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A new species of the *Helophorus* (*Rhopalohelophorus*) *frater-praenanus* group from western Sichuan (China) (Coleoptera: Helophoridae)

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Abstract

Helophorus (*Rhopalohelophorus*) *altosichuanensis* sp.n. from western Sichuan is described. It is shown to be a member of the *H. frater-praenanus* species group and means of distinguishing it from other species of the group are given.

Key words: Coleoptera, Helophoridae, *Helophorus frater-praenanus* group, new species, China, Sichuan.

Introduction

The *Helophorus* (*Rhopalohelophorus*) *frater-praenanus* group of species was proposed by ANGUS et al. (2014) as an informal grouping at present comprising seven East Palearctic species characterised by the following suite of characters: antennae 9-segmented, with three small segments between the pedicel and the cupule; stem of Y-groove variable, often within species, shallow and often narrow-linear, but sometimes widened anteriorly; pronotum highly and evenly arched, lightly sculptured and with the grooves narrow and shallow; elytral flanks only narrowly visible from below; and apical segment of the maxillary palpi normally asymmetrical, but sometimes more or less symmetrical oval. The species are *Helophorus frater* ORCHYMONT, 1926, *H. aquila* ANGUS, JIA & CHEN, 2014, *H. banghaasi* KNIŽ, 1919, *H. praenanus* ŁOMNICKI, 1894, *H. parajacutus* ANGUS, 1970, *H. kryzhanovskii* ANGUS, 1985 and *H. parasplendidus* ANGUS, 1970. In the review by ANGUS et al. (2014) the habitus of these species is illustrated in Figs. 1–10, heads and pronota in greater detail in Figs. 11–21 and aedeagi in Figs. 30–39.

Material

The type specimens of the new species are housed in the Naturhistorisches Museum Wien, Austria (NMW) and in the Natural History Museum, London, UK (BMNH).

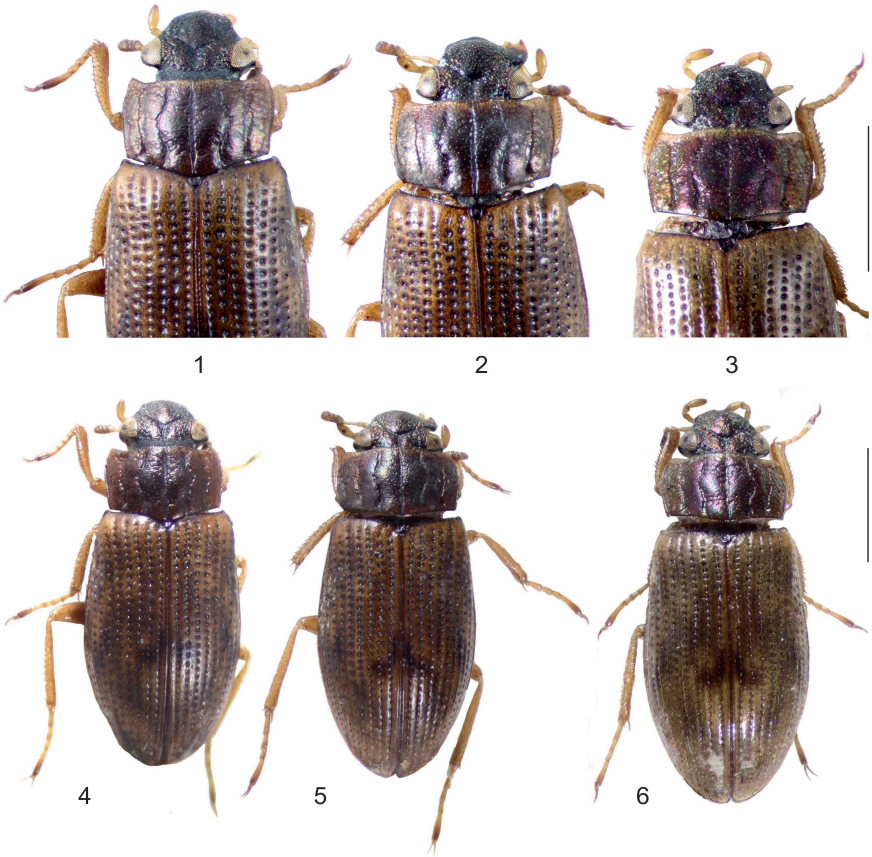
Helophorus (*Rhopalohelophorus*) *altosichuanensis* sp.n.

TYPE MATERIAL: **Holotype** ♂ (NMW): "CHINA: W - Sichuan \ 20 km N Luhuo 21.7.1997 \ rd. Luhuo - Sertar \ 31°32'N 100°42'E \ 3800 m, leg. J. Turna". **Paratypes**: 1 ♂ (BMNH), 1 ♀ (NMW), same data as holotype.

DESCRIPTION: Habitus: Figs. 1–3. Length 3.10 mm (holotype, ♂ paratype), 3.30 mm (♀ paratype); breadth 1.40 mm (holotype, ♂ paratype), 1.45 mm (♀ paratype).

Head and pronotum: Figs. 4–6, orange-pitchy with greenish and maroon bronze reflections, anterior margin of pronotum and marginal grooves dull yellow. Head slightly darker than pronotum, stem of Y-groove narrowly expanded anteriorly. Surface granulate, smoother centrally. Maxillary palpi dull yellow, apical segment subovoid, rather short. Antennae dull yellow, 9-segmented. Pronotum rather highly arched, widest just before the middle, the sides rounded but slightly straighter over posterior third. Grooves narrow, fairly shallow, their floors shining, coloured as intervals, except for dull yellowish marginal grooves. Mid groove straight, contin-

uous to anterior and posterior margins. Submedians widest in anterior quarter, sharply angled outwards just before middle, recurved in basal quarter. Submarginals about twice as wide as median and submedians, diverging anteriorly, with a pit in the basal quarter. Marginal grooves as wide as submarginals, even, dull yellowish, obsolete in anterior quarter but continuous to base. Raised lateral margins very narrow, finely dentate. Intervals weakly sculptured, shining with fine punctures on disc, with fine lines representing obsolete granulation around the disc, developed into weak granulation laterally.

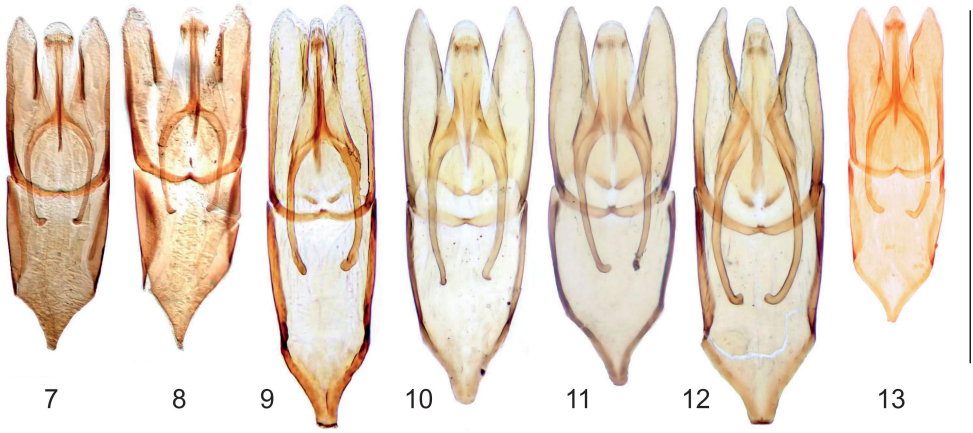


Figs. 1–6: *Helophorus altosichuanensis*, 1–3: head and pronotum, 4–6: habitus. 1, 4) holotype ♂; 2, 4) paratype ♂; 3, 6) paratype ♀. Scales = 1 mm.

Elytra quite strongly but not deeply striate, interstices flattened, slightly wider than strial punctures. Striae weakly marked between punctures. Ground colour pale to mid brown, with a distinct Λ-mark behind middle and extending to interstice 3. Additionally, there is extensive mottling, which is mainly paler than the Λ-mark. Flanks scarcely visible from below. Legs dull yellow, apical half of tarsal segment 5 darkened, claws rather elongate.

Aedeagus (Figs. 7–8) small, less than 0.5 mm long, clearly shorter than those of *Helophorus praenanus* (Fig. 9), *H. parajacutus* (Fig. 10), *H. aquila* (Fig. 11) and *H. frater* (Fig. 12). In fact,

the size and shape of the aedeagus is most like that of *H. shatrovskyi* ANGUS, 1985 (Fig. 13), though the external morphology is very different.



Figs. 7–13: Aedeagi. 7) *Helophorus altosichuanensis*, holotype; 8) same, paratype; 9) *H. praenanus*, China, Qinghai, Gangca; 10) *H. parajacutus*, paratype, Mongolia, Khentii Province; 11) *H. aquila*, holotype, China, Qinghai, Gangca; 12) *H. frater*, China, Qinghai, upper Huang He; 13) *H. shatrovskyi*, paratype, Mongolia, Bayankhongor Province. Scale = 0.5 mm.

DIFFERENTIAL DIAGNOSIS: Within the *Helophorus frater-praenanus* group *H. altosichuanensis* is most like *H. praenanus*, to which it would run in the key given by ANGUS et al. (2014), the key character being the mottling of the elytra (ANGUS et al. 2014: fig. 7). The colour pattern, shape and sculpture of the pronotum (ANGUS et al. 2014: fig. 17) are also very similar. The material to hand is smaller than *H. praenanus*, length 3.1–3.3 mm as against 3.3–3.8. The maxillary palpi of *H. altosichuanensis* are slightly wider and more nearly oval than those of *H. praenanus* and most other members of this group, being most similar to those of *H. banghaasi* (ANGUS et al. 2014: fig. 19). The aedeagus has the parameres resembling those of *H. praenanus* in their more or less straight outer margins abruptly angled inwards just before the apex but is clearly smaller than that of *H. praenanus*, length about 0.49 mm as against about 0.60 mm. *Helophorus parajacutus*, length about 2.80–3.60 mm, is more or less the same size as *H. altosichuanensis* and has similar reddish orange tint (ANGUS et al. 2014: fig. 8). However, the aedeagus of *H. parajacutus* (Fig. 10) has the outer margins of the parameres curved and is longer, length about 0.57 mm. None of the other species of the group has the elytral mottling and the pronotal colouration as *H. altosichuanensis* – they are clearly darker, and their aedeagi are clearly different. Although, as noted, the aedeagus of *H. shatrovskyi* is similar to that of *H. altosichuanensis*, though slightly smaller (length about 0.45 mm), the external morphology (see ANGUS et al. 2014: figs. 24, 29) is very different. The pronotum is very highly arched, almost devoid of granules and with the submedian grooves evenly curved. The apical segment of the maxillary palpi is symmetrical oval and the elytral flanks are broadly visible from below.

DISTRIBUTION: This species is known so far only from the type locality (western Sichuan, China). If the coordinates on the labels (31°32'N 100°42'E) are correct, the specimens were collected from the Ni Qu River northeast of Nibaxiang. However, the elevation data on the label (3800 m) do not agree with the elevation of these coordinates (ca. 3260 m).

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Reference

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