

RESEARCH PAPER

## A review of the genus *Olophrinus* from China (Coleoptera: Staphylinidae: Tachyporinae)

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**Abstract.** The Chinese species of the Tachyporinae genus *Olophrinus* Fauvel, 1895 are reviewed to include eight species, of which three are described as new: *O. parastriatus* Chang, Yin & Li sp. nov. and *O. setiventris* Chang, Yin & Li sp. nov. of the *O. striatus* Fauvel, 1895 group from Yunnan, and *O. qian* Chang, Yin, Li & Schülke sp. nov. of the *O. suzukii* Shibata, 1992 group from Guizhou and Yunnan. Three species are recorded from China for the first time: *O. lantschangensis* Schülke, 2006 and *O. malaisei* Scheerpeltz, 1965 from Yunnan, and *O. nepalensis* Campbell, 1993 from Guangxi, Yunnan, and Xizang. New collecting data are given for *O. striatus* in Guangxi. A key to and a distributional map of the *Olophrinus* species in China are provided.

**Key words.** Coleoptera, Staphylinidae, Tachyporinae, *Olophrinus*, distributional map, key, review, taxonomy, China

**Zoobank:** <http://zoobank.org/urn:lsid:zoobank.org:pub:BE3FDCE6-D579-4FFC-93B3-62E1EE6D44CE>

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### Introduction

The rove beetle genus *Olophrinus* Fauvel, 1895 represents a small-sized group of Tachyporinae, containing 12 species distributed in the Palaearctic and Oriental Regions (HERMAN 2001; SCHÜLKE 2006a,b). Members are characterized and can be distinguished from those of other tachyporine genera by the large-sized and usually distinctly convex body (more or less flattened in *O. malaisei* Scheerpeltz, 1965 and *O. schmidtii* Schülke, 2006), the glabrous antennomeres 1–4 and densely pubescent antennomeres 5–11, the elytra with distinct longitudinal rows of punctures, and the large median mesoventral carina (CAMPBELL 1993). Based on the presence/absence and form of the microsculpture of the head, pronotum, elytra, and abdomen, three species groups were proposed (SCHÜLKE 2006a): the *O. striatus* Fauvel, 1895, the *O. suzukii* Shibata, 1992, and the *O. malaisei* Scheerpeltz, 1965 groups. Prior to this study, two species have been known to occur in China (SCHÜLKE 2006a, SHIBATA 1992). Here, we describe three new Chinese species, and provide new country or provincial records for four known species. An identification key and a distributional map for the Chinese species are given.

### Material and methods

The material used in this study is housed in the following public institutions and private collections:

cAss	Volker Assing private collection (Hannover, Germany);
CNC	Canadian National Collection of Insects, Ottawa, Canada (A. Brunke);
cPüt	Andreas Pütz private collection (Eisenhüttenstadt, Germany);
cSch	Michael Schülke collection (Museum für Naturkunde, Berlin, Germany);
NHMW	Naturhistorisches Museum in Wien, Austria (H. Schillhammer);
NMPC	National Museum, Praha, Czech Republic (J. Hájek, M. Fikáček);
SNUC	Insect Collection of Shanghai Normal University, Shanghai, China (Z.-W. Yin).

The text of the specimen labels is quoted verbatim in quotation marks (‘’), additional information is included in parentheses. Dissected parts were preserved in Euparal or PVP on plastic slides that were placed on the same pin as the specimen. The habitus images were taken using a Canon 5D Mark III camera with a Canon MP-E 65mm f/2.8 1-5X Macro Lens, and a Canon MT-24EX Macro Twin Lite Flash used as the light source. Images of the morphological details were produced using a Canon G9



camera mounted to an Olympus CX31 microscope under transmitted light. Zerene Stacker (version 1.04) was used for image stacking. The base map was produced from <http://www.simplemapp.net/> (SHORTHOUSE 2010). All images were optimized and grouped into plates in Adobe Photoshop CS5 Extended.

The following abbreviations are applied in the description:

AnL	length of the antenna;
EL	length of the elytra along the suture, excluding scutellum;
EW	maximum width of the elytra;
EyL	longitudinal length of the eyes;
FBL	forebody length from the clypeal anterior margin to apex of the elytra;
HL	length of the head from the clypeal anterior margin to the anterior margin of the pronotum, excluding area that is covered by the pronotum;
HW	width of the head across eyes;
PL	length of the pronotum along the midline;
PW	maximum width of the pronotum;
TBL	total body length from the clypeal anterior margin to apex of the abdomen.

## Taxonomy

### The *Olophrinus malaisei* group

#### *Olophrinus malaisei* Scheerpeltz, 1965

(Figs 1–3, 18)

*Olophrinus malaisei* Scheerpeltz, 1965: 323; CAMPBELL (1993: 68); SCHÜLKE (2006a: 874).

**Material examined.** CHINA: YUNNAN: 1 ♂ 1 ♀, 'China: Yunnan, Baoshan City, Tengchong County (腾冲县), Mingguang Town (明光乡), Zizhi Village (自治村) (Gaoligong Mt.), 25°42'48"N, 98°34'53"E, 2183 m, 27.iv.2013, Dai, Song & Peng leg.' (SNUC).

**Comments.** *Olophrinus malaisei* was originally described from Myanmar, and is here newly recorded from Yunnan, southwestern China. The diagnostic features of both sexes (Figs 1–3) agree well with those figured in SCHÜLKE (2006a: figs 4–5), except that the inner lobes of the female sternite VIII in the population of Yunnan are slightly broader.

**Distribution.** China: Yunnan (**new country record**); Myanmar (Fig. 18). Note the new collecting site is only about 45 km east from the type locality.

### The *Olophrinus striatus* group

#### *Olophrinus lantschangensis* Schülke, 2006

(Figs 4, 18)

*Olophrinus lantschangensis* Schülke, 2006b: 1658.

**Material examined.** CHINA: YUNNAN: 2 ♀♀, 'China: Yunnan, Baoshan City, Tengchong County (腾冲县), Mingguang Town (明光镇), Zizhi Village (自治村) (Gaoligong Mt.), 25°42'48"N, 98°34'53"E, 2183 m, 27.iv.2013, Dai, Song & Peng leg.' (SNUC); 1 ♂ 4 ♀♀, 'China: Yunnan, [CH07-19] Dehong Dai Autonomous Prefecture, mountain range 31 km E Luxi, 2280m, 24°29'11"N, 98°52'58"E, secondary pine forest with old dead trees, litter sifted, 3.vi.2007, leg. M. Schülke' (cSch); 4 ♂♂ 2 ♀♀, 'same collecting data, leg. A. Pütz' (cPüt, cSch); 1 ♂, 'China: Yunnan, [CH09-42] Lincang Prefecture, Bangma-Shan, 33 km SSW Lincang, 2150 m, 23°35'41"N, 100°00'27"E, deciduous forest remnant, N slope, litter and dead wood sifted, 11.ix.2009, leg. M. Schülke' (cSch); 1 ♂ 1 ♀, 'China: Yunnan [CH09-10/10b] Baoshan Prefecture, Gaoligong Shan, 65 km NNE Tengchong, 1750 m, 25°35'20"N, 98°40'21"E, secondary mixed forest, overgrown stone debris, litter and moss sifted, 27./31.viii.2009, leg. M. Schülke' (cSch); 1 ♂, 'China: Yunnan, [CH09-45] Lincang Prefecture, Xue Shan, 48 km N Lincang, 2070 m, 24°19'03"N,

100°07'13"E, forest remnant, N slope, litter sifted, 12.IX.2009, leg. M. Schülke' (cSch).

**Comments.** *Olophrinus lantschangensis* was originally described from Laos, and is here newly recorded from Yunnan, southwestern China. The two female adults (Fig. 4A) from Zizhi Village, not associated with a male, can be readily identified by each elytron bearing seven longitudinal rows of distinct punctures (Fig. 4B), as well as the forms of the eighth abdominal segments and styli (Figs 4C–F).

**Distribution.** China: Yunnan (**new country record**); Laos (Fig. 18). The present record extends the distribution of this species some 850 km in the northwest direction from the type locality.

#### *Olophrinus parastratus* Chang, Yin & Li, sp. nov.

(Figs 5–7, 18)

**Type material.** HOLOTYPE: ♂, CHINA: YUNNAN: 'China: Yunnan Prov., Nabanhe N. R. (纳板河自然保护区), Xiao-nuo-you-xia-zhai (小糯有下寨), N22°14.121', E100°37.09', alt. 950 m, 20.xi.2008, J.-Y. Hu & L. Tang leg.'. PARATYPES: CHINA: YUNNAN: 1 ♂, 'China: Yunnan Prov., Nabanhe N. R., Manfei (曼费), alt. 700 m, 05.v.2009, J.-Y. Hu & Z.-W. Yin leg.' (SNUC).

**Diagnostic description.** **Male.** Habitus as in Figs 5A, 5B; body convex, TBL 5.32–6.84 mm, FBL 3.77–4.26 mm; head and elytra black, antennomeres 1–3, and tarsi yellowish-brown, antennomeres 4–11, pronotal disc, and abdomen darkish-brown, most parts of legs reddish-brown. Head (Figs 6A, 6B) sub-triangular, HL 0.62–0.86 mm, HW 1.03–1.08 mm, with fine punctures and microsculpture consisting of transverse waves; eyes prominent, EyL 0.34–0.36 mm; antennae elongate, AnL 2.44 mm, relative lengths of antennomeres 1–11: 2.4 : 1.0 : 1.75 : 2.0 : 1.83 : 1.91 : 2.0 : 1.66 : 1.75 : 1.75 : 2.25. Pronotum (Fig. 6C) strongly transverse, PL 1.23–1.38 mm, PW 2.46–2.59 mm, PL/PW 0.50–0.53, with punctures and microsculpture as of head. Elytra (Figs 6D, E) transverse, EL 1.77–1.81 mm, EW 2.48–2.62 mm, EL/EW 0.69–0.71, with microsculpture as of head, each elytron with seven complete and two short outer rows of punctures. Abdominal (Fig. 6F) surface with coarse punctures, and microsculpture consisting of transverse waves; tergite VIII (Fig. 7A) with six relatively short lobes, deeply and broadly incised between inner lobes and median ones; tergite IX (Fig. 7B) divided laterally to four lobes; sternite VI (Figs 7C–D) with posterior margin broadly emarginate, granules evenly arranged in sub-triangular area; sternite VII (Figs 7E–F) with posterior margin slightly emarginate, granules evenly arranged in semicircular area; sternite VIII (Fig. 7G) with four lobes, shallowly incised between inner and outer lobes, mid-length 1.51 times as long as depth of incision; sternite IX elongate and asymmetric (Fig. 7H). Length of aedeagus (Figs 7I–K) 1.42 mm, parameres short, asymmetric, right paramere distinctly broader than left one in ventral view, median lobe broad at base and narrowing toward apex.

**Female.** Unknown.

**Comparative notes.** *Olophrinus parastratus* is most similar to *O. striatus* in sharing the head, pronotum, and elytra with microsculpture consisting of transverse waves, and the right paramere of the aedeagus much broader than the



Fig. 1. Habitus of *Olophrinus malaisei* Scheerpeltz, 1965. A – male; B – female. Scale bars: 1.0 mm.

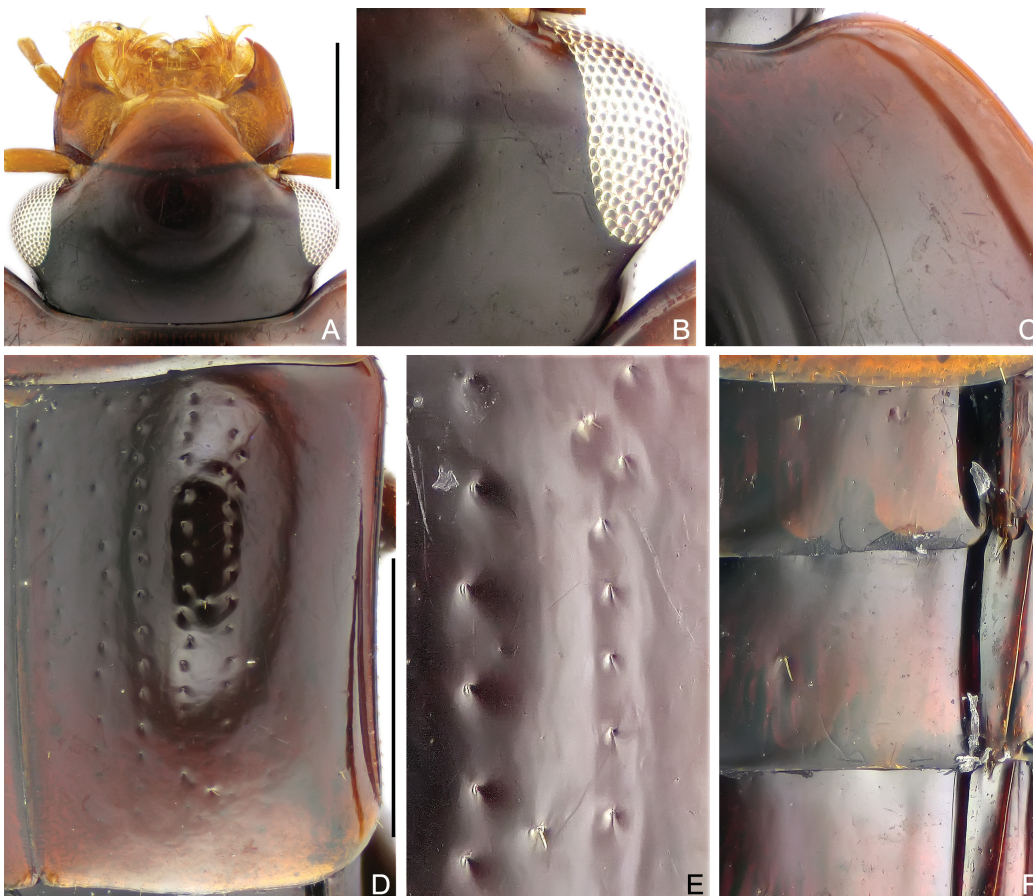


Fig. 2. Morphology of *Olophrinus malaisei* Scheerpeltz, 1965, showing the lack of microsculpture of various body parts. A, B – head; C – pronotum; D, E – elytron; F – tergites III–V. Scale bars: 0.5 mm in A; 1.0 mm in D.

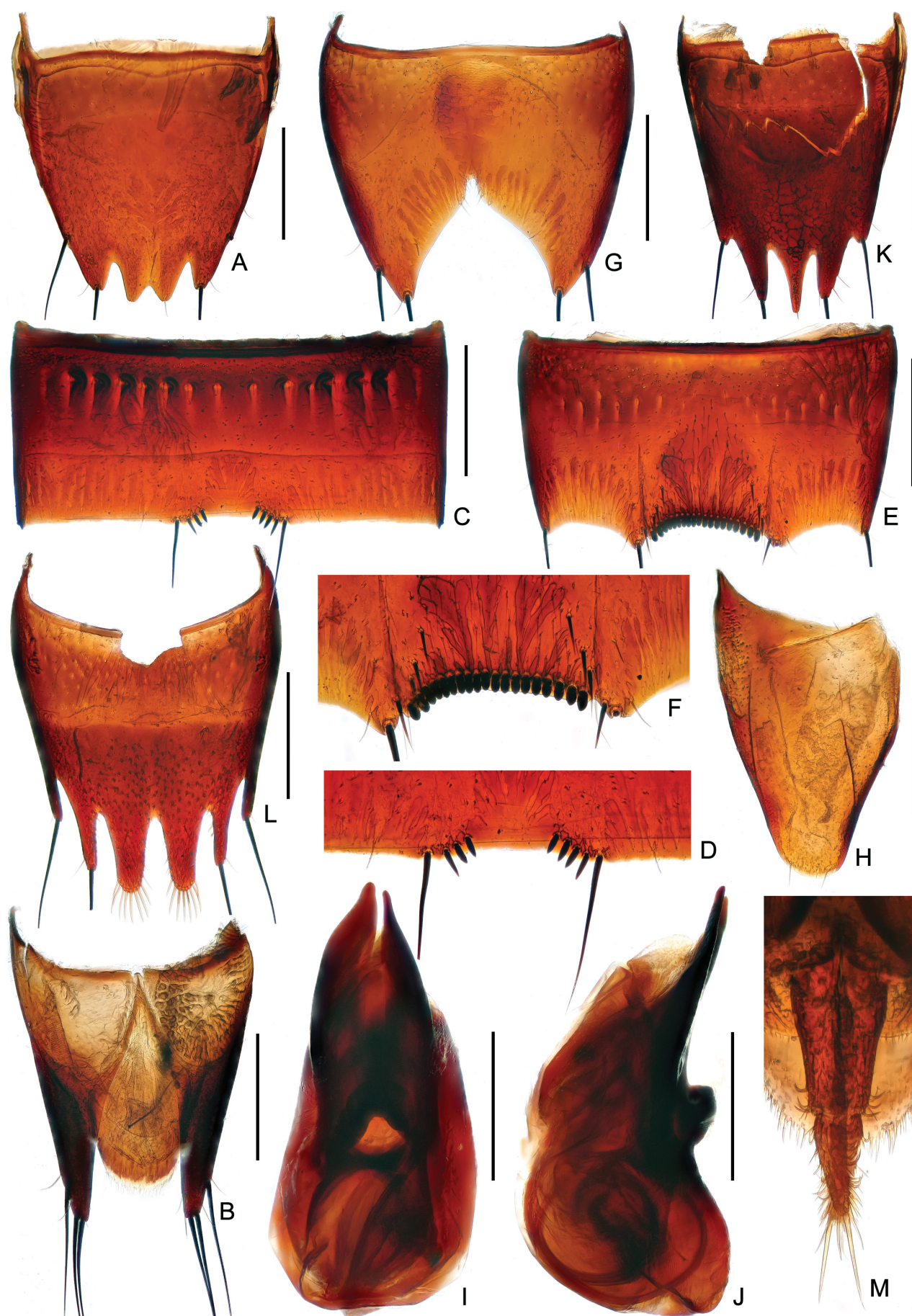


Fig. 3. Diagnostic features of *Olophrinus malaisei* Scheerpeltz, 1965 (A–J – male; K–M – female). A, K – tergite VIII; B – tergites IX–X; C, D – sternite VI; E, F – sternite VII; G, L – sternite VIII; H – sternite IX; I–J – aedeagus, ventral (I) and lateral (J); M – styli. Scale bars: 0.5 mm in A–L; 0.2 mm in M.

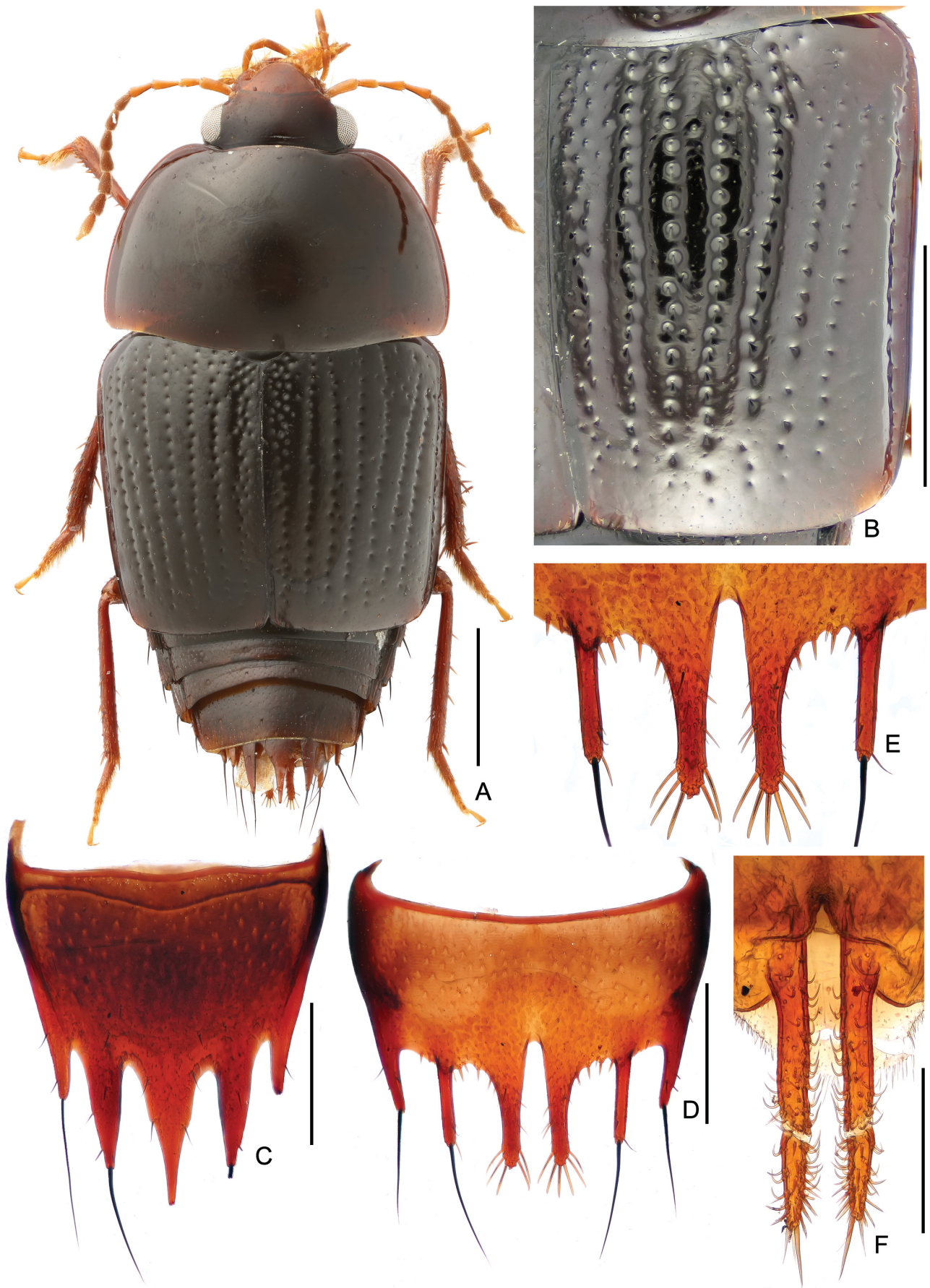


Fig. 4. *Olophrinus lantschangensis* Schülke, 2006, female. A – habitus; B – elytron; C – tergite VIII; D, E – sternite VIII; F – styli. Scale bars: 1.0 mm in A, B; 0.5 mm in C–D; 0.2 mm in F.



Fig. 5. Habitus of *Olophrinus parastratus* sp. nov. A – male; B – female. Scale bars: 1.0 mm.

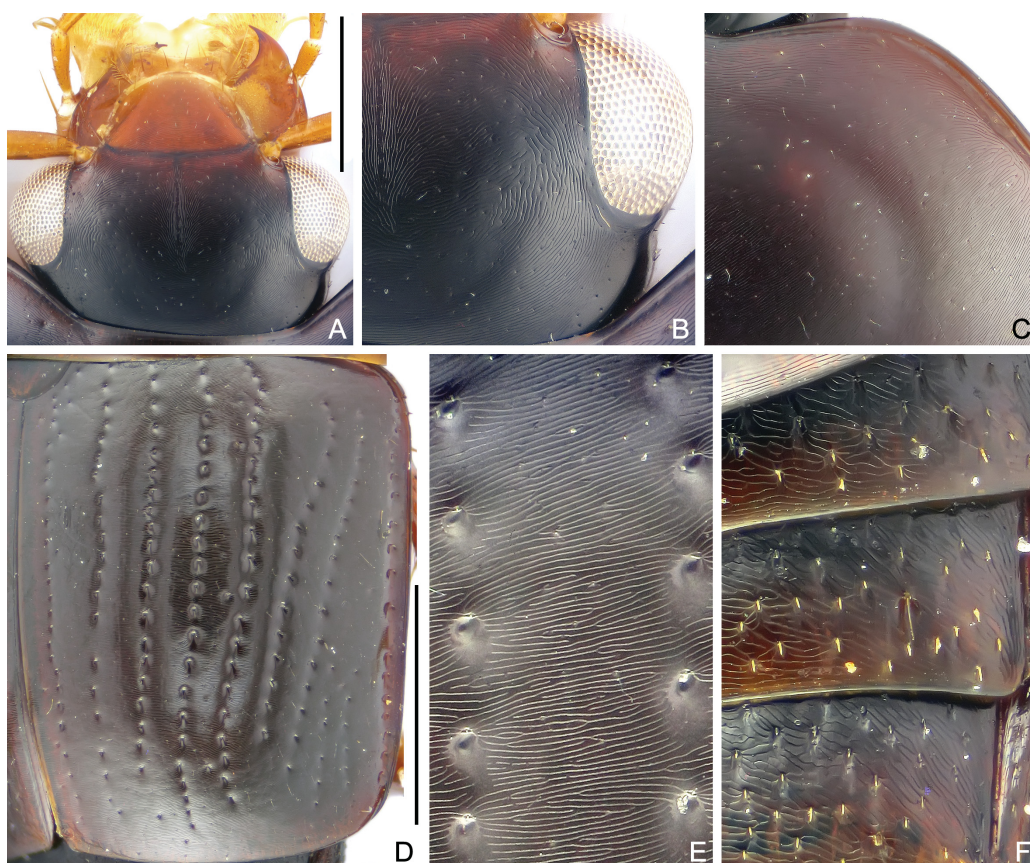


Fig. 6. Morphology of *Olophrinus parastratus* sp. nov., showing microsculpture of various body parts. A, B – head; C – pronotum; D, E – elytron; F – tergites III–V. Scale bars: 0.5 mm in A; 1.0 mm in D.

left one. The new species may be separated by the much deeper emargination of male sternite VI, and the relatively much shorter parameres of the aedeagus without a preapical denticle on the ventral surface.

**Distribution.** China: Yunnan (Fig. 18).

**Etymology.** The new specific epithet (*para* + *striatus*) refers to the morphological resemblance of the new species to *O. striatus*; adjective.

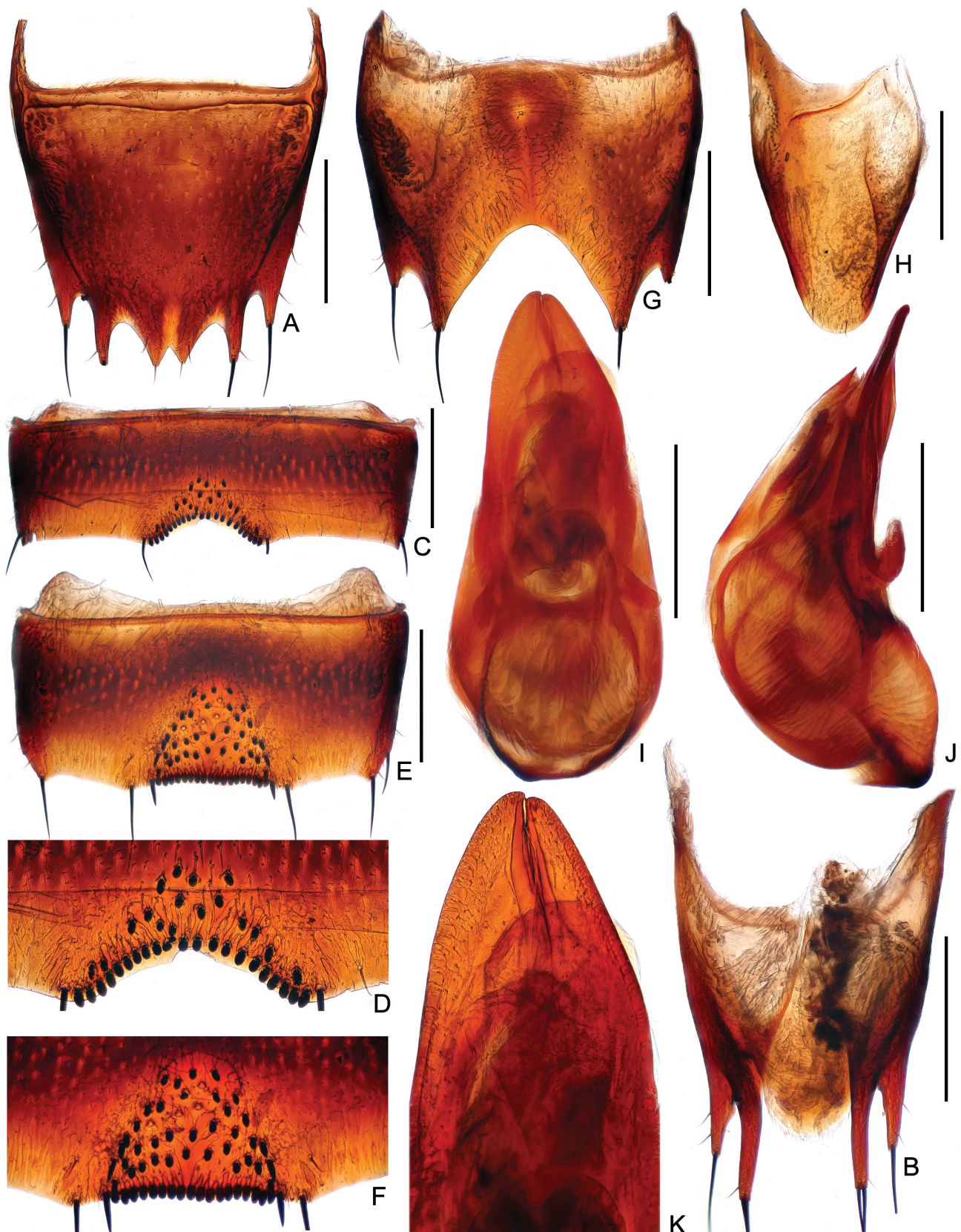


Fig. 7. Male diagnostic features of *Olophrinus parastriatus* sp. nov. A – tergite VIII; B – tergites IX–X; C, D – sternite VI; E, F – sternite VII; G – sternite VIII; H – sternite IX; I–J – aedeagus, ventral (I) and lateral (J); K – apical portion of aedeagus. Scale bars: 0.5 mm.

***Olophrinus setiventris* Chang, Yin & Li, sp. nov.**

(Figs 8B, 9–10, 18)

**Type material.** HOLOTYPE: ♂, CHINA: YUNNAN: 'China: Yunnan Prov., Nabanhe N. R., Hui-lao-xin-zhai (回老新寨), Lao-yin-shui-chi (老饮水池), alt. 1250 m, 04.v.2009, J.-Y. Hu & Z.-W. Yin leg.' (SNUC).

**Diagnostic description.** **Male.** Habitus as in Fig. 8B. Body slightly convex, TBL 7.01 mm, FBL 4.21 mm; head, pronotal disc and abdomen black, elytra and most parts of legs reddish-brown. Head (Figs 9A, 9B) sub-triangular, HL 0.92 mm, HW 1.05 mm, with fine punctures, posterolateral and posterior margins with microsculpture consisting of transverse waves; eyes prominent, EyL 0.31 mm; antennae broken. Pronotum (Fig. 9C) strongly transverse, PL 1.37 mm, PW 2.59 mm, PL/PW 0.53, with fine punctures, lacking microsculpture. Elytra (Figs 9D, 9E) transverse, EL 1.74 mm, EW 2.59 mm, EL/EW 0.67, each elytron with seven complete rows of punctures. Abdominal (Fig. 9F) surface with coarse punctures, and microsculpture consisting of transverse waves; tergite VIII (Fig. 10A) with six relatively short lobes, narrowly and shallowly incised between inner lobes and outer ones; tergite IX (Fig. 10B) divided laterally to four lobes; sternite VI (Figs 10C–E) with posterior margin narrowly and shallowly emarginate, dense and elongate pubescence arranged along emargination; sternite VII (Figs 10F–G) with posterior margin deeply and broadly emarginate, peg setae evenly arranged along posterior margin; sternite VIII (Fig. 10H) with four lobes, shallowly incised between inner and outer lobes, mid-length 1.52 times as long as depth of incision; sternite IX elongate and asymmetric (Fig. 10I). Length of aedeagus (Figs 10J–K) 2.04 mm, parameres short, slightly asymmetric, right paramere longer than left one in ventral view, median lobe broad at base and narrowing toward apex.

**Female.** Unknown.

**Comparative notes.** *Olophrinus setiventris* is similar to *O. lantschangensis* in sharing the head with fine punctures, the posterolateral and posterior margins of the head with microsculpture consisting of transverse waves, and each elytron with seven complete rows of punctures. The new species can be readily separated by the densely setose emargination of the posterior margin of male sternite VI.

**Distribution.** China: Yunnan (Fig. 18).

**Etymology.** The specific epithet is a noun combined from Latin 'seti-' (seta, bristle) and 'ventris' (venter), referring to the setose posterior margin of male sternite VI.

***Olophrinus striatus* Fauvel, 1895**

(Figs 11–12, 18)

*Olophrinus striatus* Fauvel, 1895: 281; CAMERON (1932: 405); CAMPBELL (1993: 55); SCHÜLKE (2006a: 870).

**Material examined.** CHINA: GUANGXI: 1 ♂ 1 ♀, 'China: Guangxi, Jinxiu County (金秀县), (Dayao Mt. 大瑶山), Yinshan Conservation Station (银杉自然保护区), 24°10'01"N, 110°14'38"E, beech forest, mixed leaf litter, sifted, 1200 m, 10.vii.2014, Peng, Song, Yu & Yan leg.'; 2 ♀♀, 'China: Guangxi Prov., Xin'an County (新安县), Maoershan N. R. (猫儿山自然保护区), 450–650 m, 25.vii.2012, Hu & Song leg.'; 1 ♀, 'China: Guangxi, Liuzhou City, (Rongshui Miao Autonomous County 融水苗族自治县), Jiuwanshan N. R. (九万山自然保护区), Yangmeiao (杨梅坳), 25°11'42"N, 118°38'51"E, mixed leaf litter, sifted, 1200m,

24–26.vii.2015, Li & Zhao leg.' (SNUC). INDIA: UTTAR PRADESH: 1 ♀, 'INDE, Garhwai (UP), Mussoorie, 1700 m, I. Löbl, 19.X.(19)79 / *Olophrinus striatus* Fauvel, det. 1992, J. M. Campbell' (CNC); 1 ♂, 'INDE, Kumaon (UP), Rangarh, I. Löbl, 9.X.(19)79' (CNC). NEPAL: 1 ♀, 'E. NEPAL: KOSI, Val. Arun ss/Num, 1050 m, 21.IV.(19)84, Löbl - Smetana / *Olophrinus striatus* Fauvel, det. 1992, J. M. Campbell' (CNC).

**Comments.** *Olophrinus striatus* was originally described from Myanmar, subsequently reported from India, Nepal, and the Chinese provinces of Yunnan and Fujian, and is here newly recorded from Guangxi, southern China. This species (Figs 11–12) can be readily identified by each elytron with seven complete and two short outer rows of punctures, tergite VIII (Fig. 12K) of female with six lobes, and the aedeagus with the parameres bearing a pre-apical denticle on the ventral side (Figs 12I–J; indicated by arrows). Note the lengths of the inner lobes of female tergite VIII can be considerably variable.

**Distribution.** China: Fujian, Guangxi (new provincial record), Yunnan; India; Myanmar; Nepal (Fig. 18).

**The *Olophrinus suzukii* group*****Olophrinus nepalensis* Campbell, 1993**

(Figs 13–14, 18)

*Olophrinus nepalensis* Campbell, 1993: 64.

**Type material examined.** HOLOTYPE: NEPAL: ♂, 'NEPAL, Khandbari District / For. Above Ahale, 2300 m, 26.III.82, A. & Z. Smetana / HOLOTYPE ♂ (red, printed), *Olophrinus nepalensis* desig. 1992, J. M. Campbell' (CNC). PARATYPES: NEPAL: 1 ♂, same label data as holotype; 1 ♂, 'NEPAL, Rasuwa, Distr. 1.5 km NE Bhargu, 2000 m, 12.IV.85, A. Smetana'. Both paratypes are housed in CNC, and bears a following type label 'PARATYPE (yellow, printed), *Olophrinus nepalensis* desig. 1992, J. M. Campbell'.

**Other material examined.** CHINA: XIZANG: 3 ♂♂ 3 ♀♀, '(China) Hanmi (汗密), Motuo Coun. (墨脱县), Xizang A. R., alt. 2200 m, 19.viii.2005, L. Tang leg.' (SNUC). GUANGXI: 1 ♂ 1 ♀, 'China: Guangxi, Jinxiu County, (Dayao Mt.), Yinshan Conservation Station, 24°10'01"N, 110°14'38"E, beech forest, mixed leaf litter, sifted, 1200 m, 11.vii.2014, Peng, Song, Yu & Yan leg.'; 1 ♂, 'China: Guangxi, Jinxiu County, (Dayao Mt.), 7 km (七公里), 24°09'07"N, 110°12'29"E, beach forest, mixed leaf litter, 1300 m, 16.vii.2014, Peng, Song, Yu & Yan leg.' (SNUC). YUNNAN: 1 ♂, '(China) Datang Village (大塘村), Tengchong County, Yunnan Prov., 14.vi.2005, H. Huang leg.' (SNUC); 1 ♂ 1 ♀, 'China: Yunnan [CH09-21], Baoshan Pref., Gaoligong Shan, 78 km N Tengchong, 2000 m, 25°44'49"N, 98°33'29"E, cleft with creek and forest remnant, litter & Dead wood sifted, 1.IX.2009, leg. M. Schülke' (cSch); 1 ♀, 'China, W-Yunnan env. Baoshan 5.-8.6.1993 E. Jendek & O. Sausa leg.' (NHMW); 1 ♂, 'China: Yunnan prov., Tengchong city, 1920 m, Laifeng Shan Forest park, 25°01.11'N, 98°26.66'E, J. Hájek & J. Růžicka / (Ch04) 22.vi.2016, sift #03 close side valley on slope below pagoda, sparse broad-leaved forest, at foot of a tree' (NMPC).

**Description of female.** Habitus as in Fig. 13B; body slightly convex, TBL 7.44–8.14 mm, FBL 5.32–5.46 mm; head and elytra black, antennomeres 1–4 yellowish-brown, 5–11 yellow, elytra, pronotal disc, and most parts of legs reddish-brown. Head sub-pentagon, HL 1.03–1.17 mm, HW 1.36–1.41 mm, with microsculpture consisting of small isodiametric or nearly isodiametric meshes; posterolateral and posterior margins with microsculpture consisting of transverse waves; eyes prominent, EyL 0.37–0.42 mm; antennae elongate, AnL 2.72–3.02 mm, relative lengths of antennomeres 1–11: 2.0 : 1.0 : 1.6 : 1.2 : 1.2 : 1.4 : 1.4 : 1.4 : 1.2 : 1.2 : 1.6. Pronotum



Fig. 8. Male habitus of *Olophrinus suzukii* Shibata, 1992 (A) and *O. setiventris* sp. nov. (B). Scale bars: 1.0 mm.

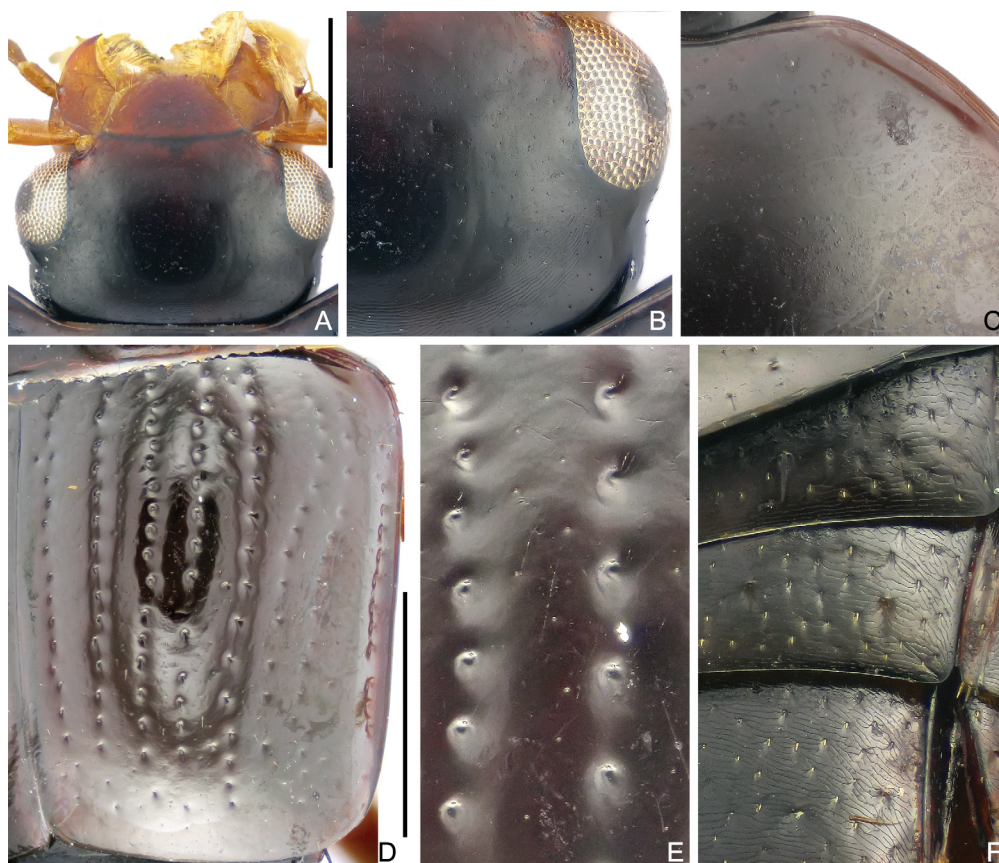


Fig. 9. Morphology of *Olophrinus setiventris* sp. nov. male, showing microsculpture of various body parts. A, B – head; C – pronotum; D, E – elytron; F – tergites III–V. Scale bars: 0.5 mm in A; 1.0 mm in D.

strongly transverse, PL 1.74–1.88 mm, PW 3.15–3.20 mm, PL/PW 0.55–0.58, with microsculpture as of head. Elytra transverse, EL 2.26–2.35 mm, EW 3.10–3.15 mm, EL/EW 0.72–0.74, with microsculpture consisting of transverse waves, and each elytron with five complete and one shorter rows of punctures. Abdominal surface with coarse punctures, and with microsculpture as elytra; tergite VIII (Fig. 14K) with five lobes, inner lobes longer

than others, width of inner lobes sub-equal to middle ones, outer lobes short; sternite VIII (Fig. 14L) with six lobes, fimbriate lobes longer than others; styli as in Fig. 14M. **Comments.** The male (Fig. 13A) of *Olophrinus nepalensis* was originally described from Nepal, and this species is here proved to be widely spread in China (Guangxi, Yunnan, Xizang). The populations from China (Figs 13–14) can be readily identified as conspecific with that from Nepal

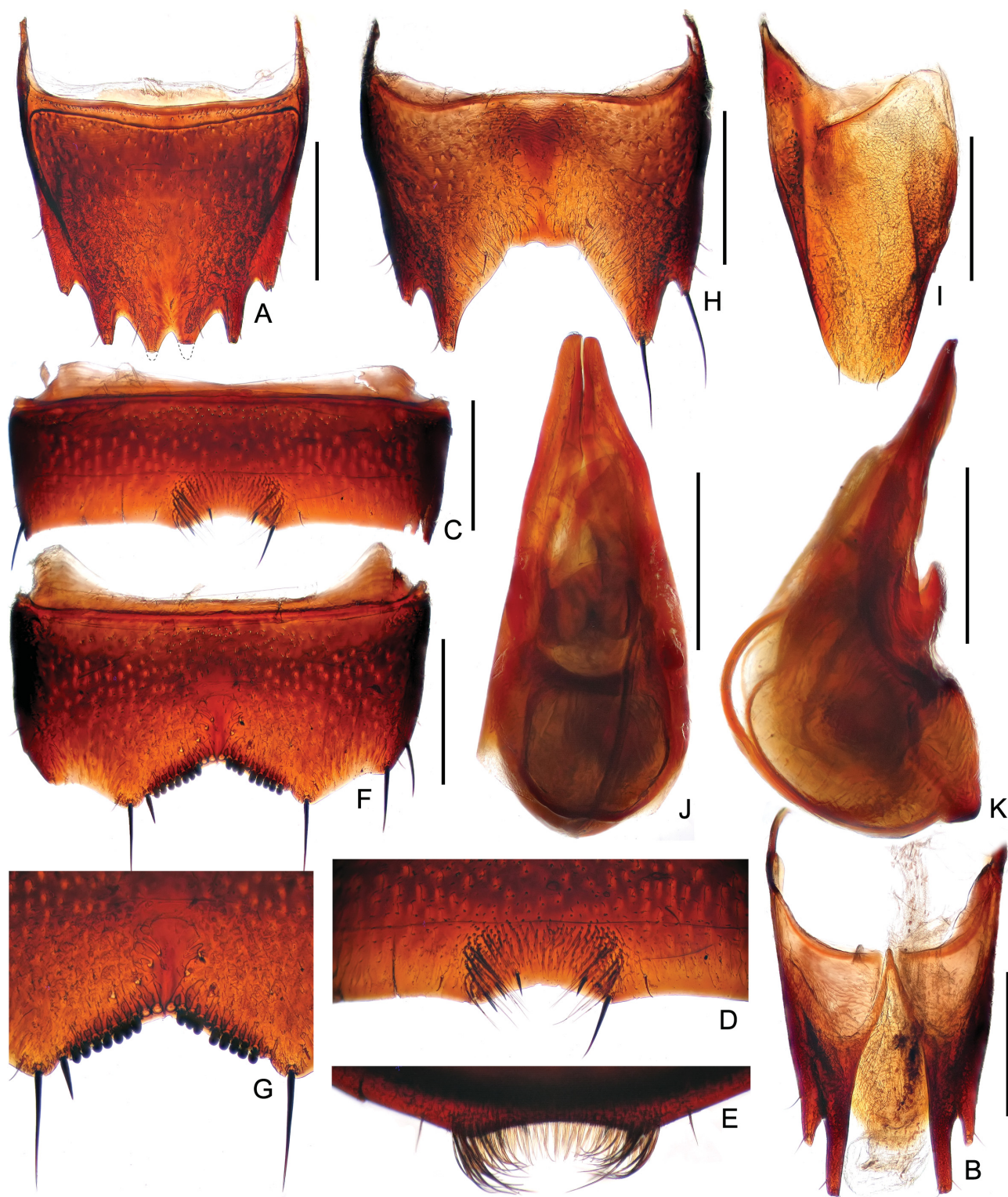


Fig. 10. Male diagnostic features of *Olophrinus setiventris* sp. nov. A – tergite VIII; B – tergites IX–X; C–E – sternite VI; F, G – sternite VII; H – sternite VIII; I – sternite IX; J–K – aedeagus, ventral (J) and lateral (K). Scale bars: 0.5 mm.

by each elytron with five complete rows of punctures, and the nearly identical forms of male terminal segments and aedeagus. Note the number of spiniform setae medially at the apical margin of male sternite VI may vary from four to eight. The female of this species is here described and illustrated for the first time.

**Distribution.** China: Guangxi, Yunnan, Xizang (new country record); Nepal (Fig. 18).

***Olophrinus qian* Chang, Yin, Li & Schülke, sp. nov.**

(Figs 15–17, 18)

**Type material.** HOLOTYPE: ♂, CHINA: GUIZHOU: ‘China: Guizhou, Zunyi City, (Suiyang County 绥阳县), Kuankuoshui N. R. (宽阔水自然保护区), Gongtonggou (拱桐沟), nr. Dadong (大洞附近), 18.viii.2010, 1550 m, T. Feng & Z.-W. Yin leg.’ (SNUC). PARATYPES: CHINA: GUIZHOU: 9 ♂♂ 7 ♀♀, same collecting data as holotype; 7 ♂♂ 4 ♀♀, also from Kuankuoshui, ‘Houshan (后山), 1550 m, 15.viii.2010, Z.-W. Yin leg.’ (SNUC). YUNNAN: 1 ♂ 3 ♀♀, ‘CHINA: Yunnan, mountains WNW Wuding, 25°38’45”N, 102°06’55”E, 2390 m, mixed forest margin with alder and pine, litter sifted, 1.IX.2014, Schülke [CH14–12a]’ (cSch); 2 ♂♂ 1 ♀, ‘CHINA [12a] – Yunnan, mt. WNW Wuding, mix. forest, 25°38’45”N, 102°06’55”E, 2390 m, 1.IX.2014, V. Assing’ (cAss, cSch); 1 ♀, ‘CHINA [12] – Yunnan, mt. WNW Wuding, mix. forest,

25°38’45”N, 102°06’55”E, 2390 m, 18.VIII.2014, V. Assing’ (cAss); 1 ♀, ‘CHINA: Yunnan [CH07–35], Dali Bai Auton. Pref., Wuliang Shan, 9 km SW Weishan, 2450–2500 m, 25°10’14”N, 100°14’22”E, W slope, oaks and pines, sifted, 13.VI.2007, M. Schülke’ (cSch); 1 ♀, ‘CHINA: Yunnan, Pu’er Pref., Ailao Shan, 37 km NW Jingdong, 24°45’12”N, 100°41’24.5”E, devastated forest remnant, litter & dead wood sifted, 13.IX.2009, leg. M. Schülke [CH09–48]’ (cSch).

**Diagnosis description. Male.** Habitus as in Fig. 15A; body slightly convex, TBL 7.07–7.90 mm, FBL 4.90–5.32 mm; head, elytra and abdomen black, antennae and tarsi yellowish-brown, pronotal disc, and most parts of legs reddish-brown. Head (Figs 16A, 16B) sub-pentagon, HL 0.84–1.11 mm, HW 1.29–1.32 mm, with microsculpture consisting of small isodiametric or nearly isodiametric meshes; eyes prominent, EyL 0.34–0.37 mm; antennae elongate, AnL 2.48–2.51 mm, relative lengths of antennomeres 1–11: 1.62 : 1.00 : 1.56 : 1.25 : 1.68 : 1.56 : 1.31 : 1.25 : 1.50 : 1.18 : 1.56. Pronotum (Fig. 16C) strongly transverse, PL 1.52–1.71 mm, PW 3.20–3.22 mm, PL/PW 0.47–0.53, with microsculpture as of head. Elytra (Figs 16D, E) transverse, EL 2.19–2.36 mm, EW 3.23–3.34 mm, EL/EW 0.65–0.73, with microsculpture



Fig. 11. Habitus of *Olophrinus striatus* Shibata, 1992. A – male; B – female. Scale bars: 1.0 mm.

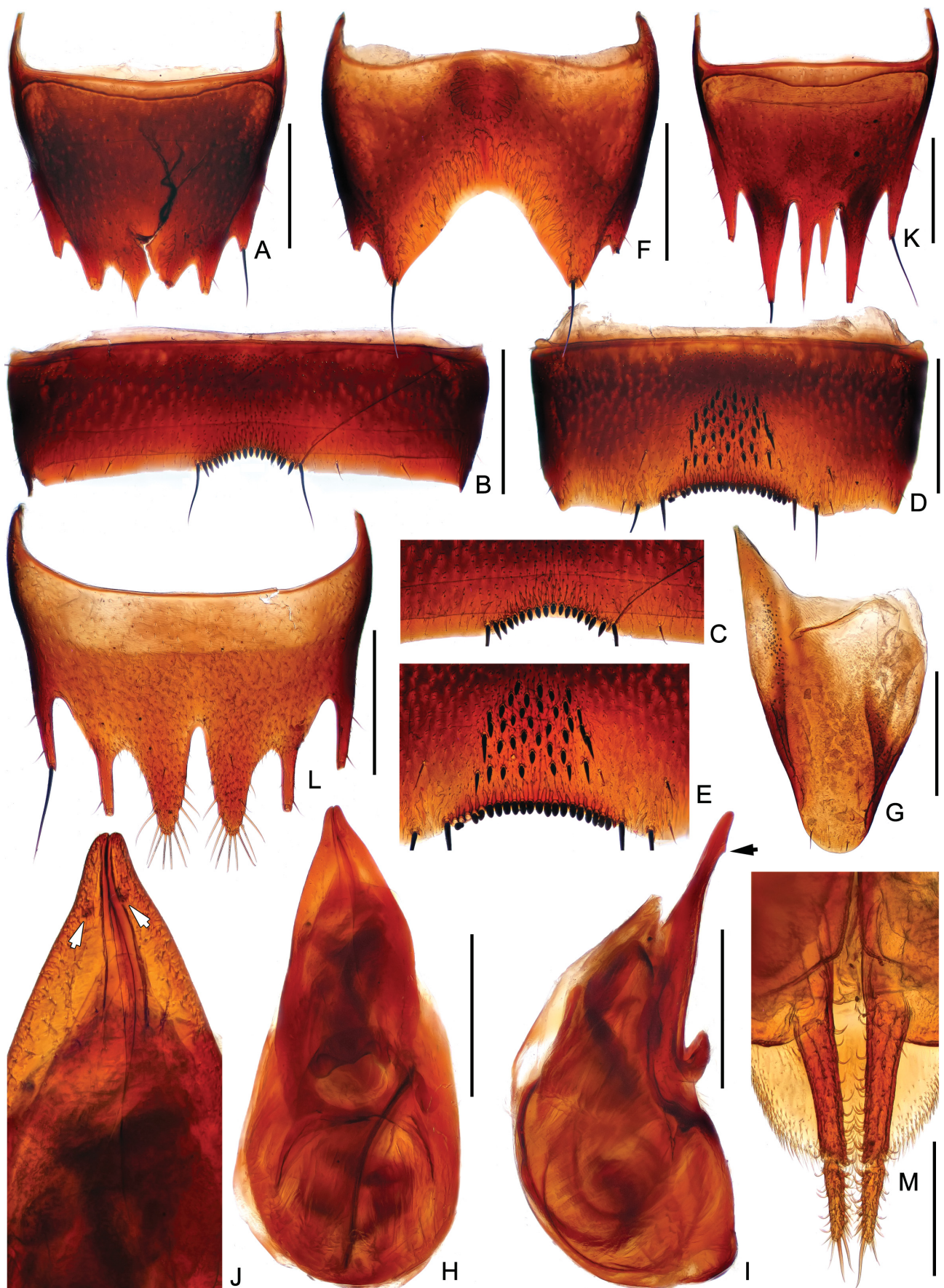


Fig 12. Diagnostic features of *Olophrinus striatus* Shibata, 1992 (A–J – male; K–M – female). A, K – tergite VIII; B, C – sternite VI; D, E – sternite VII; F, L – sternite VIII; G – sternite IX; H–I – aedeagus, ventral (H) and lateral (I); J – apical portion of aedeagus; M – styli. Scale bars: 0.5 mm.

consisting of transverse waves, each elytron with five complete and one additional shorter rows of punctures. Abdominal surface (Fig. 16F) with coarse punctures, and with microsculpture as elytra; tergite VIII (Fig. 17A) with six relatively short lobes, deeply and narrowly incised between inner lobes and median ones; tergite IX (Fig. 17B) divided laterally to four lobes; sternite VI (Figs 17C–D) with posterior margin shallowly emarginate, thickened setae arranged along emargination, short bristles arranged in sub-triangular area; sternite VII (Figs 17E–F) with posterior margin deeply and broadly emarginate, peg setae continuously arranged along emargination; sternite VIII (Fig. 17G) with four lobes, deeply incised between inner lobes, mid-length 1.06 times as long as depth of incision; sternite IX elongate and asymmetric (Fig. 17H). Length of aedeagus (Figs 17I–J) 2.07 mm, parameres short, and asymmetric, left paramere slightly broader than right one in ventral view, each with preapical denticle on ventral surface; median lobe broad at base and narrowing toward apex.

**Female.** General habitus (Fig. 15B) similar to male. Measurements: TBL 7.85–8.27 mm, FBL 4.80–5.26 mm,

HL 1.07–1.08 mm, HW 1.28–1.31 mm, EyL 0.35–0.36 mm, AnL 2.42–2.48 mm, PL 1.58–1.63 mm, PW 3.09–3.16 mm, PL/PW 0.50–0.52, EL 2.24–2.28 mm, EW 3.12–3.19 mm, EL/EW 0.71–0.72. Tergite VIII (Fig. 17K) with five lobes, inner lobe longer than others, outer lobes short; sternite VIII (Fig. 17L) with six lobes, fimbriate lobes longer than others; styli as in Fig. 17M.

**Comparative notes.** *Olophrinus qian* is similar to *O. nepalensis* in sharing the head and pronotum with mesh-like microsculpture, each elytron with five complete and one additional shorter row of punctures, and presence of a preapical denticle of the parameres. The new species can be separated by the much shallower incision between the inner and median lobes of male tergite VIII, the parameres of the aedeagus each with a preapical denticle, and the much broader base of the inner lobe of female tergite VIII.

**Etymology.** ‘Qian (黔)’ is an abbreviation for Guizhou Province, where the type locality is located; noun in apposition.

**Distribution.** China: Guizhou, Yunnan (Fig. 18).



Fig. 13. Habitus of *Olophrinus nepalensis* Campbell, 1993. A – male; B – female. Scale bars: 1.0 mm.

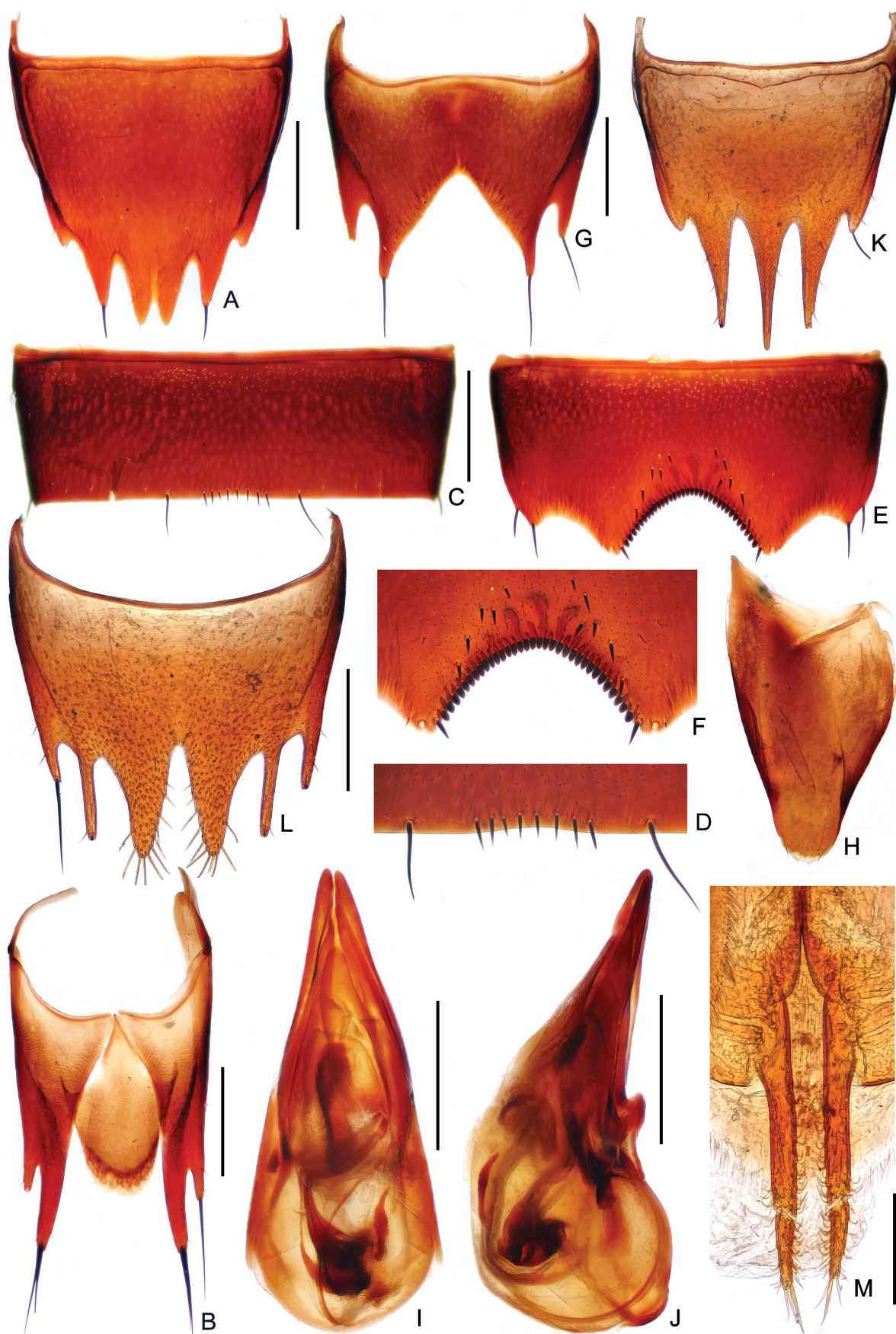


Fig. 14. Diagnostic features of *Olophrinus nepalensis* Campbell, 1993 (A–J – male; K–M – female). A, K – tergite VIII; B – tergites IX–X; C, D – sternite VI; E, F – sternite VII; G, L – sternite VIII; H – sternite IX; I–J – aedeagus, ventral (I) and lateral (J); M – styli. Scale bars: 0.5 mm in A–L; 0.2 mm in M.

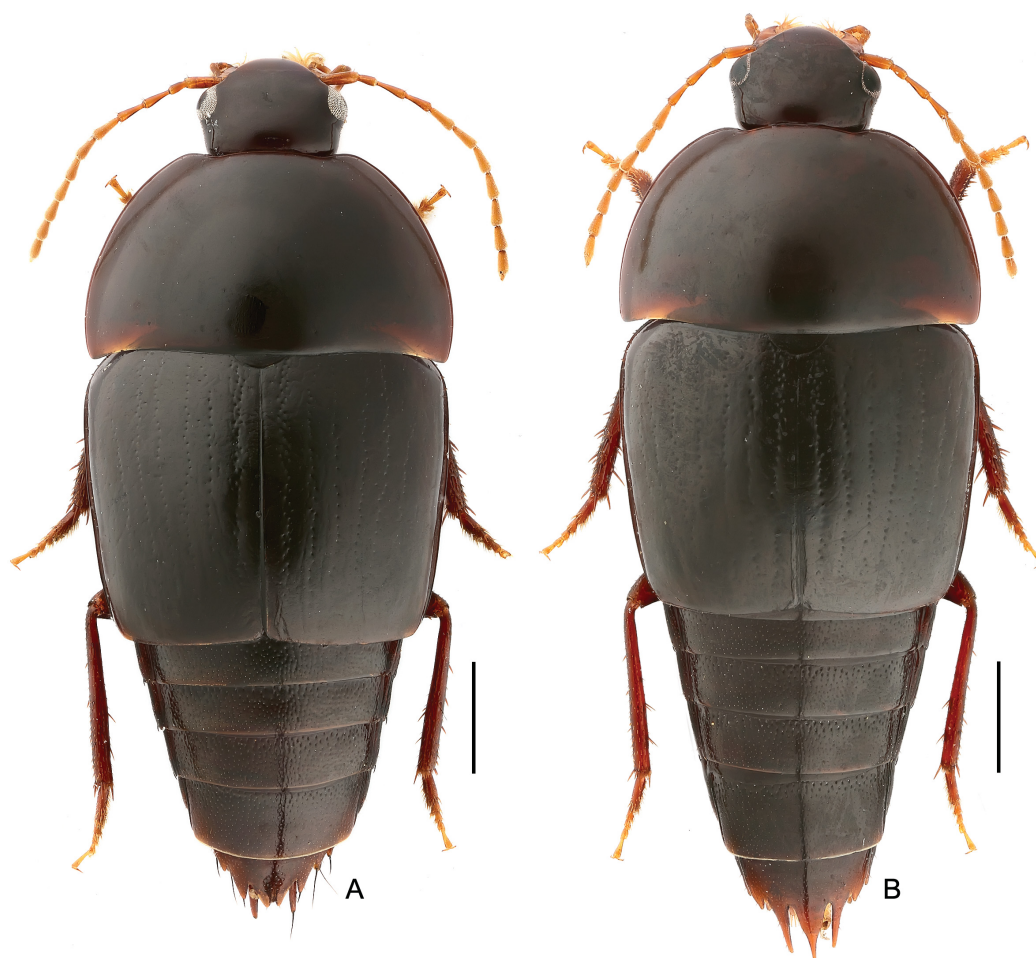


Fig. 15. Habitus of *Olophrinus qian* sp. nov.: A – male; B – female. Scale bars: 2.0 mm.

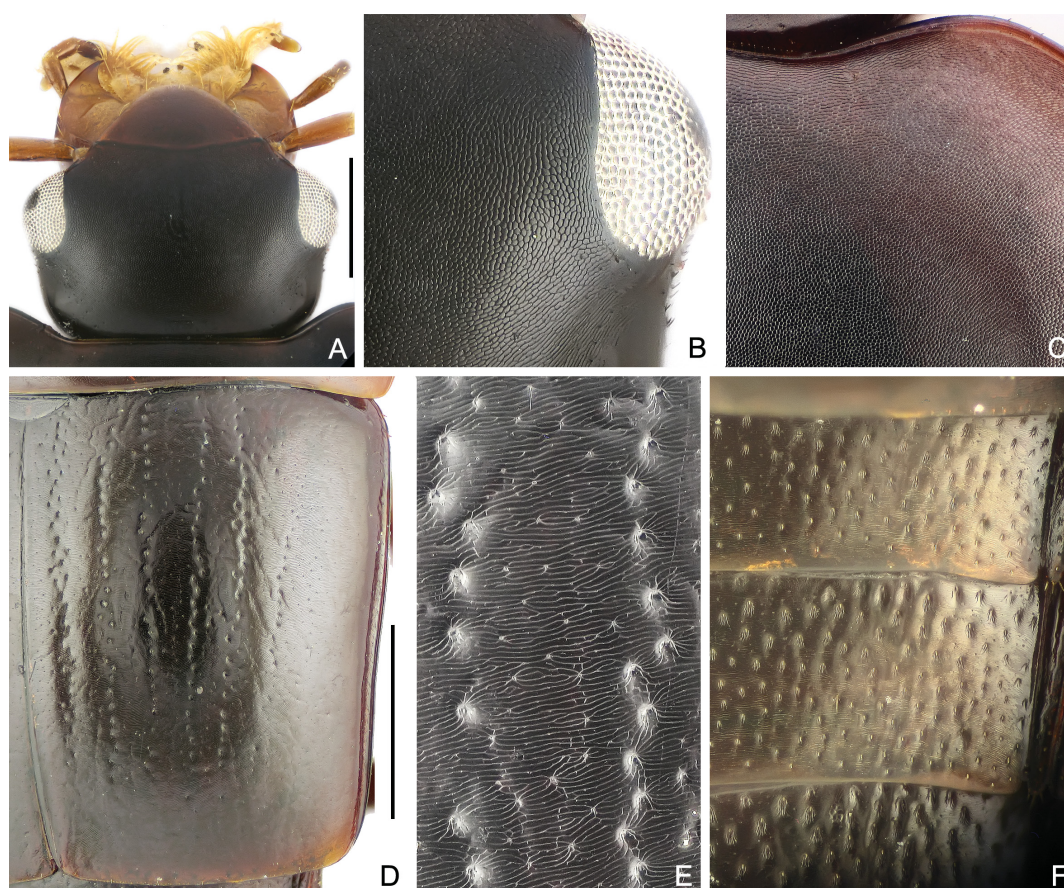


Fig. 16. Morphology of *Olophrinus qian* sp. nov., male, showing microsculpture of various body parts: A, B – head; C – pronotum; D, E – elytron; F – tergites III–V. Scale bars: 0.5 mm in A; 1.0 mm in D.

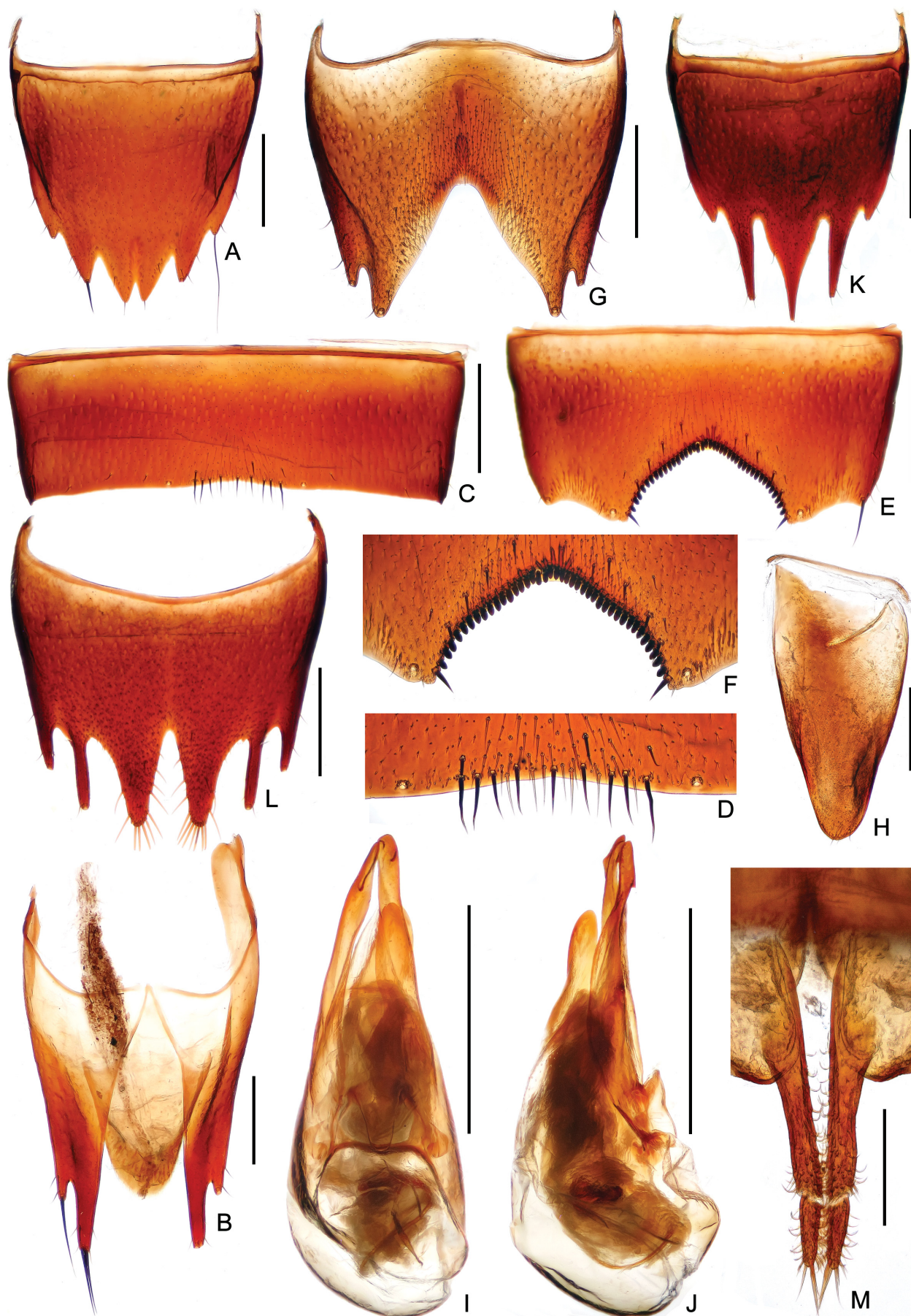


Fig. 17. Diagnostic features of *Olophrinus qian* sp. nov. (A–J – male; K–M – female). A, K – tergite VIII; B – tergites IX–X; C, D – sternite VI; E, F – sternite VII; G, L – sternite VIII; H – sternite IX; I–J – aedeagus, ventral (I) and lateral (J); M – styli. Scale bars: 0.5 mm in A–H, K–L; 1.0 mm in I–J; 0.2 mm in M.



Fig. 18. Distribution of *Olophrinus* in China. 1 – *O. parastriatus* sp. nov.; 2 – *O. striatus* Shibata, 1992; 3 – *O. setiventris* sp. nov.; 4 – *O. lantschangensis* Schülke, 2006; 5 – *O. qian* sp. nov.; 6 – *O. nepalensis* Campbell, 1993; 7 – *O. malaisei* Scheerpeltz, 1965; 8 – *O. suzukii* Shibata, 1992. Squares represent published records; circles are new data.

### *Olophrinus suzukii* Shibata, 1992

(Fig. 8A)

*Olophrinus suzukii* Shibata, 1992: 42; CAMPBELL (1993: 67).

**Material examined.** CHINA: TAIWAN: 1 ♂, 'TAIWAN, Taichung Hsien, Anmashan, 2225 m, 2.V.1990, A. Smetana [T38] / *Olophrinus suzukii* Shib., Det. J. M. Campbell' (CNC).

**Comments.** This specimen was described and illustrated by CAMPBELL (1993), and examined here for morphological comparisons. The habitus image is provided as Fig. 8A. *Olophrinus suzukii* may be separated from both *O. nepalensis* and *O. qian* sp. nov. based on the presence of six complete and a seventh shorter rows of punctures on each elytron, the denser punctures of the elytra, and the lack of spiniform/thickened setae at the posterior margin of male sternite VI.

**Distribution.** China: Taiwan.

### Key to Chinese species

- 1 Body flat, dorsal surface lacking microsculpture (Yunnan). *O. malaisei* group. .... *O. malaisei* Scheerpeltz, 1965
- Body convex, dorsal surface with microsculpture. ... 2
- 2 Head and pronotum with microsculpture consisting of small isodiametric or nearly isodiametric meshes. *O. suzukii* group. .... 3
- Head and pronotum with microsculpture consisting of transverse waves; sometimes microsculpture present only on posterior margin of head. *O. striatus* group. .... 5
- 3 Each elytron with six complete and one additional shorter rows of punctures (Fig. 8A); posterior margin of male sternite VI without thickened/spiniform setae (CAMPBELL 1993: fig. 26) (Taiwan). .... *O. suzukii* Shibata, 1992

- Each elytron with five complete and one shorter rows of punctures; posterior margin of male sternite VI with thickened/spiniform setae. .... 4
- 4 Male sternite VII with semicircular emargination at middle of posterior margin (Figs 14E–F); aedeagal parameres lacking preapical denticle (Fig. 14J) (Guangxi, Yunnan, Xizang). .... *O. nepalensis* Campbell, 1993
- Male sternite VII with sub-triangular emargination at middle of posterior margin (Figs 17E–F); aedeagal parameres with preapical denticle (Fig. 17J) (Guizhou, Yunnan). .... *O. qian* Chang, Yin, Li & Schülke sp. nov.
- 5 Pronotum and elytra lacking microsculpture consisting of transverse waves. .... 6
- Pronotum and elytra with microsculpture consisting of transverse waves. .... 7
- 6 Male sternite VI with seven short bristles along emargination of posterior margin; male sternite VII with semicircular incision (SCHÜLKE 2006b: fig. 5D), apical portion of right paramere of aedeagus much broader than that of left one (SCHÜLKE 2006b: figs 6B–C) (Yunnan). .... *O. lantschangensis* Schülke, 2006
- Male sternite VI densely with long and curved setae along emargination of posterior margin (Figs 10C–E); male sternite VII with sub-triangular incision (Fig. 10F–G); apical portion of right paramere of aedeagus slightly broader than that of left one (Fig. 10J) (Yunnan). .... *O. setiventris* Chang, Yin & Li sp. nov.
- 7 Incisions between inner and middle and between middle and outer pairs of lobes of male tergite VIII much shallower (Fig. 12A); parameres of aedeagus with preapical denticle (Figs 12H–J) (Guangxi). .... *O. striatus* Fauvel, 1895

- Incisions between inner and middle and between middle and outer pairs of lobes of male tergite VIII much deeper (Fig. 7A); parameres of aedeagus lacking preapical denticle (Figs 7I–K) (Yunnan). .....  
..... ***O. parastriatus*** Chang, Yin & Li **sp. nov.**

### Acknowledgments

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