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New species and new records of the genus *Tarnawskianus*
SCHIMMEL & PLATIA, 2007 from China
(Coleoptera: Elateridae)

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ABSTRACT: Three new species of the genus *Tarnawskianus* are described from China: *Tarnawskianus funiushanensis* n. sp. (Henan), *T. haeckeli* n. sp. (Sichuan), and *T. sehnali* n. sp. (Sichuan). New records are given for *Tarnawskianus kucerai* SCHIMMEL & PLATIA, 2007 (Yunnan) and *T. turnai* SCHIMMEL, & PLATIA, 2007 (Shaanxi and Henan). A modified key to species including the newly described is provided.

Key words: entomology, taxonomy, Coleoptera, Elateridae, *Tarnawskianus* new species, new records, China, key to species.

INTRODUCTION

The genus *Tarnawskianus* was described as a member of the tribe Ctenicerini FLEUTIAUX, 1936, basing on material collected in various provinces of China (SCHIMMEL & PLATIA 2007). Only six species of the genus have been described hitherto, and all of them occupy the mountain regions of central and southern China. Among newly collected material from the Chinese provinces Henan and Sichuan, further three new species of the genus *Tarnawskianus* can be selected, raising the total number of known species of the genus to nine. The new species are described and illustrated below, and new records of already known species are given.

ABBREVIATIONS

a.s.l. above sea level;
CCW Coll. CATE, Wien;
CPG Coll. PLATIA, Gatteo;

CSV Coll. SCHIMMEL, Vinningen;
 CTW Coll. TARNAWSKI, Wrocław.

DESCRIPTIONS OF NEW SPECIES AND NEW RECORDS

Tarnawskianus funiushanensis n. sp.

(Figs. 1, 2)

TYPE LOCALITY

China: Henan.

TYPE MATERIAL

Holotype ♀ (CSV): China: Henan, Funiu Shan, Baotianman, 1500-1750 m, 15.V.-5.VI.2009, leg. J. Turna.

DIAGNOSIS

Sub-ovate, conspicuously vaulted species of 16.5 mm in length (measured from apical margin of frons to apex of elytra), and 5.3 mm in width (measured across apical fifth of elytra); body semi-dull, just little shiny; reddish-brown, antennae and epipleura yellowish-brown; pubescence yellowish, dense, fine and tightly, on pronotum wrinkled, and inclined from basis to apex and from lateral sides to median line, on elytra inclined from basis to apex and to lateral margins (fig. 1).

Head with very dense and umbilici punctures, and pubescence inclined to apex; frons depressed, margin totally absent in middle, prominently edged apically, and vaulted above basis of antennae; eyes semi-circular, and prominent.

Antennae very short, not reaching basal angles of pronotum for length of last four antennomeres (fig. 2), second antennomere slightly shorter than following antennomere, third antennomere as long as fourth, and the following antennomere, those are little extended at apex, last antennomere oval, sub-apically bevelled; surface of antennae densely punctures and covered with fine, short and protruding pubescence.

Pronotum cylindrical, 1.15 times longer at midline than width at posterior angles, little vaulted centrally, slightly bent laterally, after basal angles little narrowed, basal angles directed backward, not divergent, and stood at apex; pronotum with fine, regularly rounded, and simple punctures, interstices two to three times their diameter; basal angles with a distinct carina; pronotum without median furrow or mould.

Scutellum lingulate, concave at basis, lateral little narrowed, and rounded apically; surface nearly flat, just little vaulted apically, punctures fine and umbilici, interstices of points as wide as diameter and little vaulted; pubescence fine and short, pointed from centre to apex and to lateral margin.

Elytra sub-ovate, after apical fifth narrowed to apex; apex regularly curved, without an inner tooth; basis little wider than that of pronotum, surrounding scutellum slightly depressed, shoulder flat (wings reduced to small rudiments); striae of elytra as well as interstices densely covered with fine and small, simple punctures.

Pro-sternite furrows laterally with fine carina; pro-, meso- and meta-thorax with fine and simple punctures, interstices flat and dull; pubescence short and adjacent.

Legs elongate, long and thin, femora little wider than tibia, latter with a pair of long apical thorns, tarsomeres up to claws of decreasing length, ventrally with just visible, fine pubescence, legs covered with short, and fine hairs.

DIFFERENTIAL DIAGNOSIS

The new species *T. funiushanensis* is closely allied to *T. turnai*, but easy to distinguish by the reddish-brown body (body of *T. turnai* is blackish-brown) and by the shorter pronotum which is 1.15 times longer at midline than wide at posterior angles (pronotum of *T. turnai* is 1.4 times longer at midline than wide at posterior angles).

DERIVATIO NOMINIS

Named after one of the type localities.

DISTRIBUTION

China.

Tarnawskianus haeckeli n. sp.

(Figs. 3-5)

TYPE LOCALITY

China: Sichuan.

TYPE MATERIAL

Holotype ♂ (CCW): China: Sichuan, north to north-east of Eryizuxiang, south-west slopes, 3818 m, V.2004, leg. Häckel & Sehnal.

Paratype ♂ (CSV): Sichuan, Sa de environment, primary forest, 3818 m, V. 2004, leg. Häckel & Sehnal.

DIAGNOSIS

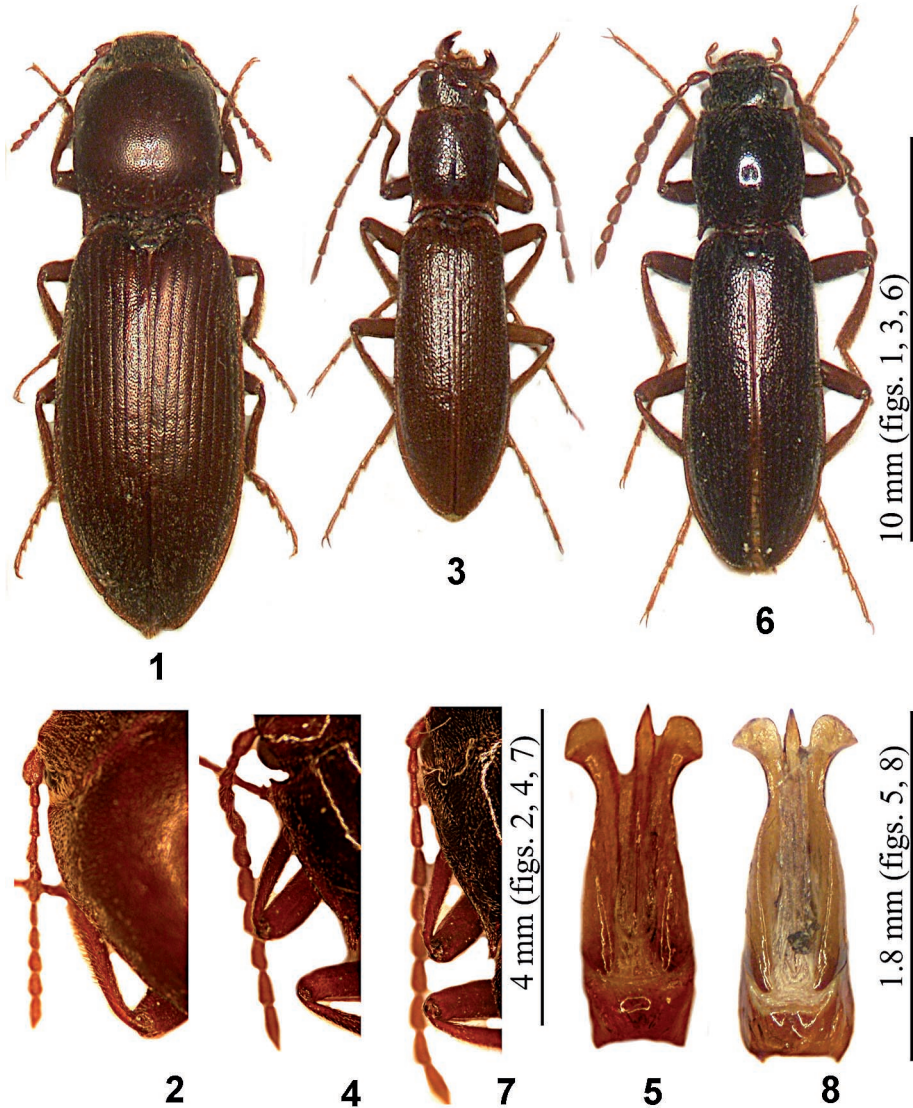
Sub-parallel, feebly vaulted species of 11.1 mm in length (measured from apical margin of frons to apex of elytra), and 3.1 mm in width (measured across apical fifth of elytra); body semi-dull, just little shiny, lateral sides little depressed; brown, basis of pronotum, antennae and legs, as well as epipleura yellowish-brown; pubescence yellowish, dense, fine and tightly, on pronotum wrinkled, and inclined from basis to apex and from lateral sides to median line, on elytra inclined from basis to apex and to lateral margins (fig. 3).

Head with sparse, and simple punctures, and pubescence inclined to apex; frons depressed, margin totally absent in middle, prominently edged apically, and vaulted above basis of antennae; eyes semi-circular, and prominent.

Antennae long, elongate, outreaching basal angles of pronotum for length of last four antennomeres (fig. 4), second antennomere slightly shorter than following antennomere, third antennomere as long as fourth, and the following antennomere, those are

little extended at apex (fig. 16), last antennomere oval, sub-apically bevelled; surface of antennae densely punctate and covered with fine, short and protruding pubescence.

Pronotum cylindrical, 1.16 times longer at midline than width at posterior angles, little vaulted centrally, slightly bent laterally, after basal angles little narrowed, basal angles divergent, and stood at apex; pronotum with fine, regularly rounded, and simple



1-8. Habitus, antennae and aedeagus of *Tarnawskianus*-species from China: 1, 3, 6 - habitus, 2, 4, 7 - left antennae, 5, 8 - Aedeagus: 1-2 - *Tarnawskianus funiushanensis* n. sp., 3-5 - *T. haeckeli* n. sp., 6-8 - *T. sehnali* n. sp.

punctures, interstices two to three times their diameter; basal angles with a distinct carina; pronotum with a short and flat median furrow that is reaching from basis up to centre.

Scutellum lingulate, concave at basis, lateral little narrowed, and rounded apically; surface nearly flat, just little vaulted apically, punctures fine and umbilici, interstices of points as wide as diameter and little vaulted; pubescence fine and short, pointed from centre to apex and to lateral margin.

Elytra sub-parallel, elongate and long, after apical fifth narrowed to apex; apex regularly curved, without an inner tooth; basis little wider than that of pronotum, surrounding scutellum slightly depressed, shoulder flat, (wings reduced to small rudiments); striae of elytra as well as interstices densely covered with fine and small, simple punctures.

Pro-sternite furrows laterally with fine carina; pro-, meso- and meta-thorax with fine, and simple punctures, interstices flat and dull; pubescence short and adjacent.

Legs elongate, long and thin, femora little wider than tibia, latter with a pair of long apical thorns, tarsomeres up to claws of decreasing length, ventrally with just visible, fine pubescence, legs covered with short, and fine hairs.

Aedeagus long and elongate, with thin, apical slightly bevelled, the paramere just extending penis; paramere with spoon-like lateral-apex, and covered with short hairs (fig. 5).

DIFFERENTIAL DIAGNOSIS

The new species *T. haeckeli* is closely allied to *T. kubani* (SCHIMMEL, 1998), but easily distinguished by the brown body with basis of pronotum, antennae and legs, as well as epipleura yellowish-brown (*T. kubani* has a blackish-brown body with base of elytra and pronotum as well as epipleura reddish), and by the sparse punctures on pronotum which are fine, regularly rounded and simple with interstices two to three times their diameter (*T. kubani* has fine and simple punctures on pronotum with interstices once their diameter).

DERIVATIO NOMINIS

Named after one of the discoverers of the new species.

DISTRIBUTION

China.

Tarnawskianus kucerai SCHIMMEL & PLATIA, 2007

LOCUS TYPICUS

China: Yunnan.

NEW MATERIAL

China: Yunnan, Zongdian, 3200 m, 17.-19.VI.1995, 1 male (CCW), leg. T. Spevar.

REMARKS

This is the second record of the species from the Yunnan province of China.

***Tarnawskianus sehnali* n. sp.**

(Figs. 6-8)

TYPE LOCALITY

China: Sichuan.

TYPE MATERIAL

Holotype ♂ (CCW): China: Sichuan, north to north-east of Eryizuxiang, south-west slopes, 3818 m, V.2004, leg. Häckel & Sehnal.

Paratype ♂ (CSV): Same data as Holotype, leg. Häckel & Sehnal.

DIAGNOSIS

Sub-parallel, feebly vaulted species of 14.0 mm in length (measured from apical margin of frons to apex of elytra), and 3.6 mm in width (measured across apical fifth of elytra); body shiny, lateral sides little depressed; dark brown, head and pronotum blackish-brown, antennae and legs, as well as epipleura yellowish-brown; pubescence yellowish, dense, fine and tightly, on pronotum wrinkled, and inclined from basis to apex and from lateral sides to median line, on elytra inclined from basis to apex and to lateral margins (fig. 6).

Head with sparse, and umbilici punctures, and pubescence inclined to apex; frons depressed, margin totally absent in middle, vaulted above basis of antennae; eyes semi-circular, and prominent.

Antennae long, elongate, outreaching basal angles of pronotum for length of last four antennomeres (fig. 7), second antennomere slightly shorter than following antennomere, third antennomere as long as fourth, and the following antennomere, those are little extended at apex (fig. 16), last antennomere oval, sub-apically bevelled. Surface of antennae densely punctate and covered with fine, short and protruding pubescence.

Pronotum cylindrical, 1.25 times longer at midline than width at posterior angles, little vaulted centrally, slightly bent laterally, after basal angles little narrowed, basal angles divergent, and stood at apex; pronotum with fine, regularly rounded, and simple punctures, interstices two to four times their diameter; basal angles with a distinct carina; pronotum without furrow or mould.

Scutellum lingulate, concave at basis, lateral little narrowed, and rounded apically; surface nearly flat, just little vaulted apically, punctures fine and umbilici, interstices of points as wide as diameter and little vaulted; pubescence fine and short, pointed from centre to apex and to lateral margin.

Elytra sub-parallel, elongate and long, after apical fifth narrowed to apex; apex regularly curved, without an inner tooth; basis little wider than that of pronotum, surrounding scutellum slightly depressed, shoulder flat, (wings reduced to small rudiments); striae of elytra as well as interstices densely covered with fine and small, simple punctures.

Pro-sternite furrows laterally with fine carina; pro-, meso- and meta-thorax with fine, and simple punctures, interstices flat and dull; pubescence short and adjacent.

Legs elongate, long and thin, femora little wider than tibia, latter with a pair of long apical thorns, tarsomeres up to claws of decreasing length, ventrally with just visible, fine pubescence, legs covered with short, and fine hairs.

Aedeagus long and elongate, with thin, apical slightly bevelled, the paramere just extending penis; paramere with spoon-like lateral-apex, and covered with short hairs (fig. 8).

DIFFERENTIAL DIAGNOSIS

The new species *T. sehnali* is closely allied to *T. haeckeli*, but easily distinguished by the blackish-brown head and pronotum (pronotum and head of *T. haeckeli* are brown) and by the longer pronotum which is 1.25 times longer at midline than wide at posterior angles (pronotum of *T. haeckeli* is 1.16 times longer at midline than wide at posterior angles).

DERIVATIO NOMINIS

Named after one of the discoverers of the new species.

DISTRIBUTION

China.

Tarnawskianus turnai SCHIMMEL & PLATIA, 2007

LOCUS TYPICUS

China: Henan.

NEW MATERIAL

China: Shaanxi, Taibaishan mountain, 1600 m, 3.VII.1998, 1 female (CPG), leg. A. Murzin; Henan, Funiu Shan, Baotianman, 1500-1750 m, 15.V.-5.VI.2009, 5 males, 2 females (CSV, CPG, CTW), leg. J. Turna.

REMARKS

The abovementioned record from Shaanxi is the first of the species from this province in China. The type has been described from Henan, the neighbouring province of Shaanxi.

KEY TO SPECIES OF THE GENUS *TARNAWSKIANUS*

1. Antennae conspicuously long, outreaching basal angles of pronotum by the length of the 5apical antennomeres ***T. longicornis* SCHIMMEL & PLATIA, 2007**
- . Antennae shorter, outreaching basal angles of pronotum by the length of the 2-4 apical antennomeres at best 2.

2. Body at least partly with bronze or pink metallic shine 7.
 –. Body dark reddish-brown or chestnut-brown, with antennae yellowish-brown 3.
3. Body longer (up to 15.6 mm) and conspicuously vaulted 4.
 –. Body shorter (up to 14.0 mm) and feebly vaulted 5.
4. Pronotum shorter, 1.15 times longer at midline than width at posterior angles *T. funiushanensis* n. sp.
 –. Pronotum longer, 1.4 times longer at midline than width at posterior angles *T. turnai* SCHIMMEL & PLATIA, 2007
5. Body blackish-brown, base of elytra and pronotum reddish-brown, pronotum 1.40 times as long at midline as width at posterior angles *T. kubani* (SCHIMMEL, 1998)
 –. Body reddish-brown or brown with blackish-brown pronotum and head 6.
6. Body reddish-brown, pronotum 1.16 times longer at midline than width at posterior angles *T. haeckeli* n. sp.
 –. Body reddish-brown, pronotum and head blackish-brown, pronotum 1.25 times longer at midline than width at posterior angles *T. sehnali* n. sp.
7. Whole body with bronze metallic shine 8.
 –. Only elytra with pink-metallic shine *T. yanmenensis* SCHIMMEL & PLATIA, 2007
8. Body shorter (up to 10.6 mm), antennomere 4-11 thickened apically *T. kucerai* SCHIMMEL & PLATIA, 2007
 –. Body longer (up to 14.1 mm), antennomere 4-11 elongate, not thickened apically *T. becvari* SCHIMMEL & PLATIA, 2007

ECOLOGICAL REMARKS

The species of the genus *Tarnawskianus* which had been known before have been collected at altitudes of 2500-2900 m a.s.l. The new species described here were found at 1500-1750 m (*T. funiushanensis*) and at 3818 m a.s.l. (*T. haeckeli* and *T. sehnali*). These records update our knowledge on the vertical distribution of the species. The species of the genus *Tarnawskianus* which we know so far occupy altitudes from 1500 up to 3818 m in the mountains and highlands of the summer-hot sub-tropical climatic zone of central and southern China.

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REFERENCES

- FLEUTIAUX, E., 1936. Les Elatérides de l'Indochine Française. (Catalogue raisonné). Ann. Soc. Ent. France, **105**: 279-300.
- SCHIMMEL, R., G. PLATIA, G., 2007. *Borowiecianus* and *Tarnawskianus*, two new and closely related genera of the tribe Ctericerini from China and North India. Genus, **18** (3): 371-397.