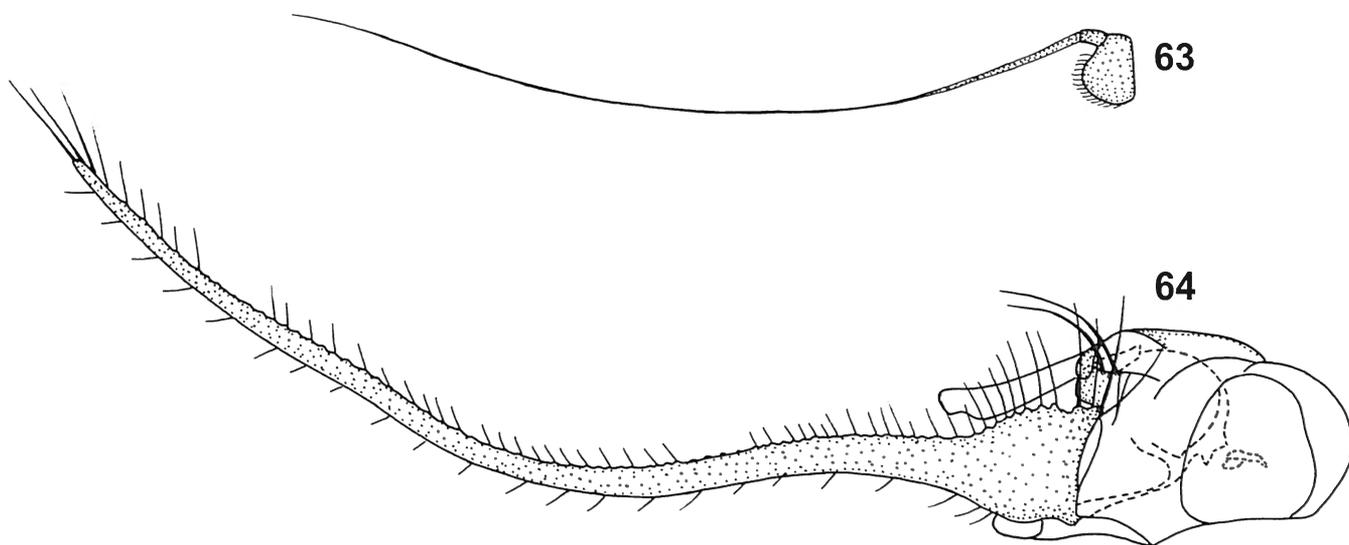
*Male.* Body length 4.6-4.7 mm, wing length 5.0-5.1 mm.

*Head* metallic green with pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale. Antenna blackish; first flagellomere nearly semicircular and as long as wide; arista subapical, black, slightly shorter than head width. Proboscis dark yellow, with pale hairs; palpus dark yellow, with pale hairs and 2 blackish bristles.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum brilliant metallic green; humeri blackish, pteropleuron sometimes brownish yellow, mesopleuron sometimes dark yellow with anterior part blackish, metapleuron yellow. Hairs and bristles on thorax black; 5 dc, 5-6 irregularly paired



Figs. 60-62 — *Chrysotimus yunlonganus* sp. nov., male. 60. apical portion of genitalia, ventral view; 61. genitalia, lateral view; 62. first flagellomere.



Figs. 63-64 — *Sinosciapus yunlonganus* sp. nov., male. 63. first flagellomere; 64. genitalia, lateral view.

acr short and hair-like; scutellum with 2 pairs of bristles (basal pair 2/3 as long as apical pair). Legs yellow; fore tarsomere 5 and mid and hind tarsomeres 3-5 dark brown. Hairs and bristles on legs black; fore coxa with pale lateral hairs, without distinct bristles. Mid tibia with 1 short ad at base, apically with 3 bristles; hind tibia with 3 pd on apical portion, apically with 2 bristles. Fore tarsomere 5 with 2 rows of spine-like ventral bristles; one claw elongated and spine-like. Relative length of tibia and 5 tarsomeres LI 3.8: 3.9: 1.1: 0.7: 0.4: 0.45; LII 5.0: 3.6: 1.0: 0.8: 0.45: ?; LIII 6.6: 3.0: 1.0: 0.55: 0.3: 0.4. Wing nearly hyaline; veins dark brown; costa with elongated anterior bristles on first costal section (except basal half) and 2nd costal section (except narrow apex); M with short M2, crossvein m-cu nearly straight. Squama yellow with black margin, with pale hairs. Halter yellow.

*Abdomen* brilliant metallic green with thin pale grey pollen; tergum 2 with yellow or dark yellow base, terga 3 or 4 with antero-lateral area dark yellow or brown; cercus dark brown. Hairs and bristles on abdomen black; terga 1-5 with pale hairs laterally. Male genitalia (Fig. 64): Epanthrium with short quadrate surstylus (bearing 2 long bristles on ventral margin); cercus very long with wide base.

*Female.* Unknown.

*Holotype male*, Yunnan: Yunlong, 3 km NNW of Zhi-chang (2,500-2,600 m), 1996. VI. 4, T. SAIGUSA (KIZ). Paratype 1 male, Yunnan: Pingbian, Daweishan (1,800-2,000 m), 1996. V. 24, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

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

*Remarks.* The new species may be separated from *Sinosciapus tianmushanus* YANG, 2001 from Zhejiang by the thorax and abdomen mostly metallic green with a yellow spot, and first flagellomere as long as wide. In *tianmushanus*, the thorax and abdomen are chiefly yellow, and the first flagellomere is longer than wide (YANG, 2001).

## 27. *Chrysosoma dalianum* sp. nov.

(Fig. 65)

*Diagnosis.* Scape rather swollen and vase-like. All coxae black with pale hairs and bristles. Hind femur black.

*Male.* Body length 5.2-5.5 mm, wing length 6.1-6.2 mm.

*Head* brilliant purple metallic green with thin pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 2 long black anterior hairs curved outward on postero-lateral slope. Antenna brownish black; scape rather swollen and vase-like, metallic green; first flagellomere short and subconical (as long as wide); arista apical, much longer than head + thorax, black and bare, with oval apical flag. Proboscis yellow, with pale and dark yellow hairs; palpus yellow, with pale hairs and 2 black bristles.

*Thorax* brilliant purple metallic green with thin pale grey pollen, pleuron with slightly dense pollen. Hairs and bristles on thorax black; 2 strong posterior dc and 4 distinct hairs anteriad, 3 irregularly paired long acr; scutellum with 2 pairs of bristles (basal pair weak, about 1/4 as long as apical pair). Legs yellow; all coxae black; hind femur black; fore and mid tarsi from tip of tarsomere 1 onward brown to dark brown, hind tarsus dark brown. Hairs and bristles on legs black; coxae with pale hairs and bristles; femora with two rows of long ventral hairs, but ventral hairs on median portion of mid femur black. Fore

tibia without d, apically with 3 very short bristles; mid tibia with 1 ad and 2 pd, apically with 4 bristles; hind tibia with 4 pd and 4-5 av, apically with 4 bristles. Fore tarsus (except basal portion of tarsomere 1) with very short tiny ventral hairs; tarsomere 1 with one row of long postero-ventral hairs. Relative length of tibia and 5 tarsomeres LI 3.1: 2.0: 0.6: 0.5: 0.45: 0.2; LII 5.1: 3.7: 1.2: 0.7: 0.5: 0.2; LIII 7.0: 2.7: 1.5: 0.8: 0.55: 0.3. Wing nearly hyaline with anterior portion uniformly dark brown; veins black, crossvein m-cu somewhat bent. Squama dark brown, with black hairs. Halter black.

*Abdomen* brilliant metallic green with thin pale grey pollen; apical margins of terga 2-5 and basal portions of terga 3-6 dark velvety black with dark grey brown pollen; genitalia brownish black with greyish brown pollen. Hairs and bristles on abdomen black; terga 1-3 with pale hairs laterally, sterna 2-3 with pale hairs. Male genitalia (Fig. 65): Epandrium with 3 lateral hairs; surstylus long and distinctly concave, basally with 1 short finger-like process; cercus widely furcate; hypandrium acute apically, with long lateral arm.

*Female.* Unknown.

*Holotype male*, Yunnan: Dali, Daboqing (1,900-2,100 m), 7 km W of Xiaguan, 1996. VI. 16, T. SAIGUSA (KIZ). Paratypes 4 males, same data as holotype (KIZ & SKU).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the type locality Dali.

*Remarks.* The new species is somewhat similar to *Chrysosoma chinese* BECKER, 1922 from Yunnan, but may be separated from the latter by all coxae black with pale hairs and bristles. In *chinese*, the fore coxa is reddish yellow in apical half with 3 black apical bristles (BECKER, 1922).

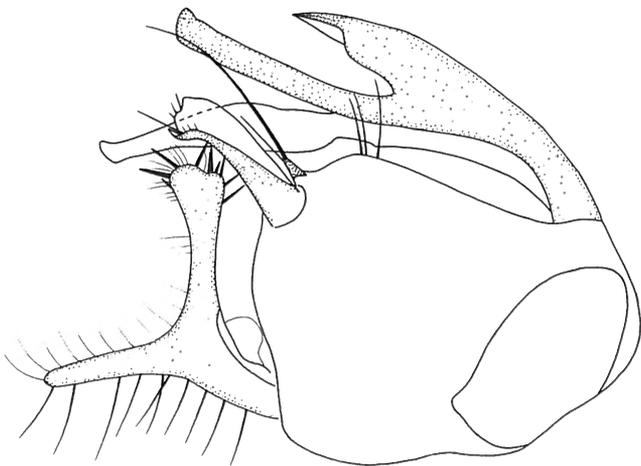


Fig. 65 — *Chrysosoma dalianum*, sp. nov., male genitalia, lateral view.

## 28. *Chrysosoma jingpinganum* sp. nov. (Fig. 66)

*Diagnosis.* Thorax mainly dark yellow, abdomen mainly dark brownish yellow. Face nearly as wide as frons. Fore tarsomere 1 rather long with basal 1/5 rather thick with plumose lateral hairs.

*Male.* Body length 3.0 mm, wing length 4.3 mm.

*Head* metallic green with slightly dense pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 1 pale anterior hair on postero-lateral slope; vt shorter than oc. Antenna yellow; pedicel with 1 long dorsal bristle and 1 long ventral bristle; first flagellomere short and subconical (nearly as long as wide); arista apical, distinctly longer than head + thorax, blackish, with indistinct hairs, without apical flag. Proboscis dark yellow, with pale hairs; palpus dark yellow, with pale hairs and 3 blackish bristles.

*Thorax* dark yellow tinged with pale metallic green on mesonotum (except narrow lateral area) and scutellum, with pale grey pollen. Hairs and bristles on thorax black; 2 strong posterior dc and 4 short hairs anteriorly, 2 irregularly paired long acr; su absent, anterior sa rather short; basal scutellar bristle absent. Legs including coxae yellow. Hairs and bristles on legs black; coxae with pale hairs and bristles; fore coxa with 3 yellow strong lateral and apical bristles, hind coxa with 1 outer bristle at basal 1/4. Mid tibia with 3 short pd, apically with 3 bristles; hind tibia with distinct bristles, apically with 3 bristles. Fore tarsomere 1 rather long with basal 1/5 rather thick (with plumose lateral hairs). Relative length of tibia and 5 tarsomeres LI 3.2: 3.4: 0.85: 0.6: 0.5: 0.3; LII 4.2: 3.2: 0.8: 0.55: 0.4: 0.2; LIII 5.6: 2.65: 1.0: 0.6: 0.5: 0.2. Wing hyaline; veins brownish yellow, crossvein m-cu straight. Squama yellow, with pale hairs. Halter yellow.

*Abdomen* dark brownish yellow with pale grey pollen. Hairs and bristles on abdomen black; tergum 1 with pale hairs laterally. Male genitalia (Fig. 66): Epandrium with 2 lateral hairs; surstylus with rather slender apical portion, basally with 1 short thick process; cercus long and finger-like; hypandrium without lateral arm; aedeagus rather thick and slightly curved.

*Female.* Unknown.

*Holotype male*, Yunnan: Jingping, Taiyangzhai (1,500-1,600 m), 1996. V. 27, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

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

*Remarks.* The new species is somewhat similar to *Chrysosoma rubicundum* BECKER 1922, from Taiwan, but may be separated from the latter by the modified fore tarsus and fore coxa with 3 strong lateral and apical bristles. In

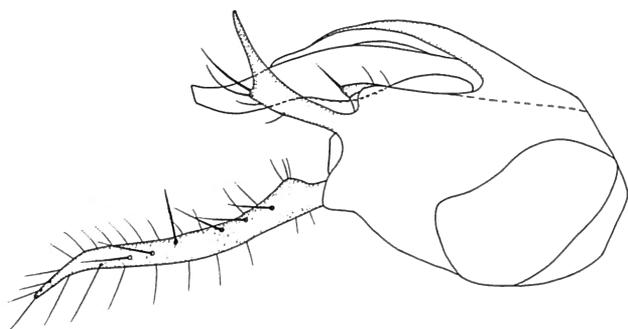


Fig. 66 — *Chrysosoma jingpinganum*, sp. nov., male genitalia, lateral view.

*rubicundum*, the fore tarsus is simple, and the fore coxa has 3 short apical hairs (BECKER, 1922)

**29. *Chrysosoma luchunanum* sp. nov.**  
(Fig. 67)

*Diagnosis.* Arista shorter than head + thorax. All coxae yellow with pale hairs and bristles.

*Male.* Body length 4.9 mm, wing length 5.4 mm.

*Head* metallic green with pale grey pollen; vertex and frons brilliant metallic green. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 1 black anterior hairs on postero-lateral slope; vt nearly as long as oc. Antenna black; pedicel with 1 long dorsal bristle; first flagellomere short and subconical (as long as wide); arista apical, shorter than head + thorax, black, with indistinct hairs, without apical flag. Proboscis yellow, with pale and blackish hairs; palpus yellow, with pale hairs and 2 black bristles.

*Thorax* metallic green with pale grey pollen; mesonotum and scutellum brilliant metallic green. Hairs and bristles on thorax black; 2 strong posterior dc and 2 very short hairs anteriad, 2-3 irregularly paired long acr; scutellum with 2 pairs of bristles (basal pair about 1/5 as long as apical pair). Legs yellow; all coxae yellow except mid coxa with black outer stripe; tarsi from tip of tarsomere 1 onward dark brown, fore tarsus paler. Hairs and bristles on legs black; coxae with pale hairs and bristles; fore coxa with 4-5 lateral and apical bristles, hind coxa with 1 outer bristle at basal 1/3. Femora with pale ventral hairs basally. Fore tibia with 1 ad at base, apically with 3 bristles; mid tibia with 1 ad and 1 pd at base, apically with 3 bristles; hind tibia with 6-7 pd and 8-9 av, apically with 3 bristles. Fore tarsus with very short tiny ventral hairs; tarsomere 1 with one row of crocheted postero-ventral hairs. Relative length of tibia and 5 tarsomeres LI 3.8: 2.6: 1.2: 0.6: 0.45: 0.3; LII 5.4: 4.1: 1.2: 0.7: 0.45: 0.2; LIII 7.1: 3.4: 1.55: 0.55: 0.5: 0.2. Wing hyaline; veins dark brown, crossvein m-cu straight. Squama dark brown, with black hairs. Halter yellow.

*Abdomen* metallic green with pale grey pollen; dorsum brilliant metallic green; apical margins of terga 2-6 and basal portions of terga 3-7 velvety black with dark grey brown pollen; genitalia brownish black with greyish brown pollen. Hairs and bristles on abdomen black; tergum 1 with pale hairs laterally, sternum 2 with pale hairs. Male genitalia (Fig. 67): Epandrium with 2 lateral hairs; surstylus long and not concave, basally with 1 short finger-like process; cercus short and thick, somewhat triangular; hypandrium acute apically, with long lateral arm.

*Female.* Unknown.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

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

*Remarks.* The new species is easily separated from other known species of the genus from China by the rather short and thick cercus (nearly triangular).

**30. *Chrysosoma serratum* sp. nov.**  
(Fig. 68)

*Diagnosis.* Fore coxa yellow, mid and hind coxae black. Hind femur with black apex. Wing chiefly dark brown with pale markings. m-cu strongly bent.

*Male.* Body length 4.1-4.5 mm, wing length 5.4-5.7 mm.

*Head* metallic green with slightly dense pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons

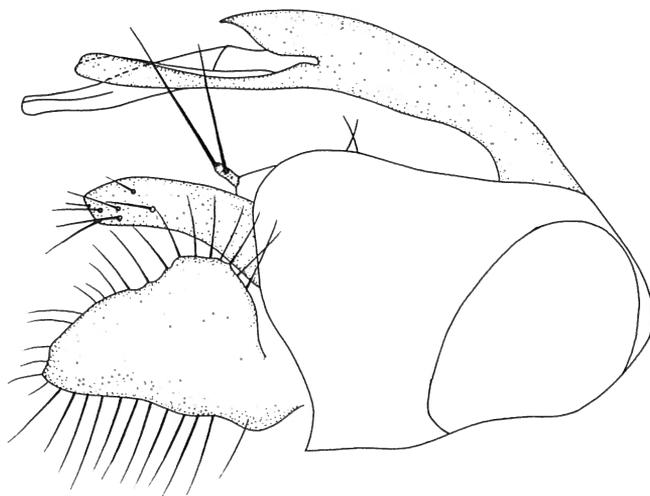


Fig. 67 — *Chrysosoma luchunanum*, sp. nov., male genitalia, lateral view.

with 1 very short black anterior hair on postero-lateral slope; vt very short, much shorter than oc. Antenna black; first flagellomere conical, 1.4 times longer than wide; arista apical, longer than head + thorax, black and bare (except apical portion with indistinct hairs). Proboscis dark brownish yellow, with black hairs; palpus black, with black hairs and 2 black bristles.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural area) and scutellum brilliant metallic green. Hairs and bristles on thorax black; 2 strong posterior dc and 4 rather short hairs anterior, 2-3 irregularly paired long ac; ih absent; ph, su, anterior sa short and hair-like; scutellum with two pairs of bristles (basal pair about 1/6 as long as apical pair). Legs yellow; fore coxa yellow, mid and hind coxae black; apex of hind femur black; fore and mid tarsi from tip of tarsomere 1 onward brown to dark brown, hind tarsus dark brown. Hairs and bristles on legs black; fore coxa with 5 lateral and apical bristles, hind coxa without distinct outer bristle. Fore tibia with 1-2 short pd, apically with 2 short bristles; mid tibia with 2-3 pd, apically with 4 bristles; hind tibia with 7 pd and 6 av, apically with 3 bristles. Relative length of tibia and 5 tarsomeres LI 2.0: 1.6: 0.55: 0.5: 0.4: 0.15; LII 4.1: 2.7: 0.7: 0.45: 0.3: 0.15; LIII 4.1: 2.15: 0.7: 0.45: 0.25: 0.15. Wing dark brown with basal 1/3 nearly hyaline and pale apical margin (outer margin sometimes pale), one pale spot before crossvein m-cu (below M) and one pale spot behind crossvein m-cu (above M); veins dark brown, first costal section (except basal portion) and second costal section (except narrow apex) with elongated anterior bristles, crossvein m-cu strongly bent. Squama brown with black margin, with black hairs. Halter dark brown.

*Abdomen* metallic green with pale grey pollen; dorsum brilliant metallic green, apical margins of terga 2-7 and basal margins of terga 3-6 darker. Hairs and bristles on abdomen black. Male genitalia (Fig. 68): Epandrium with 2 lateral hairs; surstylus short and thick, with 3 processes (median process rather large), basally with 1 short finger-like process; cercus long finger-like; hypandrium acute



Fig. 68 — *Chrysosoma serratum*, sp. nov., male genitalia, lateral view.

apically, without lateral arm; aedeagus with tiny denticles medially.

*Female*. Body length 3.5-3.6 mm, wing length 5.1-5.2 mm. Similar to male.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes 4 males 3 females, same data as holotype (KIZ & SKU).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the aedeagus with tiny denticles.

*Remarks*. By the key of BECKER (1922), the new species runs to *Chrysosoma interruptum* BECKER, 1922 from Australia, but may be separated from the latter by the first flagellomere not being elongated. In *interruptum*, the first flagellomere is distinctly elongated (BECKER, 1922; BICKEL, 1994).

### 31. *Chrysosoma yunnanense* sp. nov.

(Fig. 69)

*Diagnosis*. Frons rather narrow (narrower than face at widest point); vertex slightly excavated. Mid tarsomere 1 with a row of short and somewhat erect anterior bristles.

*Male*. Body length 5.2 mm, wing length 5.3 mm.

*Head* metallic green with slightly dense pale grey pollen; vertex slightly excavated; frons somewhat narrow, narrower than face at widest point. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 1 very short black anterior hair on postero-lateral slope; vt slightly shorter than oc. Antenna yellow; first flagellomere subconical, as long as wide; arista apical, much longer than head + thorax, black and bare. Proboscis yellow, with black hairs; palpus yellow, with pale and black hairs and 2 black bristles.

*Thorax* blackish with pale grey pollen; mesonotum (except notopleural region) and scutellum brilliant metallic green, humeri and metapleuron yellow. Hairs and bristles on thorax black; 2 slightly strong posterior dc and 4 rather short hairs anterior, 2-3 irregularly paired and slightly strong ac; scutellum with two pairs of bristles (basal pair about 1/6 as long as apical pair). Legs yellow; tarsomere 5 dark brown. Hairs and bristles on legs black; coxae with pale hairs and bristles, fore coxa apically with black hairs and 6 black lateral and apical bristles, hind coxa with 1 bristle at basal 1/3. Fore tibia with a row of short pv; mid tibia with 2 pd, apically with 3 bristles; hind tibia with 8-9 pd, apically with 3 bristles. Mid tarsomere 1 with a row of short and somewhat erect anterior bristles. Relative length of tibia and 5 tarsomeres LI 3.6: 3.6: 1.5: 1.3: 0.8: 0.4; LII 5.5: 4.4: 1.5: 1.2: 0.7: 0.4; LIII 7.0: 3.1:

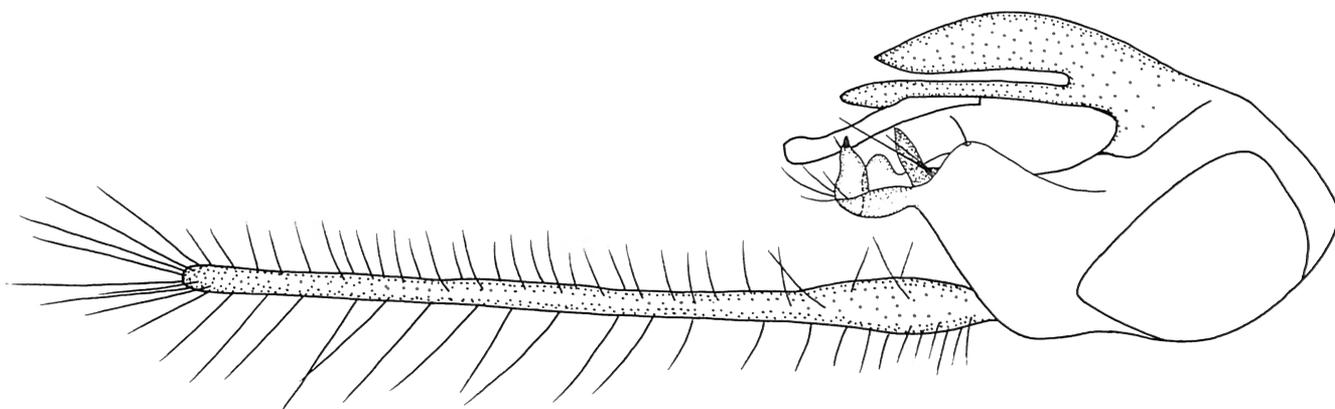


Fig. 69 — *Chrysosoma yunnanense*, sp. nov., male genitalia, lateral view.

1.8: 1.0: 0.6: 0.4. Wing hyaline; veins brownish yellow; crossvein m-cu straight. Squama yellow with dark brown margin, with brown hairs. Halter yellow.

*Abdomen* pale metallic green with pale grey pollen; tergum 1 brownish yellow; terga 2-4 with lateral portion brownish yellow and narrow posterior portion dark brown. Hairs and bristles on abdomen black. Male genitalia (Fig. 69): Epandrium with 1 lateral hair; surstylus rather short, with 3 ventral processes; cercus slender; hypandrium acute apically, with long lateral arm.

*Female*. Unknown.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ).

*Distribution*. China (Yunnan).

*Etymology*. The specific name refers to the type locality Yunnan.

*Remarks*. The new species is very similar to *Chrysosoma xanthodes* YANG et LI, 1998 from Zhejiang and Shaanxi in having a narrow frons, but may be separated from the latter by having the upper postocular bristles black, mid tarsomere 1 with one row of short and somewhat erect anterior bristles and cercus distinctly longer than epandrium. In *xanthodes*, the postocular bristles are wholly pale, the mid tarsomere 1 has no anterior bristles, and the cercus is nearly as long as the epandrium (YANG & LI, 1998).

### 32. *Plagiozopelma luchunanum* sp. nov. (Fig. 70)

*Diagnosis*. Fore coxa yellow, mid and hind coxae (except narrow apex) black. Fore coxa with 8-10 yellow spine-like outer lateral bristles and 4-6 black spine-like inner lateral bristles.

*Male*. Body length 5.6-5.7 mm, wing length 6.0-6.3 mm.

*Head* metallic green with pale grey pollen; vertex and frons brilliant metallic green. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 1 short black anterior hair on postero-lateral slope; vt short, much shorter than oc; gena with 2 pale spine-like bristles. Antenna yellow; scape distinctly swollen and vase-like, first flagellomere short and subconical, as long as wide; arista apical, much longer than head + thorax, black and bare, with oval apical flag (which is pale at base). Proboscis yellow, with pale hairs; palpus yellow, with pale hairs and 2 black bristles.

*Thorax* metallic green with pale grey pollen; mesonotum and scutellum brilliant metallic green. Hairs and bristles on thorax black; 2 strong posterior dc and 4 distinct hairs anterior, 1-3 irregularly paired long acr; ih, ph, su, anterior sa short and hair-like; basal scutellar bristle absent. Legs yellow; fore coxa yellow, mid and hind coxae (except narrow apex) black; mid and hind tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; hairs and bristles on coxae and trochanters pale; fore and hind femora with pale ventral hairs basally (ventral hairs on fore femur longer), mid femur with one row of black weak av (which are pale basally). Fore coxa with 8-10 yellow spine-like outer lateral bristles, and 4-6 black spine-like inner lateral bristles (which are curved apically); hind coxa with 1 outer bristle at basal 1/3. Fore tibia apically with 2 short bristles; mid tibia with 1 pd at base, apically with 3 bristles; hind tibia with 9-10 pd and 8-9 av, apically with 3 bristles. Fore tarsomere 1 with one row of long crocheted postero-ventral hairs. Relative length of tibia and 5 tarsomeres LI 4.0: 2.6: 1.0: 0.6: 0.4: 0.2; LII 6.5: 4.6: 1.6: 1.0: 0.4: 0.2; LIII 8.0: 3.6: 1.8: 1.0: 0.5: 0.2. Wing hyaline; veins dark brown, crossvein m-cu nearly straight. Squama yellow with dark brown margin, with black hairs. Halter brownish yellow.

*Abdomen* brilliant metallic green with pale grey pollen; apical margins of terga 2-5 and basal portions of terga 3-6 dark greyish brown. Hairs and bristles on abdomen black. Male genitalia (Fig. 70): Epandrium with long curved surstylus slightly concave, basally with 1 very short finger-like process; cercus furcate with 3 long branches;

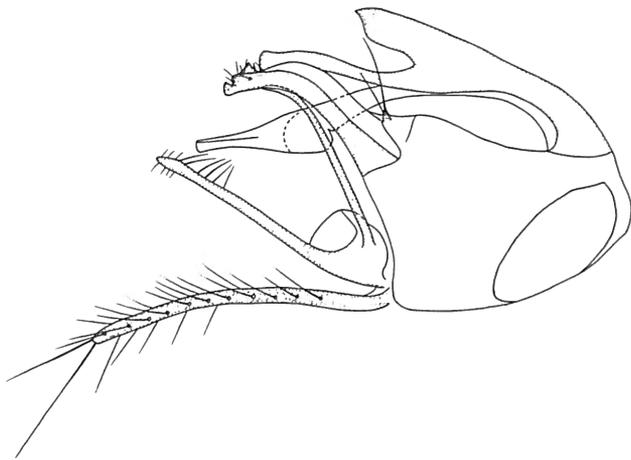


Fig. 70 — *Plagiozopelma luchunanum*, sp. nov., male genitalia, lateral view.

hypandrium nearly acute apically, with long lateral arm.

*Female.* Body length 4.6-4.8 mm, wing length 5.2-5.4 mm. Similar to male, but first flagellomere dark brown, anterior 3 dc stronger.

*Holotype male*, Yunnan: Luchun, 7-8 km E of Luchun (1,900-2,000 m), 1996. V. 31, T. SAIGUSA (KIZ). Paratypes 4 males 5 females, 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 *Plagiozopelma flavipodex* (BECKER, 1922) from the Oriental region and Australia, but differs from the latter in having black mid and hind coxae. In *flavipodex*, all coxae are yellow (BICKEL, 1994; YANG, 1999).

### 33. *Mesorhaga longiseta* sp. nov. (Fig. 71)

*Diagnosis.* Fore coxa yellow with black base, mid and hind coxae black. Hind femur yellow with black apex. Cercus with some very long bristles.

*Male.* Body length 3.6 mm, wing length 4.3 mm.

*Head* metallic green with slightly dense pale grey pollen. Hairs and bristles on head black; middle and lower postocular bristles (including ventral hairs) pale; frons with 1 black anterior hair on postero-lateral slope (which is curved forward); ocellar tubercle with 3 long posterior hairs; vt as long as oc. Antenna black; first flagellomere nearly semicircular, 0.6 times longer than wide; arista subapical, distinctly shorter than head width, black, with

indistinct hairs. Proboscis dark brown, with pale hairs; palpus black, with pale hairs and 1 black bristle.

*Thorax* metallic green with pale grey pollen; mesonotum (except notopleural region) and scutellum brilliant metallic green. Hairs and bristles on thorax black; 5 strong posterior dc; 3 irregularly paired long acr, anterior 2 pairs located in front of 2nd dc, posterior 1 pair located between 3rd and 4th dc; ih absent; basal scutellar bristle about 1/5 as long as apical bristle. Legs yellow; fore coxa yellow with black base, mid and hind coxae black; mid and hind trochanters black; hind femur with black apex; tarsi from tip of tarsomere 1 onward dark brown. Hairs and bristles on legs black; hairs and bristles on coxae pale; fore coxa with 6-7 lateral and apical bristles, hind coxa with 1 outer bristle at basal 1/3. Femora with pale ventral hairs, fore and mid femora with each one row of pale hair-like short av and pale hair-like long pv. Mid tibia apically with 3 bristles; hind tibia with 6 pd, apically with 2 bristles. Relative length of tibia and 5 tarsomeres LI 2.2: 1.55: 0.6: 0.4: 0.15: 0.15; LII 3.2: 2.2: 0.9: 0.6: 0.3: 0.2; LIII 4.0: 1.6: 1.4: 0.7: 0.45: 0.2. Wing hyaline; veins dark brown, M with a strong Z-bend, CuAx ratio 0.65. Squama dark yellow with dark brown margin, with black hairs. Halter brown with yellow knob.

*Abdomen* brilliant metallic green with pale grey pollen. Hairs and bristles on abdomen black; terga 1-3 with pale hairs laterally. Male genitalia (Fig. 71): Epandrium much longer than wide, with rather large and long lateral lobe; surstylus with wide dorsal arm and irregularly divided ventral arm; cercus rather thick basally, rather narrow and curved apically, and with some very long bristles; hypandrium very long and slender.

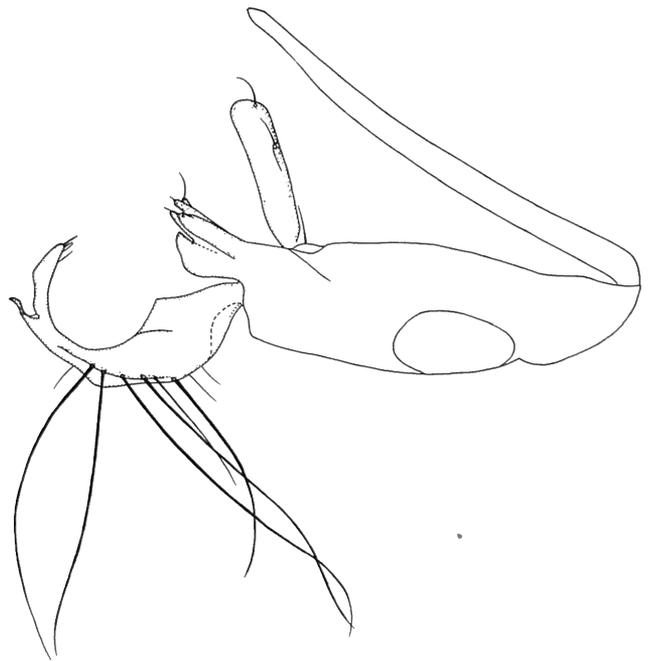


Fig. 71 — *Mesorhaga longiseta*, sp. nov., male genitalia, lateral view.

*Female.* Unknown.

*Holotype male*, Yunnan: Dali, Daboqing (1,900-2,100 m), 7 km W of Xiaguan, 1996. VI. 16, T. SAIGUSA (KIZ).

*Distribution.* China (Yunnan).

*Etymology.* The specific name refers to the very long bristles on the cercus.

*Remarks.* The new species is somewhat similar to *Me-sorhaga albiflabellata* PARENT 1944, from North China.

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- But in *albiflabellata*, the coxae and femora are wholly yellow (PARENT, 1944).

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Ding YANG

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

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

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