

**Three new species of the genus *Chrysosoma* Guérin-Méneville
from Tibet, China (Diptera: Dolichopodidae)**

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ABSTRACT

Previously only one species of the genus *Chrysosoma* Guérin-Méneville was described from Tibet. Here four *Chrysosoma* species are added to the fauna of Tibet. The following three new species are described: *Chrysosoma furcatum* sp. nov., *Chrysosoma nyingchiense* sp. nov. and *Chrysosoma spinosum* sp. nov. Both a key to the species of the genus *Chrysosoma* from Tibet and a key to the species of the genus from China are presented respectively.

Key words. Diptera, Dolichopodidae, *Chrysosoma*, new species, Tibet

INTRODUCTION

The genus *Chrysosoma* Guérin-Méneville, 1831 is a large genus with 207 known species from the world, most of which are restricted in the Oriental, Australian and Afrotropical Regions (Bickel 1994; Yang *et al.* 2006). There are 35 known species from China (Yang *et al.* 2011), but only one species, *C. insensibile* Yang, was described from Tibet of China by Yang (1995b). The major references dealing with the Oriental species of *Chrysosoma* are Becker (1922), Bickel (1994), Bickel & Wei (1996), De Meijere (1924), Enderlein (1912), Frey (1924), Hollis (1964), Parent (1932, 1934, 1935), Wei (2006), Wei & Song (2005), Yang (1995a, 1995b, 1998), Yang & Saigusa (2001), Yang & Zhu (2012), Yang *et al.* (2011), and Zhu & Yang (2005). Here four species including three new species are added to the fauna of Tibet, based on specimens from Southern Tibet. Both a key to the species of the genus *Chrysosoma* from Tibet and a key to the species of the genus from China are presented respectively for the convenience of future study.

MATERIALS AND METHODS

Types are deposited in the Entomological Museum of China Agricultural University, Beijing (CAU). The following abbreviations are used: acr = acrostichal seta(e), ad = anterodorsal seta(e), av = anteroventral seta(e), dc = dorsocentral seta(e), ih = inner humeral seta(e), LI = fore leg, LII = mid leg, LIII = hind leg, npl = notopleural seta(e), oc = ocellar seta(e), p = posterior seta(e), ph = posthumeral seta(e), psa = postalar seta(e), pvt = postvertical seta(e), sa = supraalar seta(e), su = sutural seta(e), sc = scutellar seta(e), v = ventral seta(e), vt = vertical seta(e).

TAXONOMY

Genus *Chrysosoma* Guérin-Méneville, 1831

Chrysosoma Guérin-Méneville, 1831: pl. 20, fig. 6. Type species: *Chrysosoma fasciata* Guérin-Méneville, 1831 (subsequent designation by Enderlein, 1912: 373).

Diagnosis.— Body often stout. Vertex strongly excavated in both sexes; strong postvertical seta present, in line with postocular bristles. Male frons usually with group of fine setae or with weak vertical seta; female frons with strong vertical bristle. First flagellomere of both sexes usually elongate triangular; apical arista, much longer than width of head. Acr developed as 3-5 strong pairs; male usually with 2 strong posterior dc and weak hair-like anterior dc; female usually with 5 strong dc. Lateral scutellar bristle weak, even lost. Fore femur usually with strong ventral bristles; fore tibia usually with strong dorsal chaetotaxy. Wing usually hyaline but sometimes with brown maculations; crossvein m-cu usually sinuate, sometimes externally convex or bowed; if crossvein m-cu is straight, it forms an acute angle with M. Hypandrium with narrow left lateral arm; epandrial lobe with 2 strong apical bristles; surstylus usually with large ventral lobe and digitiform dorsal projection; cercus mostly forked.

Key to species (males) of *Chrysosoma* from Tibet

- 1 Wing hyaline, at most slightly tinged grayish, or distinctly brown with hyaline spots; crossvein m-cu straight or slightly bent without stub . . . 2
 - Wing distinctly grayish brown without hyaline spot; crossvein m-cu strongly bent with stub . . . *C. nyingchiense* sp. nov.
 - 2 Wing hyaline, at most slightly tinged grayish . . . 3
 - Wing distinctly brown with hyaline spots . . . *C. varitum*
 - 3 Mid tarsomere 1 without spine-like v; cercus with apical incision 4
 - Mid tarsomere 1 with row of 4-5 spine-like v; cercus without apical incision *C. spinosum* sp. nov.
 - 4 Mid tarsomere 1 with 3-4 long ad at apex; surstylus with a finger-like dorsal process *C. insensibile*
 - Mid tarsomere 1 with only 1 long ad at apical 1/4; surstylus without finger-like dorsal process *C. furcatum* sp. nov.
- A key to species (males) of *Chrysosoma* from China**
(modified from Yang *et al.* 2011)
- 1 Wing uniformly grayish brown with darker anterior margin and without any hyaline spots 2
 - Wing coloration not as above 4
 - 2 Crossvein m-cu strongly bent with a stub; all coxae black 3
 - Crossvein m-cu slightly bent without stub; fore coxa yellow, mid and hind coxae black; male cercus curved outward at tip *C. tongbiguanum*
 - 3 2 irregularly paired acr; vein M₁ weakly embowed basally; cercus not widened but slightly curved inward apically *C. longum*
 - 3 irregularly paired acr; vein M₁ nearly straight basally; cercus distinctly widened and curved outward apically *C. nyingchiense* sp. nov.
 - 4 Wing with dark brown marking, continuous along anterior margin, with excavation from posterior margin 5
 - Wing hyaline or with subapical spot or cloudin near costa 8
 - 5 Antenna black or brownish black; cercus various 6
 - Antenna yellow; cercus widely furcated *C. cupido*

- 6 Crossvein m-cu straight; cercus various 7
 — Crossvein m-cu strongly bent; cercus long and finger-like *C. serratum*
- 7 Proboscis yellow; 3 pairs of acr *C. chinense*
 — Proboscis dark brown; 4 pairs of acr *C. varitum*
- 8 Anterior portion of wing hyaline; cercus various 9
 — Anterior portion of wing brown; cercus widely furcated *C. dalianum*
- 9 First flagellomere and arista separated 10
 — First flagellomere and arista fused; cercus with digitiform dorsal projection and bilobed ventral arm. *C. crinicornae*
- 10 Hind tibia with an excavated swollen callus at base 11
 — Hind tibia without swollen callus 12
- 11 Arista with apical flag; mid tarsomeres 4-5 normal; cercus slender with 2 dorsal projections at base and 1 projection subapically *C. globiferum*
 — Arista simple; mid tarsomeres 4-5 flattened with white hairs; cercus furcated apically *C. leucopogon*
- 12 Arista with apical flag 13
 — Arista simple 16
- 13 Antenna black; cercus not as below 14
 — Antenna yellow; cercus widely furcated, ventral lobe also furcated apically *C. piriforme*
- 14 Fore coxa yellow; cercus not as below 15
 — Fore coxa blackish; cercus short and furcated. *C. zengchengense*
- 15 Cercus subtriangular *C. liui*
 — Cercus slender *C. hainanum*
- 16 Fore coxa black 17
 — Fore coxa yellow 24
- 17 Abdomen without dense cream-clouded hairs ventrally; cercus not as below 18
 — Abdomen with dense cream-clouded hairs ventrally; cercus widely furcated, ventral lobe apically trifurcated. *C. floccosum*
- 18 Femora yellow 19
 — Femora chiefly black 23
- 19 Palpus black or blackish; cercus various. . . 20
 — Palpus yellowish; cercus furcated apically *C. cyaneculiscutum*
- 20 Arista nearly as long as head + thorax 21
 — Arista much longer than head + thorax; cercus furcated apically *C. nanlingense*
- 21 Halter yellow; cercus various 22
 — Halter black; cercus subtriangular. *C. trigonocercus*
- 22 Fore femur with long pale ventral hairs on basal half; cercus nearly rectangular, long and rather thick. *C. crassum*
 — Fore femur with short pale ventral hairs on basal half; cercus apically furcated into several finger-like processes *C. guangdongense*
- 23 Arista nearly as long as head + thorax; cercus without dorsal projection. *C. shixingense*
 — Arista much longer than head + thorax; cercus with short digitiform dorsal projection *C. guizhouense*
- 24 Fore tarsomere 1 somewhat thick with plumose lateral hairs 25
 — Fore tarsomere 1 normal 26
- 25 Thorax mainly dark yellow; cercus slender *C. jingpinganum*
 — Thorax mainly metallic green; cercus long and furcated apically *C. ruyuanense*
- 26 Arista longer than head + thorax 27
 — Arista shorter than head + thorax 30

- 27 Mid coxa yellow; cercus not as below 28
 — Mid coxa black; cercus with short digitiform dorsal projection and long bilobed clavate ventral arm. *C. hangzhouense*
- 28 Thorax mainly metallic green 29
 — Thorax mainly yellow; cercus long and finger-like *C. xanthodes*
- 29 Hind coxa yellow; surstylus with 3 ventral processes *C. yunnanense*
 — Hind coxa black; surstylus with apical denticles *C. pallipilosum*
- 30 All coxae yellow; cercus various. 31
 — Fore coxa yellow, mid and hind coxae black; cercus long with thin and curved apex 34
- 31 4 dc, anterior 2-3 short hair-like; 2-3 acr; cercus subtriangular 32
 — 5 strong dc; 1 weak acr; cercus bifurcated *C. dashahense*
- 32 Fore tibia with 4 pv, fore tarsomeres 1 or 1-2 with row of pv; cercus elongated (distinctly longer than wide) 33
 — Fore tibia and fore tarsomeres 1-2 without pv; cercus short and broad (slightly longer than wide) *C. luchunanum*
- 33 Fore tarsomere 1 with pv; cercus short, nearly trapezoid *C. zhoui*
 — Fore tarsomeres 1-2 with row of pv; cercus elongated, subtriangular . . *C. damingshanum*
- 34 Fore coxa entirely yellow; halter yellow or dark yellow; cercus simple in shape 35
 — Fore coxa dark yellow with black base; halter brown; cercus complicated in shape *C. digitatum*
- 35 Mid tarsomere 1 without spine-like v; cercus with apical incision 36
 — Mid tarsomere 1 with row of 4-5 spine-like v; cercus without apical incision *C. spinosum sp. nov.*

- 36 Mid tarsomere 1 with 3-4 long ad at apex; surstylus with a finger-like dorsal process *C. insensibile*
 — Mid tarsomere 1 with only 1 long ad at apical 1/4; surstylus without finger-like dorsal process *C. furcatum sp. nov.*

Chrysosoma furcatum sp. nov.

Figs. 1-2

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Diagnosis.— Fore coxa and trochanter yellow, mid and hind coxae and trochanters black. Crossvein m-cu weakly bent. Fore femur with 2 pale yellow v at base. Mid tarsomere 1 with 1 long ad at apical 1/4. Cercus furcated apically.

Description.— Male. Body length 5.5-6.0 mm, wing length 6.0-6.1 mm.

Head brightly metallic green with pale grey pollen. Hairs and bristles on head black except middle and lower postocular bristles including posteroventral hairs pale yellow; frons with 1 very short black anterior hair on posterolateral slope; 1 vt much shorter than oc. Ocellar tubercle with 2 very long strong oc and 2 short posterior hairs. Antenna black; pedicel with circlet of short black apical bristles except 1 dorsal bristle and 2 ventral bristles relatively long; first flagellomere nearly trapezoid, nearly as long as wide; arista shorter than head and thorax together, upper apical, blackish. Proboscis brownish yellow with black hairs; palpus dark yellow with black hairs and 2 black apical bristles.

Thorax brightly metallic green with pale grey pollen. Hairs and bristles on thorax black; 2 long posterior dc and 3 hairs anteriad; 3 long irregularly paired acr; 1 ih, 1 ph, 1 su, 1 sa, 1 psa, 2 npl; scutellum with 2 pair of sc, basal pair about 1/5 as long as apical pair. Legs yellow except mid and hind coxae and trochanters black, extreme tip of hind femur and extreme tips of all tibiae blackish, and tarsi dark brown from extreme tip of fore tarsomere 1 onward. Hairs and bristles on legs black except coxae with pale yellow hairs and bristles. Fore coxa with 3 strong brownish yellow apical bristles, hind coxa with 1 exterior bristle near base. Fore femur basally with 2 pale yellow v longer than femur thickness. Fore tibia with 1 ad; apically

with 3 short bristles. Mid tibia with 1 ad and 3 pd; apically with 4 bristles. Hind tibia with 10-11 pd and 7-8 av; apically with 3 bristles. Fore tarsomere 1 with 1 short pv at extreme base. Mid tarsomere 1 with 1 long ad at apical 1/4. Hind tarsomere 1 with 1 v at extreme base. Relative length ratio of tibiae and tarsomeres: LI 3.55 : 3.75 : 0.95 : 0.6 : 0.45 : 0.3; LII 6.2 : 4.0 : 1.0 : 0.9 : 0.6 : 0.3; LIII 7.3 : 3.9 : 1.1 : 0.7 : 0.5 : 0.3. Wing (Fig. 1) hyaline, slightly tinged grayish particularly on apicoanterior margin, veins dark brown. Vein M_1 basally embowed. Crossvein m-cu weakly bent, CuAx ratio 3.0. Squama dark yellow with pale yellow hairs. Halter dark yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black except hairs on lateral portion of tergite 1 pale yellow. Male genitalia (Fig. 2): Epandrium distinctly longer than wide, with wide apical margin; surstylus about 1/3 as long as epandrium; cercus about half as long as epandrium, apically shallowly furcated.

Female. Unknown.

Types.— Holotype male, CHINA, Tibet: Nyingchi, Beibeng, 2011. VIII. 10, Lihua Wang. Paratypes 3 males, same data as holotype.

Distribution.— China (Tibet).

Remarks.— This species is somewhat similar to *Chrysosoma insensibile* Yang from Tibet, but can be separated from it by mid tarsomere 1 with only 1 long ad at apical 1/4 and surstylus without finger-like dorsal process. In *C. insensibile*, mid tarsomere 1 has 3-4 long ad at apex, and the surstylus has a finger-like dorsal process (Yang 1995b; Yang *et al.* 2011).

Etymology.— The specific name refers to the furcated cercus.

***Chrysosoma insensibile* Yang, 1995**

Chrysosoma insensibile Yang, 1995b: 180. Type locality: China: Tibet, Bomi.

Diagnosis.— Arista shorter than head + thorax. Fore coxa yellow, mid and hind coxae black. Wing hyaline; crossvein m-cu somewhat S-shaped. Halter yellow. Mid tarsomere 1 with 3-4 long ad apically. Male cercus long, not furcated, with thin and curved apex. Surstylus rather short and thick with a finger-like dorsal process.

Specimens examined.— Holotype male, CHINA, Tibet: Bomi, 2300 m, 1978. VII. 28-29, Fasheng Li. Paratypes 1 male 1 female, same data as holotype. 10M 10F, CHINA, Tibet: Bomi, Tongmai, 2011. VIII. 21, Lihua Wang.

Distribution.— China (Tibet).

Remarks.— This species is somewhat similar to *Chrysosoma furcatum* sp. nov., but may be separated from the latter by mid tarsomere 1 with 3-4 long ad at apex and surstylus with a finger-like dorsal process.

***Chrysosoma nyingchiense* sp. nov.**

Figs. 3-4

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Diagnosis.— Wing distinctly grayish brown; crossvein m-cu strongly bent with stub. Arista very long, nearly as long as body, with apical flag. All coxae black. Fore and mid femora yellow, hind femur black. Fore femur with row of very long av and pv on basal 2/3. Male cercus nearly finger-like, apically distinctly curved outward, and with a weak basal process.

Description.— Male. Body length 5.5 mm, wing length 6.5 mm.

Head brightly metallic green with pale grey pollen. Hairs and bristles on head black except middle and lower postocular bristles including posteroventral hairs pale yellow; frons with 2 slightly long black anterior hairs on posterolateral slope; 1 vt shorter than oc. Ocellar tubercle with 2 very long strong oc and 2 very short posterior hairs. Antenna black; scape swollen, vase-like; pedicel with cirlet of short black apical bristles; first flagellomere triangular, nearly as long as wide; arista very long, nearly as long as body, apical, bare, blackish, with apical flag bearing weakly swollen and white ventral surface. Proboscis dark yellow with black hairs; palpus yellow with black hairs and 2 black apical bristles.

Thorax brightly metallic green with pale grey pollen. Hairs and bristles on thorax black; 2 long posterior dc and 4 hairs anteriad; 3 irregularly paired acr; 1 ih, 1 ph, 1 su, 2 sa, 1 psa, 2 npl; scutellum with two pairs of sc, basal pair weak, brown and about 1/5 as long as apical pair. Legs

yellow, but coxae, trochanters and hind femur black, tarsi dark brown with fore and mid tarsomere 1 brownish yellow except tip. Hairs and bristles on legs black except coxae with pale yellow hairs and bristles, femora with pale yellow ventral hairs and bristles at base. Fore coxa with 11-12 strong or weak anterior and apical bristles along entire length, hind coxa with 2 exterior bristles on basal half. Fore femur with row of very long weak av and pv on basal 2/3 (much longer than femur thickness). Fore tibia without distinct bristles; apically with 2 very short bristles. Mid tibia with 1 ad and 2 pd; apically with 3 bristles. Hind tibia with 8-9 pd and 6-7 pv; apically with 3 bristles. Relative length ratio of tibiae and tarsomeres: LI 3.8 : 2.5 : 0.6 : 0.45 : 0.4 : 0.2; LII 6.2 : 4.0 : 1.3 : 0.8 : 0.5 : 0.3; LIII 7.2 : 3.2 : 1.7 : 0.95 : 0.6 : 0.3. Wing (Fig. 3) distinctly grayish brown, but darker on anterior margin; veins dark brown. Vein M_1 nearly straight basally. Crossvein m-cu strongly bent with stub, CuAx ratio 2.05. Squama dark brown with blackish hairs. Halter dark brown.

Abdomen metallic green with pale gray pollen except tergites 3-6 with matt black lateral spot. Hairs and bristles on abdomen black except hairs on lateral portion of tergite 1 pale yellow and sternite 2 with pale yellow hairs. Male genitalia (Fig. 4): Epandrium distinctly longer than wide, with wide apical margin; surstylus about 1/3 as long as epandrium; cercus long finger-like, apically distinctly widened and curved outward, and with a weak basal process.

Female. Unknown.

Types.— Holotype male, CHINA, Tibet: Nyingchi, Beibeng, 2011. VIII. 11, Lihua Wang.

Distribution.— China (Tibet).

Remarks.— This species is similar to *C. longum* from Yunnan, but may be separated from the latter by having 3 irregularly paired acr, vein M_1 nearly straight basally, and male cercus distinctly widened and curved outward apically. In *C. longum*, 2 irregularly paired acr are present, vein M_1 is weakly embowed basally, male cercus is not widened but slightly curved inward apically (Yang and Zhu 2012).

Etymology.— The specific name refers to the type locality Nyingchi.

***Chrysosoma spinosum* sp. nov.**

Figs. 5–6

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Diagnosis.— Legs yellow except mid and hind coxae black and tarsi dark brown from tip of fore tarsomere 1 onward. Crossvein m-cu weakly bent. Fore femur with row of 4 pale yellow v on basal 1/3. Mid tarsomere 1 with row of 4-5 spine-like v on apical 1/2. Cercus much elongated, subapically widened with a short finger-like process.

Description.— Male. Body length 4.5-4.7 mm, wing length 6.1-6.3 mm.

Head brightly metallic green with pale grey pollen. Hairs and bristles on head black except middle and lower postocular bristles including posteroventral hairs pale yellow; frons with 1 black anterior hair on posterolateral slope; 1 vt slightly long and 2 short bristles close to vt. Ocellar tubercle with 2 very long strong oc and 2 short posterior hairs. Antenna black; pedicel with circlet of short black apical bristles except 1 dorsal bristle and 1 ventral bristle relatively long; first flagellomere nearly trapezoid, nearly as long as wide; arista shorter than head and thorax together, upper apical, blackish. Proboscis mostly brownish yellow with black hairs; palpus dark yellow with black hairs and 2 black bristles.

Thorax brightly metallic green with pale grey pollen. Hairs and bristles on thorax black; 2 long posterior dc and 3 hairs anteriad; 3 long irregularly paired acr; 1 ih, 1 ph, 1 su, 1 sa, 1 psa, 2 npl; scutellum with 2 sc, basal pair absent. Legs yellow except mid and hind coxae black and tarsi dark brown from tip of fore tarsomere 1 onward. Hairs and bristles on legs black except coxae with pale yellow hairs and bristles. Fore coxa with 3 strong brownish yellow bristles, hind coxa with 2 exterior bristles on basal half. Fore femur with row of 4 pale yellow v on basal 1/3 (longest v slightly longer than femur thickness). Fore tibia with 1 ad, 2 pd and 3-4 pv; apically with 1 p. Mid tibia with 1 ad and 2 pd; apically with 3 bristles. Hind tibia with 5-6 ad, 5 d and 7 av; apically with 3 bristles. Fore tarsomere 1 with 1 v at extreme base. Mid tarsomere 1 with row of 4-5 spine-like v on apical 1/2. Hind tarsomere 1 with 1 spine-like v at extreme base. Relative length

ratio of tibiae and tarsomeres: LI 4.0 : 3.8 : 0.75 : 0.45 : 0.45 : 0.3; LII 6.8 : 4.0 : 1.0 : 0.9 : 0.55 : 0.3; LIII 7.8 : 3.8 : 1.15 : 0.8 : 0.5 : 0.3. Wing (Fig. 5) slightly tinged grayish particularly on apical portion, veins dark brown. Vein M_1 basally curved nearly at a right angle. Crossvein m-cu weakly bent, CuAx ratio 2.3. Squama dark yellow with black hairs. Halter dark yellow.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black except hairs on lateral portion of tergite 1 pale yellow. Male genitalia (Fig. 6): Epandrium distinctly longer than wide, with narrowed apical margin; surstylus about 1/2 as long as epandrium; cercus much elongated, subapically widened with a short finger-like process.

Female. Unknown.

Types.— Holotype male, CHINA, Tibet: Mêdog, Dayandong, 2005. VIII. 11, Dakang Zhou. Paratype 1 male, same data as holotype.

Remarks.— This species is somewhat similar to *C. insensibile* Yang, but can be separated from it by the first flagellomere trapezoid with the upper apical arista and mid tarsomere 1 with row of 4-5 spine-like v. In *insensibile*, the first flagellomere is nearly triangular with the apical arista, and mid tarsomere 1 has no spine-like v (Yang 1995a; Yang *et al.* 2011).

Etymology.— The specific name refers to the spine-like ventral bristles of mid tarsomere 1.

***Chrysosoma varitum* Wei, 2006**

Figs. 7–8

Chrysosoma varitum Wei, 2006: 469. Type locality:
China: Guizhou, Anshun.

Diagnosis.— Bristles on thorax and abdomen well developed. Antenna dark yellow except scape blackish. Arista nearly as long as head + thorax. Proboscis dark brown. 4 pairs of strong acr. Wing with dark brown marking, continuous along anterior margin, with excavation from posterior margin. R_{2+3} and R_{4+5} somewhat bent like wave. Crossvein m-cu straight. M_1 nearly straight. Fore coxa yellow except base black, mid and hind coxae black. Male cercus deeply bifurcated, with dorsal arm slightly longer than ventral arm.

Description.— Male. Body length 4.1 mm, wing length 5.1 mm.

Head brightly metallic green with pale grey pollen. Hairs and bristles on head black except middle and lower postocular bristles including posteroventral hairs pale yellow; frons with 1 curved black anterior hair on posterolateral slope; ocellar tubercle with 2 very long strong oc and 2 short posterior hairs; 1 vt slightly shorter and weaker than oc. Antenna dark yellow except scape blackish; pedicel with circlet of short black apical bristles except 1 dorsal bristle relatively long, but without long ventral bristle; first flagellomere nearly trapezoid, nearly as long as wide; arista nearly as long as head and thorax together, upper apical, blackish. Proboscis dark brown with black hairs; palpus black with black hairs and 2 black bristles.

Thorax brightly metallic green with pale grey pollen. Hairs and bristles on thorax black, bristles well developed; 2 long posterior dc and 5 hairs antiad; 4 long strong, paired acr; 1 ih, 1 ph, 1 su, 1 sa, 1 psa, 2 npl; scutellum with 2 pair of sc, basal pair 1/5 as long as apical pair. Legs yellow except fore coxa yellow with black base, mid and hind coxae entirely black, mid and hind trochanters blackish, extreme tips of all tibiae blackish, fore and mid tarsi dark brown from tip of fore tarsomere 1 onward, hind tarsus entirely dark brown. Hairs and bristles on legs black except coxae with pale yellow hairs and black bristles, femora with pale hairs and bristles basally. Fore coxa with 3 strong black bristles, hind coxa with 1 black exterior bristle at base. Fore femur with row of long pale yellow av and pv (1 basal av very long and black). Fore tibia with 2-3 ad, 1 pd and 6 brown pv; apically with 3 bristles. Mid tibia with 1 ad, 2-3 pd, 2 long av and 2 short pv; apically with 4-5 bristles. Hind tibia with 1 ad, 5 pd, 2 long av and 6-7 short pv; apically with 3 bristles. Mid tarsomere 1 with two rows of short v. Hind tarsomere 1 with 1 spine-like v at extreme base. Relative length ratio of tibiae and tarsomeres: LI 3.1 : 2.1 : 0.7 : 0.5 : 0.3 : 0.3; LII 4.1 : 2.7 : 0.8 : 0.6 : 0.3 : 0.25; LIII 5.8 : 2.3 : 1.0 : 0.7 : 0.35 : 0.3. Wing (Fig. 7) dark brown with large hyaline spot at posterior portion of basal half, a transverse hyaline stripe near middle and posterior margin of apical 1/3 hyaline; veins dark brown. Vein M_1 somewhat straight. Crossvein m-cu nearly straight, CuAx

ratio 2. Squama yellow with blackish hairs. Halter brown.

Abdomen metallic green with pale gray pollen. Hairs and bristles on abdomen black except hairs on lateral margin of tergites 1-2 pale yellow; bristles well developed. Male genitalia (Fig. 8): Epandrium slightly longer than wide, with wide apical margin; surstylus about 1/3 as long as epandrium; cercus deeply bifurcated, with finger-like dorsal and ventral arm, ventral arm bearing 1 short strong bristle at extreme tip.

Female. Body length 5.1 mm, wing length 5.1 mm. Similar to male, but vt nearly as long as oc, frons without anterior hair on posterolateral slope, fore femur with 4 long black av.

Specimens examined.— 1 male 1 female, CHINA, Tibet: Mêdog, 2011. VIII. 15, Lihua Wang. *Distribution.*— China (Tibet, Guizhou).

Remarks.— This specie is similar to *C. chinense* Becker from Yunnan, but can be separated from it by the proboscis dark brown and 4 pairs of acr. In *C. chinense*, the proboscis is yellow, and 3 pairs of acr are present (Becker 1922; Yang *et al.* 2011).

This species was known to occur only in Guizhou. Here it is recorded from Tibet for the first time.

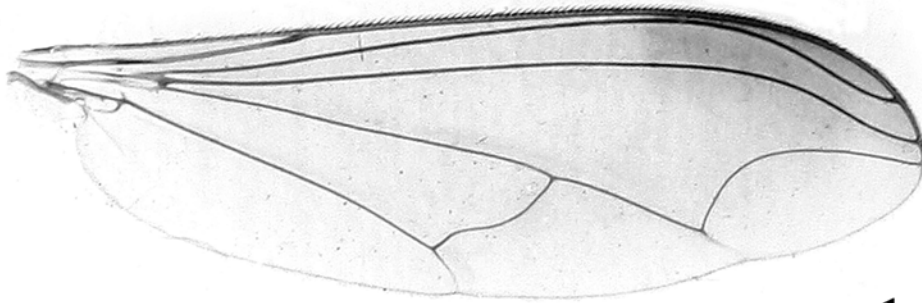
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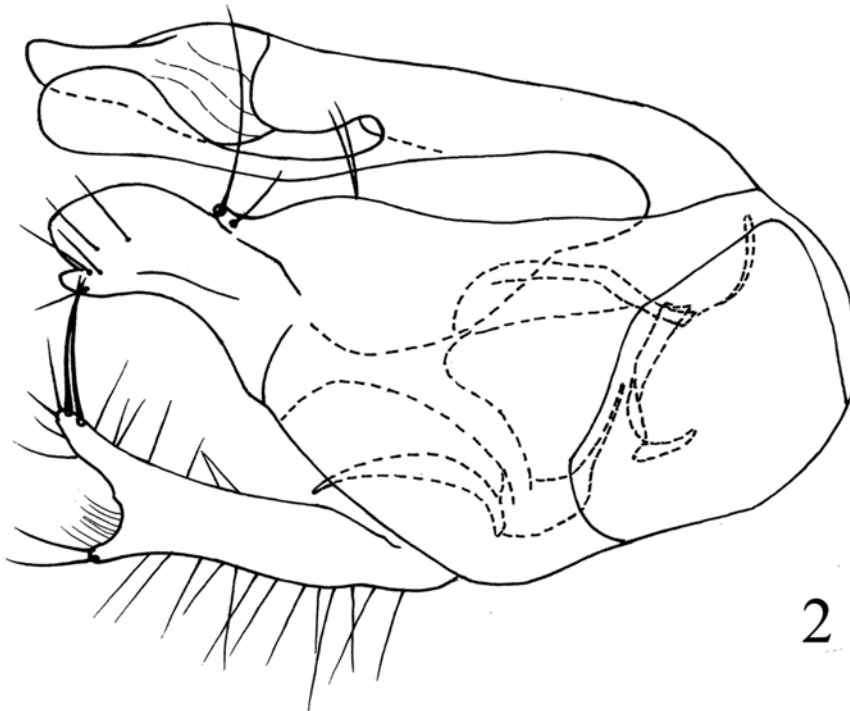
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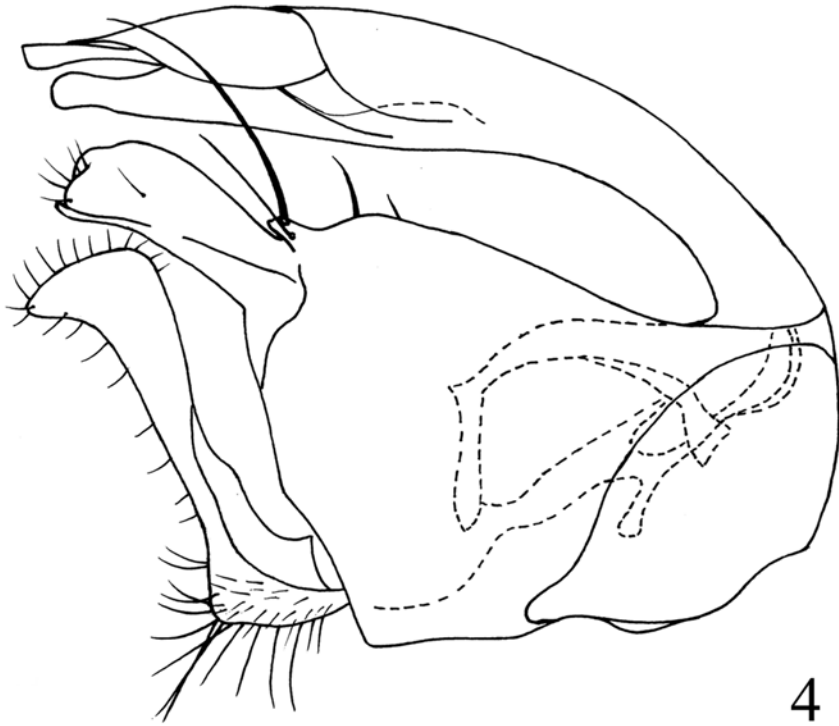
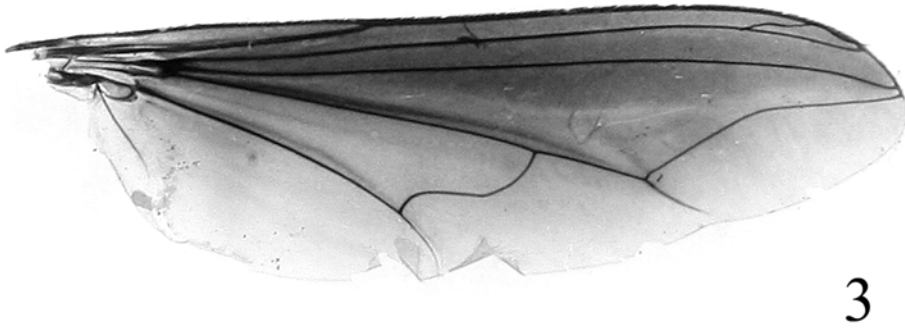


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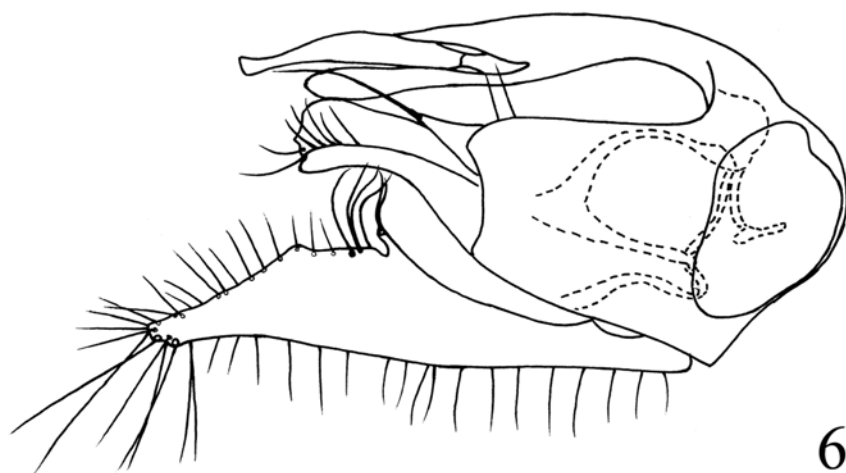
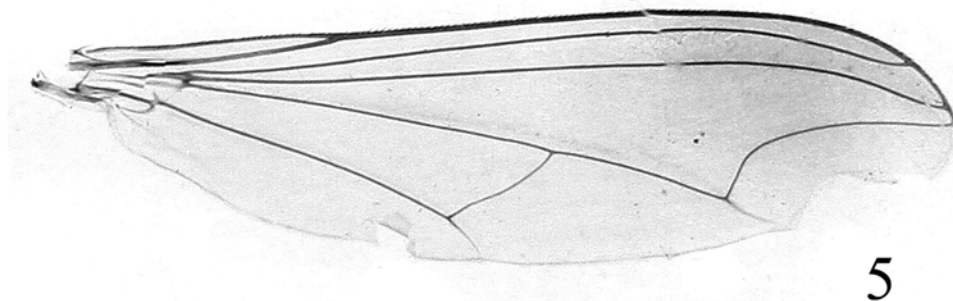


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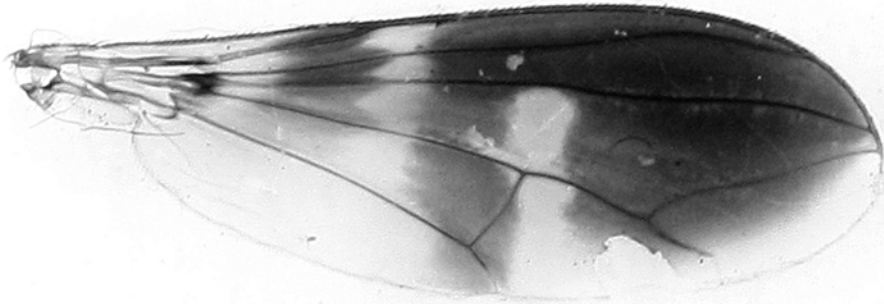
Figs. 1–2. *Chrysosoma furcatum* sp. nov. 1. Wing; 2. male genitalia, lateral view.



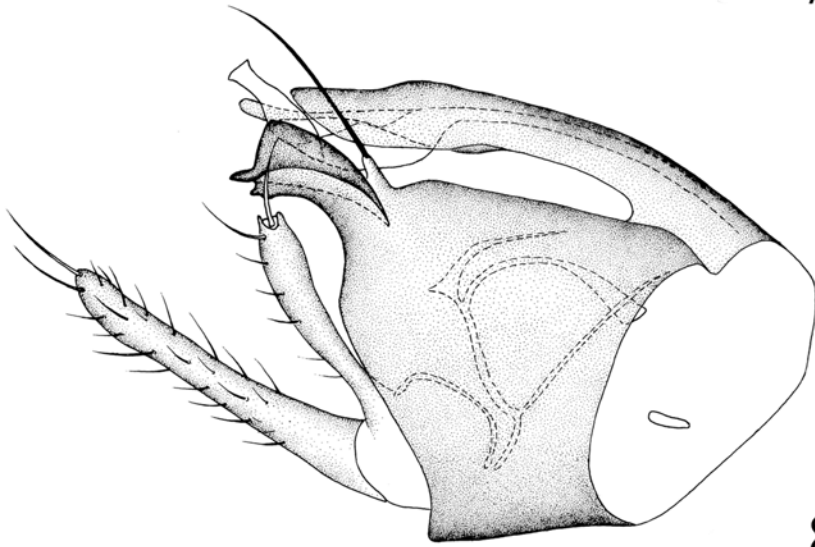
Figs. 3–4. *Chrysosoma nyingchiense* sp. nov. 3. Wing; 4. male genitalia, lateral view.



Figs. 5–6. *Chrysosoma spinosum* sp. nov. 5. Wing; 6. male genitalia, lateral view.



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Figs. 7–8. *Chrysosoma varitum* Wei. 7. Wing; 8. male genitalia, lateral view.