

Description of two new *Berosus* SHARP from Southeast Asia, with faunistic notes on *Berosus nigropictus* RÉGIMBART (Coleoptera: Hydrophilidae)

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Abstract

Berosus (s.str.) *schillhammeri* sp.n. from Laos and *B. vietnamensis* sp.n. from S-Vietnam are described. The relationship to other species is discussed. The habitus of *B. schillhammeri*, and the aedeagi and other morphological features of both species are illustrated. New distribution data of *B. nigropictus* are given.

Key words: Coleoptera, Hydrophilidae, Hydrophilinae, *Berosus*, new species, new records, Oriental Region

Introduction

A great many Oriental *Berosus* have been studied since the revision of the Oriental species of the genus was completed (SCHÖDL 1992, 1993). All these specimens could be assigned to previously described species. The possibility that new species might surface seemed rather small. It was therefore very surprising that two new species with very distinct features were found during recent scientific study trips to Vietnam in 1995 and to Laos in 1996.

The two new species are placed in the subgenus *Berosus* s.str. (sensu SCHÖDL 1994, 1995a, b) owing to their external morphological characters, but they cannot be assigned to any of the species groups established hitherto. They most resemble representatives of the Ethiopian *rubiginosus* species group and Australian species of *Berosus* s.str. (no species groups have been established in this region up until now), but both are easily distinguishable by the distinct features of the aedeagus. The two species are closely related and represent a new distinct species complex within *Berosus* s.str.

The material treated in this paper is deposited in the Naturhistorisches Museum, Wien (NMW) and in the Muséum national d'Histoire naturelle, Paris (MHNP).

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Berosus (s.str.) *schillhammeri* sp.n.

TYPE MATERIAL: Holotype ♂, by present designation: "S-LAOS: Prov. Champasak ca. 50km S Pakse, Umg. Ban Phatoumphone 23./24.5.1996, 50-100m leg. Schillhammer (1a)" (NMW). Paratypes: 2 exs. ♂♀, with same data as holotype; 3 ♂♂, "C-Laos: Prov. Viangchan Phou Khao Khouay NP Nam Leuk env. Tad Leuk Waterf. \ 1.-8.6.1996, 200m at light leg. Schillhammer (15a)" (NMW).

TYPE LOCALITY: Ban Phatoumphone env., 50 km S Pakse, Champasak province, 50 - 100 m a.s.l., at light, southern Laos.

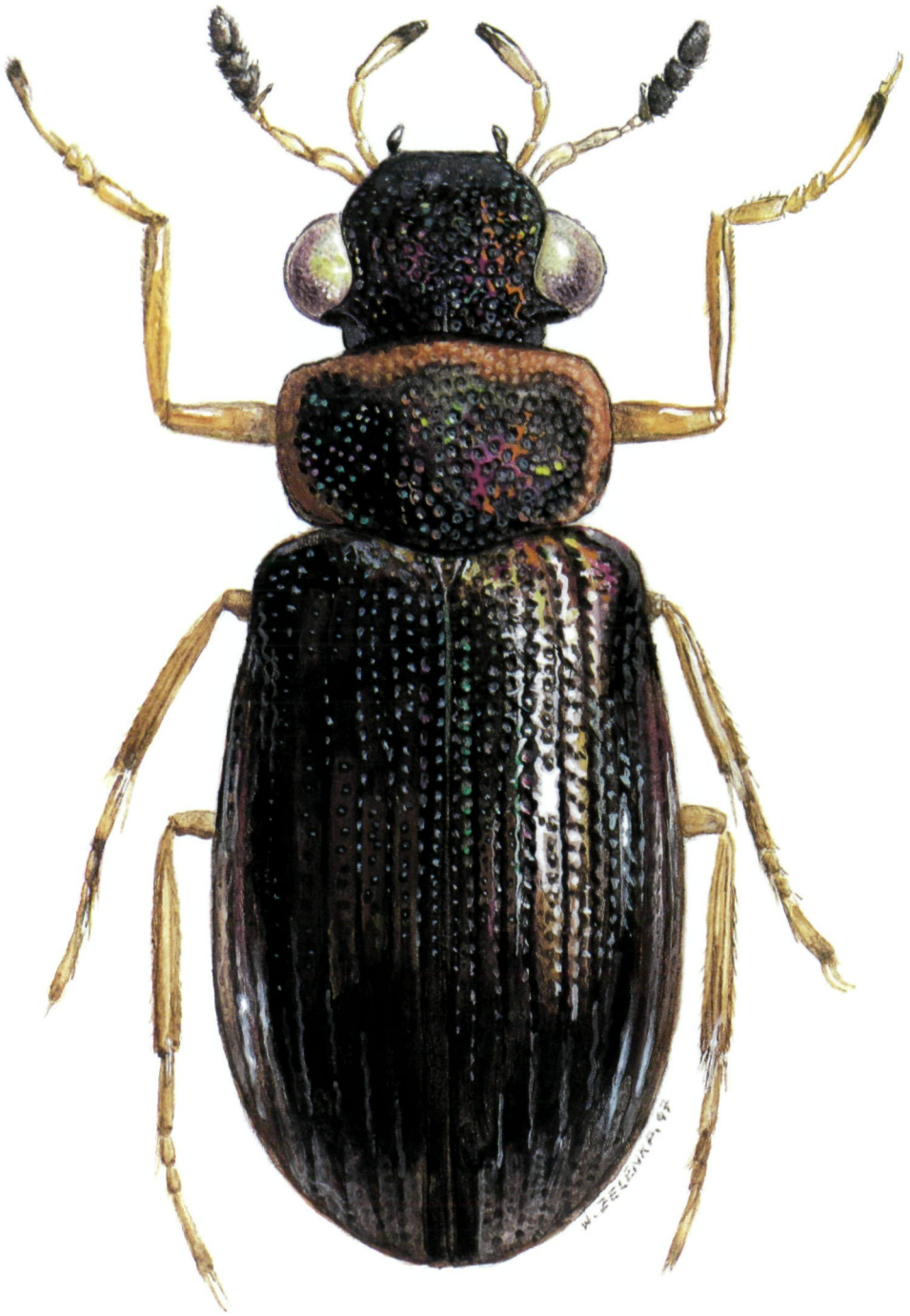
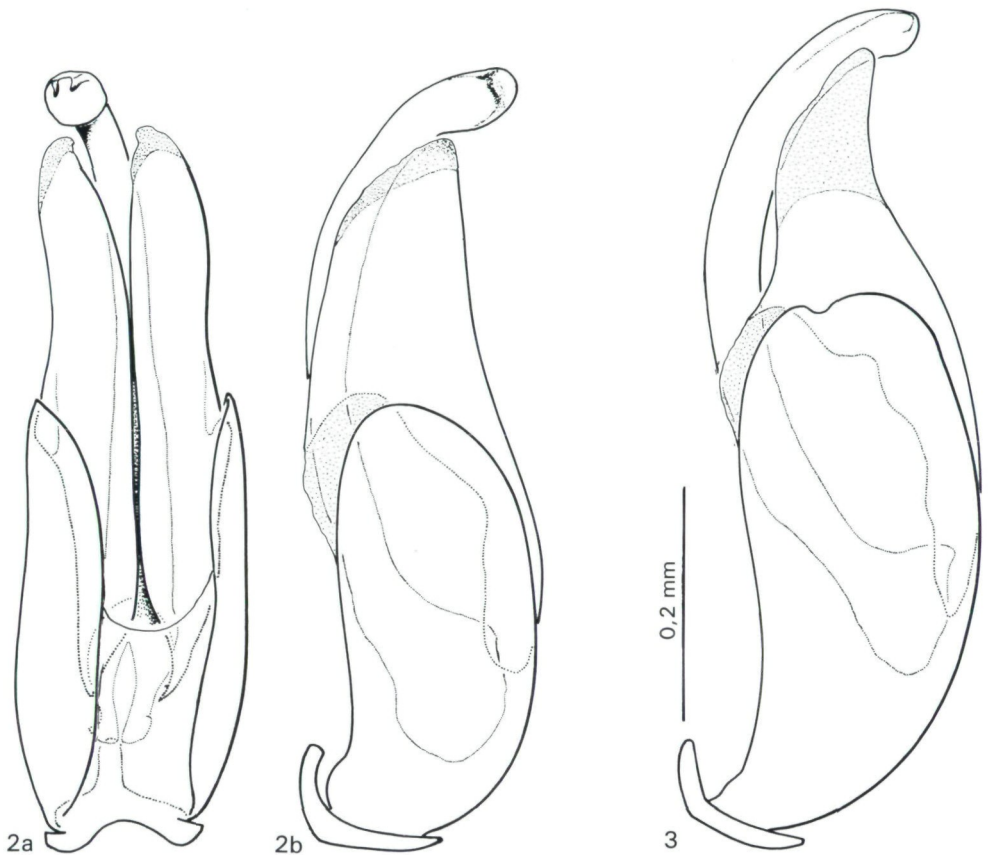


Fig. 1: Habitus of *Berosus schillhammeri*.



Figs. 2 - 3: Aedeagus of (2) *Berosus schillhammeri*, (a) dorsal view, (b) lateral view and (3) *B. vietnamensis*, lateral view.

DESCRIPTION: Small (3.0 - 3.5 mm long), dark species with bright appendages (habitus, Fig. 1). Head and pronotum densely and coarsely punctate, punctures polygonally shaped, separated by narrow ridges. Elytra with ten distinctly impressed striae and an additional scutellary stria; strial punctures large, basal striae reduced to rows of isolated punctures; strial intervals more finely punctate; 1st, 2nd and 4th - 11th intervals with single rows of regular punctures, 3rd interval with more irregularly dispersed punctures. Head black, with metallic sheen, appendages yellow. Antennal club and apex of ultimate segment of maxillary and labial palpi distinctly infuscate. Mentum pentagonal, smooth and brilliant, with laterally situated, coarse punctures. Pronotum with large median patch of similar colour as head, reaching basal margin; anterior margin and lateral margins of pronotum yellowish. Elytra brown, striae infuscate; base, humeral angles and a pair of dark patches in anterior half with faint metallic sheen. Mesosternum with median, posteriorly acutely elevated carina (Fig. 4). Metasternum elevated medially; metasternal process with distinct lateral projections; median area of process with triangle-shaped, glabrous area. First ventrite with sharp median carina; posterior margin of fifth ventrite emarginate, with two paramedian minute denticles at base of emargination (Fig. 6). Prosternum and remaining ventral surface except mesosternum rugosely punctate, with hydrofuge pubescence. Legs brownish;

femora slender, basally covered with hydrofuge pubescence, occupying about 4/5 of hind margin of meso- and metafemur and about 2/3 of front margin of profemur. Male protarsus 4-segmented, basal segment enlarged, longer than both subsequent segments combined (Fig. 9).

Aedeagus (Fig. 2a, b): Very distinct, vaguely resembling that of *B. nigriceps* FABRICIUS by the median lobe (penis) being long, slender, asymmetrical, and slightly twisted distally; median lobe deeply inserted into phallobase (basal piece); parameres weakly sclerotized, translucent apically; basal piece, as in other species, not distinct.

DIFFERENTIAL DIAGNOSIS: *Berosus schillhammeri* is very distinct both by its external appearance and the shape of the aedeagus. From *Berosus nigropictus* (*B. luridus* species group; cf. SCHÖDL 1993), which is similar in shape, it differs in the coarser punctuation of head and pronotum, the smaller average size, the pronotal patch and the aedeagus.

Both *Berosus nigriceps* and *B. pulchellus* MACLEAY (*B. nigriceps* species group) have more slender body outlines, no posteriorly elevated mesosternal carina, the pronotum only vaguely punctate and the lateral margins of the metasternal process evenly confluent. Furthermore, both species are easily separated by the shapes of their aedeagi. Recent observations have posed the question whether the *nigriceps* species group should actually be placed in *Berosus* s.str. or rather be placed near or even integrated into the subgenus *Enoplurus* HOPE because of various morphological characters (Adriana Oliva, personal communication).

Distribution (Fig. 11): So far known only from Laos.

Etymology: Named for the well known Viennese staphylinidologist Harald Schillhammer, who collected the new species.

Berosus (s.str.) *vietnamensis* sp.n.

TYPE MATERIAL: Holotype ♂, by present designation: "S-VIETNAM 40km NW An Khe Buon Luoi, 620-750m \ 14°10'N 108°30'E 28.3. - 12.4.1995 Pacholatko & Dembicky" (NMW). 1 Paratype ♀, same data as holotype (NMW).

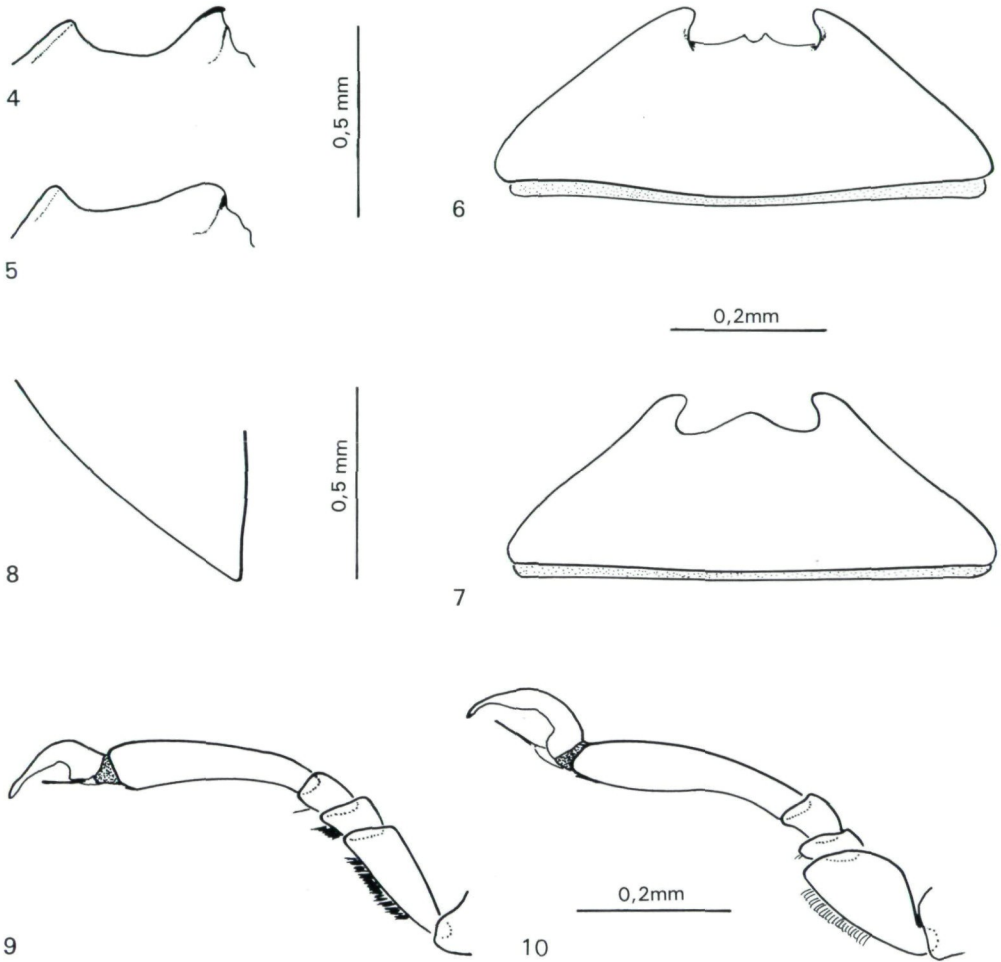
TYPE LOCALITY: 40 km NW An Khe Buon Loi, 14°10'N 108°30', 620 - 750 m a.s.l., Vietnam.

DESCRIPTION: Small (3.4 - 4.0 mm long), bright and colourful species. In external appearance, due to pattern of patches with metallic sheen, and due to the aedeagal features similar to *B. schillhammeri*.

DIFFERENTIAL DIAGNOSIS: *Berosus vietnamensis* can be separated from *B. schillhammeri* by the shape of the mesosternal carina, by the the metasternal process, and by the the emargination of the fifth sternite. Furthermore, the basal tarsal segment of the fore leg in the male and the elytra in the female show characteristic differences.

Mesosternal carina (Fig. 5) more evenly rising posteriorly, less acutely elevated; metasternal process with lateral projections more evenly rounded and less projecting posteriorly; emargination on posterior margin of fifth ventrite with only one median blunt tooth at base of emargination (Fig. 7). Pronotum in the female very finely chagreened on ridges between punctures, and the elytra with very fine reticulation between puncturation; 10th elytral interval in the female distinctly protruding in basal half, concealing elytral margins from above in that area; elytral apices in the female spiniform (Fig. 8) (in *B. schillhammeri* they are evenly rounded), and slightly diverging. Basal segment of male protarsus longer than both subsequent segments combined, and distinctly wider (Fig. 10).

Berosus vietnamensis is different from *B. nigropictus*, *B. nigriceps* and *B. pulchellus* by the same features named above in *B. schillhammeri*.



Figs. 4 - 5: Mesosternal carina (lateral aspect) of (4) *Berosus schillhammeri* and (5) *B. vietnamensis*.
Figs. 6 - 7: Fifth ventrite of (6) *B. schillhammeri*, (7) *B. vietnamensis*.
Fig. 8: Elytral apex of female of *B. vietnamensis*.
Figs. 9 - 10: Male protarsus of (9) *B. schillhammeri*, (10) *B. vietnamensis*.

Aedeagus (Fig. 3): Vaguely resembling that of *B. schillhammeri*, but different in the following characters: Median lobe long and slender, symmetrical, almost straight (in dorsal view), not twisted distally; parameres weakly sclerotized, distinctly narrowed and sinuate distally, translucent apical part more extended; basal piece, in relation to parameres longer, with shallow emargination on distal margin.

Distribution (Fig. 11): So far known only from the type locality.

***Berosus* (s.str.) *nigropictus* RÉGIMBART**

Berosus nigropictus RÉGIMBART 1903: 60. - d'ORCHYMONT 1928, SCHÖDL 1993.

Berosus javanus KNISCH 1926: 218. - d'ORCHYMONT 1932, SCHÖDL 1993 (synonymy).

General distribution (Fig. 10): Indonesia, Malaysia, Burma, Laos, Vietnam.

NEW RECORDS:

L A O S: C-Laos, Prov. Viangchan, Phou Khao Khouay NP, Nam Leuk, Tad Leuk Waterfall (at light), 1.-8.VI.1996, leg. Schillhammer (NMW); S-Laos, Prov. Champasak, c. 50 km S Pakse, Ban Phatoumphone, 50-100 m a.s.l., 23./24.V.1996, leg. Schillhammer (NMW).

V I E T N A M: "Tonkin central" (N-Vietnam), 1911, leg. Kempf (MHNP, NMW); S-Vietnam, Nam Cat Tien NP, 1.-15.V.1994, leg. Pacholatko & Dembicky (NMW).

Zusammenfassung

Berosus (s.str.) *schillhammeri* sp.n. (Laos) und *B.* (s.str.) *vietnamensis* sp.n. (S-Vietnam) werden beschrieben. Die verwandtschaftliche Beziehung zu anderen orientalischen Arten wird besprochen. Der Habitus von *B. schillhammeri*, sowie die Aedeagi und weitere Merkmale werden abgebildet. Neue Angaben zur Verbreitung von *Berosus nigropictus* werden angeführt.

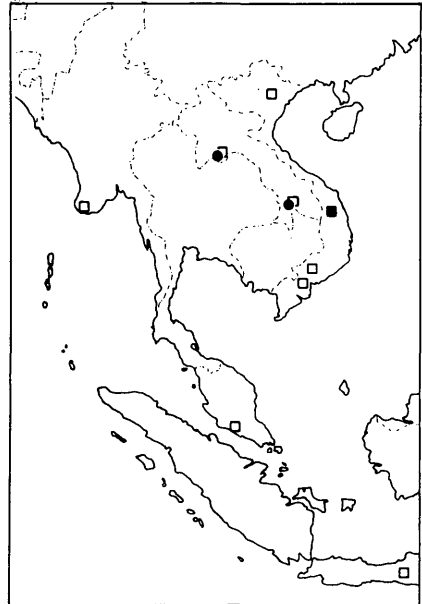


Fig. 11: Distribution of *Berosus schillhammeri* (black circles), *B. vietnamensis* (black square) and *B. nigropictus* (white squares).

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