

Linzer biol. Beitr.	46/1	443-448	31.7.2014
---------------------	------	---------	-----------

## **A revision of *Trisunius* IV. Two new species and additional records from China (Coleoptera: Staphylinidae: Paederinae)**

V. ASSING

**Abstract:** Two species of the medonine genus *Trisunius* ASSING 2011 from China are described and illustrated: *Trisunius smetanai* nov.sp. (Yunnan: Gaoligong Shan) and *T. rastratus* nov.sp. (Hubei: Daba Shan). Additional records of three species are reported from Yunnan. The East Palaearctic genus now includes 19 species.

**Key words:** Coleoptera, Staphylinidae, Paederinae, *Trisunius*, Palaearctic region, China, taxonomy, new species, new records.

### **Introduction**

The medonine genus *Trisunius* ASSING 2011 is distributed in the East Palaearctic region sensu SMETANA (2004) from the Himalaya across northeast India to China, with one species also recorded from northern Thailand (ASSING 2011, 2012, 2013). An updated catalogue was provided by ASSING (2013). Eight species had been recorded from China. Except for one species, their known distributions are confined to Yunnan.

Material from China recently forwarded to me by Aleš Smetana (Ottawa) included five *Trisunius* species, two of them new to science.

### **Material and methods**

The material treated in this study is deposited in the following collections:

cAss..... author's private collection

cSme..... private collection Aleš Smetana, Ottawa

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). A digital camera (Nikon Coolpix 995) was used for the photographs. The maps were created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of

the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

### Species descriptions and new records

#### *Trisunius discrepans* ASSING 2011

**Material examined:** China: 1♂, Yunnan, Dali Bai Aut. Pref., Diancang Shan, 3 km W Dali, 25°41'N, 100°07'E, 2650-2750 m, 29.VIII.2003, leg. Smetana (cSme).

**Comment:** The known distribution of *T. discrepans* is confined to the Diancang Shan and the Gaoligong Shan in Yunnan, China (ASSING 2011).

#### *Trisunius cultellatus* ASSING 2011

**Material examined:** China: Yunnan: 1♀, Dali Bai Aut. Pref., foothill of Diancang Shan, 1 km W Dali, 25°42'N, 100°08'E, 2170 m, 3.IX.2003, leg. Smetana (cSme); 1♂, Yunnan, Dali Bai Aut. Pref., Diancang Shan, 3 km W Dali, 25°41'N, 100°07'E, 2650-2750 m, 29.VIII.2003, leg. Smetana (cSme); 1♂, Diqing Tibet. Aut. Pref., Deqin Co., 33 km WNW Zhongdian, gully W Jinsha Jiang river, 27°57'N, 99°25'E, 2300 m, 4.VI.2005, leg. Smetana (cAss).

**Comment:** *Trisunius cultellatus* is the most widespread representative of the genus in China. The currently known distribution comprises numerous localities in Yunnan and Shaanxi. It is mapped in ASSING (2013).

#### *Trisunius ligulatus* ASSING 2011

**Material examined:** China: 1♂, 1♀, Yunnan, E-slope of North Gaoligong Shan, 27°47'N, 98°33'E, 2000-3000, 12.-15.VI.2009, leg. Grebennikov (cSme, cAss).

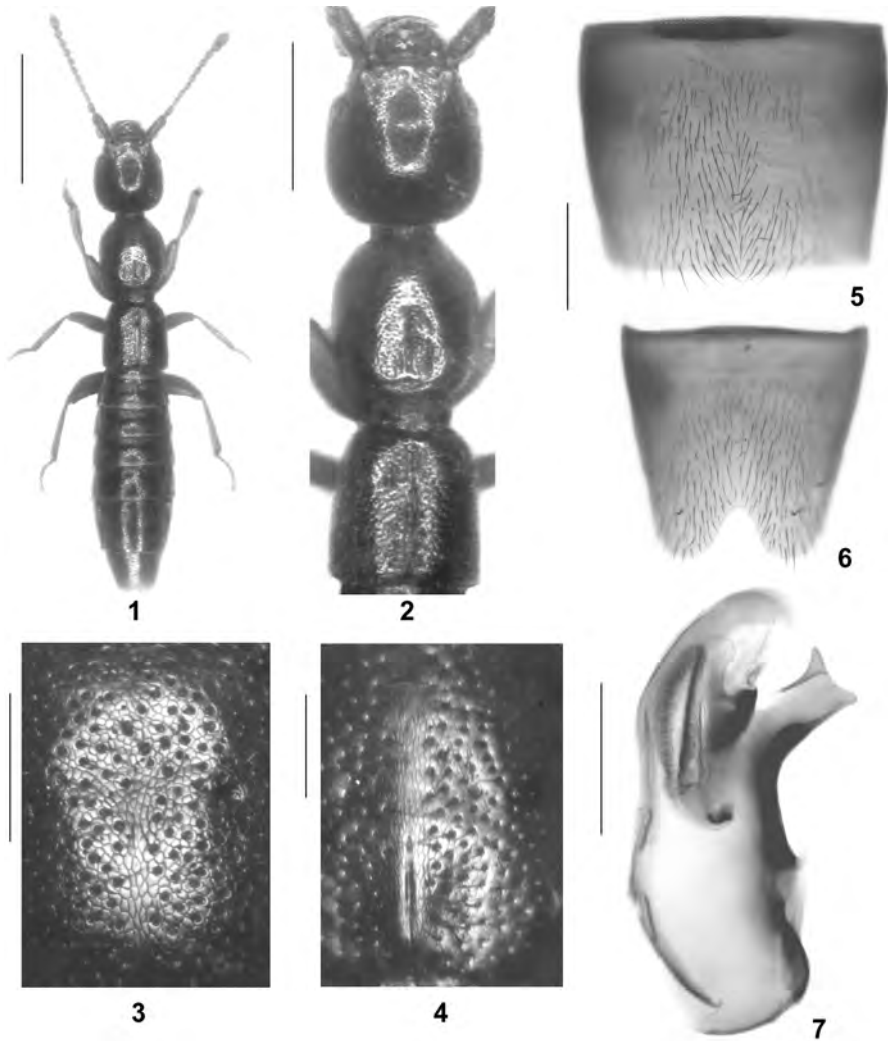
**Comment:** *Trisunius ligulatus* has been recorded only from the Gaoligong Shan and the Nu Shan in western Yunnan, China (ASSING 2011).

#### *Trisunius smetanai* nov.sp. (Figs 1-7)

**Type material:** Holotype ♂: "China: N-Yunnan Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, snowfield at 2500 m, 27°45.404'N 98°35.749'E, 19.VI.05 A. Smetana [C165] / Holotypus ♂ *Trisunius smetanai* sp.n. det. V. Assing 2013" (cAss). Paratype ♂: "P.R. China, Yunnan, E slope N Gaoligong Shan, N27°46.8' E098°33.1', 12-15.vi.2009, 2000-3000 m, sifting 1-7, V. Grebennikov" (cSme).

**Etymology:** The species is dedicated to Aleš Smetana, who collected the holotype and whose material the present paper is almost exclusively based on.

**Description:** Body length 3.6-3.8 mm; length of forebody 1.80-1.95 mm. Habitus as in Fig. 1. Coloration: body reddish-brown, with the head and the abdomen slightly darker than the pronotum and the elytra; legs and antennae reddish.



**Figs 1-7:** *Trisunius smetanai* nov.sp.: (1) habitus; (2) forebody; (3) median dorsal portion of head; (4) median posterior portion of pronotum; (5) male sternite VII; (6) male sternite VIII; (7) aedeagus in lateral view. Scale bars: 1: 1.0 mm; 2: 0.5 mm; 5-7: 0.2 mm; 3-4: 0.1 mm.

Head (Fig. 2) approximately as broad as long; lateral margins behind eyes subparallel in dorsal view; punctation extremely fine and dense; interstices with distinct microreticulation (Fig. 3). Eyes weakly convex, not distinctly protruding from lateral contours of head, and small, approximately one-third as long as postocular region in dorsal view. Antenna 1.0-1.1 mm long.

Pronotum (Figs 2, 4) approximately 1.1 times as long as broad and 0.9 times as broad as head; lateral margins very weakly converging posteriad in dorsal view; punctation fine and dense, slightly less fine than that of head; midline narrowly impunctate and with fine

furrow of variable length posteriorly; interstices with extremely shallow microsculpture noticeable only at high magnification (100 x).

Elytra (Fig. 2) short, approximately 0.7 times as long as pronotum; punctuation fine and dense; interstices without microsculpture. Hind wings reduced. Metatarsomere I approximately as long as II.

Abdomen approximately 1.2 times as broad as elytra; punctuation very fine and very dense; interstices with shallow microreticulation; posterior margin of tergite VII with narrow rudiment of a palisade fringe.

♂: sternite VII (Fig. 5) relatively weakly transverse, pubescence only weakly modified, posterior margin weakly convex in the middle; sternite VIII (Fig. 6) weakly transverse, posterior excision approximately 0.2 times as deep as length of sternite; aedeagus (Fig. 7) 0.52-0.53 mm long; ventral process short and of distinctive shape in lateral view.

**Comparative notes:** Using the key to species in ASSING (2011), *T. smetanai* would key out at couplet 4, together with *T. discrepans*. From this species, *T. smetanai* is distinguished by paler coloration (*T. discrepans*: brown to blackish-brown) and by the male sexual characters. For illustrations of *T. discrepans* see ASSING (2011).

**Distribution and natural history:** The known distribution is confined to two geographically close localities in the northern Gaoligong Shan, western Yunnan, Southwest China. The holotype was sifted from leaf litter in a gully partly filled with snow in a mixed pine and broadleaved forest at an altitude of 2500 m (SMETANA pers. comm.).

***Trisunius rastratus* nov.sp.** (Figs 8-14)

**Type material:** Holotype ♂: "China: W-Hubei Daba Shan crk. valley 8 km NW Muyuping, 31°29'N / 110°22'E 1550-1650 m, 18.VII.2001, A. Smetana [C115b] / Holotypus ♂ *Trisunius rastratus* sp.n. det. V. Assing 2013" (cAss).

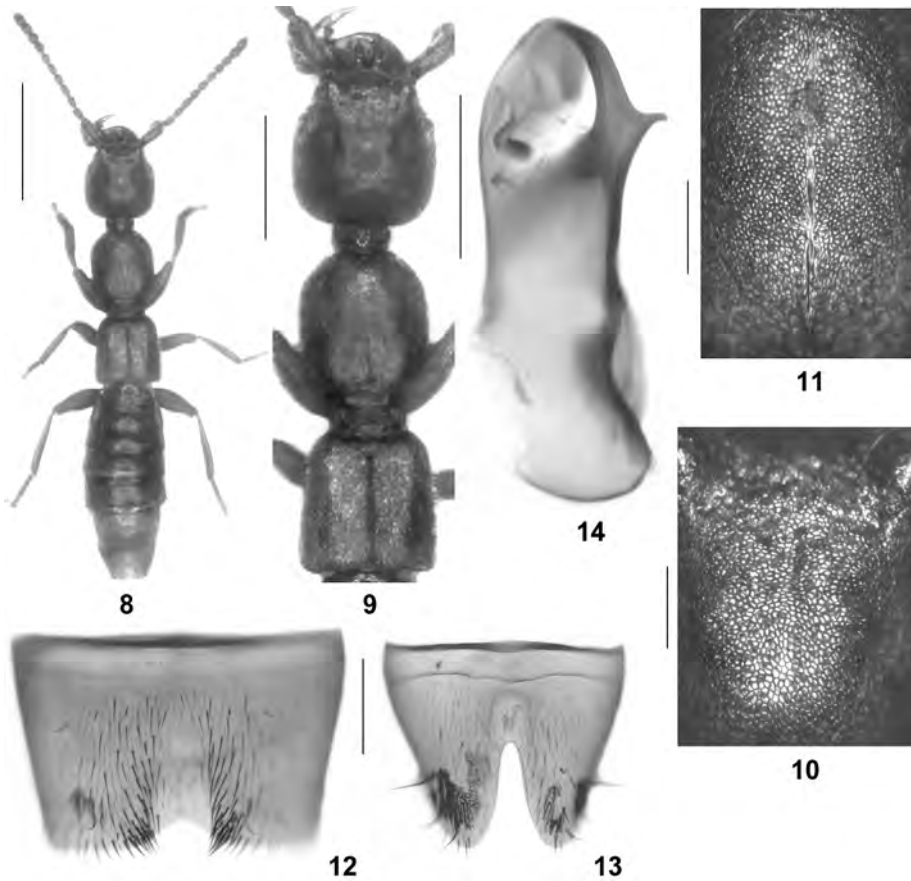
**Etymology:** The specific epithet is an adjective derived from the Latin noun *rastrum* (hoe, pick) and alludes to the shape of the ventral process of the aedeagus.

**Description:** Body length 4.1 mm; length of forebody 2.3 mm. Habitus as in Fig. 8. Coloration: body pale-reddish; legs yellowish; antennae reddish.

Head (Fig. 9) weakly oblong, 1.03 times as long as broad; lateral margins behind eyes weakly convex in dorsal view; dorsal surface matt; punctuation extremely fine and dense, barely noticeable in the pronounced microreticulation even at a magnification of 100 x (Fig. 10). Eyes weakly convex, not distinctly protruding from lateral contours of head, and small, approximately one-fourth as long as postocular region in dorsal view. Antenna 1.35 mm long.

Pronotum (Fig. 9) 1.14 times as long as broad and 0.90 times as broad as head; lateral margins very weakly converging posteriad in dorsal view; punctuation and microsculpture similar to those of head (Fig. 11); surface matt; midline with extremely fine furrow posteriorly.

Elytra (Fig. 8) short, 0.7 times as long as pronotum; punctuation fine and dense; interstices without microreticulation. Hind wings completely reduced. Metatarsomere I approximately as long as II.



**Figs 8-14:** *Trisunius rastratus* nov.sp.: (8) habitus; (9) forebody; (10) median dorsal portion of head; (11) median portion of pronotum; (12) male sternite VII; (13) male sternite VIII; (14) aedeagus in lateral view. Scale bars: 8: 1.0 mm; 9: 0.5 mm; 12-14: 0.2 mm; 10-11: 0.1 mm.

Abdomen approximately 1.2 times as broad as elytra; punctuation very fine and very dense; interstices with distinct microreticulation, matt; posterior margin of tergite VII with narrow and incomplete rudiment of a palisade fringe.

♂: sternite VII (Fig. 12) strongly transverse, with distinct median impression without pubescence, on either side of this impression with cluster of dense black setae, posterior margin distinctly concave in the middle; sternite VIII (Fig. 13) distinctly transverse and with median impression without pubescence, posterior excision conspicuously deep and narrow, reaching beyond middle of sternite; aedeagus 0.59 mm long, with ventral process of highly distinctive shape in lateral view.

**C o m p a r a t i v e n o t e s :** Using the key to species in ASSING (2011), *T. rastratus* would key out at couplet 4, together with *T. discrepans*. It is readily distinguished from this (and other) species by the pronounced microsculpture and matt appearance of the head and pronotum, the practically invisible punctation of the head and pronotum, the small eyes, the distinctive shapes and chaetotaxy of the male sternites VII and VIII, as well as by the conspicuous shape of the aedeagus.

**D i s t r i b u t i o n a n d n a t u r a l h i s t o r y :** The type locality is situated in the west of Hubei province, China, at an altitude of 1550-1650 m. The apparently slightly teneral holotype was sifted from deep humus between rocks in a mixed forest (SMETANA pers. comm.).

### Acknowledgements

I am indebted to Aleš Smetana (Ottawa) for entrusting me with the *Trisunius* material from his collection and for the generous gift of the holotypes of the two species described above. Benedikt Feldmann (Münster) proof-read the manuscript.

### Zusammenfassung

Zwei Arten der Gattung *Trisunius* ASSING 2011 aus China werden beschrieben und abgebildet: *Trisunius smetanai* nov.sp. (Yunnan: Gaoligong Shan) und *T. rastratus* nov.sp. (Hubei: Daba Shan). Weitere Nachweise von drei Arten werden aus China gemeldet. Die ostpaläarktische Gattung enthält nunmehr insgesamt 19 Arten.

### References

- ASSING V. (2011): *Trisunius* gen.nov. from the southern East Palaearctic and the Oriental regions (Coleoptera: Staphylinidae: Paederinae: Medonina). — Linzer Biologische Beiträge **43** (1): 195-220.
- ASSING V. (2012): The genus *Trisunius* in the Himalaya (Coleoptera: Staphylinidae: Paederinae: Medonina). — Bonn Zoological Bulletin **61** (2): 210-215.
- ASSING V. (2013): A revision of *Trisunius* III. Three new species from North India and Nepal, and additional records (Coleoptera: Staphylinidae: Paederinae). — Linzer Biologische Beiträge **45** (2): 1531-1540.
- SMETANA A. (2004): Subfamily Paederinae FLEMING, 1821. — In: LÖBL I. & A. SMETANA (eds), Catalogue of Palaearctic Coleoptera. Volume 2. Hydrophiloidea – Histeroidea – Staphyliinoidea. — Apollo Books, Stenstrup: 579–624.

Author's address: Dr. Volker ASSING  
Gabelsbergerstr. 2  
D-30163 Hannover, Germany  
E-mail: vassing.hann@t-online.de