

The Chinese *Oxycera* (Diptera: Stratiomyidae)

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Abstract

This paper describes 5 unnamed and redescribes 4 named species of the genus *Oxycera* from China. There are another 4 previously named Chinese species of this genus where no material is available to this study, and they are introduced according to original descriptions. The male genitalia of 5 species are illustrated. A key to 13 species is presented. The new species are as follows: *chikuni*, *guangxiensis*, *lii*, *qinghensis* and *vertipila*.

Key words: Taxonomy, Orthorrhaphous Brachycera, *Oxycera*, 5 new species, China and Taiwan.

Introduction

This paper deals with the Chinese *Oxycera*, describes or redescribes 5 unnamed and 4 named species. Regrettably, the amount of material examined is small and only 19 individuals (6 ♂♂, 13 ♀♀) representing 9 species, of which 2 are based on 1 ♂, 3 on 1 ♀, 1 on 4 ♀♀, 1 on 1 ♂, 1 ♀, 1 on 1 ♂, 3 ♀♀, and 1 on 2 ♂♂, 2 ♀♀. Thus 6 of the 9 species are based on one sex only. There are 4 previously known species where no specimen is available to us. They are *apicalis* (KERTÉSZ, 1914), *excellens* (KERTÉSZ, 1914), *fenestrata* (KERTÉSZ, 1914) and *quadripartita* (LINDNER, 1939), and they are introduced according to original descriptions.

It is essential for the present study to consider 6 species recorded from Mongolia, East Siberia and Japan, but this remains to be done in the future. The species in question are as follows: *centralis* LOEW, 1863 (Europe, E. Siberia and N. America); *flavopilosa* (PLESKE, 1925) (E. Siberia); *japonica* (SZILÁDY, 1941) (Japan); *kusigematii* NAGATOMI, 1977 (Japan); *nigriventris* LOEW, 1873 (Kazakh, Soviet Middle Asia, Mongolia); *sibirica* (SZILÁDY, 1941) ("Sibirien").

There are 70 previously named species of *Oxycera* worldwide and they are distributed as follows: Palearctic region: 46 spp. of which 1 extends to N. America (after ROZKOŠNÝ and NARTSHUK, 1988); Oriental region: 11 spp. (JAMES, 1975); Nearctic region: 7 spp. (JAMES, 1965); Afrotropical region: 7 spp. of which 3 are known from South Africa (JAMES, 1980).

For the present study on the Chinese *Oxycera*, the following works are important:

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BRUNETTI (1920) (India and Burma); BRUNETTI (1923) (Oriental region); KERTÉSZ (1914) (Taiwan); LINDNER (1936–38) (Palearctic region); LINDNER (1940) (China); NAGATOMI (1977) (Japan); ROZKOŠNÝ (1983) (Europe); SZILÁDY (1941) (Siberia and Japan).

We owe much to KERTÉSZ (1914), LINDNER (1940) and ROZKOŠNÝ (1983) from which publications 20 illustrations are copied here for comparative purpose.

A number of parts of head and wing are measured in this paper, but it must be noted that the range of variation is not clear in each part, because of the paucity of material.

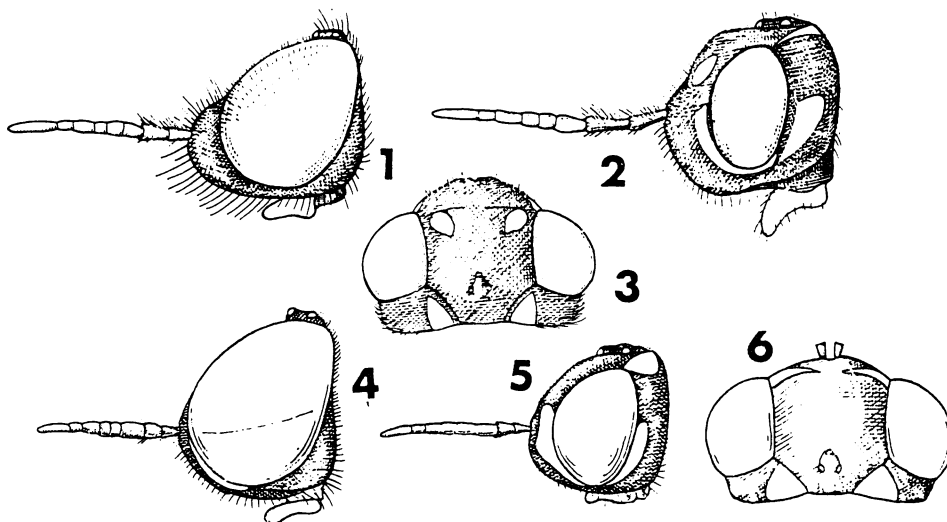
The types are deposited in Beijing Agricultural University, Beijing, China and some paratypes are preserved in Kagoshima University, Kagoshima, Japan.

Genus *Oxycera* MEIGEN

Hermione MEIGEN, 1800, Nouvelle Classification, p. 22. Rejected name.

Oxycera MAIGEN, 1803, Illiger's Magaz, f. Ins., 2: 265. Type species: *Musca trilineata* LINNAEUS (by designation of CURTIS, 1833).

For synonyms of *Oxycera*, see ROZKOŠNÝ and NARTSHUK (1988). *Oxycera* is related to *Hermionella* PLESKE, 1925 and *Vanoyia* VILLENEUVE, 1908 but is distinguished from them as follows (after ROZKOŠNÝ, 1983: 2): "Antennal flagellum suboval, with a short or long but always slender apical style consisting of the 2 last flagellomeres" in *Oxycera*, and "Antennal flagellum long, the last two flagellomeres not remarkably slender (Figs. 1–2, 4–5) in *Hermionella* and *Vanoyia*. Of the last QUIST and JAMES (1973) wrote, "the European *Vanoyia*, which may be only a subgenus of *Euparyphus* GERSTÄCKER, 1857."



Figs. 1–3. *Hermionella seguyi* PLESKE. 1, Male head, lateral view; 2, female head, lateral view; 3, female head, dorsal view. (From ROZKOŠNÝ, 1983).

Figs. 4–6. *Vanoyia tenuicornis* (MACQUART). 4, Male head, lateral view; 5, female head, lateral view; 6, female head, dorsal view. (From ROZKOŠNÝ, 1983).

Diagnosis. Body black with yellow markings or yellow with black markings, but sometimes thorax and abdomen almost wholly black. Eyes thinly pilose (or practically bare) to densely haired; eyes contiguous or subcontiguous in ♂, and widely separated in ♀; male eyes with larger upper facets. Female with distinct postocular rim. Male lower occiput strongly or weakly developed behind eye in lateral view. Female frons wide, subparallel, and nearly as wide as face. Antenna shorter than length of head; segments 1–2 subequal in length; flagellomeres 1–4 (=antennal segment 3) spindle-shaped and flagellomeres 5–6 forming a dorso-distal arista (sometimes apex of flagellomere 4 wholly in contact with base of flagellomere 5). Palpus short and inconspicuous, with apical portion knob-like. Mesopleura bare at middle. Scutellum with 2 spine-like processes. Vein R_{2+3} originating beyond r-m crossvein; r-m crossvein distinct in the Chinese species; vein R_4 usually present; veins M_1, M_2, M_3, M_4 incomplete and vein M_4 arising from discal cell. Abdomen as wide as or wider than thorax, with dorsum strongly convex.

Key (1) to Species of *Oxycera* from China

- 1. Abdomen wholly black or with apical part of tergite 5 (sometimes as well as very narrow lateral borders of abdominal dorsum) yellow or reddish yellow 2
- Abdomen with yellow or yellowish green markings, of which lateral spots on dorsum are protruded inward 7
- 2(1). Wing smoky brown with hyaline spots, or hyaline with smoky brown parts 3
- Wing membrane (usually except stigma) wholly nearly hyaline or wholly somewhat tinged with smoky brown..... 4
- 3(2). Wing hyaline with one large smoky brown spot near apex and another smaller smoky brown spot extending through discal and 2nd basal cells (Fig. 7; after KERTÉSZ, 1914). Taiwan *apicalis* (KERTÉSZ)
- Wing smoky brown with one triangular hyaline spot below discal cell and another hyaline spot extending through anal and axillary cells; (after KERTÉSZ, 1914). Taiwan *fenestrata* (KERTÉSZ)
- 4(2). Mesonotum (sometimes except humeral and postalar calli) and pleura wholly black..... 5
- Mesonotum (as well as humeral and posterior calli) and pleura with yellow stripes or spots..... 6
- 5(4). Femora yellow to yellowish brown with a median darkened ring (basal yellow part longer than apical yellow part); upper part of postocular rim (in ♀) has a pale yellow posterior elongate spot, is gently arched at posterior margin and smaller in area than in *guangxiensis*. S. China *chikuni* sp. n. (♂ unknown)
- Femora (except apical portion) dark brown to black; upper part of postocular rim (in ♀) wholly black, strongly arched at posterior margin and larger in area than in *chikuni* (the difference between *guangxiensis* and *chikuni* is unknown in ♂). S. China *guangxiensis* sp. n.

- 6(4). Femora reddish yellow; tibiae blackish brown, with reddish yellow narrow ring before middle and with yellowish apex; fore tarsi blackish brown, mid tarsi brownish yellow and hind tarsi yellowish white (mid and hind tarsomeres 3–5 darkened); lower frons with 2 small yellow spots; postocular rim black; (after Kertész). China and Taiwan.....*excellens* (KERTÉSZ) (♂ unknown)
- Femora yellowish with broad dark brown subapical ring; tibiae, especially fore and mid tibiae, somewhat darkened; fore tarsi dark brown, mid and hind tarsi whitish (mid and hind tarsomere 5 darkened); frons with 4 yellow spots; postocular rim yellow (lower part somewhat darkened); (after LINDNER, 1939). S. China*quadripartita* (LINDNER) (♂ unknown)
- 7(1). Mesonotum without paired median longitudinal yellow stripes (sometimes mesonotum with 4 small inconspicuous spots near suture) 8
- Mesonotum with a pair of median longitudinal yellow or yellowish green stripes which are often interrupted at middle 9
- 8(7). Vein R₄ absent; body smaller (4 mm or so); femora wholly yellow; spines on scutellum stout and almost vertical; wing wholly nearly hyaline; abdominal dorsum with two pairs of lateral yellow spots; upper part of female frons with a lateral yellow stripe extending to ocellar tubercle. S. China
.....*lii* sp. n. (♂ unknown)
- Vein R₄ present; body larger (8 mm or so); femora (except base and apex) black; spines on scutellum slender and horizontal; wing (except for basal half in ♀ and area along apical and posterior borders in ♂) strongly darkened; abdominal dorsum with one pair of lateral yellow spots; upper part of female frons without the lateral yellow stripes. N. and S. China..... *laniger* (SÉGUY)
- 9(7). Spines on scutellum slender and nearly horizontal, and area behind spines not well developed10
- Spines on scutellum stout and vertical, and area behind scutellum large and protruded posteriorly; paired median longitudinal yellowish green stripes on mesonotum narrow and interrupted at suture; abdominal tergites 3+4 with two pairs of lateral yellowish green spots. S. China.....*vertipila* sp. n. (♂ unknown)
- 10(9). Legs (sometimes excepting fore and mid coxae) wholly yellow; paired median yellow stripes on mesonotum extending (or nearly extending) to postalar calli11
- Legs with femora and tarsi partly black; paired median yellow stripes on mesonotum ending at or just behind suture12
- 11(10). Fore and mid coxae black; in abdomen black part larger than yellow markings; black spot above wing base larger and connected with black stripe; female frons largely black and female vertex yellow. N. China.....*tangi* (LINDNER)
- Fore and mid coxae yellow; abdomen largely yellow; black spot above wing base smaller and widely separated from black stripe; female frons largely yellow and female vertex black. Widely distributed in the Palaearctic region including Europe, N. Africa, Middle East, Siberia and China
..... *trilineata* (LINNAEUS)

- 12(10). Male postocular yellow spot (on lower occiput) much larger than in *qinghensis* and its widest part longer than scape + pedicel; paired median yellow stripes ending just behind suture. N. China *sinica* (PLESKE) (♀ unknown)
 — Male postocular yellow spot (on lower occiput) much smaller than in *sinica* and its widest part shorter than scape + pedicel; paired median yellow stripes ending on suture. N. China *qinghensis* sp. n. (♀ unknown)

Key (2) to 7 speices of *Oxycera* chiefly from China based on male genitalia

1. Aedeagal complex two-lobed 2
 — Aedeagal complex three-lobed 4
 2(1). Median process (on ventral fused gonocoxites) with a deep concavity 3
 — Median process with a shallow concavity; Figs 37–39 *qinghensis* sp. n.
 3(2). Concavity at posterior margin of median process deeper; Figs 45–47
 *sinica* (PLESKE)
 — Concavity at posterior margin of median process shallower (after ROZKOŠNÝ, 1983); Figs 48–52 *meigenii* STAEGER
 4(1). In aedeagal complex, lateral process longer than median process which is rather short in relation to anterior fused part 5
 — Lateral process as long as median process which is rather long in relation to anterior fused part 6
 5(4). Cerci larger in relation to epandrium (=tergite 9); concavity at posterior margin of median process (on ventral fused gonocoxites) deeper; Figs 25–27
 *laniger* SÉGUY
 — Cerci smaller in relation to epandrium; concavity at posterior margin of median process shallower; Figs 58–60 *tangi* (LINDNER)
 6(4). Gonocoxal apodeme more stout; Figs 18–19 *guangxiensis* sp. n.
 — Gonocoxal apodeme more slender (after ROZKOŠNÝ, 1983); Figs 69–72
 *trilineata* (LINNAEUS)

***Oxycera apicalis* (KERTÉSZ)**

(Fig. 7)

Hermione apicalis KERTÉSZ, 1914, Ann. Mus. Nat. Hung. 12: 495. Type locality: Taiwan (Toyen-mongai).

The original description is translated and abridged as follows: Male. Head: Black; eyes with short dense hairs; antenna brownish yellow, but arista dark brown (with base paler) and 2 times as long as rest of flagellum; occiput at lower part slightly developed behind eye in lateral view.

Thorax: Black; humeri, postero-upper part of mesopleura, narrow posterior border of scutellum and spines (except apex) on scutellum yellowish; scutellum forming an angle of c.

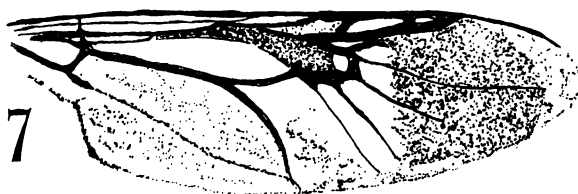


Fig. 7. *Oxycera apicalis* (KERTÉSZ), male wing (from KERTÉSZ, 1914).

65° and spines c. 45° with mesonotum.

Wing (Fig. 7): Hyaline, with one large smoky brown spot near wing apex and another smaller smoky brown spot extending through 1st basal, 2nd basal and discal cells; vein R_4 present. Haltere brown, with knob green.

Legs: Blackish brown; base and apex of femora and extreme base of tibiae brownish yellow; mid and hind tarsomeres 1–2 yellowish white.

Abdomen: Black; tergite 5 at posterior border yellow.

Female. Head: Black; frons with 4 yellow spots of which upper two are close to median ocellus and the lower two (in the middle of frons) are somewhat larger, elongate and separated from eyes.

Length: Body 6.2 mm; wing 5.2 mm.

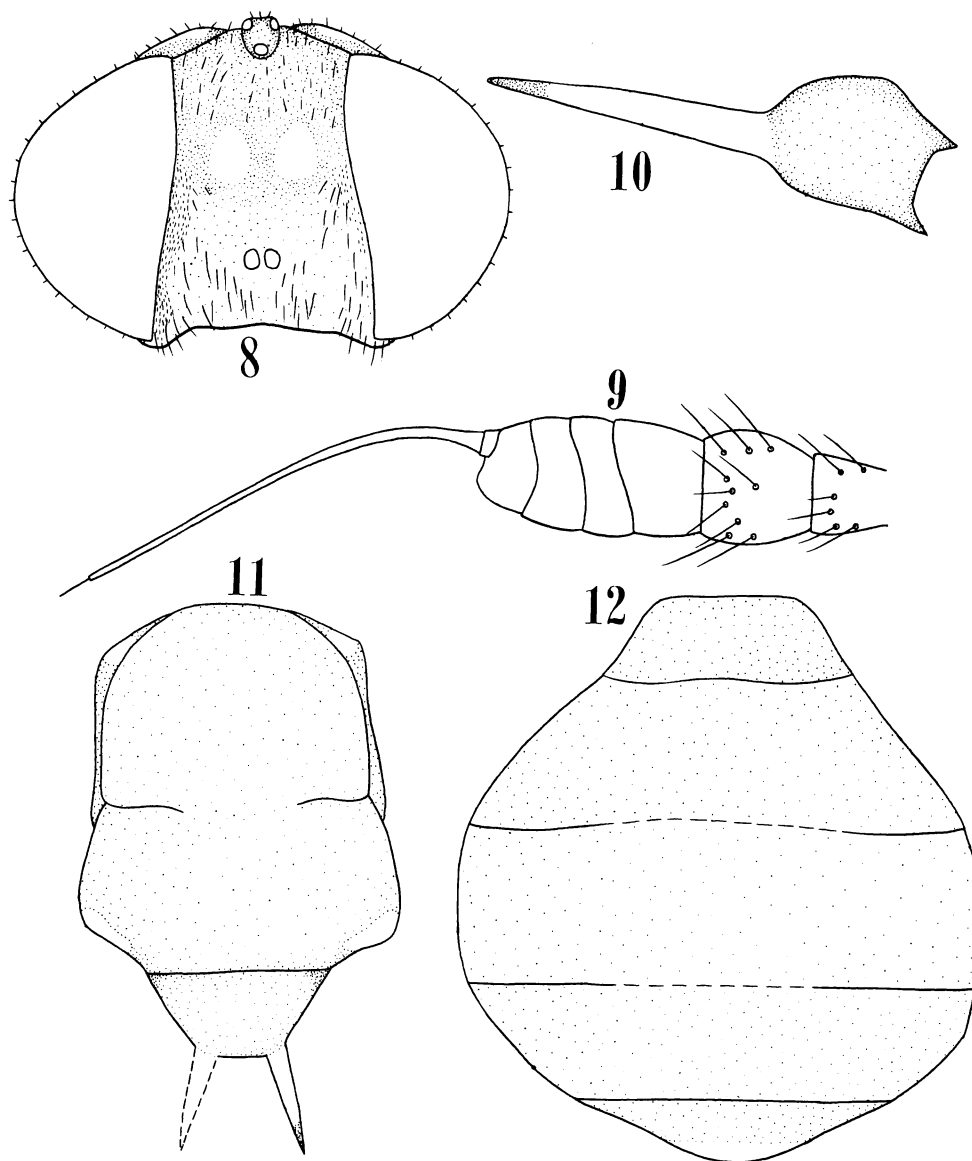
Specimens examined (by KERTÉSZ): 1 ♂, 1 ♀ from Taiwan (Toyenmongai).

Remarks. This species is easily separated from *fenestrata* (KERTÉSZ) as shown in key (1) (couplet 3).

Oxycera chikuni YANG et NAGATOMI, sp. n.

(Figs 8–12)

Female. Body length 7.3 mm, wing length 7.3 mm. Head black, but frons with one pair of yellow median spots; postocular rim has one yellow stripe along postero-upper border and may have reddish brown spot opposite antenna; face and lower frons brownish yellow laterally with dense pale pollinosity along eye margin which is present on lower occiput. Hairs on head pale, but ocellar tubercle and upper 2/3 of frons black haired; eyes with sparse but distinct hairs. Antenna yellow, but arista black; scape with chiefly pale hairs and pedicel with chiefly black hairs. Proboscis brown, and pale haired. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 0.8 times distance from antenna to median ocellus, 0.8 times width of frons just above antenna and 0.7 times width of face at lowest point from a direct frontal view; width of frons just above antenna 1.1 times that at median ocellus; ocellar triangle 0.9 times as long as wide; distance from ridge below proboscis to antenna 1.2 times that from antenna to median ocellus; antenna (minus arista) 0.6 times distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 80:100:222 and their relative widths 60:120:100; arista (= flagellomeres 5–6) (with terminal hair) 2.0 times as long as rest of flagellum.



Figs. 8-12. *Oxycera chikuni* sp. n., female. 8, Head, frontal view; 9, antenna, outer view; 10, scutellum, lateral view; 11, thorax, dorsal view; 12, abdomen, dorsal view.

Thorax black, but humeri and anterior part of postalar calli yellow; postero-upper part of mesopleura with one large yellow spot; scutellum with yellow mid-posterior margin behind spines; spines on scutellum slightly diagonal, and yellow with black apical portion; hairs on thorax pale, but scutellum with chiefly black hairs. Legs yellow, but coxae largely black and femora with a black band (whose base is situated at middle); tibiae black with base and apex paler; fore tarsi, mid tarsomere 5, and hind tarsomeres 4-5 black; hairs on legs pale, but tarsi with some black hairs. Wing nearly hyaline with yellow to yellowish brown stigma, veins yellow to yellowish brown; wing margin between R_4 and R_5 0.5 times as long as that between

R₂₊₃ and R₄. Haltere yellow (knob may be green).

Abdomen black, but posterior margin of tergite 5 yellow; hairs on abdomen pale, but dorsum with some short black hairs.

Male. Unknown.

Holotype ♀, Maolan, Guizhou, 13. v. 1990, Chi-kun YANG.

Distribution. China (Guizhou).

Remarks. This species may easily be separated from *excellens* (KERTÉSZ) and *quadripartita* (LINDNER) (both known only from the female) by having the mesonotum (excepting humeral and postalar calli) and pleura wholly black. It is similar to *guangxiensis* sp. n., but is distinguished from the latter as shown in key (1) (couplet 5).

This species is named in honour of Professor Chi-kun YANG.

Oxycera excellens (KERTÉSZ)

Hermione excellens KERTÉSZ, 1914, Ann. Mus. Nat. Hung., 12: 497. Type locality: Taiwan (Kosempo).

The original description is translated and abridged as follows: Female. Head: Black; eye with dense longer hairs; lower frons with 2 small spots which are separated from eyes; antenna brownish yellow; arista c. 1 1/2 times as long as rest of flagellum; postocular rim markedly developed.

Thorax: Black; humeri, postero-lateral parts of mesonotum, and narrow upper margin of mesopleura yellow; an oval dirty yellow spot is present in the postero-upper part of mesopleura; lower angle of pteropleura and posterior border of scutellum dirty yellow; spines (except dark brown apex) on scutellum yellow; scutellum and spines forming an angle of 45° with mesonotum.

Wing: Slightly tinged with smoky brown; stigma brownish yellow; R₄ present; haltere brownish yellow, with knob greenish yellow.

Legs: Blackish brown; femora reddish yellow; tibiae with reddish yellow narrow ring before middle and with reddish yellow tip; mid tarsomeres 1–2 brownish yellow and hind tarsomeres 1–2 yellowish white.

Abdomen: Black; dorsum with very narrow reddish yellow borders which are somewhat wider at posterior border of tergite 5.

Male. Unknown.

Length: Body 8.5 mm; wing 7.2 mm.

Specimen examined (by KERTÉSZ): 1 ♂, 20. iv. 1908, H. SAUTER, Taiwan (Kosempo).

Distribution. China (Zhejiang); Taiwan.

Remarks. This species is easily separated from *quadripartita* (LINDNER) as shown in key (1) (couplet 6).

***Oxycera fenestrata* (KERTÉSZ)**

Hermione fenestrata KERTÉSZ, 1914, Ann. Mus. Nat. Mus., 12: 498. Type locality: Taiwan (Kosempo).

The original description is translated and abridged as follows: Female. Head: Bluish black; eyes with sparse hairs; frons with 2 large reddish yellow spots (having outer margin concave and inner margin convex) extending to the height of median ocellus; lower frons with 2 reddish yellow spots which are distinctly wider than upper spots; antenna yellow; arista (except base) darker, twice as long as rest of flagellum; postocular rim markedly developed and shining black.

Thorax: Bluish black; humeri and postero-lateral parts of mesonotum yellow; 'Von der gewöhnlicher Längstrieme die vom Humeral callus bis zur Flügelwurzel verläuft, ist nur der vorderste und hinterste Teil gelb.' Postero-upper part of mesopleura with yellow spot; scutellum black, but yellow behind apex; spines on scutellum distinctly longer than scutellum, robust, dark brown and shining; scutellum forming an angle of 45° and spines 85° with mesonotum.

Wing: Smoky brown with one hyaline triangular spot below discal cell and another hyaline spot extending through anal- and axillary cell. Haltere yellow.

Legs: Dark brown; apical half of fore femora, apex of mid and hind femora, and mid tarsomeres 1–2 brownish yellow; hind tarsomeres 1–2 yellow.

Abdomen: Black, with dorsum shining.

Length: Body 8 mm; wing 7.5 mm.

Male. Unknown.

Specimen examined (by KERTÉSZ): 1 ♀, vi. 1908, Taiwan (Kosempo), H. SAUTER.

Distribution. Taiwan.

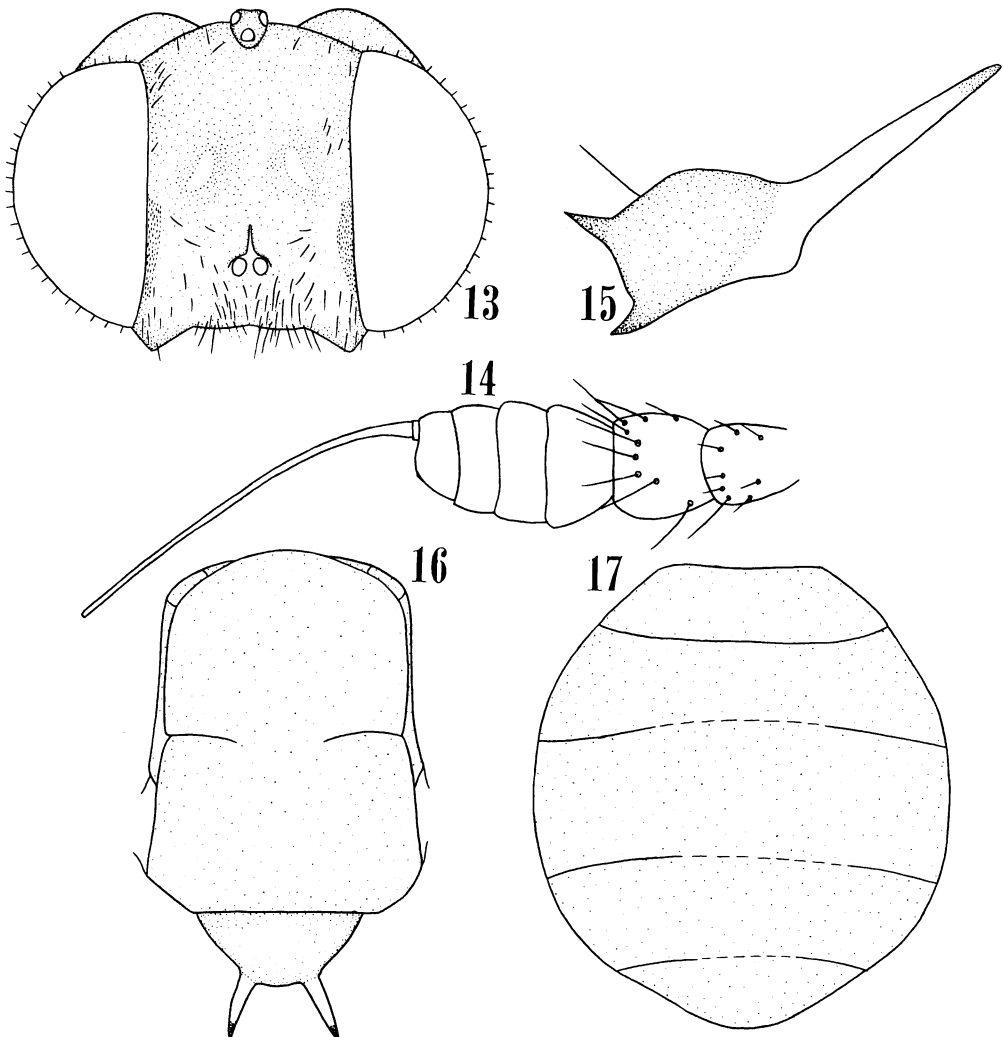
Remarks. This species is easily separated from *apicalis* (KERTÉSZ) as shown in key (1) (couplet 3).

***Oxycera guangxiensis* YANG et NAGATOMI, sp. n.**

(Figs 13–19)

Male. Body length 8.0 mm, wing length 6.1 mm. Head wholly black. Hairs on head pale, but ocellar tubercle and a longitudinal line between eyes with black hairs; eyes with sparse but distinct hairs; frontal triangle and upper face with dense pale pollinosity laterally. Antenna yellow, but arista reddish brown except for base; scape and pedicel with black hairs. Proboscis yellowish brown, and pale haired. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 1.0 times distance from antenna to median ocellus, 2.3 times width of frons just above antenna and 1.5 times width of face at lowest point from a direct frontal view; ocellar triangle 1.1 times as long as wide; frontal triangle 0.6 times as long as distance from apex of frontal triangle to median ocellus; upper frontal

triangle (=area before median ocellus) distinct; distance from ridge below proboscis to antenna 1.0 times as long as that from antenna to median ocellus; clypeus 1.5 times as long as wide and 1.9 times as long as mid-upper face; antenna (minus arista) 0.4 times as long as distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 75:100:213 and their relative widths 75:125:125; arista (=flagellomeres 5-6) (with terminal hair) 2.9 times as long as rest of flagellum. Lower occiput rather weakly developed behind eye in lateral view.

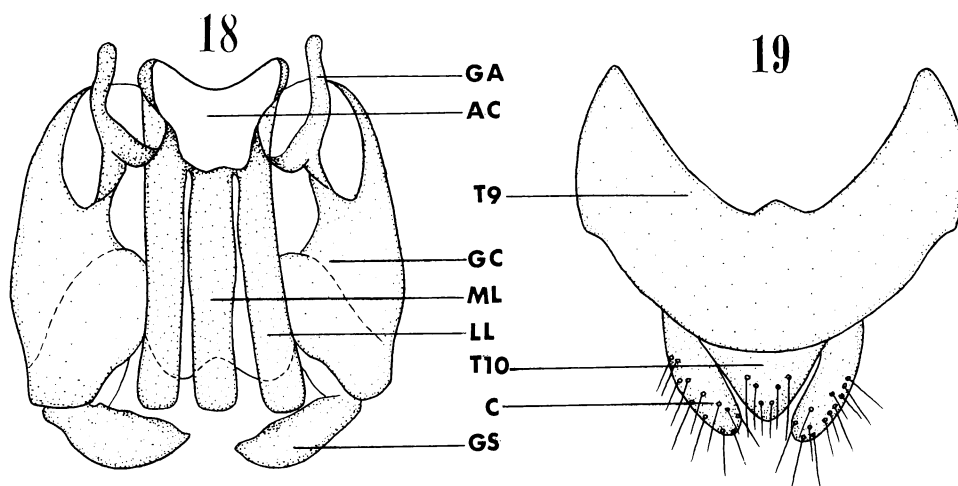


Figs. 13-17. *Oxycera guangxiensis* sp. n., female (13-15) and male (16-17). 13, Head, frontal view; 14, antenna, outer view; 15, scutellum, lateral view; 16, thorax, dorsal view; 17, abdomen, dorsal view.

Thorax black, but postero-upper margin of mesopleura yellow; spines on scutellum running somewhat diagonally and yellow with black tip. Hairs on thorax pale, but scutellum with chiefly black hairs. Legs black, but apical portion of femora yellow; tibiae yellow with a

median or subbasal black part which is longer on fore tibiae; fore tarsi black, mid and hind tarsi yellow with dark apex; hairs on legs pale, but tarsi with some black hairs. Wing nearly hyaline, with yellowish brown stigma; veins yellowish brown; wing margin between R_4 and R_5 0.8 times as long as that between R_{2+3} and R_4 . Haltere stem yellowish brown, knob creamy whitish.

Abdomen wholly black; hairs on abdomen pale. Male genitalia (Figs 18–19): Gonostyli thicker, and slightly acute apically; aedeagal complex three-lobed, with median lobe as long as lateral lobe; median process on ventral fused gonocoxites slightly concave apically.



Figs. 18–19. *Oxycera guangxiensis* sp. n., male genitalia. 18, Genital capsule, dorsal view; 19, tergites 9–10 and cerci, dorsal view. AC, aedeagal complex; C, cercus; GA, gonocoxal apodeme; GC, gonocoxite; GS, gonostylus, LL, lateral lobe in aedeagal complex; ML, median lobe in aedeagal complex; T9, tergite 9; T10, tergite 10.

Female. Body length 7.8–8.9 mm, wing length 6.4–8.3 mm. Similar to male except as follows: Head pale haired, but frons often partly black haired. Frons with one pair of reddish yellow spots; postocular rim wholly black or with an indistinct small pale spot at middle. Face, lower frons, and lower part of postocular rim with dense pale pollinosity along eye margin. Upper part of postocular rim strongly arched; width of one eye on a mid line from a direct frontal view 0.7 times distance from antenna to median ocellus, 0.7–0.8 times width of frons just above antenna and 0.7–0.8 times width of face at lowest point from a direct frontal view; width of frons just above antennae 1.0–1.1 times that at median ocellus; ocellar triangle 1.0–1.1 times as long as wide (as in ♂); distance from ridge below proboscis to antenna 1.0–1.2 times that from antenna to median ocellus (as in ♂); clypeus was not measured; antenna (minus arista) 0.4–0.6 times as long as distance from antenna to median ocellus; relative lengths of antennal segments 1, 2 and flagellum (minus arista) 79 (75–83):100:233 (225–240) and their relative widths 82 (67–100):115 (100–125):132 (117–150); arista (=flagellomeres 5–6) (with terminal hair) 2.0–2.8 times as long as rest of flagellum; data based on 3 individuals. Mesonotum often with postalar calli yellow at anterior part (this

may be so in ♂). Tibiae often black with base and tip reddish yellow. Wing margin between R_4 and R_5 0.6–0.7 times as long as that between R_{2+3} and R_4 ($N=3$).

Holotype ♂, paratypes 3 ♀♀, Longsheng (800 m), Guangxi, 24. vi. 1982, Chi-kun YANG and Yixing ZHAO.

Distribution. China (Guangxi).

Remarks. This species may easily be separated from *excellens* (KERTÉSZ) and *quadripartita* (LINDNER) by having the mesonotum (sometimes excepting humeral and anterior part of postalar calli) and pleura wholly black. It is similar to *chikuni* sp. n., but is distinguished from the latter as shown in key (1) (couplet 5).

Oxycera laniger (SÉGUY)

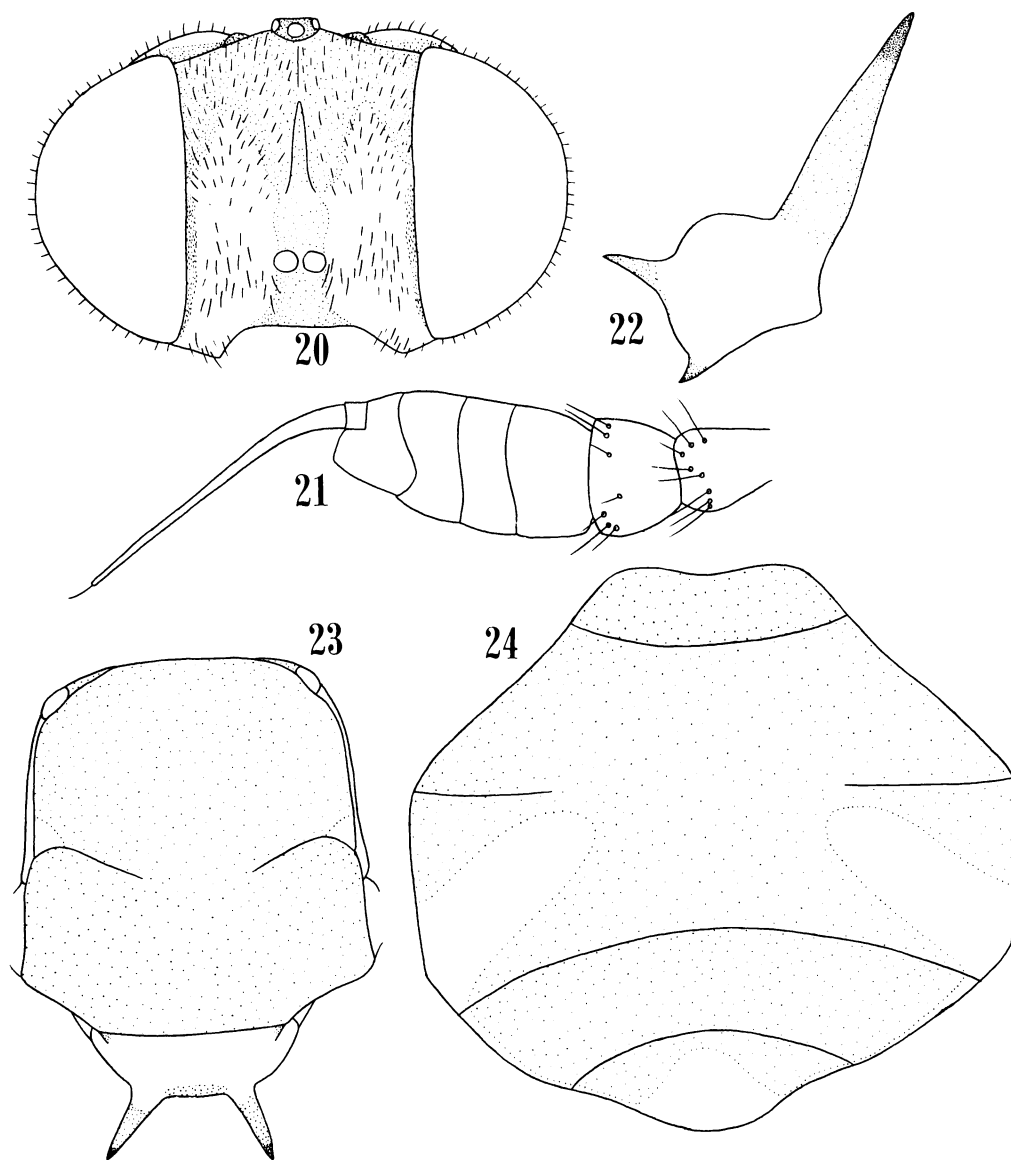
(Figs 20–27)

Hermione laniger SÉGUY, 1934, Encycl. ent. (B II) Dipt., 7: 2. Type locality: "Moupin", China.

Male. Body length 7.6–8.2 mm, wing length 6.9–7.3 mm. Head wholly black; hairs on head pale, but ocellar tubercle and a longitudinal line between eyes with black hairs; eyes dense black haired. Antenna yellowish brown to reddish brown, but scape or scape + pedicel black; scape and pedicel pale haired. Proboscis largely brown with pale hairs. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 1.0 times distance from antenna to median ocellus, 1.5–1.9 times width of frons just above antenna and 1.2–1.5 times width of face at lowest point from a direct frontal view; ocellar triangle 1.1 times as long as wide; frontal triangle 0.4 times as long as distance from apex of frontal triangle to median ocellus; distance from ridge below proboscis to antenna 1.0 times that from antenna to median ocellus; clypeus 1.5 times as long as wide and 1.2 times as long as mid-upper face; antenna (minus arista) 0.4–0.5 times as long as distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 100:100:237 (233–240) and their relative widths 74 (67–80):102 (83–120):119 (117–120); arista (=flagellomeres 5–6) (with terminal hair) 1.4–1.7 times as long as rest of flagellum; data based on 2 individuals.

Thorax black; humeri, a lateral transverse band just before suture, upper border of mesopleura and scutellum yellow. In scutellum, area between and behind spines brown to dark brown, and spines rather vertical, yellowish brown to brown with tip dark. Hairs on thorax pale, but scutellum with black hairs. Legs black, but base of femora, 'knees', tibiae, and mid and hind tarsi (except mid and hind tarsomeres 4–5 which are more or less darkened) yellowish brown; hairs on legs chiefly yellow. Wing brown, but basal portion, posterior portion and tip paler; wing margin between R_4 and R_5 0.6–0.8 times as long as that between R_{2+3} and R_4 ($N=2$). Haltere stem yellowish brown to brown, knob creamy yellow.

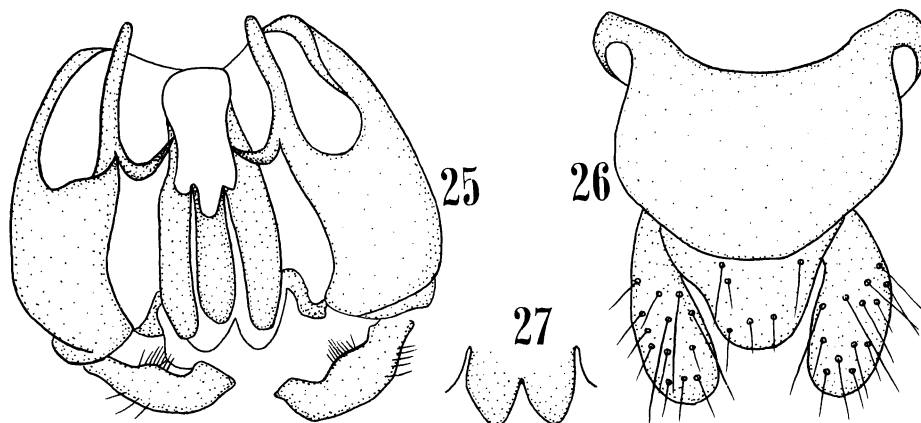
Abdomen black, dorsum with one pair of large diagonal lateral spots on tergite 3 and one apical spot on tergite 5 which are connected with each other by yellow lateral margin;



Figs. 20–24. *Oxycera laniger* (SÉGUY), female (20–22) and male (23–24). 20, Head, frontal view; 21, antenna, outer view; 22, scutellum, lateral view; 23, thorax, dorsal view; 24, abdomen, dorsal view.

sternites 2–3 with median area yellow; hairs on abdomen pale, dorsum with some black hairs. Male genitalia (Figs 25–27): Gonostyli with inner margin slightly concave; aedeagal complex three-lobed, with median lobe slightly shorter than lateral lobes; median process on ventral fused gonocoxites with a V-shaped concavity.

Female. Body length 7.7–8.1 mm, wing length 7.9–8.2 mm. Similar to male except as follows: Postocular rim (except antero-upper border) yellow; frons and face with one pair of large yellow longitudinal stripes, with dense pale pollinosity which is also present on cheek



Figs. 25-27. *Oxycera laniger* (SÉGUY), male genitalia. 25, Genital capsule, dorsal view; 26, tergites 9-10 and cerci, dorsal view; 27, median process on ventral fused gonocoxites.

and lower occiput along eye margin. Hairs on head wholly pale. Head 1.3 times higher than long; width of one eye on a mid line from a direct frontal view 0.7 times distance between antenna and median ocellus, 0.6 times width of frons just above antenna and 0.6 times width of face at lowest point from a direct frontal view; frons just above antenna as wide as that at median ocellus; ocellar triangle 0.9 times as long as wide; distance from ridge below proboscis to antenna 1.0-1.1 times that from antenna to median ocellus (as in ♂); clypeus 1.4-1.5 times as long as wide (as in ♂) and 1.6-1.8 times as long as mid-upper face; antenna (minus arista) 0.6 times as long as distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 102 (83-120):100:317 (267-360) and their relative widths 84 (67-100):124 (117-130):137 (133-140); arista (=flagellomeres 5-6) (with terminal hair) 1.1-1.4 times as long as rest of flagellum; data based on 2 individuals. Fore tarsomere 1 often rather yellowish brown. Proximal half (approximately) of wing distinctly pale; wing margin between R_4 and R_5 0.6 times that between R_{2+3} and R_4 ($N=2$).

Specimens examined. 1 ♂, Wenxian (1700 m), Gansu, 7. viii. 1980, Chi-kun YANG; 2 ♀♀, Huaqi (1000 m), Guizhou, 22-23. v. 1981, Fasheng LI; 1 ♂, Bomi (3050 m), Xizang, 16. vii. 1978, Fasheng LI.

Distribution. China (Sichuan, Guizhou, Xizang and Gansu).

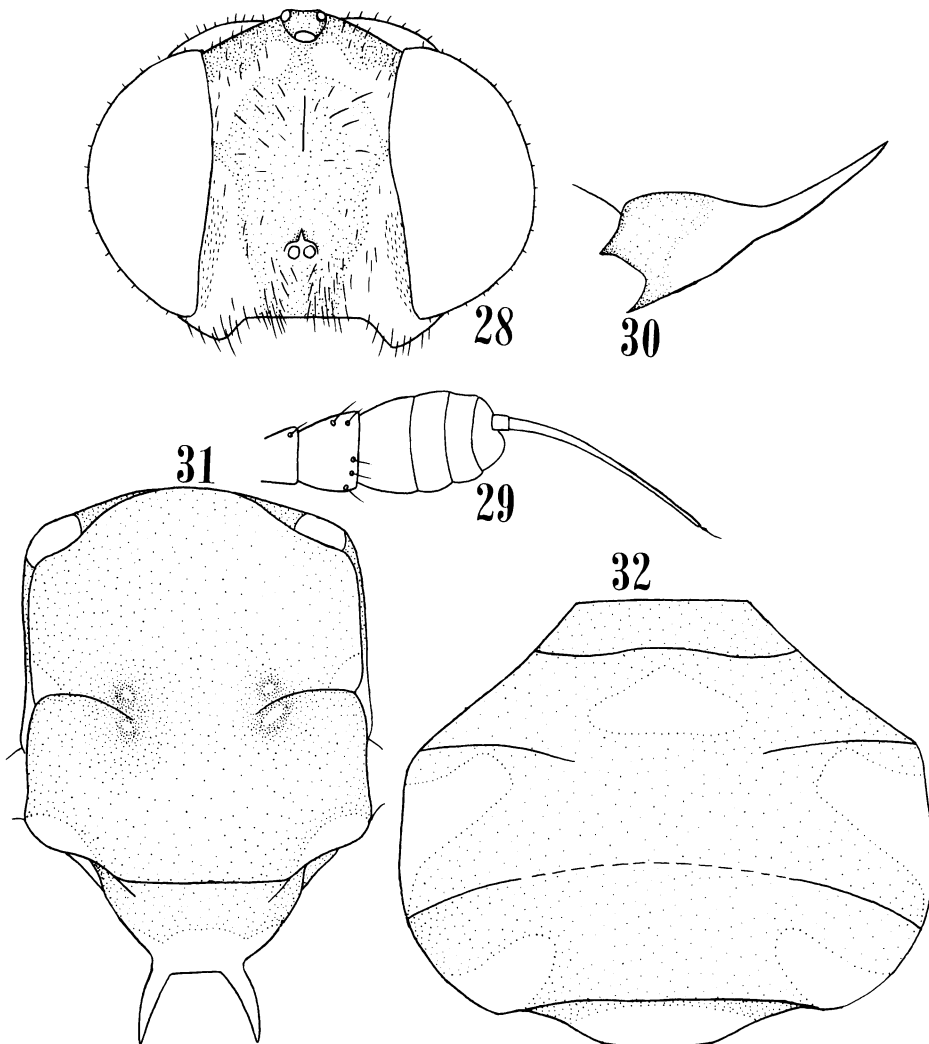
Remarks. This species was described by SÉGUY (1934) from Moupin (present name Baoxin), Sichuan. Here the female is described for the first time and the male genitalia are illustrated. *O. laniger* is easily separated from *lii* sp. n. as shown in key (1) (couplet 8).

Oxycera lii YANG et NAGATOMI, sp. n.

(Figs 28-32)

Female. Body length 4.1 mm, wing length 4.3 mm. Head black, but upper frons with one pair of yellow lateral spots which extend inward to ocellar tubercle, and one yellow

postocular spot which is very long and covers entire postocular rim; face and lower frons yellow laterally along eye margin, with dense pale pollinosity which is not connected with similar pollinosity on lower part of postocular rim. Hairs on head wholly pale; eyes with sparse and indistinct hairs. Antenna black, but scape and pedicel yellow with short pale hairs. Proboscis chiefly yellow, and pale haired. Head 1.1 times higher than long; width of one eye on a mid line from a direct frontal view 0.6 times distance from antenna to median ocellus, 0.6 times width of frons just above antenna and 0.6 times width of face at lowest point from a direct frontal view; width of frons just above antenna 1.1 times that at median ocellus; ocellar triangle 0.9 times as long as wide; distance from ridge below proboscis to antenna 1.0 times that from antenna to median ocellus; clypeus 1.5 times as long as wide and 2.5 times as long as mid-upper face; antenna (minus arista) 0.5 times as long as distance from



Figs. 28–32. *Oxycera lii* sp. n., female. 28, Head, frontal view; 29, antenna, outer view; 30, scutellum, lateral view; 31, thorax, dorsal view; 32, abdomen, dorsal view.

antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arisa) 67:100:267 and their relative widths 100:133:167; arista (=flagellomeres 5–6) (with terminal hair) 1.8 times as long as rest of flagellum.

Thorax black, but mesonotum with two pairs of yellow median spots very small and indistinct, and one pair of yellow transverse spots just before suture; humeri and postalar calli yellow; scutellum with posterior portion yellow, spines slightly diagonal and wholly yellow; mesopleura with postero-upper portion yellow. Hairs on thorax wholly pale. Legs yellow, but coxae black; hind tibiae darkened except for basal portion and tip; entire fore tarsi and apical 2 or 3 segments of mid and hind tarsi darkened; hairs on legs pale, but fore tarsi with some black hairs. Wing nearly hyaline with yellow stigma, veins yellow; vein R₄ absent. Haltere stem yellowish brown to brown, knob creamy yellow.

Abdomen black, dorsum with two pairs of yellow lateral spots on tergites 3–4, one yellow mid-apical spot on tergite 2 and one yellow apical spot on tergite 5; venter wholly black. Hairs on abdomen pale.

Male. Unknown.

Holotype ♀, Huaqi (1000 m), Guizhou, 22. v. 1981, Fasheng LI.

Distribution. China (Guizhou).

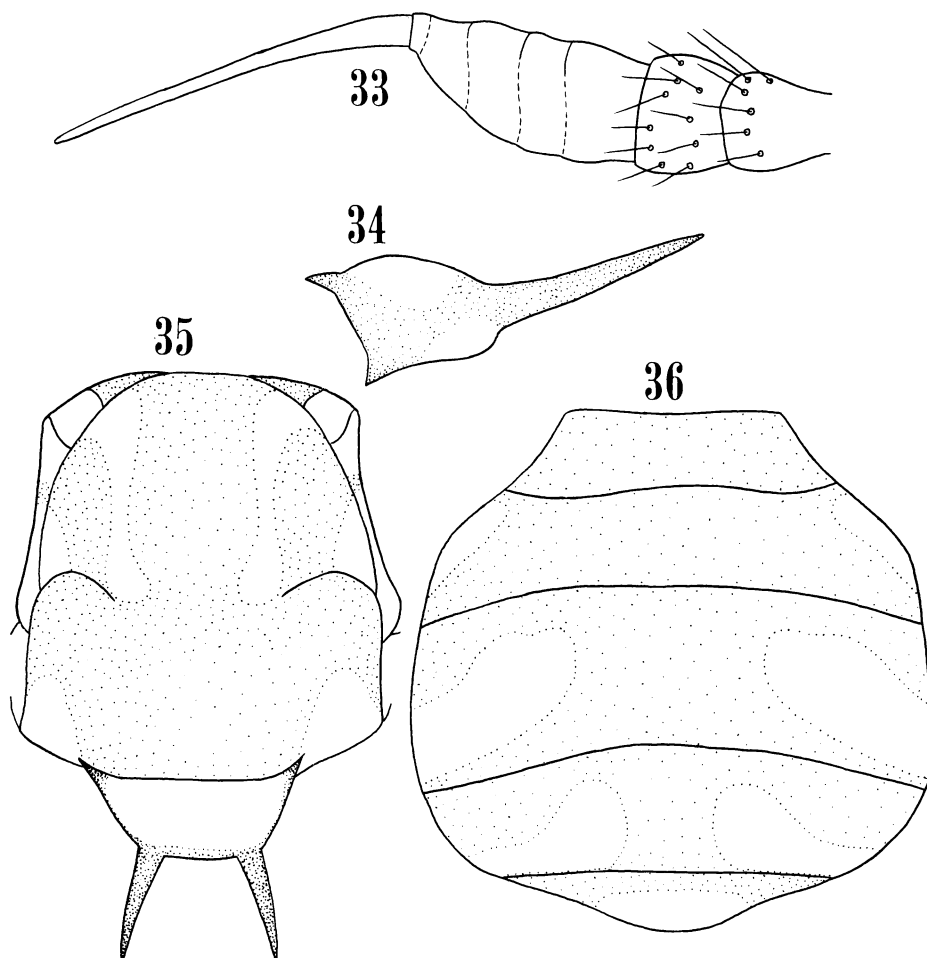
Remarks. This species (based on 1 ♀) is similar to *laniger* (SÉGUY), but is easily separated from the latter as shown in key (1) (couplet 8). *O. lii* is unique among the Chinese species in the absence of vein R₄.

This species is named in honour of Mr. Fasheng LI.

Oxycera qinghensis YANG et NAGATOMI, sp. n.

(Figs 33–39)

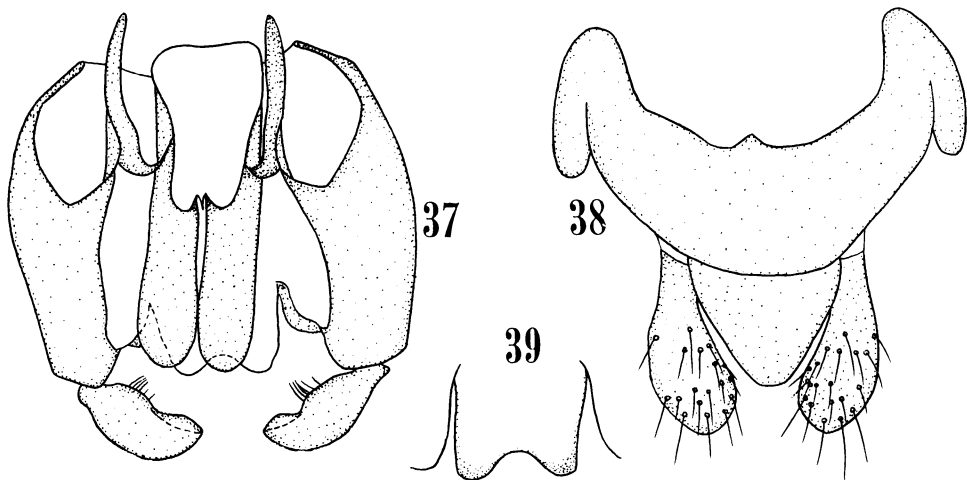
Male. Body length 7.3 mm, wing length 8.1 mm. Head black, but frontal triangle yellow except for a black triangle just above antennae and upper face with yellow wide bands laterally; occiput with one short postocular yellow stripe opposite antenna (the width of stripe is subequal to scape length). Hairs on head pale, but ocellar tubercle and a longitudinal line between eyes with black hairs; eyes with dense and distinct black hairs. Antenna black, but arista reddish yellow apically; scape and pedicel pale haired. Proboscis yellow, and pale haired. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 1.1 times distance from antenna to median ocellus, 1.4 times width of frons just above antenna and 1.1 times width of face at lowest point from a direct frontal view; ocellar triangle as long as wide; frontal triangle 0.6 times as long as distance from apex of frontal triangle to median ocellus; distance from ridge below proboscis to antenna 1.2 times that from antenna to median ocellus; clypeus 1.6 times as long as wide and 1.5 times as long as mid-upper face; antenna (minus arista) 0.5 times distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 90:100:220 and their relative widths 80:120:120; arista (=flagellomeres 5–6) (without terminal hair) 1.8 times as long as rest of flagellum.



Figs. 33–36. *Oxycera qinghensis* sp. n., male. 33, Antenna, outer view; 34, scutellum, lateral view; 35, thorax, dorsal view; 36, abdomen, dorsal view.

Thorax black, but mesonotum with one pair of yellow longitudinal stripes connected to yellow humeral spot and just reaching to transverse suture, one pair of large yellow notopleural spots just before suture and one pair of large postero-lateral spots (including postalar calli); scutellum yellow with sides and a narrow transverse band acrossing spines black; spines on scutellum dark brown to black. Mesopleura with one yellow small antero-upper spot and one yellow large postero-upper spot. Hairs on thorax pale, but mesonotum with some black hairs. Legs black, but apical portion of femora yellow; tibiae yellow, with rather indistinct subapical or median black patch; tarsi black, but mid and hind tarsomere 1 brownish yellow; hairs on legs wholly pale. Wings nearly hyaline, with yellow stigma, veins yellow; wing margin between R_4 and R_5 0.4 times as long as that between R_{2+3} and R_4 ($N=1$). Haltere yellow.

Abdomen black, dorsum with three pairs of yellow lateral spots on tergites 2–4 and one yellow apical spot on tergite 5; venter black with median area of sternite 2 yellow. Hairs on



Figs. 37–39. *Oxycera qinghensis* sp. n., male genitalia. 37, Genital capsule, dorsal view; 38, tergites 9–10 and cerci, dorsal view; 39, median process on ventral fused gonocoxites.

abdomen pale, but dorsum with some short black hairs. Male genitalia (Figs 37–39): Gonostyli slightly concave beyond middle; aedeagal complex two-lobed; median process on ventral fused gonocoxites with a nearly U-shaped concavity.

Female. Unknown.

Holotype ♂, Xining, Qinghai, 21. vii. 1950, Baoling LU and Chi-kun YANG.

Distribution. China (Qinghai).

Remarks. This species (based on 1 ♂) is closely related to *sinica*, but may be separated from the latter as shown in key (1) (couplet 12) and key (2) (couplet 2). It differs from *tangi* (LINDNER) and *trilineata* (LINNAEUS) as shown in key (1) (couplet 10). For the situation of antennal flagellomere 5, see remarks under *sinica*.

Oxycera quadripartita (LINDNER)

(Fig. 40)

Hermione quadripartita LINDNER, 1940, Deutsch. Ent. Zeitschr., 1939: 33. Type locality: China (Fukien: Kwang-tse).

The original description is translated and abridged as follows: Female. Head: Black; frons with 4 yellow spots; postocular rim yellow, with lower part somewhat darkened; antennal segments 1–2 pale yellow, flagellum (except arista) orange yellow.

Thorax: Black; humeri, postalar calli, “ein Längstreifem under der Notopleuralnaht” and upper margin of mesopleuron (which becomes a rounded spot before wing base) yellow; posterior border and ventral side of scutellum, and spines (except on apex) of scutellum yellow.

Wing: Wholly hyaline; stigma yellowish; vein R_4 present; haltere yellowish.

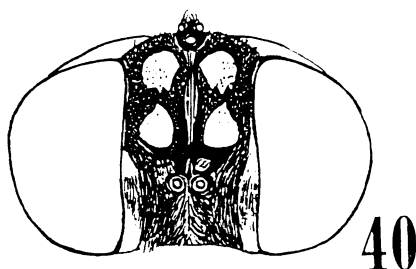


Fig. 40. *Oxycera quadripartita* (LINDNER), female frons in frontal view (from LINDNER, 1940).

Legs: Femora yellowish, with broad dark brown subapical ring; tibiae especially fore and mid tibiae more or less darkened chiefly at ventral surface; fore tarsi dark brown; mid and hind tarsi whitish, with last segment darkened.

Abdomen: Black; apical half of tergite 5 yellow.

Length: Body 8 mm.

Male. Unknown.

Specimen examined (by LINDNER): 1 ♀, 17. vii. 1937, J. KLAPPERICH, China (Fukien: Kwang-tse).

Distribution. China (Fujian).

Remarks. This species is easily separated from *excellens* (KERTÉSZ) as shown in key (1) (couplet 6).

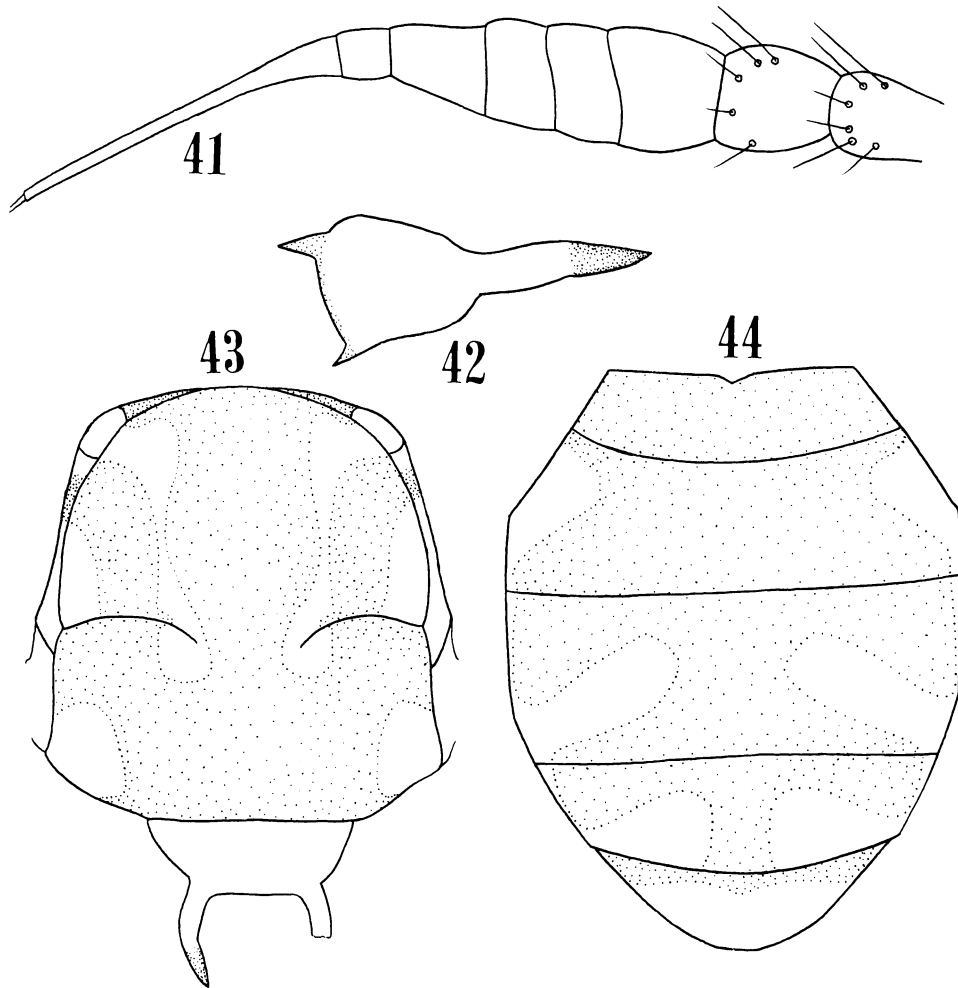
Oxycera sinica (PLESKE), stat. n.

(Figs 41–47)

Hermione meigenii sinica PLESKE, 1925, *Encycl. Ent. (BII) Dipt.*, 1: 174. Type locality: "Zostokumbaischim-Teichose; Lou-hou-tschen, Gansu", N. China.

Male. Body length 7.3 mm, wing length 7.0 mm. Head black, but frontal triangle yellow except for a small black triangular spot just above antennae and face with broad yellow stripe laterally; head with one long postocular yellow stripe much wider than scape length (upper end of this stripe is well separated from ocellar triangle). Hairs on head pale, but ocellar tubercle and a longitudinal line between eyes with black hairs; eyes with sparse but distinct hairs. Antenna black, but arista reddish yellow apically; scape and pedicel with pale hairs. Proboscis yellowish with pale hairs. Head 1.3 times higher than long; width of one eye on a mid line from a direct frontal view 1.2 times distance from antenna to median ocellus, 1.3 times width of frons just above antenna and 1.0 times width of frons at lowest point from a direct frontal view; ocellar triangle 1.1 times as long as wide; frontal triangle 0.9 times as long as distance from apex of frontal triangle to median ocellus; distance from ridge below proboscis to antenna 1.3 times that from antenna to median ocellus; clypeus 1.4 times as long as mid-upper face [width of clypeus was not measured]; antenna (minus arista) 0.6 times

distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 67:100:250 and their relative widths 67:83:83; arista (=flagellomeres 5-6) 1.3 times as long as rest of flagellum; lower occiput markedly developed behind eye in lateral view.

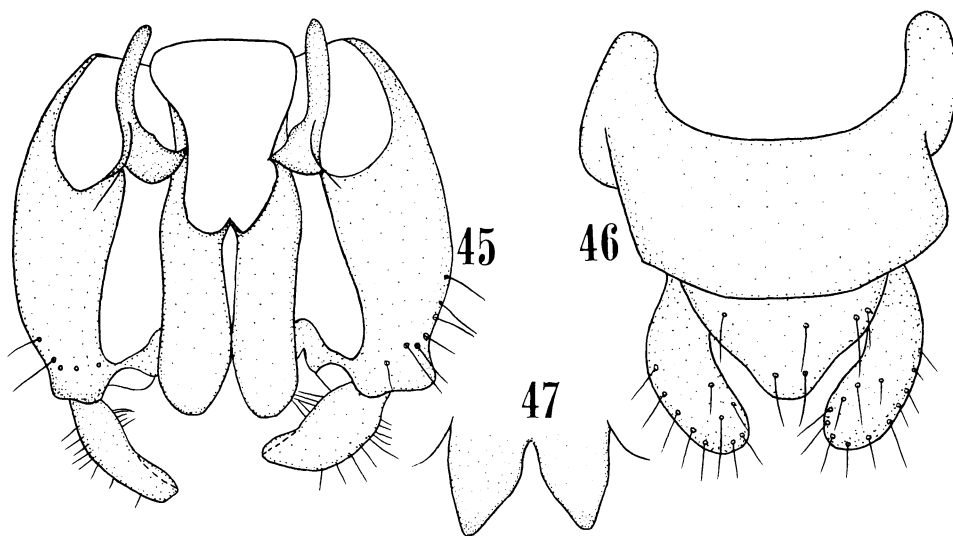


Figs. 41-44. *Oxycera sinica* (PLESKE), male. 41, Antenna, outer view; 42, scutellum, lateral view; 43, thorax, dorsal view; 44, abdomen, dorsal view.

Thorax black; mesonotum with one pair of yellow longitudinal stripes connected to yellow humeral spot and extending beyond transverse suture, one large yellow lateral spot just before suture and one large postero-lateral spot (including postalar callus); mesopleura with a small antero-upper yellow spot and a large postero-upper yellow spot; sternopleura with a small upper spot before posterior angle; metapleura with a small yellow spot near postero-upper angle; scutellum yellow, spines yellow with apical portion black. Hairs on thorax pale, but mesonotum and scutellum with some short black hairs. Legs black, but fore

femora with apical portion yellow; mid and hind femora yellow with dorsal portion darkened except for apical portion; tibiae yellow (anterior surface may have a darkened longitudinal median or subapical tinge); hind tarsomere 1 and base of mid tarsomere 1 reddish yellow; hairs on legs pale, but tarsi with some black hairs. Wing nearly hyaline, with yellow stigma; veins yellow to yellowish brown; wing margin between R_4 and R_5 0.6 times as long as that between R_{2+3} and R_4 ($N=1$). Haltere stem brown, knob yellow.

Abdomen black, dorsum with three pairs of yellow lateral spots on tergites 2–4 which are connected laterally by yellow lateral margin and one yellow apical spot on tergite 5; venter black, median area of sternites 2–3 yellow, sternite 2 also with small yellow postero-lateral spot. Hairs on abdomen pale, but dorsum with some short black hairs. Male genitalia (Figs 45–47): Gonostyli slightly concave beyond middle; aedeagal complex two-lobed; median process on ventral fused gonocoxites with a deep V-shaped concavity.



Figs. 45–47. *Oxycera sinica* (PLESKE), male genitalia. 45, Genital capsule, dorsal view; 46, tergites 9–10 and cerci, dorsal view; 47, median process on ventral fused gonocoxites.

Female. Unknown.

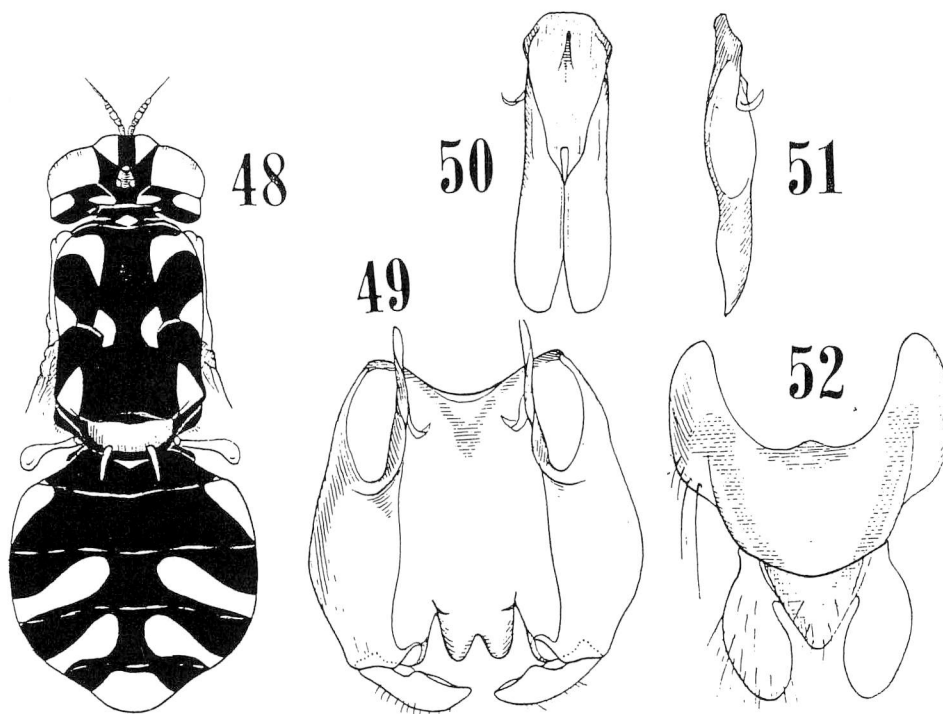
Specimen examined. 1 ♂, Akto (2950 m), Xinjiang, 8. vii. 1989, Xuezhong ZHANG.

Distribution. China (Xinjiang and Gausu).

Remarks. It is not necessarily certain whether the specimen (1 ♂) described above belongs to *meigenii* STAEGER, 1844 (or *meigenii sinica* PLESKE, 1925), or represents a new species. It is determined tentatively as *sinica* which is here treated as an independent species.

O. meigenii is “widely distributed in continental Europe, but very rare in the north, and extends far into Palaearctic Asia” (after ROZKOŠNÝ, 1983).

LINDNER (1939–38) wrote of *meigenii sinica* “Unterscheidet sich von der Stammform durch schwarze Fühler. Ausserdem sind die Fühler brieter. Beim ♀ ist der gelbe Augenhinter-



Figs. 48–52. *Oxycera meigenii* STAEGER. 48, Female head, thorax, and abdomen, dorsal view; 49, gonocoxites and gonostyli, dorsal view; 50, aedeagal complex, dorsal view; 51, aedeagal complex, lateral view; 52, tergites 9–10 and cerci, dorsal view. (From ROZKOŠNÝ, 1983).

rand durch zwei breite schwarze Flecken in vier gelbe Hinterrandflecken aufgelöst. Schildchen an der Spitze mit einem schmalen, braunen Streifen. Die Typen befinden sich im Museum in Leningrad. Sie wurden in Nordchina, in der Provinz Kansu 1908/09 auf der Expedition des Generals P. Koslow erbeutet.”

In this 1989 ♂ has hairs on eyes sparse; postocular yellow spot on lower occiput large and its widest part longer than scape+pedicel; abdominal tergites 2–4 with narrow yellow lateral margins. In *meigenii* (after ROZKOŠNÝ, 1983), hairs on eyes dense; “Postocular yellow band tapered at both ends, usually confined to lower half of head, at most as broad as scape is long”; abdominal dorsum without yellow lateral margins.

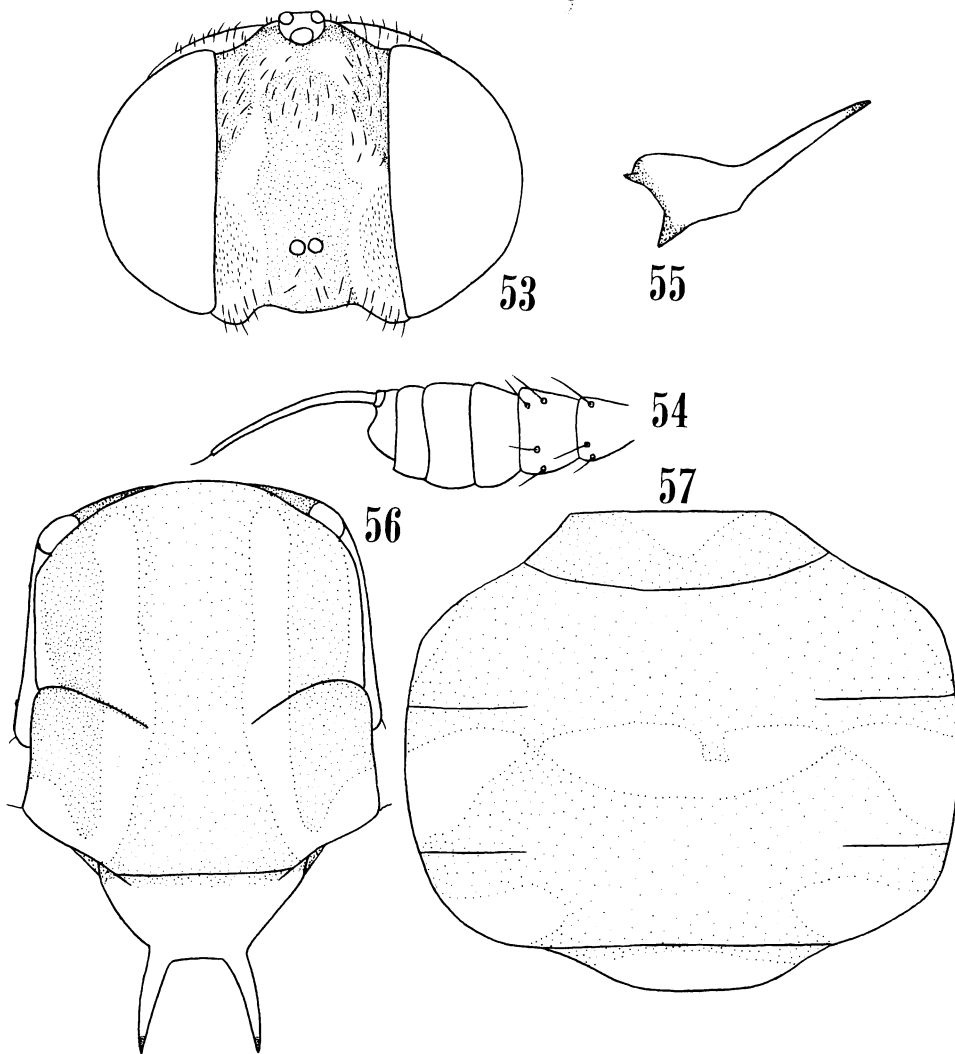
O. sinica (so determined in this paper) is also closely related to *qinghensis* but may be separated from the latter as shown in key (1) (couplet 12) and key (2) (couplet 2). These two species are peculiar among the Chinese species in that the apex of antennal flagellomere 4 wholly in contact with the base of flagellomere 5. The flagellomere 5 is comparatively long in *sinica* and short in *qinghensis*. In other Chinese species, flagellomere 5 is situated at the dorso-distal part of flagellomere 4.

***Oxycera tangi* (LINDNER)**

(Figs 53–60)

Hermione Tangi LINDNER, 1939, Deutsch. Ent. Zeitschr., 1939: 34. Type locality: "Hoye p'ing-chang, Prov. Schansi", China.

Male. Body length 4.3 mm, wing length 4.0 mm. Head wholly black; hairs on head pale, but a longitudinal line between eyes with black hairs; eyes practically bare or with very short and sparse hairs; frons and face laterally with dense pale pollinosity along eye margin which is connected with similar pollinosity on lower postocular margin. Antennal scape and pedicel yellow with pale hairs; flagellum dark brown with yellow ventral proximal part.

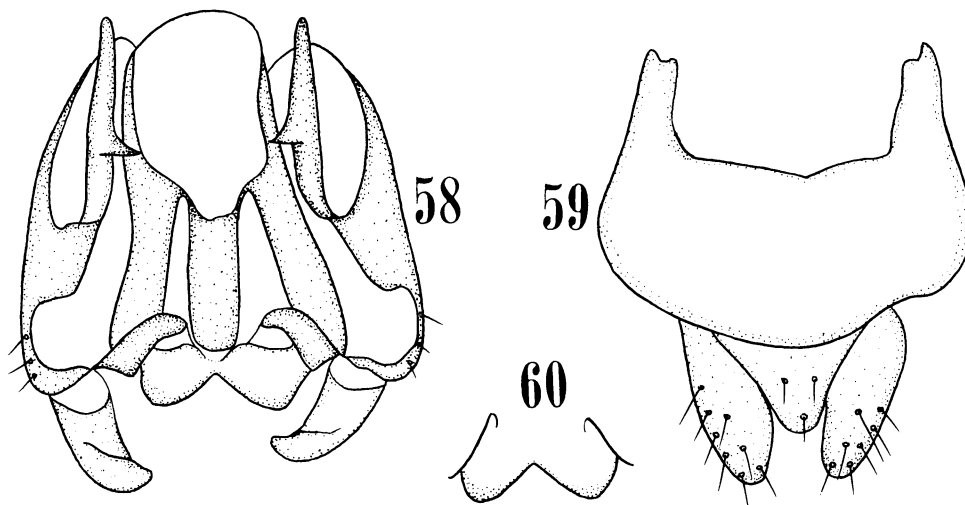


Figs. 53–57. *Oxycera tangi* (LINDNER), female. 53, Head, frontal view; 54, antenna, outer view; 55, scutellum, lateral view; 56, thorax, dorsal view; 57, abdomen, dorsal view.

Proboscis pale yellow, and pale haired. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 0.9 times distance from antenna to median ocellus, 2.6 times width of frons just above antenna and 1.6 times width of face at lowest point from a direct frontal view; ocellar triangle as long as wide; frontal triangle 0.3 times as long as distance from apex of frontal triangle to median ocellus; distance from ridge below proboscis to antenna 0.9 times that from antenna to median ocellus; clypeus 1.8 times as long as wide and 1.8 times as long as mid-upper face; antenna (minus arista) 0.4 times distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 67:100:267 and their relative widths 100:133:167; arista (=flagellomeres 5-6) (with terminal hair) 1.5 times as long as rest of flagellum; lower occiput less developed and hardly visible in lateral view.

Thorax black, with following yellow parts: mesonotum: (1) one pair of longitudinal stripes which are more or less interrupted at the suture and connected with yellow postalar calli, (2) a large spot before suture (including humeral callus), (3) postero-lateral spot (including postalar callus); pleura: (4) upper band of mesopleura which is narrow at middle, (5) postero-upper part of sternopleura, (6) postero-upper part and middle part of pteropleura, (7) upper part of hypopleura; (8) scutellum (except base) and spines. Hairs on thorax wholly pale. Legs yellow, but fore and hind coxae largely black; hairs on legs pale. Wing hyaline with yellow stigma, veins yellow; wing margin between R_4 and R_5 0.4 times as long as that between R_{2+3} and R_4 ($N=1$). Haltere yellow.

Abdomen black, dorsum with one yellow basal spot on tergite 1, one pair of yellow narrow lateral stripes on tergite 2, one yellow transverse band respectively on tergites 3 and 4 which is narrowly interrupted on tergite 4, and one yellow apical spot on tergite 5; venter black. Hairs on abdomen pale, but dorsum with some black hairs. Male genitalia (Figs 58-60): Gonostyli with inner margin slightly concave near apex; aedeagal complex three-lobed, with



Figs. 58-60. *Oxcera tangi* (LINDNER), male genitalia. 58, Genital capsule, dorsal view; 59, tergites 9-10 and cerci, dorsal view; 60, median process on ventral fused gonocoxites.

median lobe slightly shorter than lateral lobes; median process on ventral fused gonocoxites with a V-shaped concavity.

Female (here described for the first time). Body length 4.4 mm, wing length 4.3 mm. Similar to male, but different as follows: Upper 2/3 of frons with one pair of long yellow stripes which are narrower medially; face and lower 1/3 of frons with yellow lateral stripe along eye margin, with dense pale pollinosity which is more or less connected with similar pollinosity on postocular rim; postocular rim (except narrow and indistinct black antero-upper border) wholly yellow; vertex with one yellow triangular large spot just behind ocellar tubercle. Hairs on head pale, but upper 1/2 of frons with black hairs. Antennal flagellum yellow with apex and arista brown to dark brown. Width of one eye on a mid line from a direct frontal view 0.7 times distance from antenna to median ocellus, 0.8 times width of frons just above antennae and 0.8 times width of face at lowest point from a direct frontal view; frons just above antenna as wide as that at median ocellus; ocellar triangle as long as wide (as in ♂); distance from ridge below proboscis to antenna 1.1 times that from antenna to median ocellus; clypeus 1.8 times as long as wide (as in ♂) and 2.2 times as long as mid-upper face; antenna (minus arista) 0.5 times distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 100:100:267 and their relative widths 100:167:200; arista (=flagellomeres 5–6) (with terminal hair) 1.5 times as long as rest of flagellum. Wing margin between R_4 and R_5 0.7 times as long as that between R_{2+3} and R_4 . One yellow transverse band on abdominal tergite 3 more or less divided into three spots, and the same band on tergite 4 widely interrupted medially.

Specimens examined. 1♂, Xiangshan Mountain, Beijing, 18. vii. 1983; 1♀, Qinshui (1500 m), Shanxi, 14. viii. 1981, Chi-kun YANG.

Distribution. China (Beijing and Shanxi).

Remarks. This species was originally described from Shanxi by LINDNER (1940). Here the female is described for the first time and the male genitalia are illustrated. *O. tangi* is easily separated from *trilineata* (LINNAEUS) as shown in key (1) (couplet 10).

Oxycera trilineata (LINNAEUS)

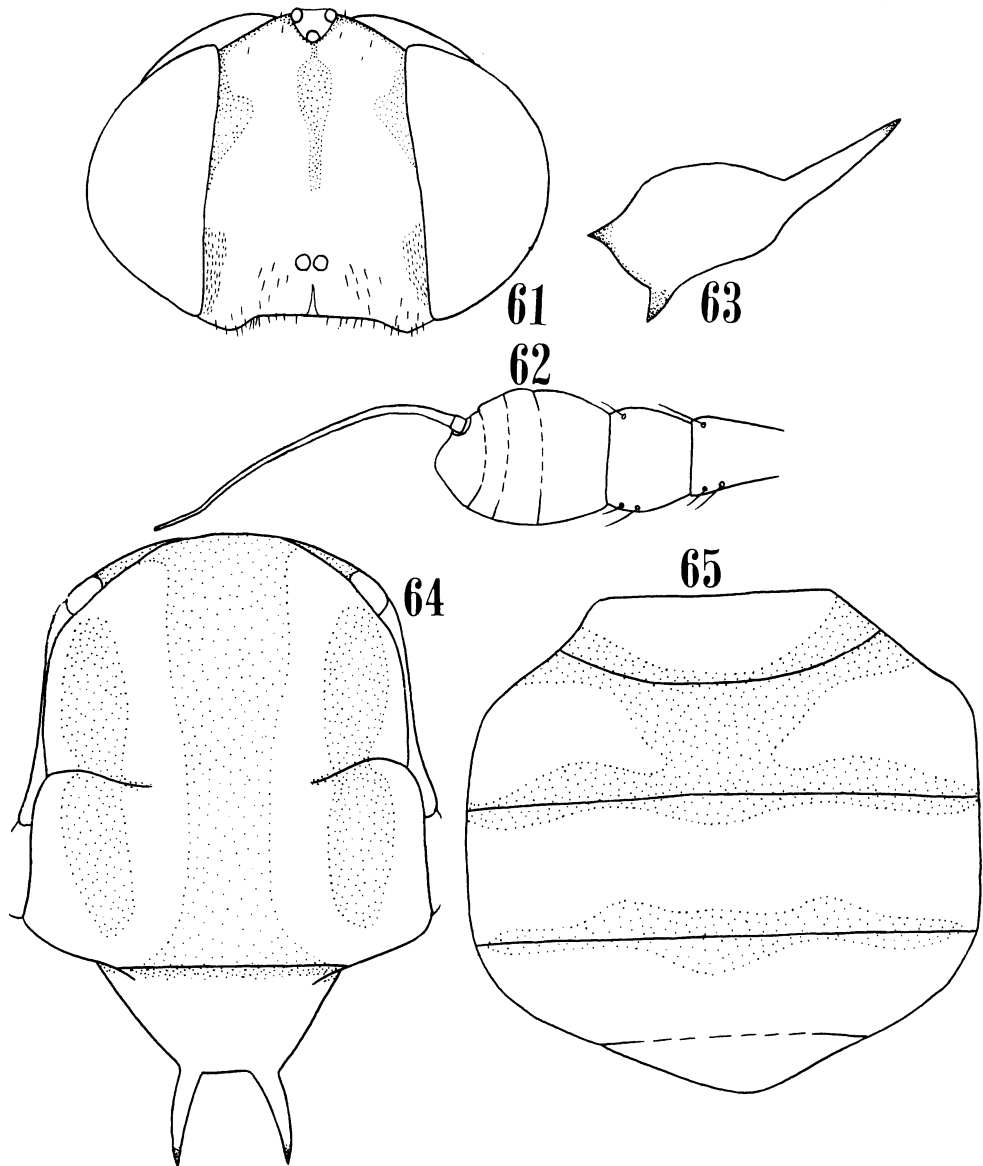
(Figs 61–72)

Musca trilineata LINNAEUS, 1767, Syst. Nat. Ed. 12, 1 (2): 980. Type locality: Sweden.

The extensive synonymy of this species is given by ROZKOŠNÝ (1983).

Female. Body length 4.3–5.4 mm, wing length 4.2–5.9 mm. Head yellow; frons with a black median longitudinal spot, upper frons also with black lateral stripe along eye margin reaching to ocellar tubercle; ocellar tubercle, vertex, occiput (except postocular rim), and middle of clypeus black, and side of face with a black lower spot whose size is variable; face and lower 1/4 of frons with dense pale pollinosity connected with similar pollinosity on postocular margin. Hairs on head pale; eyes practically bare or with very short and sparse hairs. Antennal scape and pedicel yellow with pale hairs, apex of flagellum and arista

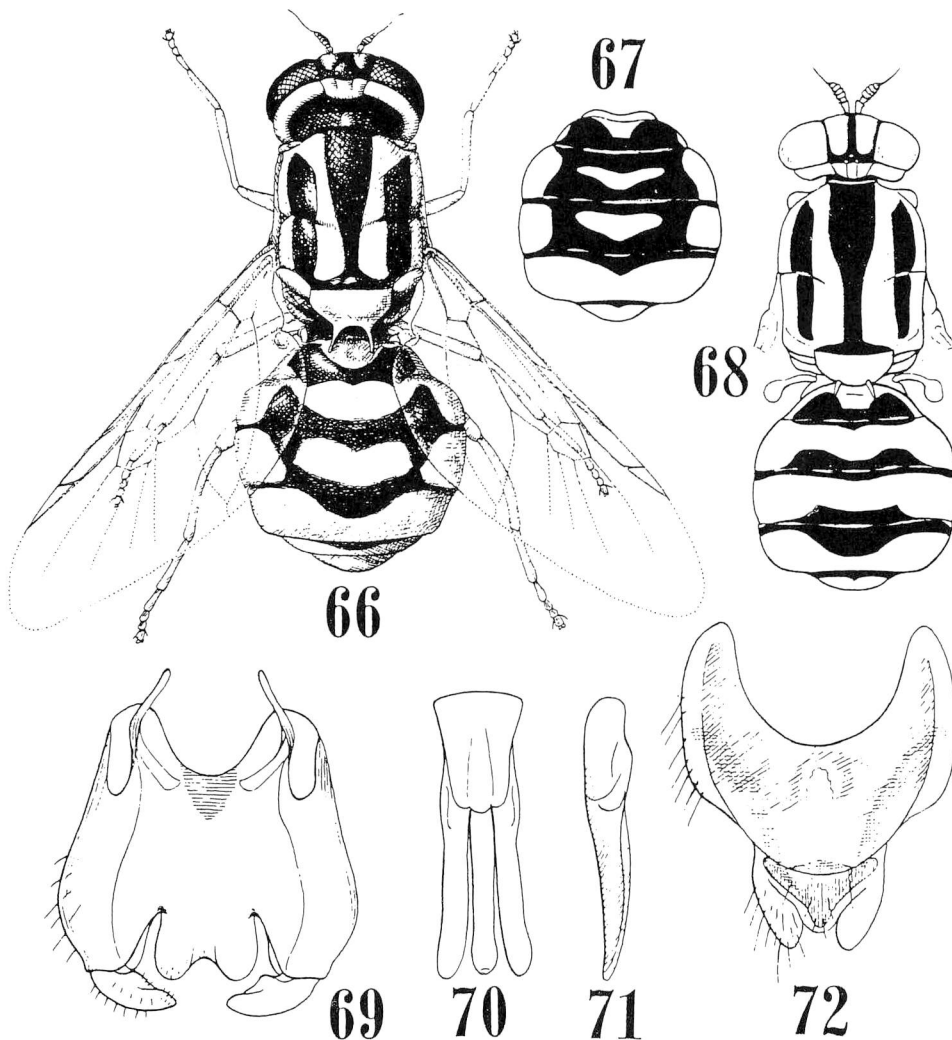
yellow to yellowish brown. Proboscis yellow, and pale haired. Head 1.2–1.3 times higher than long; width of one eye on a mid line from a direct frontal view 0.6–0.7 times distance from antenna to median ocellus, 0.6–0.8 times width of frons just above antenna and 0.6–0.8 times width of face at lowest point from a direct frontal view; frons just above antenna 1.0–1.2 times as wide as that at median ocellus; ocellar triangle 0.9–1.0 times as long as wide; distance from ridge below proboscis to antenna 1.1–1.2 times that from antenna to median ocellus; clypeus 1.5–1.9 times as long as wide and 1.6–1.8 times as long as mid-upper face; antenna (minus arista) 0.5 times distance from antenna to median ocellus; relative lengths of



Figs. 61–65. *Oxycera trilineata* (LINNAEUS), female. 61, Head, frontal view; 62, antenna, outer view; 63, scutellum, lateral view; 64, thorax, dorsal view; 65, abdomen, dorsal view.

antennal segments 1, 2, and flagellum (minus arista) 80 (60–100):100:224 (160–267) and their relative widths 84 (75–100):136 (120–167):161 (130–200); arista (=flagellomeres 5–6) (with terminal hair) 1.5–2.0 times as long as rest of flagellum; data based on 4 individuals.

Thorax yellow; mesonotum with one black median longitudinal stripe reaching to front and posterior margin, one pair of long black lateral stripes, and one pair of black small spots behind suture; scutellum with basal margin black, spines with dark brown tip; pleura with following areas black: propleura (except one spot), mesopleura at anterior and lower parts, sternopleura (except postero-upper part), posterior part of metapleura, and sub- and post-scutellum; lower part of pteropleura also with darkened areas. Hairs on thorax pale. Legs yellow with pale hairs. Wing hyaline with pale yellow stigma, veins yellow; wing margin



Figs. 66–72. *Oxycera trilineata* (LINNAEUS). 66, Female, dorsal view; 67, male abdomen, dorsal view; 68, female head, thorax and abdomen, dorsal view; 69, gonocoxites and gonostyli, dorsal view; 70, aedeagal complex, dorsal view; 71, aedeagal complex, lateral view; 72, tergites 9–10 and cerci, dorsal view. (From ROZKOŠNÝ, 1983).

between R_4 and R_5 0.7–1.0 times as long as that between R_{2+3} and R_4 ($N=4$). Haltere yellow.

Abdomen yellow; tergites 1–4 with three narrow intersegmental black bands of which the first two are connected at the middle; tergite 5 also with one median very narrow black band which is often interrupted or absent; sternites 2–4 each with antero-lateral black spot which is widely separated from lateral margin and which is variable in size and shape and often disappears on sternite 2. Hairs on abdomen pale.

Male. For the description of this sex, see ROZKOŠNÝ (1983).

Specimens examined. 1 ♀, Summer palace, Beijing, 23. vi. 1948, Chi-kun YANG; 1 ♀, Xiangshan Mountain, Beijing, 7. vii. 1963, Chi-kun YANG; 2 ♀ ♀, Ganquan, Shaanxi, 27. v./6. vii. 1971, Chi-kun YANG.

Distribution. China (Beijing, Shaanxi); Europe; Kazakh; Soviet Middle Asia; Siberia; Turkey; Israel; Mongolia; N. Africa.

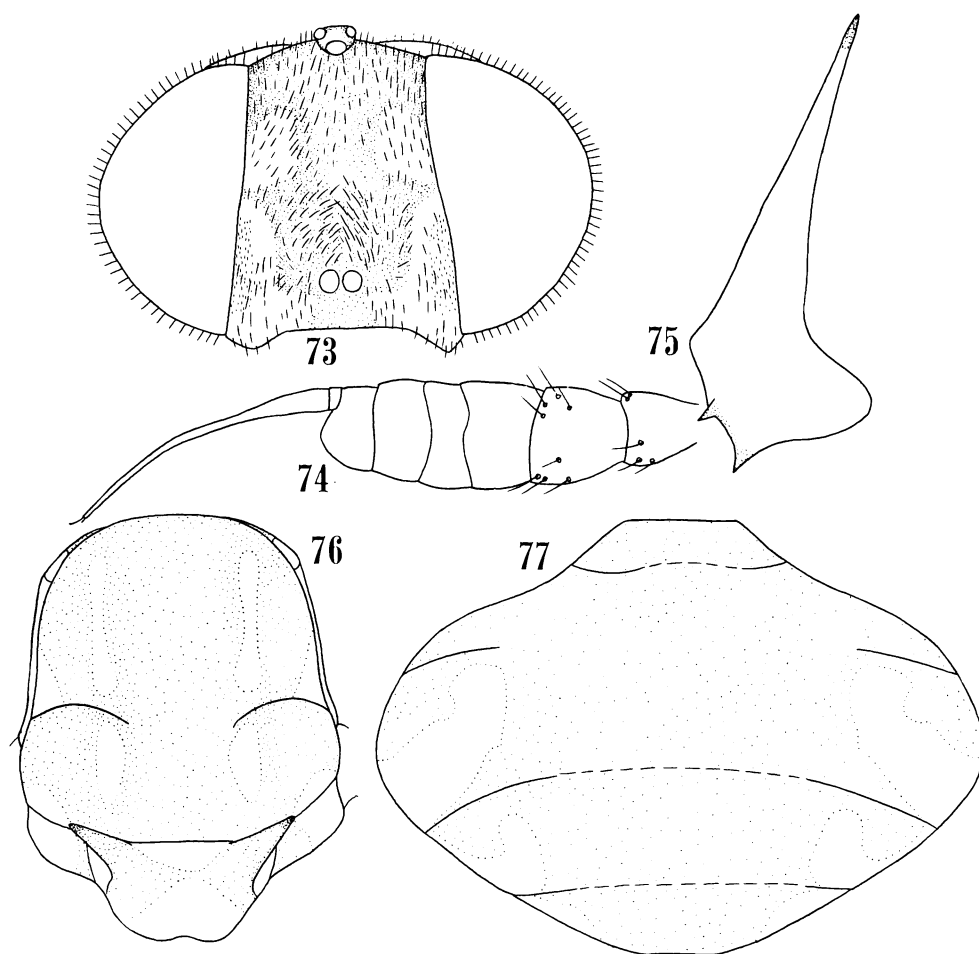
Remarks. This species is easily separated from *tangi* (LINDNER) as shown in key (1) (couplet 11).

Oxycera vertipila YANG et NAGATOMI, sp. n.

(Figs 73–77)

Female. Body length 8.2 mm, wing length 9.1 mm. Head dark brown to black, with following yellowish green spots: (1) a pair of lateral ones on upper frons (far below median ocellus); (2) lower frons and face along eye margin, with dense pale pollinosity, and this spot protruded inward on upper face and tapering downward; (3) an elongate spot at postero-upper part of postocular rim; (4) a large occipital stripe tapering downwards along lower eye margin, but not connected with the spot on face. Head with pale hairs, but upper 2/3 of frons with black hairs. Eyes with dense black hairs. Antenna dark brown to black, scape and pedicel with pale and black hairs. Proboscis yellowish brown, and pale haired. Head 1.2 times higher than long; width of one eye on a mid line from a direct frontal view 0.7 times distance from antenna to median ocellus, 0.7 times width of frons just above antenna and 0.7 times width of face at lowest point from a direct frontal view; frons just above antennae 1.3 times as wide as that at median ocellus; ocellar triangle as long as wide; distance from ridge below proboscis to antenna 1.0 times that from antenna to median ocellus; clypeus 1.6 times as long as wide and 1.2 times as long as mid-upper face; antenna (minus arista) 0.5 times distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, and flagellum (minus arista) 77:100:223 and their relative widths 62:92:108; arista (=flagellomeres 5–6) (with terminal hair) 1.4 times as long as rest of flagellum.

Thorax black, with following yellowish green spots or stripes: mesonotum: (1) a pair of narrow stripes interrupted at the suture; (2) humeri, (3) a large notopleural patch (except antero-lateral longitudinal spot), (4) a large quadrate postero-lateral spot (including postalar callus); pleura: (5) mesopleura (except a large median+lower part), (6) postero-upper part of sternopleura, (7) pteropleura (except antero-upper and lower parts), (8) hypopleura, (9)



Figs. 73–77. *Oxycera vertipila* sp. n., female. 73, Head, frontal view; 74, antenna, outer view; 75, scutellum, lateral view; 76, thorax, dorsal view; 77, abdomen, dorsal view.

metapleura (except posterior part); scutellum: (10) a narrow band between spines, (11) a large mid-posterior part behind spines. Spines on scutellum brown, with apex black. Hairs on thorax pale but those on mesonotum and scutellum partly black. Legs dark brown to black, but mid and hind tarsomere 1 (except apical portions) yellow; hairs on legs pale, but tarsi with some black hairs. Wing more or less brown, with brown to dark brown stigma; veins brown to dark brown; wing margin between R_4 and R_5 0.7 times as long as that between R_{2+3} and R_4 ($N=1$). Haltere stem yellow to brown, knob greenish yellow.

Abdomen black, dorsum with five pairs of yellowish green lateral spots on tergites 1–5, which are connected by yellowish green lateral margin and which are larger on tergites 3–4; venter dark brown with lateral margin of sternites 3–5 yellow. Hairs on abdomen pale, but dorsum with some short black hairs.

Holotype ♀, Kunming, Yunnan, 17. x. 1943.

Male. Unknown.

Distribution. China (Yunnan).

Remarks. This species (based on 1 ♀) is similar in some respects [couplet 7 of key (1)] to *sinica* (PLESKE), *tangi* (LINDNER) and *trilineata* (LINNAEUS) but is easily distinguished from them by having the spines on scutellum stout and vertical, and area behind spines large and protruded posteriorly.

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