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ON SOME CHINESE *AGABUS* AND *HYDRONEBRIUS*
(*Coleoptera Dytiscidae*)

ABSTRACT - PEDERZANI F., 2002 - On some Chinese *Agabus* and *Hydronebrius* (*Coleoptera Dytiscidae*).

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New records of *Agabus* Leach and *Hydronebrius* Jakovlev from Sichuan and Yunnan (SW China) are reported.

KEY WORDS - *Coleoptera*, *Dytiscidae*, *Agabus*, *Hydronebrius*, Sichuan, Yunnan, China.

RIASSUNTO - PEDERZANI F., 2002 - Su alcuni *Agabus* e *Hydronebrius* della Cina (*Coleoptera Dytiscidae*).

Si forniscono nuovi dati sulla distribuzione e le caratteristiche morfologiche delle seguenti specie: *Agabus longissimus* Régimbart, 1899, *Agabus brandti* Harold, 1880, *Agabus (Dichonectes) lobonyx* Guignot, 1952, *Agabus friedrichi* (Falkenström, 1936) e *Hydronebrius amplicollis* Toledo, 1994. Il materiale cinese oggetto dello studio è stato raccolto recentemente da ricercatori della Repubblica Ceca.

PAROLE CHIAVE - *Coleoptera*, *Dytiscidae*, *Agabus*, *Hydronebrius*, Sichuan, Yunnan, Cina.

The «diplomacy of détente» during last decade opened up the innermost provinces of China to botanists and zoologists and made it possible a dramatic rise of the naturalistic knowledge of that area. With regard to entomology, besides official enterprises such as the XIXth International Congress of Entomology in Beijing (July 1992) and – as for aquatic Coleoptera – the establishment of the «China Water Beetles Survey» by the Naturhistorisches Museum in Wien, a great field work has been carried on by private collectors, principally Czech entomologists, whose collections provided both Museums and other students with materials of inestimable scientific value.

This paper deals with a few interesting species of Dytiscidae of the genera *Agabus* Leach and *Hydronebrius* Jakovlev, from Sichuan and Yunnan, supplied by Czech collectors.

Agabus longissimus Régimbart, 1899

I got 1 ♂ and 2 ♀♀ of this rare and beautiful species, labelled: China, W Sichuan, Kangding Co., Gongga Shan Mts. N part, 3200-4600 m, SW of Kangding, 2-9.VI.2001 leg. L. & R. Businský. BRANCUCCI (1983) cleared up the taxonomy and the distribution of this *Agabus*, and NILSSON (1995) updated the information. ŠTASTNÝ (1996) also reports this species from oligotrophic water habitats in subalpine and alpine zones of Sichuan and Qinghai, without detailed locality data. My specimens are wholly black; they are respectively 11.2, 11.2 and 11.6 mm long (the longest is a female). The specimens studied by Brancucci were 9 to 10.5 mm long, while ZAITZEV (1953) gives 10 to 11 mm. My records raise the maximum length up to 11.6 mm. All sexual characters fit in with the figures by Brancucci.

Agabus brandti Harold, 1880

I received from Lars Hendrich (Berlin) 1 ♂ and 2 ♀♀ of the series collected by S. Bečvář near Lijiang, 1800 m, 23.VI-21.VII.1992, (NILSSON, 1995). Besides those specimens, I have 2 ♂♂ and 2 ♀♀ labelled: Yunnan, Heshui, 35 Km N Lijiang, 18.VI-4.VII.1993, 27°13' N – 100°19' E, leg. S. Bečvář, and 1 ♀ labelled: S Sichuan, Baliang Shan Mts. Zhaojue vill. env., Xichang-Meigu vill., VI.98, leg. Trýzna.

Agabus (Dichonectes) lobonyx Guignot, 1952

Material: China, W Sichuan, Kangding Co., Gongga Shan Mts. N part, 3200-4600 m, SW of Kangding, 2-9.VI.2001 leg. L. & R. Businský, 2 ♂♂ and 2 ♀♀. I assign this material to *Agabus lobonyx* Guignot, although some characters slightly differ from those found in literature. This is why I give a detailed description of my specimens.

Length 6.97 to 7.28 mm, width 3.43 to 3.69 mm. GUIGNOT (1952) gives 6.5-7 mm; ŠTASTNÝ (1996) gives 6.4-7 mm. The habitus is well represented by figure 1 in ŠTASTNÝ (1996).

Elongate, sub-parallel and fairly convex, with a slight pronoto-elytral constriction.

Head black with two small red spots behind. Pronotum black, with maximum width near base and regularly curved sides, except for near the anterior angles that appear slightly protruding; basal angles rounded;

sides with a thin ridge; anterior submarginal series of punctures not broadly interrupted in the middle; sub-basal series of coarse punctures widely interrupted in the middle; shallow latero-basal impressions; width of base almost as large as base of elytra; sculpture of well impressed polygonal meshes. Scutellum black. Elytra black or brownish black, without red spots but reddish at apex; loops of network denser and more distinct than on pronotum, especially so in females; longitudinal rows formed by a few coarse and shallow punctures in the anterior half, more numerous but confused in the posterior half; lateral line of elytra rising to the shoulders almost in a straight line. Underside pitchy black, with obsolete reticulation and traces of a transverse striolation on abdomen; lateral wings of metathorax broadly triangular; prosternal process very convex but not keeled, pointed at apex; small pre-apical fringe of setae at the inner (posterior) angle of femur; last sternites with a ridge on the posterior margin.

Legs fairly long; femurs black with reddish knees, tibiae and tarsi reddish brown; last segment of hind tarsi almost as long as third and fourth together; posterior claws of equal length. Antennae reddish, darkened towards apex; last joints brown; only the first joint entirely red. Palpi brown.

Male. Smaller and darker than female; average length of my specimens: 6.99 mm, width 3.43 mm. Basal joints of fore and mid tarsi widened, especially the first one which is very large, in mid tarsi as long as the three following joints together; first and second joints provided with dense adhesive setae on the plantar side, claws of fore and mid tarsi of regular shape and length, but the inner (anterior) claw of fore tarsi with a pointed, anteriorly directed denticle in the middle (Fig. 3). Last visible sternite with a few coarse and shallow punctures near posterior margin. Median lobe of aedeagus hardly asymmetrical in dorsal view (Fig. 1), broader and shorter than in *A. biguttatus* and almost straight at apex; in lateral view (Fig. 2) it is moderately curved in the middle and strongly bent downwards at apex. The tip slightly differs from figure 3 in ŠTASTNÝ (1996). Right paramer as in fig. 4.

Female with reddish and mat elytra, larger than male: average length of my specimens 7.2 mm, width 3.64 mm.

This species is characterised by small size, slight pronoto-elytral constriction, shape of the aedeagus and large denticle at the inner fore claw of male.

Agabus friedrichi (Falkenström, 1936)

I studied 2 ♀♀ from Sichuan, Gongga Shan Mts. (label data as *Agabus lobonyx*) and identified them as *Agabus friedrichi* by the key of ZAITZEV

(1953) principally on the basis of their colour pattern, and after comparison with specimens of *Agabus dichrous* Sharp from Middle Asia. The identification needs the examination of a male.

I doubtfully assign to this species a series from Kirghizia, Sussamyr valley, 6.V.2000, leg. Danilevsky, with a high contrast of black and yellow colour on head and pronotum, and with the inner fore claw of male endowed with an obtuse denticle unusually placed near the apex of the claw (Fig. 5). ZAITZEV (1953) reported three specimens from the same locality: «I consider 3 specimens from eastern Kirghizia (Susamyr, Sumakov) as belonging to this species». Owing to the geographical gap between Kirghizia and Sichuan and the differences between the two populations, I wonder whether they belong to the same species.

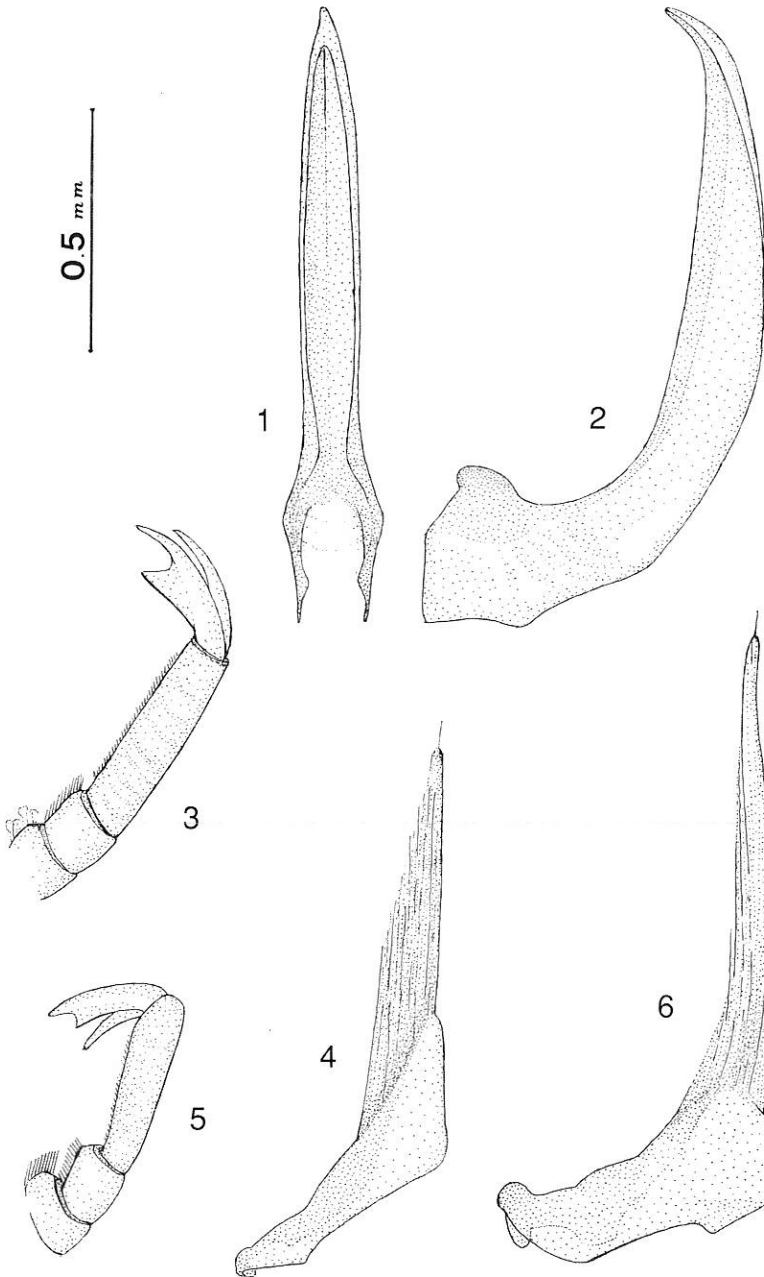
Hydronebrius amplicollis Toledo, 1994

I have a male specimen from Sabde, the type locality, labelled: Sichuan, Sabde, 24-28.VI.2001, leg. E. Kučera. It is smaller than the single type specimen reported so far: length 7.96 mm, width 3.95 mm, versus 8.7 and 4.4 mm of the holotype. In dorsal view it resembles an *Agabus* subg. *Dichonectes*, however the peculiar characters of the ventral side, above all the lack of setae near the inner (posterior) apex of hind femurs, undoubtedly take the species away from the genus *Agabus*. The rough dorsal sculpture and the hardly widened fore tarsi of male are good characters to identify the species at sight. The median lobe of the aedeagus corresponds to the figure by TOLEDO (1994). The paramers are of agabine structure, with the apical piece very long and narrow (Fig. 6). This species is reported also from Yunnan, in collection Wewalka, Wien (NILSSON, 1995).

In addition to the above listed species, I have some more unidentified taxa of *Agabus* from SW China, belonging to the *japonicus* and *congener* groups, with twin-pointed penis. These groups are in need of a revision (NILSSON, 1995) and a partial taxonomic study is inappropriate and even impossible with scarce reference material.

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Figgs. 1-4. *Agabus lobonyx* Guignot ♂: 1. Penis, dorsal view; 2. Penis, side view; 3. last joints and claws of right fore tarsi; 4. Right paramer. Fig. 5. *Agabus friedrichi* (Falkenström, 1936) from Kirghizia ♂: Last joints and claws of right fore tarsi. Fig. 6. *Hydronebrius amplicollis* Toledo, 1994 ♂: Right paramer.

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