

Two new species and one new combination of Stenosini (Coleoptera: Tenebrionidae) from Xizang, China

Yi-Bin BA¹⁾ & Guo-Dong REN^{1,2)}

¹⁾ Museum of Hebei University, Baoding, Hebei, China; e-mail: ybba@hbu.edu.cn

²⁾ College of Life Sciences, Hebei University, Baoding, Hebei, China; e-mail: gdren@hbu.edu.cn

Abstract. Two new species of the tribe Stenosini (Coleoptera: Tenebrionidae), *Tetranillus nyingchiensis* sp. nov. and *Pseudethas (Stenillus) cordiformis* sp. nov., are described. One species, *Indochillus convexigena* Ren & Shi, 2006, is transferred to the genus *Pseudethas* Fairmaire, 1896 as *Pseudethas convexigenus* (Ren & Shi, 2006), comb. nov.

Key words: Coleoptera, Tenebrionidae, Stenosini, new combination, new species, taxonomy, Xizang, China

Introduction

The tribe Stenosini Lacordaire, 1859 consists of over 370 species classified in 30 genera; a key to the world genera and subgenera of the tribe was given by MEDVEDEV (1994). Only 5 species belonging to 3 genera were found in Xizang, China so far. They were separately described by BLAIR (1927), KOCH (1940), SCHAWALLER (2001) and REN & SHI (2006). The status of *Indochillus convexigena* Ren & Shi, 2006 was called in question by FOUQUÉ (2008) when revising the genus *Pseudethas* Fairmaire, 1896.

We found that the species *Indochillus convexigena* Ren & Shi, 2006 should be transferred to the genus *Pseudethas* when reexamining the type specimens. Two new species of Stenosini, *Tetranillus nyingchiensis* sp. nov. and *Pseudethas (Stenillus) cordiformis* sp. nov., were also found when examining the specimens of the tribe Stenosini from Xizang deposited in the Museum of Hebei University (=MHBUS).

FOUQUÉ (2008) indicated that the species of the genus *Pseudethas* are rather rare, possibly due to the small body size and the remote distribution areas of the genus. The scarcity of specimens is also true for the tribe Stenosini. Besides, the specimens may be rare also due to their special habitat requirements; the type materials of the two new species were collected in deep vertical soil cracks.

Mateial and methods

The collection male specimens were relaxed in warm water (60°C), and then the aedeagi were dissected. Observations and drawings were conducted using a compound microscope (Nikon SMZ-1500). The photos of morphology were taken with a microscope (Leica M205 A). Arcview 3.2 was used to make the distribution map (Fig. 13) based on the examined specimens and literature references. The type specimens examined are deposited in the Museum of Hebei University, Baoding, China (= MHBU).

Taxonomy

Tetranillus nyingchiensis sp. nov.

(Figs 1–6)

Type locality. China, Xizang province, Nyingchi county, Bayi town (alt. 3350 m).

Type material. HOLOTYPE: ♂, 'CHINA: XIZANG: Nyingchi County, Bayi Town (Alt. 3350m), 12.vii.2008, Ren Guodong leg.' (MHBU). PARATYPES: 12 ♂♂ 16 ♀♀, same label data as holotype; 11 ♂♂ 12 ♀♀, 'CHINA: XIZANG, from Nyingchi County to Gongbo'gyamda County (alt. 2800–4000 m), 21.viii.2003, Ren Guodong leg.' (MHBU).

Description. Body brown, elytra paler.

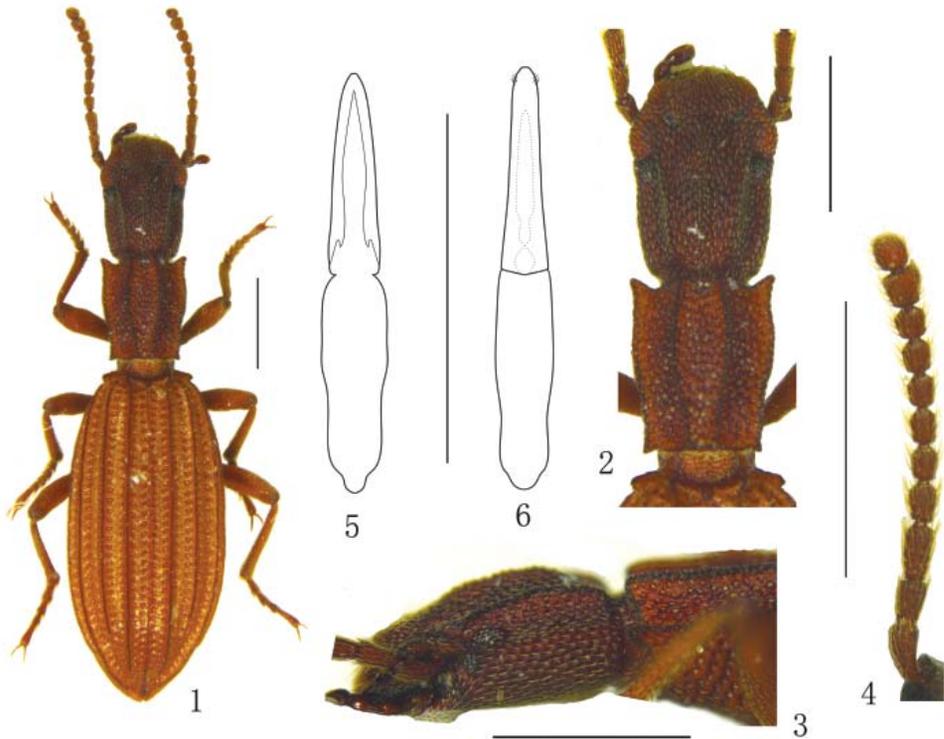
Head oval, 1.4 times as long as wide, widest in front of eyes. Dorsum uniformly covered with dense oval punctures, each with one yellow seta, punctures on clypeus smaller; median carina long, almost reaching anterior margin of eyes, lateral carinae straight and covering inner part of eyes a little. Anterior margin of clypeus double concave, left concavity deeper. Genae slightly expanding before eyes, straightly narrowing forwards. Eyes completely divided by genae, dorsal side of eyes with about 16 facets in four rows, ventral side of eyes with about 7 facets in three rows. Tempora almost straight. Antennae strong, reaching basal 1/3 of pronotum; each antennomere 2–9 shortly claviform; relative length ratio of antennomeres 2–11 as follows: 10.9 : 14.7 : 10.8 : 10.0 : 9.6 : 9.6 : 9.2 : 9.0 : 11.0 : 11.0.

Pronotum approximately inversely trapezoid, 1.2 times as long as wide, widest at apical 1/3. Anterior margin undulated, lateral margins somewhat undulated, slightly carinate and serrate, basal 1/4 somewhat parallel; posterior margin straight. Anterior angles acute and protruding, slightly extending outward; posterior angles acute and protruding. Dorsum strongly convex, with wide median depression; rounded punctures dense, each with a short yellow seta; two sharp carinae arched. Propleura densely covered with strong punctures; each with a short yellow seta.

Elytra oblong, 2.0 times as long as wide, and 1.9 times as wide as pronotum, widest at apical 1/3. Humeral angles pointed. Dorsum weakly convex; elytron with 10 rows of strongly rounded punctures and with four sharp carinae from epipleuron to median suture on interval 3, 5, 7, and 9; each puncture with one short yellow seta. Epipleura with a row of strong rounded punctures.

Abdomen covered with strong oval punctures, each with a yellow seta. Legs slender, densely covered with yellow setae; ratio of lengths of metatarsomeres 1–4 as follows: 17.4 : 11.5 : 12.0 : 22.0. Aedeagus 1.3 mm long; apex of paramere pointed, with 3 to 5 fine apical setae.

Measurements. Body length 4.5–6.5 mm; width 1.0–2.0 mm.



Figs 1–6. *Tetranillus nyingchiensis* sp. nov. 1 – habitus; 2 – head and pronotum, dorsal view; 3 – head, lateral view; 4 – antenna; 5–6 – aedeagus: 5 – ventral view, 6 – dorsal view. Scale bars = 1.0 mm.

Differential diagnosis. The new species is similar to *Tetranillus longicarinatus* Ren & Shi, 2006, but differs from the later as follows: median carina of head almost reaching anterior margin of eyes, lateral carinae covering the inner part of eyes a little; antennomeres 2–9 shortly claviform (Fig. 4); antennomere 3 is 1.4 times longer than antennomere 4, *T. longicarinatus* has antennomere 3 only 1.1 times longer than antennomere 4; and the shape of pronotum is different from *T. longicarinatus*.

Etymology. Named after Nyingchi County where the type series was collected.

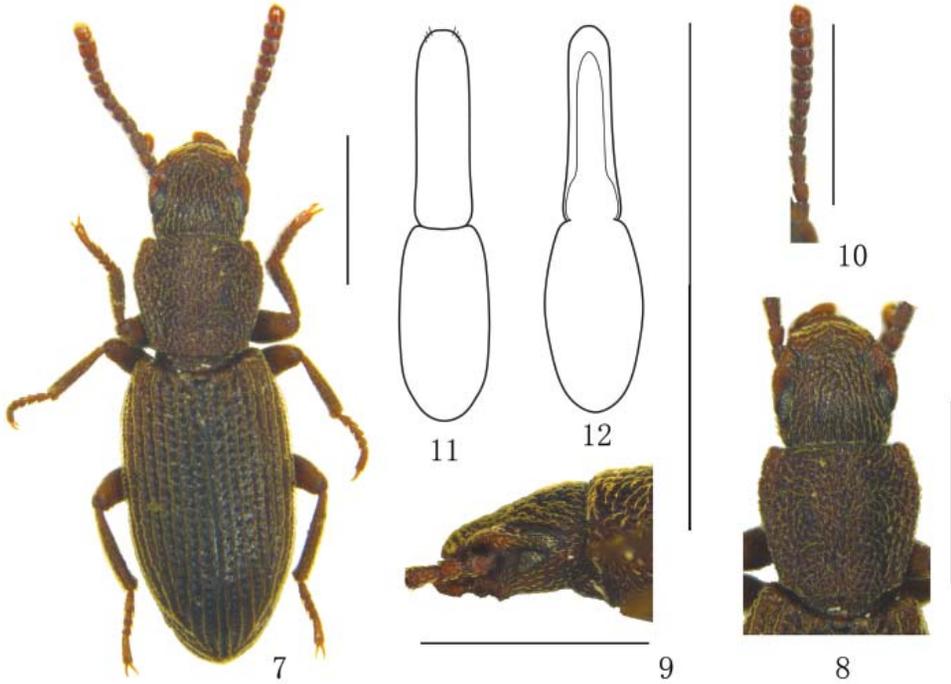
Distribution. China: Xizang.

***Pseudethas (Stenillus) cordiformis* sp. nov.**

(Figs 7–12)

Type locality. China, Xizang province, Yadong county, Duina town (N28°02'59", E89°10'10", alt. 4506 m).

Type material. HOLOTYPE: ♂, 'CHINA: XIZANG: Yadong County, Duina Town (N28°02'59", E89°10'10", alt. 4506 m), 1.viii.2011, Ren Guodong leg.' (MHBU). PARATYPES: 2 ♂♂ 2 ♀♀, same label data as holotype (MHBU).



Figs 7–12. *Pseudethas (Stenillus) cordiformis* sp. nov. 7 – habitus; 8 – dorsal view of head and pronotum; 9 – lateral view of head; 10 – antenna; 11–12 – aedeagus: 11 – dorsal view, 12 – ventral view. Scale bars = 1.0 mm

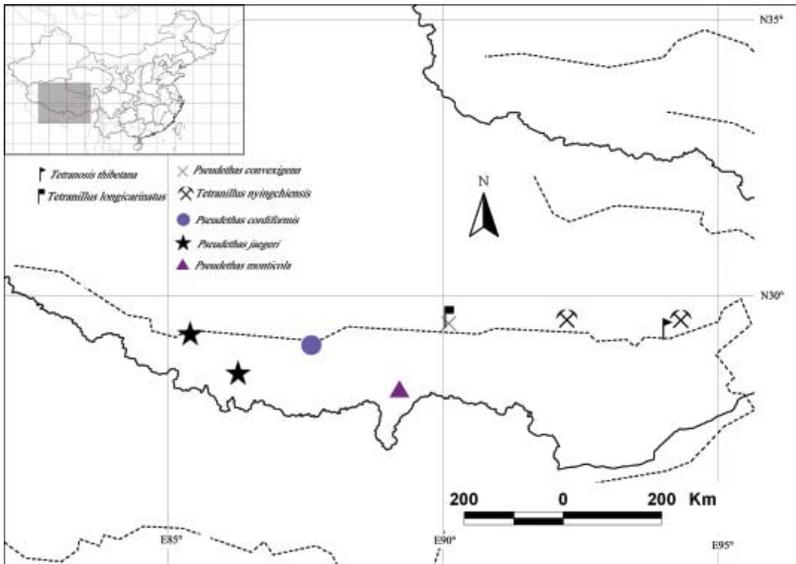


Fig. 13. Distribution of the tribe Stenosini in Xizang, China.

Description. Body dark-brown.

Head oval, length/width ratio 39 : 40, widest at anterior margin of eyes. Eyes completely divided by genae, dorsal side with about 25 facets in three rows, ventral side with about 16 facets. Anterior margin of clypeus straight, lateral margin straightly narrowing forwards together with genae. Genae slightly arcuate before eyes. Tempora slightly arcuate and converging backwards. Dorsum densely covered with long yellow setae and with dense oval punctures, punctures on clypeus rounded and smaller. Antennae length reaching to basal 1/6 of pronotum; antennomere 3 1.7 times as long as wide; antennomere 10 widest; relative length ratio of antennomeres 2–11 as follows: 7.7 : 12.0 : 8.1 : 8.0 : 8.0 : 8.0 : 7.0 : 7.6 : 8.7 : 9.0.

Pronotum approximately cordiform, obviously wider than head; length/width ratio 49 : 51; widest at apical 1/4. Anterior margin straight; lateral margins arched; posterior margin straight in middle, slightly arched on sides. Anterior angles rectangular, posterior angles obtuse. Dorsum convex, median longitudinal depression long and shallow; densely covered with long yellow setae and densely covered with oval punctures, punctures somewhat confluent. Propleura densely covered with strong oval punctures, each with a short yellow seta.

Elytra oblong, 1.8 times as long as wide, 1.4 times as wide as pronotum, widest in middle. Elytral base concave. Humeral angles rounded. Elytron with 10 rows of strongly rounded punctures, without seta. All intervals slightly convex, with rows of short yellow setae. Epipleura with one row of rounded punctures.

Abdomen covered with strong oval punctures, gradually diminishing towards end of anal segment, each puncture with one short yellow seta. Legs slender, male meso- and metatibiae with distinct tooth on inner side. Ratio of lengths of metatarsomeres 1–4 as follows: 14.0 : 7.9 : 6.4 : 18.0. Aedeagus long 0.8 mm; apex of paramere somewhat sharper, with 3 to 5 fine apical setae.

Measurements. Body length 4.5–6.5 mm; width 1.0–2.0 mm.

Differential diagnosis. The new species is similar to *Pseudethas (Stenillus) weigeli* Fouqué, 2008, but differs from the later as follows: pronotum approximately cordiform; median longitudinal depression of pronotum longer; the shape of aedeagus is different from *P. (S.) weigeli* (see FOUQUÉ 2008).

Etymology. The species name is a Latin adjective *cordiformis*, *-is*, *-e*, referring to the characteristic shape of pronotum in this species.

Distribution. China: Xizang.

Pseudethas (Pseudethas) convexigenus (Ren & Shi, 2006) comb. nov.

Indochillus convexigena Ren & Shi, 2006: 182, Figs 13–22, 24.

Type material examined. HOLOTYPE: ♂, 'CHINA: XIZANG: Lhasa, 23.viii.2003, Ren Guodong leg.' (MHBU). PARATYPES: 5 ♂♂ 4 ♀♀, same label data as holotype (MHBU).

Discussion. The status of *Indochillus convexigena* Ren & Shi, 2006 was questioned by FOUQUÉ (2008). The species should be transferred to the subgenus *Pseudethas* of the genus *Pseudethas* based on the following characters: elytral surface flattened, lateral margins of elytra parallel-sided; base of elytra wider than pronotal base; epipleura of elytra with one row of punctures; males possessing small tooth on inner side of meso- and metatibiae; tempora convex laterally behind eyes; shallow median depression present on disc of pronotum. The species is similar

to *Pseudethas (Pseudethas) ladakhensis* Kaszab, 1978 (KASZAB et al. 1978), but differs from the latter as follows: punctures of pronotum sparser; humeral angles of elytra rounded and not expanding outwards; and antennae being more slender.

Distribution. China: Xizang (Lhasa).

Acknowledgments

The research was supported by the National Science Foundation of China (31000969), the National Science Foundation of Hebei (C2011201112) and Key Laboratory Foundation of Hebei University (09265631D-9).

References

- BLAIR K. G. 1927: Heteromera of the Third Mt. Everest Expedition, 1924. *Annals and Magazine of Natural History, Series 9* **19**: 241–255.
- FOUQUÉ R. 2008: Revision of the genus *Pseudethas* Fairmaire, with descriptions of four new species from Nepal and Thailand (Coleoptera: Tenebrionidae: Stenosini). *Stuttgarter Beiträge zur Naturkunde A, Neue Serie* **1**: 357–369.
- KASZAB Z., SCHAWALLER W. & SKOPIN N. G. 1978: Systematik und Ökologie einiger Tenebrionidae aus Kashmir und Ladakh (Insecta: Coleoptera). *Senckenbergiana Biologica* **59**: 215–234.
- KOCH C. 1940: Phylogenetische, biogeographische und systematische Studien über ungeflügelte Tenebrioniden (Col. Tenebr.). *Mitteilungen der Münchener Entomologischen Gesellschaft* **30**: 683–750, pls. 18–20.
- MEDVEDEV G. S. 1994: (New data on systematics of darkling beetles of the tribe Stenosini (Coleoptera, Tenebrionidae)). *Entomologicheskoe Obozrenie* **73**: 844–867 (in Russian, English summary).
- REN G.-D. & SHI A.-M. 2006: Two new record genera of Stenosini (Coleoptera, Tenebrionidae) from China, with descriptions of two new species. *Acta Zootaxonomica Sinica* **31**: 180–184.
- SCHAWALLER W. 2001: *Pseudethas jaegeri* sp. n. from Xizang (Insecta: Coleoptera: Tenebrionidae: Stenosini). *Reichenbachia* **34**: 143–146.