

**Fifth contribution to the knowledge of the Chinese species  
of the genus *Trigonodemus* LeConte, 1863  
(Coleoptera: Staphylinidae: Omaliinae)**

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**Taxonomy, new species, description, geographical distribution, Coleoptera, Staphylinidae, Omaliinae, *Trigonodemus*, mainland China, Palaearctic Region**

**Abstract.** A new species of the genus *Trigonodemus* LeConte, 1863 is described based on specimens from Haba Shan, Yunnan: *Trigonodemus imitator* sp. nov. New records of already described species are presented.

#### INTRODUCTION

This is the fifth paper treating the species of the striking omaliine genus *Trigonodemus* LeConte, 1863 (see Smetana, 1996a, 1996b, 2000, 2003). It presents the description of a further new species from China, which brings the number of species of this genus, known to occur in mainland China, to nine. New distributional records and some descriptive notes on already described species are given.

#### ACRONYMS

ASC collection of Aleš Smetana, Ottawa, Canada;  
CNC Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada;  
MSC collection of Michael Schülke, Berlin, Germany;  
NMW Naturhistorisches Museum in Wien, Austria.

#### RESULTS

***Trigonodemus schuelkei* Smetana, 1996**

(Fig. 1)

*schuelkei* Smetana, 1996b: 244 (description; characters in key; habitat); Smetana, 2000: 302 (characters in key); Smetana, 2003: 393 (checklist).

**Material examined.** China: Shaanxi: Micang Shan, Liping, forest park, 1700-1850 m, 32°43'N 106°34'E, 21.-23.v.2009, Jaroslav Turna leg., 11 spec., (ASC, NMW).

**Comments.** Only the holotype of this species from Qin Ling Shan, Shaanxi, was previously known.

Based on the additional material some additional external characters distinguishing *T. schuelkei* from *T. lebioides* Kraatz, 1877 can be added: the size is smaller: 3.6-4.2 mm (*T. lebioides*: 4.0-4.5 mm), the head is entirely black (dark piceous in *T. lebioides*), pronotum and elytra are paler, pale testaceo-yellowish with pronotum vaguely darker (disk of pronotum is darkened, dark brownish and elytra are testaceous in *T. lebioides*), the antennae are distinctly thinner with segments five to ten more elongate, and the pronotum bears markedly less punctures, particularly on anterior part of the disk. One specimen of the series studied is teneral, it is entirely testaceo-yellowish with the dark markings on the elytra entirely absent and with antennal segments five to eleven slightly darkened.



Fig. 1. *Trigonodemus schuelkei*: habitus (actual size 4.0 mm).

### *Trigonodemus pictus* Smetana, 2000

(Fig. 2)

*pictus* Smetana, 2000: 295 (description; characters in key; habitat); Smetana, 2003: 393 (checklist).

**Material examined.** CHINA: Sichuan: Barkam, pass SE Barkam pass between Zhuokeji-Lianghekou, 4100 m, alpine zone, 10-30.vi. 2004, leg. R. Fabbri, 2 spec., (ASC, NMW); between Sanggarmai-Sanggarpar, relict coniferous forest, 3500 m, 8.-29.vi.2004. leg. R. Fabbri, 1 spec., (NMW); 23 km E Songpan, 32°37'42''N 103°50'08''E, 3860 m, 26.v.2012, sifting 10, V. Grebennikov, 2 spec., (ASC, CNC); Yunnan: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46'5''N 99°36'5''E, 3800 m, 20.viii. 2003, [C129], A. Smetana, 9 spec., (ASC); 55 km N Zhongdian, 28°19'8''N 99°45'7''E, 3800 m, 18.viii. 2003, (C03-07), M. Schülke, 2 spec., (MSC); Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°37'1''N 99°38'5''E, 3895 m, 5.vi.2005, C2005-05, M. Schülke, 2 spec., (MSC); Zhongdian Co. Diqing Tibet. Auton. Pr., Deqin Co., Baima Shan pass 25 km SE Deqin, 28°19'38''N 99°05'47''E, 4225 m, 8.-12.vi.2005, [C155], A. Smetana, 3 spec., (ASC); same, but [C2005-06], M. Schülke, 1 spec. (MSC); same, but [06B], D.W. Wrase,, 1 spec., (MSC); same, but 28°22'68''N 99°00'57''E, 4330 m, 12.vi. 2005, [C2005-10], M. Schülke, 5 spec., (MSC); same, but E-side pass, 12 km SE Deqin, 28°23'86''N 98°59'04''E, 4200-4300 m, 10.vi.2005, [08B], D.W. Wrase, 1 spec., (MSC); same, 4085 m, 10.vi.2005, [C2005-08], M. Schülke, 11 spec., (ASC, MSC); 23 km SE Deqin, roadG214, 28°19'54''N 99°04'50''E, 4381 m, 12.vi.2012, sifting 19, V. Grebennikov, 3 spec., (CNC); 14 km SE Deqin, road G214, 28°22'50''N 98°59'44'', 4360 m, 12.vi.2012, sifting 20, V. Grebennikov, 16 spec., (ASC, CNC); Haba Shan, 27°20'58''N 100°05'58''E, 4114 m, 19.vi.2012, V. Grebennikov, 1 spec., (CNC).

**Comments.** These are the first records of this species from Sichuan. It was previously known only from Yunnan. It was erroneously recorded as occurring only in Sichuan in the check list in Smetana, 2003: 393.

*Trigonodemus pictus* seems to be the most frequent species of the genus. It occurs in habitats at high to very high (mostly alpine) mountain elevations, the lowest being 3500 m and the highest 4360 m. It was taken together with *T. montanus* in Xue Shan 23 km S Zhongdian in habitats described under *T. montanus*. Other specimens were collected in a small creek valley by sifting *Rhododendron* and *Salix* leaf litter, moss and rotting wood, some were taken from vinegar baited pitfall traps in a similar habitat and yet others were sifted from rotting wood and mushrooms in a primary mixed forest.



Fig. 2. *Trigonodemus pictus*: habitus (actual size 4.3 mm).

### *Trigonodemus puetzi* Smetana, 2003

*puetzi* Smetana, 2003: 391 (description; habitat; checklist).

**Material examined.** China: Sichuan, Qionglai Shan, Mou Pi Shan mount, Barkam, 15 km S of Zhuokeji, 3100-3750 m, 10.-30.vi.2004, leg. R. Fabbri, 2 females, (NMW).

**Comments.** This is the second record of this species that extends the distributional range of the species, that was until now know only from the type locality in the Yajiang area, markedly northward.

***Trigonodemus montanus* Smetana, 1996**  
(Figs 3-6)

*montanus* Smetana, 1996b: 241 (description; characters in key; habitat); Smetana, 2000: 302 (characters in key); Smetana, 2003: 393 (checklist).

**Material examined.** China: Yunnan: Zhongdian Co., 10 km SW Zhongdian, Xue Shan, 27°46'5"N 99°36'5"E, 3800 m, 20.viii.2003, [C129], A. Smetana, 10 spec., (ASC); Zhongdian Co., Xue Shan near lake, 23 km S Zhongdian, 27°27'1"N 99°36'5"E, 3850 m, 6.vi.2005, [C153a], A. Smetana, 1 spec., (ASC); same, but 27°37'1"N 99°38'5"E, 3895 m, 15.vi.2005, [C2005-05A or B], 3 spec., (MSC); 55 km N Zhongdian, 28°19'8"N 99°45'7"E, 3800 m, 18.viii.2003, [0C03-07], 2 spec., M. Schülke (MSC); Haba Shan, 27°21'01"N 100°05'44"E, 4072 m, 21.vi.2012, sifting 26, V. Grebennikov, 3 spec., (ASC, CNC); same, 27°20'58"N 100°05'57"E, 4120 m, 27.vi.2012, sifting 33, V. Grebennikov, 1 spec., (CNC); same, 27°20'58"N 100°05'58"E, 4114 m, 19.vi.2012, sifting 24, V. Grebennikov, 6 spec., (ASC, CNC).

**Comments.** Several specimens of the series from C129 are to various extent teneral, some of them being entirely testaceous. Specimens from Xue Shan near lake were collected in devastated original mixed forest (*Betula*, *Abies*) with *Rhododendron* undergrowth by sifting abundant rotting wood, wet *Rhododendron* leaf litter and rotting mushrooms growing on decaying fallen trees. Specimens from Haba Shan were taken, together with those of *T. imitator* sp. nov., by sifting various debris among the alpine vegetation at elevations 4071-4154 m, but no real details are known (see also Comment under *T. imitator*).

*Trigonodemus montanus* is at present known only from Xue Shan and Haba Shan in Yunnan and seems to occur only at very high mountain elevations, the lowest being 3800 m and the highest 4154 m.

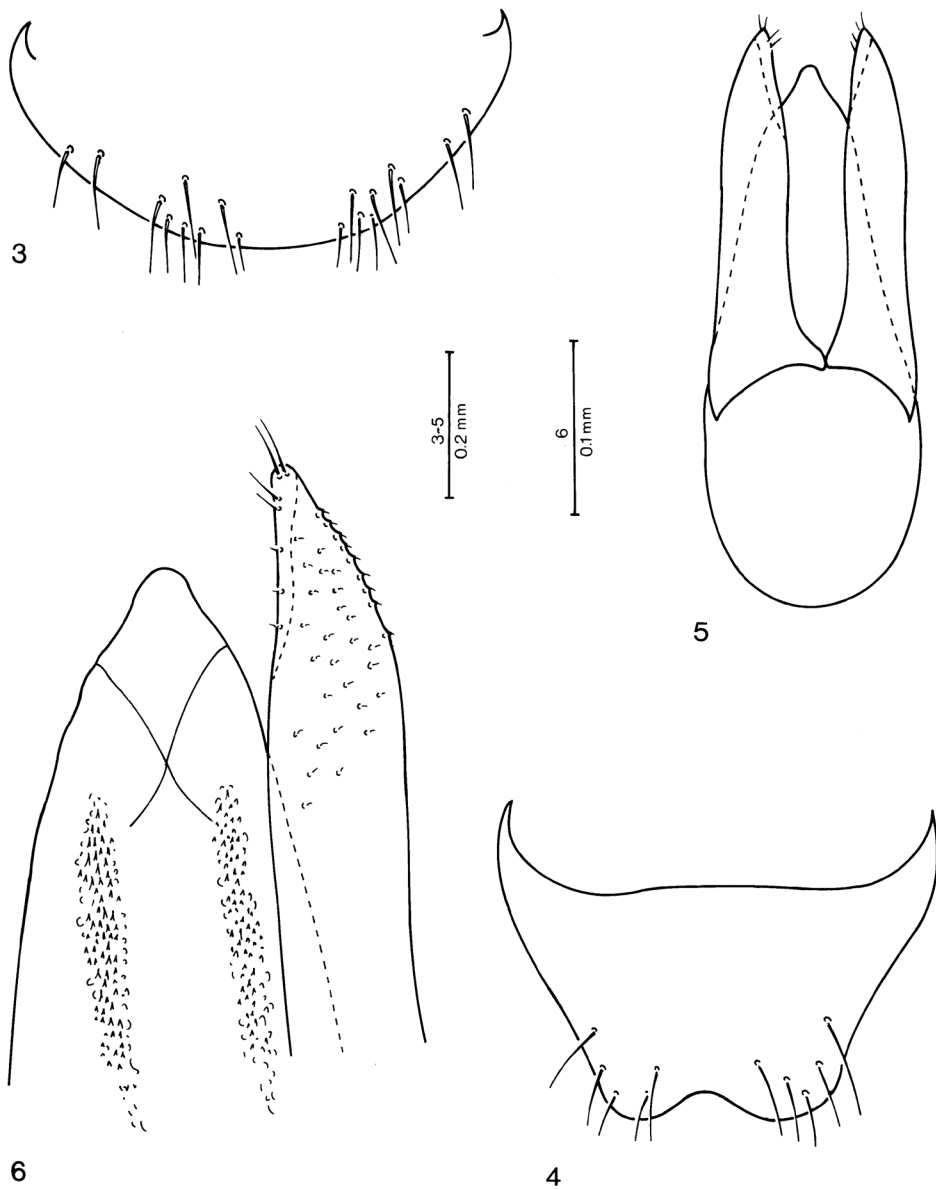
***Trigonodemus imitator* sp. nov.**  
(Figs 7-10)

**Type locality.** China, Yunnan, Haba Shan, N27°20'58" E100°05'57", 4120 m.

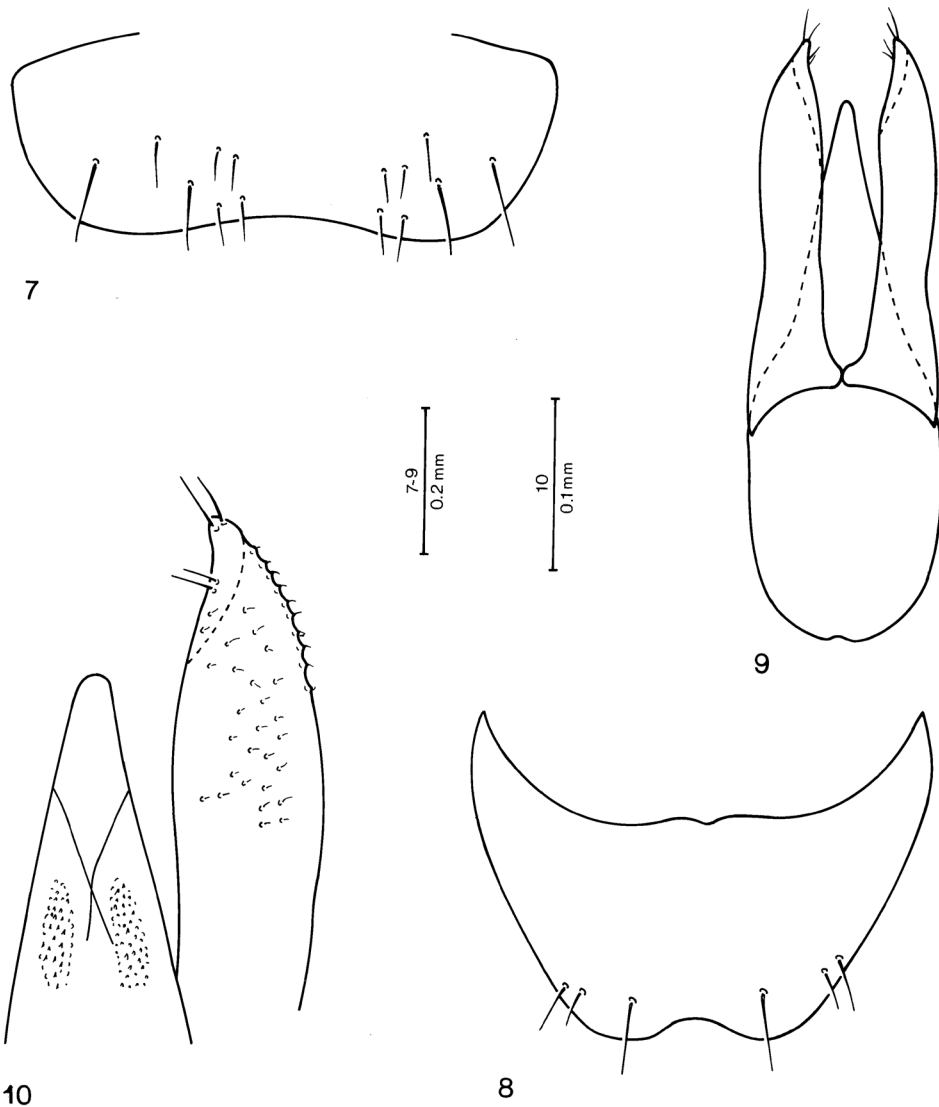
**Type material.** Holotype (♂): CHINA: "CHINA, Yunnan, Haba Shan, N27°20'58" E100°05'57", 27.vi.2012, 4120 m, sift.33, V. Grebennikov", (CNC). Paratypes: (1 ♂): same data as holotype, (ASC); (1 ♂): same, 27°20'58"N 100°05'58"E, 19.vi.2012, 4114 m, sift.24, V. Grebennikov, (CNC); (1 ♂): same, 27°21'01"N 100°05'44"E, 4072 m, 28.vi.2012, sift. 35, V. Grebennikov, (ASC); (1 ♂): same, 27°20'47"N 100°05'33" E, 4154 m, 27.vi.2012, sift. 32, V. Grebennikov, (ASC); (1 ♂): same, 27°21'01" N 100°05'44" E, 4072 m, 21.vi.2012, sift. 26, V. Grebennikov, (ASC).

**Description.** In all characters similar to *T. montanus*, but different in male sexual characters.

Male. Abdominal sternite 8 slightly, widely sinuate apically (Fig. 7), that of *T. montanus* evenly subarcuate apically (see Fig. 3); tergite 8 with distinct, obtusely triangular medioapical emargination, emargination less deep than that of *T. montanus* (Figs 4, 8). Aedeagus (Figs 9, 10), similar to that of *T. montanus* (Figs. 5,6) but in general somewhat less robust; median lobe markedly narrower, evenly conically attenuated into narrowly arcuate apex; parameres of characteristic shape, similar to those of *T. montivagus*, each with subacute apex slightly curved toward median lobe, each bearing two minute apical setae and two similar setae on



Figs 3-6. *Trigonodemus montanus*: 3- abdominal sternite VIII; 4- abdominal tergite VIII; 5- aedeagus, ventral view; 6- apices of median lobe and paramere, ventral view.



Figs 7-10: *Trigonodemus imitator* sp. nov.: 7- abdominal sternite VIII; 8- abdominal tergite VIII; 9- aedeagus, ventral view; 10- apices of median lobe and paramere, ventral view.

medial margin below apex; apical portion of each paramere bearing similar structures as described for *T. montanus* (Figs 6,10); internal sac simple, similar to that of *T. montanus*.

Female. Unknown.

Length 3.7-4.2 mm.

**Geographical distribution.** *Trigonodemus imitator* is at present known only from the Haba Shan mountain range in Yunnan.

**Bionomics.** Specimens of the original series were taken by sifting various debris among the alpine vegetation at elevations 4071–4154 m, but no real details are known. *Trigonodemus imitator* occurs in Haba Shan together with *T. montanus*, as documented by the presence of both species in Grebennikov's siftings 24, 26 and 33 from that mountain range.

**Comment.** I was not able to distinguish the females of the two species, if indeed the females of the new species were present in the samples studied. Specimens of the original series of *T. imitator* were killed in absolute alcohol, resulting in absolute stiffness of the specimens that could not be overcome even by boiling them for several minutes. Also, the dissecting of the specimens was quite difficult due to their brittleness. As a result the specimens, many of them missing some appendages from the beginning, are badly mounted. Only the holotype is mounted reasonably well and it is not missing any appendages.

**Etymology.** The specific epithet is the Latin noun *imitator*-, *-oris*, m (one who seeks to resemble). It refers to the close similarity of the new species with *T. montanus*. A noun in apposition.

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