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## TWO NEW DYTISCIDAE FROM SOUTH-WESTERN CHINA

**SUMMARY**- Two new Dytiscidae, *Rhantus pederzanii* n. sp. and *Hydroporus nanpingensis* n.sp., from Sichuan province, south-western China, are described and compared with closely related species. Characters which allow separation of the new species from *Rhantus yessoensis* Sharp, *Hydroporus uenoi* Nakane and *Hydroporus ijimai* Nilsson & Nakane are provided.

**RIASSUNTO** - Due nuove specie di Dytiscide dal sud-ovest della Cina. Due nuove specie di Dytiscidae, *Rhantus pederzanii* n. sp. e *Hydroporus nanpingensis* n. sp., provenienti dalla provincia del Sichuan, Cina, vengono descritte e confrontate con le specie vicine. Vengono identificati caratteri che consentono di separare le nuove specie da *Rhantus yessoensis* Sharp, *Hydroporus uenoi* Nakane e *Hydroporus ijimai* Nilsson & Nakane.

Recently, amid water beetle material collected in southern China which we received from colleagues, we found specimens of a *Rhantus* and a *Hydroporus* which are new to science. We therefore proceed to describe them.

Abbreviations: CMSB, Civico Museo di Scienze Naturali, Brescia; FP, coll. Fernando Pederzani, Ravenna; PM, coll. Paolo Mazzoldi, Brescia; MT, coll. Mario Toledo, Brescia.

### ***Rhantus pederzanii* n. sp.**

#### *Type material*

Holotype: 1 ♂ labelled China, Sichuan, Sichuan prov., Gonga Shan Mt., Moxi, 21-24.VII.1992, leg. Schneider J., CMSB; paratypes 1 ♂, 2 ♀, same label as holotype, MT; 2 ♂ ♂ labelled China, Sichuan, Kangding distr., 21-24.VII.1992, Hailougou Glacier Park, R. Dunda leg., MT; 1 ♂, 1 ♀, same label as holotype, PM; 1 ♂, 2 ♀, Sichuan prov., China, Tagu, VI.1992, PM; 2 ♂, 2 ♀, same label as holotype, FP.

#### *Description*

A large *Rhantus*. Oval, moderately elongate, dorsum convex; reddish yellow with a dark central spot on the pronotum and elytra with black irrorations (fig. 1). Length 14.8-

15.6 mm, width 7.7-8.3 mm, the maximum width being situated just behind the middle of elytral length. Head reddish yellow with two large and well defined black markings around the eyes blending together on vertex and frons, leaving only a small heart-shaped yellow space (and sometimes a narrow longitudinal line) between them; therefore the head looks black in the basal half and yellow on the clypeus. The sculpture is in very high relief, consisting of deeply incised wrinkles which are longitudinal on the vertex, especially behind the eyes, and partly longitudinal, partly transversal on frons and clypeus, where they delimit irregular, polygonal meshes; some of the meshes have one or two punctures in their interior. Antennae reddish yellow, antennomeres 4-11 darkened at the apex.

Pronotum transverse, almost 3 times wider than long, a bit narrower than the base of elytra, therefore forming a weak pronoto-elytral angle; sides moderately rounded with a narrow, weakly developed lateral bead; base regularly arcuate at the center, weakly sinuate at the sides; basal angles rounded. Sculpture even coarser and more impressed than on head, consisting in the anterior part of deeply incised wrinkles forming irregular subpolygonal meshes, which give a coriaceous aspect to the surface; some of the meshes bear 1-2 punctures in their interior. A line of bigger punctures along the anterior border of pronotum is hardly visible. Colour reddish yellow with a few scattered small black dots, particularly along the anterior and posterior margin, and with a darker transversal marking on the disk; the latter is however highly variable, sometimes round and small, sometimes more transversely elongated and even broken into two symmetrical spots, sometimes hardly pronounced, almost obliterated.

Elytra elongate: sides almost straight in anterior half, rounded posteriorly. Sculpture well impressed consisting of subpolygonal cells, some of which have a puncture inside; in the posterior part of the elytra a weak secondary reticulation can be seen at high magnification inside the meshes. Two series of discal punctures are visible in the basal half. Colour reddish yellow irrorated with black spots, fused together in vermiculations. A yellow stripe runs along the whole suture almost to the apex.

Underside completely black. Sculpture on metasternum and sternites consisting of long, narrow cells, shorter on metasternal wings and episternum. Surface rougher on metasternum than on sternites. Prosternal process narrow, acuminate at the apex.

Legs: femurs dark brown-black, pro- and mesofemurs paler at the apex. Tibiae and tarsi reddish yellow.

♂: protarsi, especially tarsomeres 1-2-3, enlarged, with tufts of adhesive sucker hairs; tarsomere 5 as long as tarsomeres 1-4 together. Foreclaws long: the inner one as long as tarsomeres 3-4-5 together, straight seen from above and laterally, only slightly curved at the apex and with a small denticle near the base. The outer one a bit shorter, sinuate (see fig. 3a and 3b).

Mesotarsi, especially tarsomeres 1-2-3, enlarged, tarsomere 5 as long as tarsomeres 1-4 together. Both claws shorter than tarsomere 5: the outer one longer, straight, slightly curved, the inner one shorter (about 3/4 of the outer) and more strongly curved. Aedeagus as in fig. 2a and 2b, sharply bent just above the base, then almost straight, regularly tapering towards the apex which, dorsally seen, curves slightly to the right; parameres as in fig. 2c.

♀: pro- and mesotarsi not differentiated, sculpture as in male.

### *Derivatio nominis*

The new species is dedicated to our friend Fernando Pederzani.

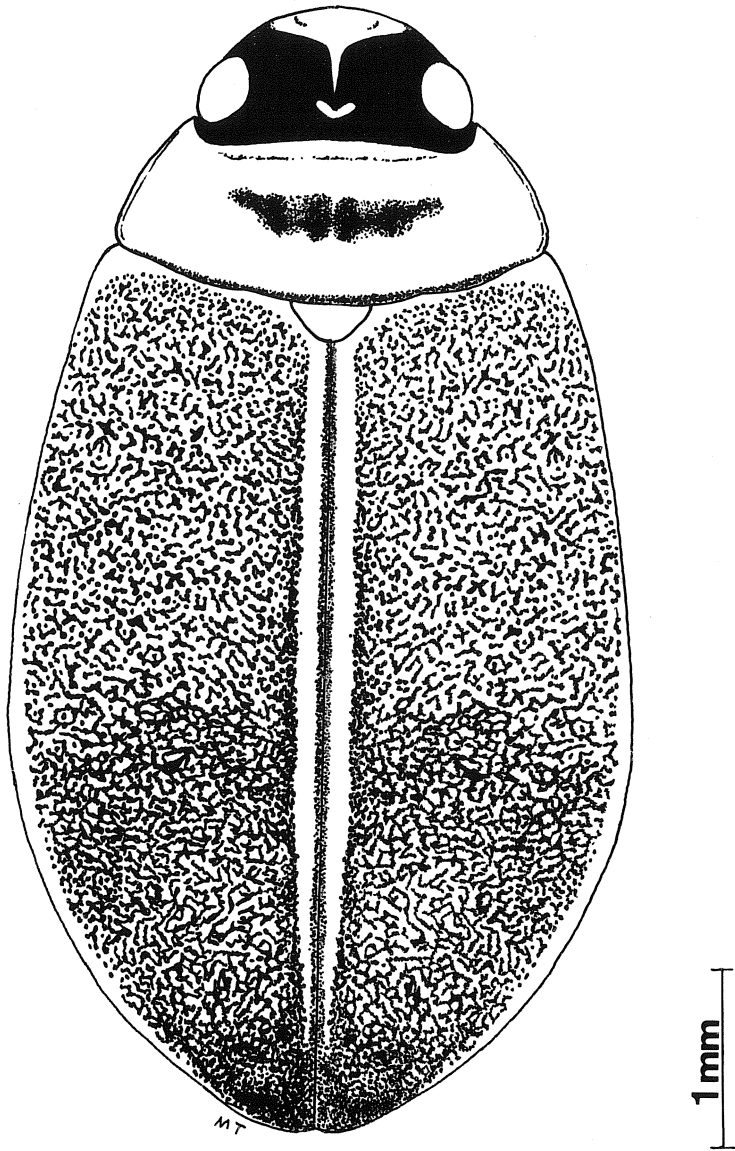


Fig. 2 - Apex of aedeagus in dorsal sight (a), aedeagus in lateral sight (b) and left paramere (c) of *Rhantus pederzanii* n. sp.

*Geographic distribution*

So far known only from Sichuan province, south-western China.

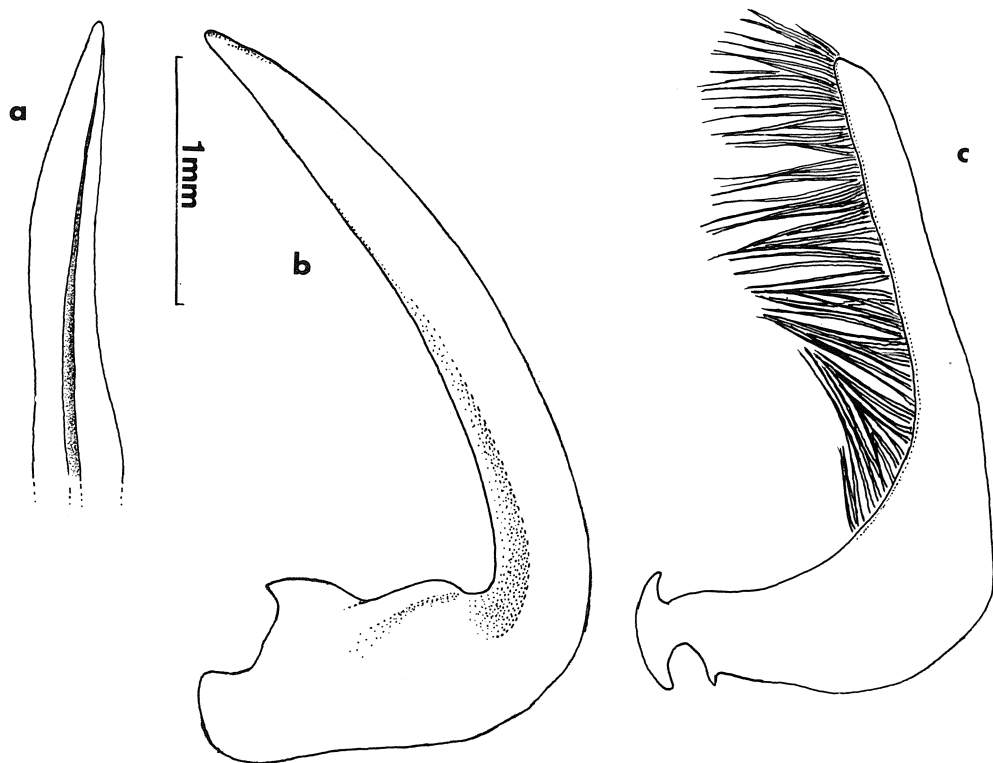


Fig. 2 - Apex of aedeagus in dorsal sight (a), aedeagus in lateral sight (b) and left paramere (c) of *Rhantus pederzanii* n. sp.

### Discussion

The new species appears to be close to *yessoensis* Sharp, described from Japan and also recorded from China, to which it is similar in size, sculpture and shape of male fore-claws. Although it was not possible for us to see specimens of *yessoensis*, it appears evident from the descriptions of *yessoensis* in ZIMMERMANN & GSCHWENDTNER (1936) and ZAITZEV (1953) that *pederzanii* can be differentiated from *yessoensis* by the following characters: slightly bigger size (14-15 mm in *pederzanii* n.sp., against 13-14 in *yessoensis* Sharp), which makes *pederzanii* the biggest palaeartic *Rhantus*; black markings on the head more extended; claws of male protrarsi very long with outer claw longer than three quarters of the inner claw; penis first sharply bent and then almost straight, not regularly curved as in *yessoensis*.

Furthermore, the two species seem to have a different geographic distribution, as *yessoensis* is known from Japan (SHARP, 1891), Korea: Quelpart Island (LEE *et al.*, 1992), east-central China: prov. of Fujian and Jiangxi (ZIMMERMANN, 1920; FENG, 1932-33 and 1933-34) while *pederzanii* is known only from Sichuan, more to the west.

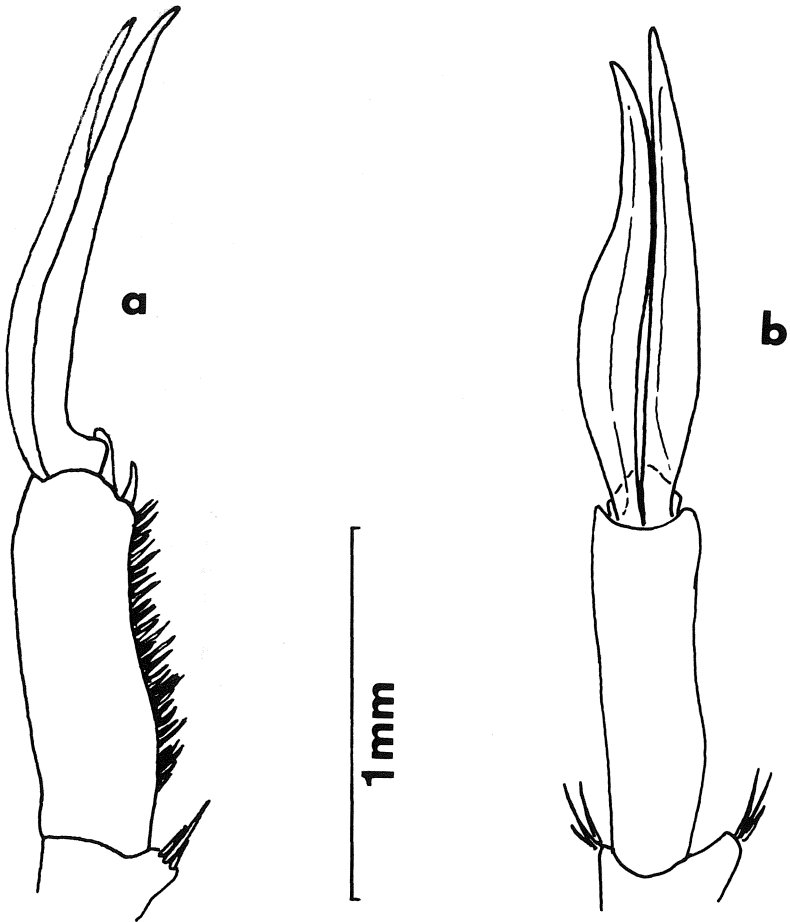


Fig. 3 - Left protarsal claws of *Rhantus pederzanii* n. sp. in lateral sight (a) and dorsal sight (b).

### ***Hydroporus nanpingensis* n. sp.**

#### *Type material*

Holotype: 1 ♂ labelled China, N Sichuan, 30 Km W of Nanping, 13-15.VI.1992, Juzhaigou, 3100 m, Jaroslav Turna leg. (the holotype is slightly damaged, lacking the left posterior leg and the last 4 tarsomeres of the right posterior one), CMSB; paratypes: 2 ♂, 2 ♀, same locality as holotype (all more or less damaged, unfortunately no complete specimen is available), PM.

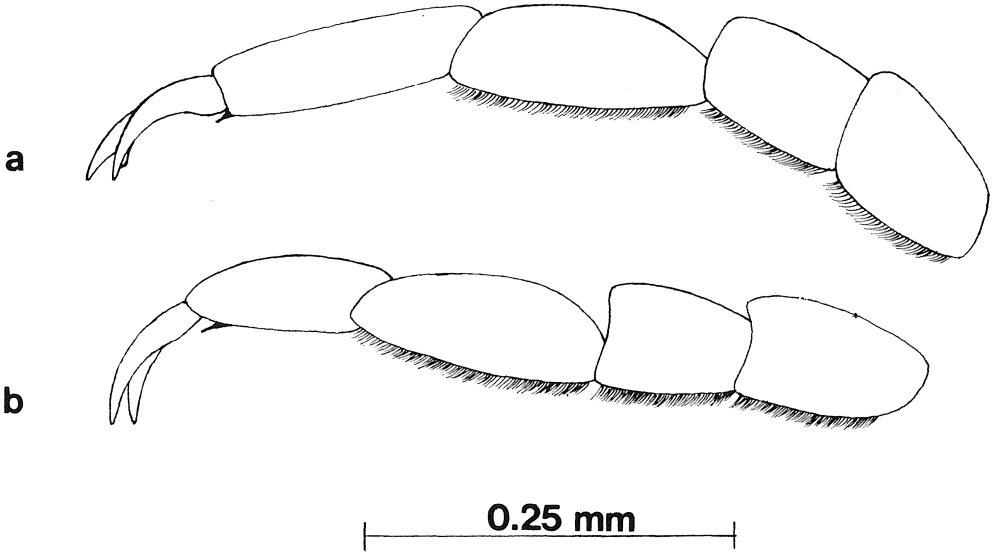


Fig. 4 - Right protarsi of *Hydroporus uenoi* Nakane (a) and *Hydroporus nanpingensis* n. sp. (b).

### *Description*

A small, piceous *Hydroporus*; body shape oval somewhat elongate, with a slight constriction at the level of pronotal hind angles. Length 3.4-3.7 mm, width 1.7-1.8 mm, with maximum width at about the middle of the elytral length.

Head dark piceous, lighter coloured (reddish) only on clypeus and vertex. Two slight depressions are visible between the eyes, and the whole surface is covered by an evident reticulation formed by small, regular, polygonal meshes and by a rather thick and strong punctation. Antennae with the first four articles testaceous, the others darkened; articles 3-10 about twice as long as broad.

Pronotum dark piceous with narrow but distinct lateral bead, lateral sides weakly curved; pronotal surface covered by a regular reticulation of small polygonal meshes and by a strong and thick punctation, the punctures being much thicker along the anterior and posterior border than on pronotal disc.

Elytra dark piceous, covered by a reticulation of small, polygonal meshes and by a strong and thick punctation.

Underside black.

Legs rufous to dark brown, male pro- and mesotarsomeres weakly dilated, with protarsal claws slender, not differentiated (fig. 4a). Penis as in fig. 5a, female gonocoxa and gonocoxosternum as in figs. 6a and 6b.

### *Derivatio nominis*

The new species takes its name from the city of Nanping, near which it was collected.

*Geographic distribution and ecology*

So far known only from the type locality in Sichuan province, China. In this locality, which is a high altitude lake, it was collected together with *Nebrioporus sichuanensis* Hendrich & Mazzoldi, recently described (HENDRICH & MAZZOLDI, 1995), with which it must evidently share ecological requirements.

*Discussion*

The species clearly belongs to the group *tristis* and is closely related to *uenoi* Nakane and *ijimai* Nilsson & Nakane, recently revised and respectively described by NILSSON & NAKANE (1993). Thanks to the kindness of prof. Nilsson, who checked the determination of some specimens of *uenoi*, from eastern Siberia (Primorskii Krai, Ussuriisk, Kaimanovka, 2-9.VIII.1992, leg. Boukal, 4 exx.; Amurland, Komsomolsk na Amur, Gornij Vill.,

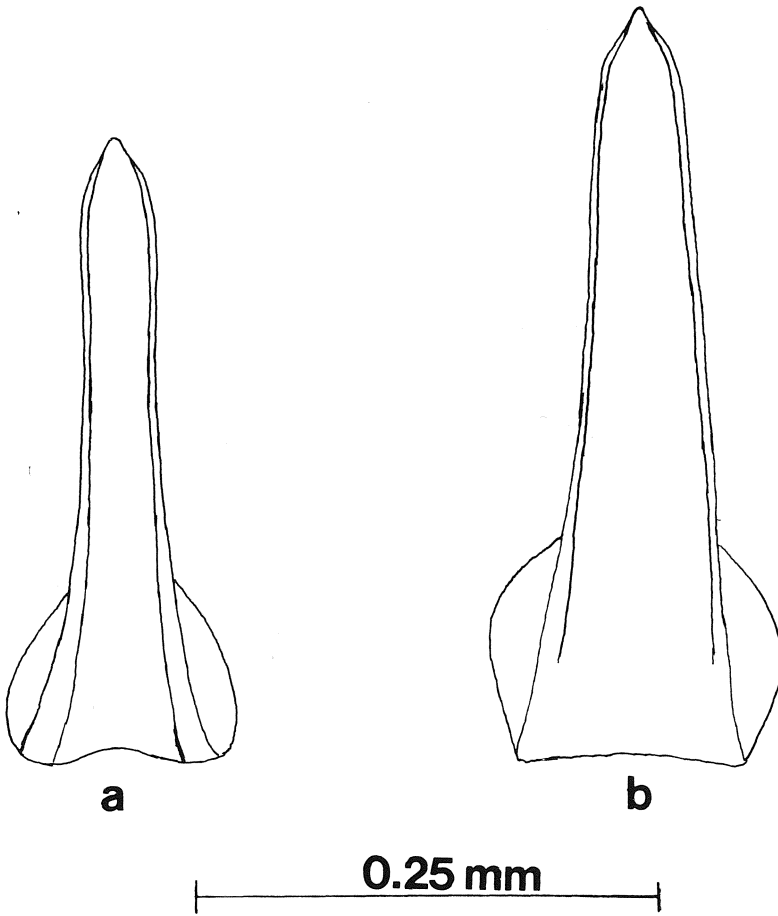


Fig. 5 - Aedeagus in dorsal sight of *Hydroporus nanpingensis* n. sp. (a) and *Hydroporus uenoi* Nakane (b).

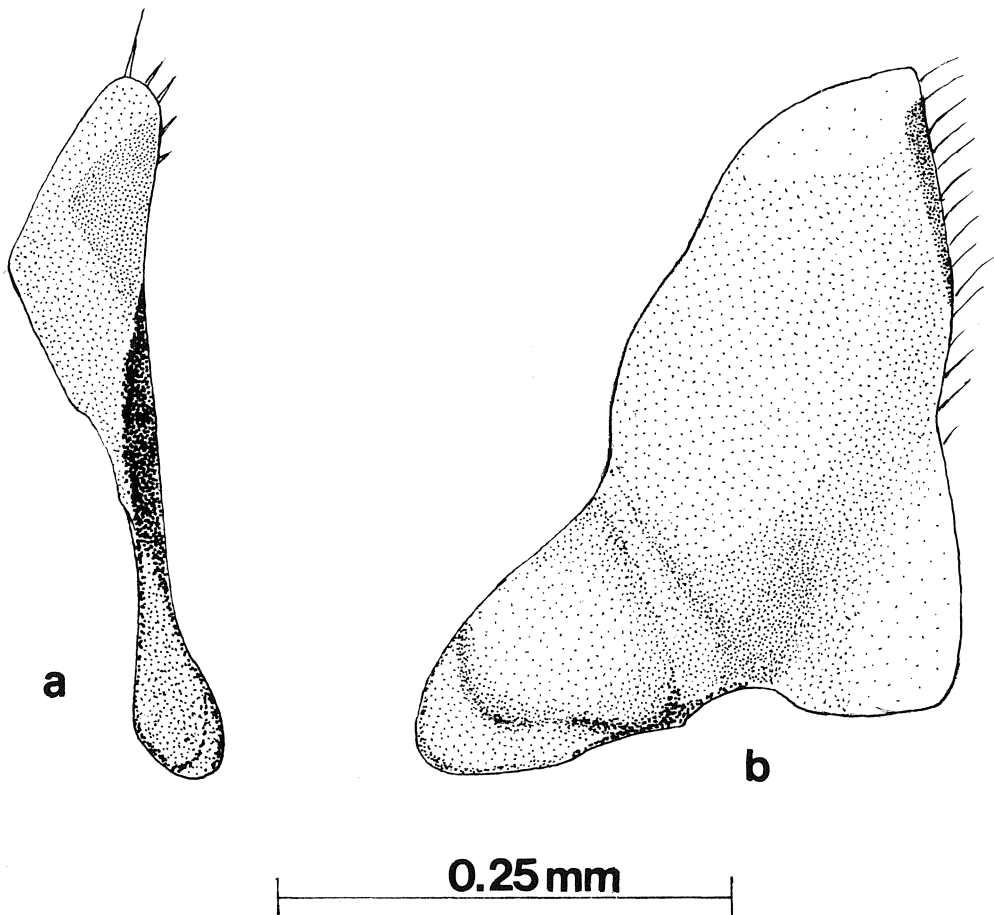


Fig. 6 - Right gonocoxa (a) and right gonocoxosternum (b) of *Hydroporus nanpingensis* n. sp.

2.VII.1993, leg. Gorodinsky, 5 exx all in MT and PM), we were able to compare *nanpingensis* with *uenoi*, from which the new species can be easily differentiated by: a) the protarsal claws not differentiated (in *uenoi* the anterior protarsal claw is weakly but distinctly differentiated, more robust and somewhat shorter, see figs. 4a and 4b); b) the punctures on the surface of head, which are distinctly bigger in *nanpingensis*; c) the colour of body, and in particular of elytra, which is darker in *nanpingensis*; d) the shape of penis, which although very similar is distinctly slenderer in its distal part in *nanpingensis* (see figs. 5a and 5b). We could not see *ijimai* Nilsson and Nakane, but from this species *nanpingensis* may be easily distinguished because of the undifferentiated protarsal claws, as these are even more strongly differentiated in *ijimai* than in *uenoi*. Obviously, the three species also have a different geographic distribution, since *ijimai* is known only from Hokkaido, *uenoi* from Hokkaido, Honshu and eastern Siberia and *nanpingensis* only from Sichuan.



## ACKNOWLEDGEMENTS

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