

A New *Trigonurus* (Coleoptera, Staphylinidae, Trigonurinae) Discovered in Sichuan, China

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Abstract A new species of trigonurine staphylinid beetle is described from Sichuan, China, under the name of *Trigonurus sichuanicus*. This is the first record of the peculiar beetle from East Asia.

The peculiar staphylinid beetles of the genus *Trigonurus* are the only representatives of the subfamily Trigonurinae and have previously been regarded as the members of the Piestinae, though sometimes placed in the Silphidae (MADGE, 1980, etc.). NEWTON and THAYER (1992) regarded them as forming a distinct subfamily in the Staphylinidae. It was also suggested that *Trigonurus* might be the most primitive member of the oxyteline group in view of the plesiomorphic state of the larvae (LAWRENCE & NEWTON, 1995).

After BLACKWELDER (1941) and HATCH (1957), nine species of *Trigonurus* have been described from the world. Seven species were recorded from the mountain areas of Pacific North America; two species and one subspecies were recorded from the Palearctic, that is *T. mellyi* MULSANT from the Maritime Alps, South Europe, *T. asiaticus* REICH from Caucasus, and *T. a. paphlogonicus* MAŘAN from Ilgaz Dagħ, the Asia Minor.

During our entomological survey in Sichuan Province, China, made in the late summer of 1998, two of the members, Professor Masataka SATŌ (Nagoya Women's University) and Dr. Akiko SAITO (Natural History Museum and Institute, Chiba) collected some specimens of trigonurine staphylinids in Jiuzhaigou Xian and Songpan Xian. After a careful examination, it becomes clear that the species in question must be new to science. This is the first record of *Trigonurus* for the East Asian fauna, which bridges the gap in generic distribution between the western Palearctic and the Pacific coast of North America.

Subfamily Trigonurinae REICH

Genus *Trigonurus* MULSANT, 1847

Trigonurus MULSANT, 1847, Anns. Soc. Agric. Lyon, **10**: 515 [type species: *Trigonurus mellyi* MULSANT, by monotypy]. — GANGLBAUER, 1895, Käfer Mitteleuropa, **2**: 682. — BLACKWELDER, 1941,

Amer. Mus. Novit., (1124): 2. — HATCH, 1957, Univ. Wash. Publ. Biol., **16**: 241.

Body elongate and flat. Fronto-clypeal suture complete between antennal insertions. Antennae 11-segmented, long, inserted at anterior lateral corners of vertex. Eyes moderate in size and somewhat prominent. Mandibles thin and flat with pointed apices and devoid of teeth; lacinia much shorter than galea; maxillary palpi 4-segmented and pubescent; labial palpi 3-segmented, short and stout. Elytra rather long, extending beyond metasternum, with distinct epipleural ridge; surface with longitudinal rows of punctures. Hind wings developed. Prosternum narrowly and briefly produced between coxae. First abdominal segment entirely absent, 2nd represented by tergite only, 3rd to 7th each with one paratergite on each side. Legs slender; tarsal formula 5-5-5; fore and mid coxae globular; hind coxae almost in contact, expanded laterally and caudally.

Generic distribution. Palearctic (South Europe, Caucasus, Asia Minor, China [first record]), Nearctic (Pacific North America). The distributional pattern seems to suggest that the group is a relict.

Trigonurus sichuanicus KISHIMOTO, sp. nov.

Body length: 4.3–4.6 mm (from front margin of head to anal end); 3.1–3.3 mm (from front margin of head to apices of elytra). Body width: 1.6 mm.

Body rather slender, elongate and strongly depressed above, pronotum and elytra not constricted at base, moderate in size. Color shining blackish brown; pronotum and elytra mat reddish brown; mouth parts, antennae, legs, lateral margins and posterior segments of abdomen paler.

Head small, almost flat or weakly elevated at the middle of vertex, without distinct longitudinal depression but with slightly curved and depressed fronto-clypeal suture, much narrower than pronotum (pronotum/head=1.76); surface with strong and irregular punctures, very sparsely and finely in apical and basal areas, and with short and inconspicuous pubescence. Antennae rather long, extending to basal fourth of elytra; 1st segment elongate and subrectangular; 2nd much shorter than 3rd; 3rd the longest; 4th–6th subequal in length and weakly dilated apicad; 7th large and strongly dilated apicad; 8th oval, not dilated apicad; 9th apparently dilated apicad, longer than 8th; 10th weakly dilated apicad; 11th subconical; relative length (width) of each segment from base to apex:— 1.7 (1.1): 1.2 (0.8): 1.9 (0.8): 1.7 (0.8): 1.7 (0.8): 1.6 (0.8): 1.8 (1.1): 1.4 (1.0): 1.6 (1.2): 1.5 (1.3): 1.8 (1.2).

Pronotum longer than broad (length/width=1.35), narrower than elytra (elytra/pronotum=1.61), weakly convex except for relatively broad but shallow depression along mid-line and a deep concavity near each posterior margin, widest just before the middle; sides feebly arcuate and minutely sinuate in apical halves, slightly sinuate and feebly convergent posteriad in basal halves; anterior angles porrect though narrowly rounded at the tips; hind angles subrectangular, bluntly produced posteriad; anterior margin almost straight at the median part or weakly bisinuate; posterior margin nearly straight at the median part, sinuate on each side; surface rugose with rather large punc-

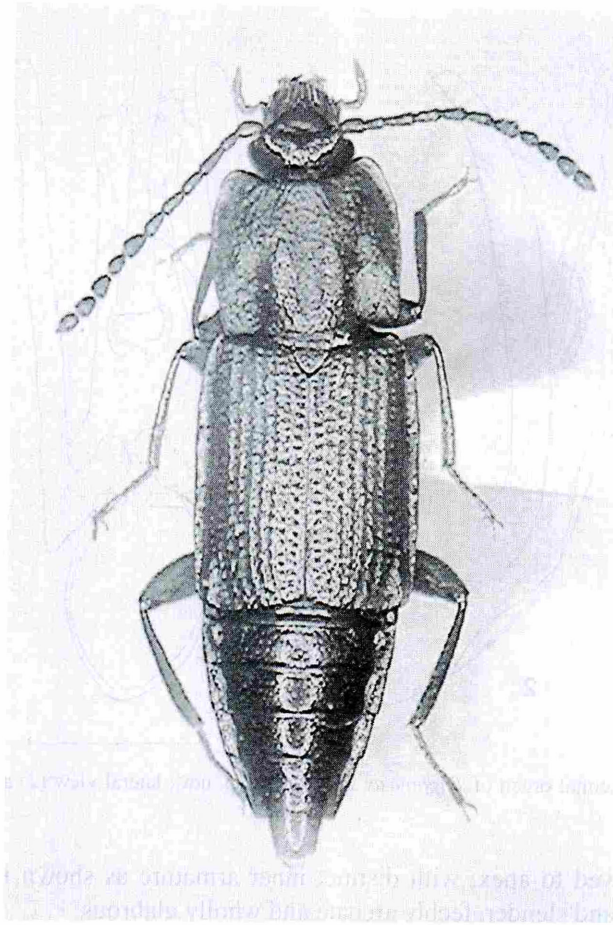
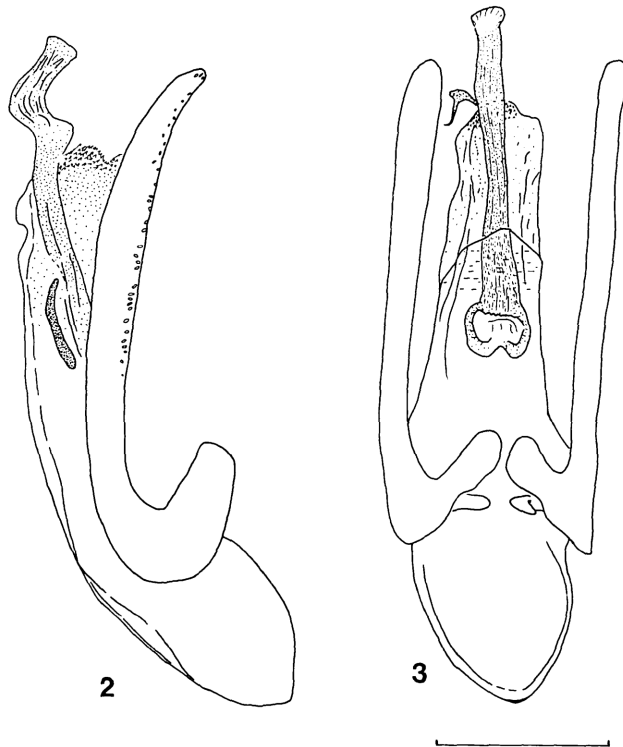


Fig. 1. *Trigonurus sichuanicus* sp. nov.; habitus.

tures. Hypomera with a few punctures. Scutellum large, triangular, strongly punctate.

Elytra elongate, almost parallel-sided, widest at the middle, and abruptly convergent near bases and apices, weakly convex above, slightly longer than broad (length/width=1.06); humeral angles bluntly marked; posterior margins separately arcuate with broadly rounded outer angles. Surface of elytra not striate but with 9 longitudinal rows of distinct punctures; 1st to 7th almost regularly punctate; 8th incomplete; 9th on flat lateral part somewhat irregular and inconspicuous; intervals rather weakly shining, scattered with very minute pubescence. Legs moderate in length; 5th tarsomere of each leg rather long.

Abdomen gradually narrowed towards apex, moderately convex above, sparsely with distinct punctures and finely and inconspicuously with short curved pubescence; 8th segment much narrower than preceding segments. Male genital organ slender and



Figs. 2–3. Male genital organ of *Trigonurus sichuanicus* sp. nov.; lateral view (2) and ventral view (3). Scale: 0.1 mm.

straightly narrowed to apex, with distinct inner armature as shown in Figs. 2 and 3; parameres long and slender, feebly arcuate and wholly glabrous.

Type series. Holotype: male, [China: Sichuan] Jiuzhaigou Xian, Jiuzhaigou, Xiongmaohai (2,400 m), 30–VIII–1998, Akiko SAITO leg. Paratypes: 1 female, same data as for the holotype; 1 ex., Jiuzhaigou Xian, Jiuzhaigou, Yuanshi-Senlin (2,850 m), 28–VIII–1998, Akiko SAITO leg.; 2 exs., Songpan Xian, Munigou, Zhaga (3,000–3,050 m), 3–IX–1998, Masataka SATÔ leg. The holotype is preserved at present in the collection of the National Science Museum (Natural History), Tokyo, and the paratypes are preserved in the collection of the Laboratory of the Insect Resources, Tokyo University of Agriculture.

Remarks. This new species can easily be distinguished from two other Palearctic species, *T. mellyi* and *T. asiaticus*, by the body much smaller in size and the color of the pronotum and elytra mat reddish brown.

Bionomics. The specimens of the type series were taken by beating dead branches or from under barks of rotten logs in the forest. The collecting sites are situated between 2,400 m and 3,050 m in altitude.

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要 約

岸本年郎：中国四川省で発見されたハネナガヒラタハネカクシ属の1新種。——ハネナガヒラタハネカクシ（新称）*Trigonurus* は、1属でハネナガヒラタハネカクシ亜科（新称）を構成し、これまでに世界から9種が記録されている顕著な甲虫群である。その分布域は不連続で、7種が北米太平洋岸の山地、1種がヨーロッパアルプス、もう1種がコーカサスと小アジアに分布することが知られていた。1998年の中国四川省における調査において、佐藤正孝教授と斉藤明子博士により九寨沟县および松潘县で採集された、珍奇な形態をしたハネカクシは、これまで東アジアから未記録であったハネナガヒラタハネカクシ属のものであった。研究の結果、この種は新種であることが判明したので、*Trigonurus sichuanicus* と命名して記載した。

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