

***Hydroporus erzurumensis* sp.n.**  
**(Insecta: Coleoptera: Dytiscidae)**  
**from north-eastern Turkey**

Ö. Köksal Erman\* & H. Fery\*\*

**Abstract**

*Hydroporus erzurumensis* sp.n. has been found in the Erzurum province in north-eastern Turkey. The species belongs to a group of *Hydroporus* CLAIRVILLE, 1806, which in the past has been treated as subgenus *Sternoporus* FALKENSTRÖM, 1930. The new species is described in detail, and its genitalia and other features are figured.

**Key words:** Insecta, Coleoptera, Dytiscidae, *Hydroporus*, *Sternoporus*, new species, description.

**Zusammenfassung**

Aus der Provinz Erzurum im Nordosten der Türkei wird *Hydroporus erzurumensis* sp.n. beschrieben. Die neue Art ist verwandt mit *Hydroporus libanus* RÉGIMBART, 1901, und gehört mit diesem und weiteren in eine Artengruppe, die noch bis vor kurzem als Untergattung *Sternoporus* FALKENSTRÖM, 1930 der Gattung *Hydroporus* CLAIRVILLE, 1806 behandelt wurde. *Hydroporus erzurumensis* sp.n. wird ausführlich beschrieben, und insbesondere werden die männlichen Genitale abgebildet, anhand derer die Art allein sicher erkannt werden kann. Weibliche Exemplare können nicht mit Sicherheit bestimmt werden. In vielen Fällen muss man sich mit der Zugehörigkeit zur Artengruppe begnügen oder kann höchstens den Fundort als Indikator für eine bestimmte Art heranziehen. Auf die Wiedergabe eines Bestimmungsschlüssels wird hier verzichtet, sie bleibt einer in Vorbereitung befindlichen Revision der gesamten Artengruppe vorbehalten.

**Introduction**

In course of the investigations of the Dytiscidae fauna of north-eastern Turkey a huge amount of material has been collected by the senior author. The results of the study of this material, which includes several interesting records, will be published in a future comprehensive work. The discovery of a new species, however, is presented here. *Hydroporus erzurumensis* sp.n. seems to be closely related to *Hydroporus libanus* RÉGIMBART, 1901, and belongs to a group of *Hydroporus* CLAIRVILLE, 1806, which cannot be determined undoubtedly without examination of the male genitalia. Thus females often can be keyed only if the locality where the specimen has been found is used as an – always uncertain – indication instead of a thorough determination. A key which includes the new species and its allies is not presented, since this must be deferred until a revision of this group is completed (in preparation).

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## Material and acknowledgements

The following acronyms are used for collections from which material has been studied:

CKE coll. Ö. Köksal Erman, Erzurum, Turkey  
NMW Naturhistorisches Museum Wien, Austria (Dr. M.A. Jäch)

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### *Hydroporus erzurumensis* sp.n.

**Type locality:** Turkey, Erzurum province, between Erzurum and Çat, ca. 35 km SW Erzurum.

**Holotype** (♂): "30.9.1999 (TR) prov. Erzurum, between Erzurum and Çat, ca. 35km SW Erzurum, Ö.K. Erman leg.", "Holotype, *Hydroporus erzurumensis* sp.n., Erman & Fery det. 2000" [red] (NMW). **Notes:** The holotype lacks the eleventh article of the left antenna.

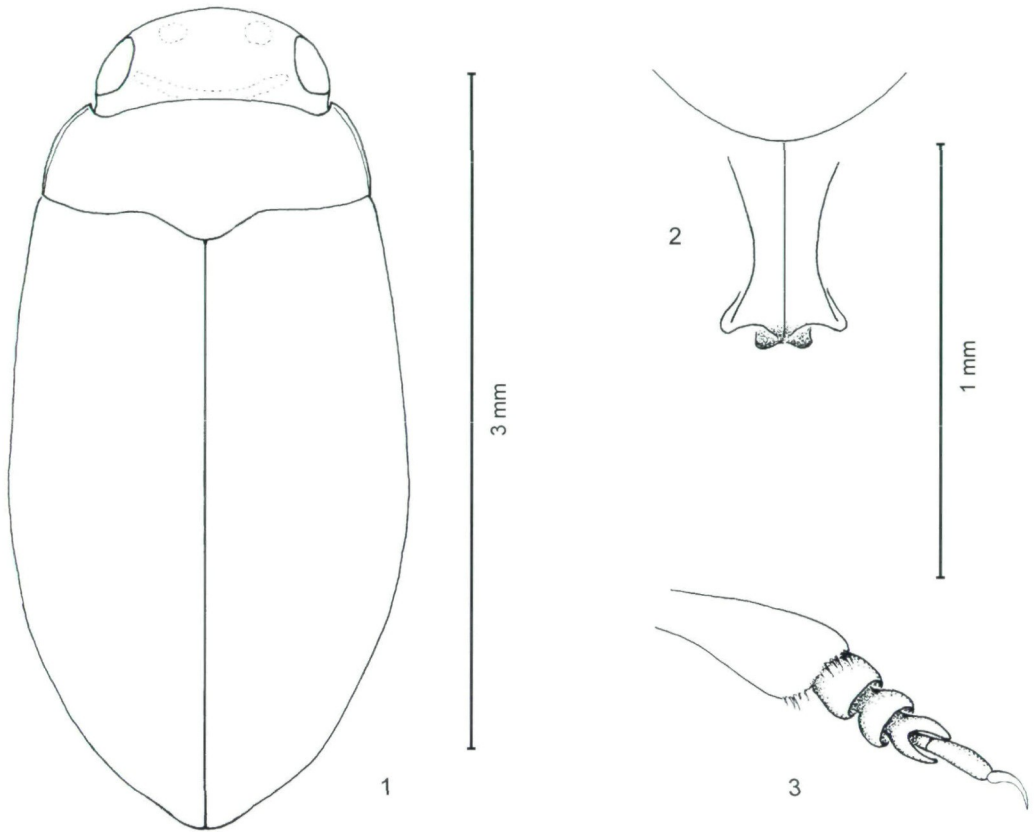
**Additional material studied:** 1 ♀, "20.7.1999 (TR) prov. Erzurum, Yedigöller, nr Uzunkavak, ca. 3000 m, ca. 20 km E İspir, Ö.K. Erman leg." (CKE). **Notes:** This female is assumed to belong to *H. erzurumensis* sp.n., but is not designated as a paratype because females in this species group cannot be determined undoubtedly.

**Diagnosis:** Habitus elongate oval (Fig. 1), maximum width situated behind middle of total length. Lateral body outline in dorsal view with a very slight discontinuity between pronotum and elytra. Almost the whole dorsal and ventral surface black. Upper surface totally microreticulated, but shiny.

Head black, vertex with a narrow transverse, slightly curved dark brown marking between hind margins of eyes; area above insertion of antennae with a very small longish brown spot. Two clypeal grooves present between anterior margin of the eyes. Punctures rather small behind anterior margin of clypeus, elsewhere somewhat coarser and on vertex a little coarser still, and sparser.

Pronotum with lateral beading rather broad; this beading indistinctly shining through brown posteriorly, rest of pronotum black. Lateral margins almost parallel in posterior third, from here to anterior angles evenly rounded. Maximum width of pronotum between hind angles. Punctuation on disc very fine and sparse, coarser and denser near margins. A distinctly depressed area present before base, near posterior angles; here punctures very dense, almost rugose, and reticulation stronger. Base of pronotum with some small wrinkles. Whole of pronotum except disc provided with indistinct setae.

Elytra black, indistinctly dark brown before apex. Punctuation rather coarse and dense, more or less uniformly distributed, except near base and suture where some smaller punctures are interspersed. Distance between punctures roughly equal to their diameter. Puncture lines absent, but punctures somewhat denser where these lines can usually be found. Setae on disc of elytra indistinct, laterally and posteriorly more distinct. In lateral view margin of elytra ascending slightly towards humeral angle. Lateral elytral beading distinct, but narrower than pronotal beading. Epipleuron in lateral view visible to humeral angle.

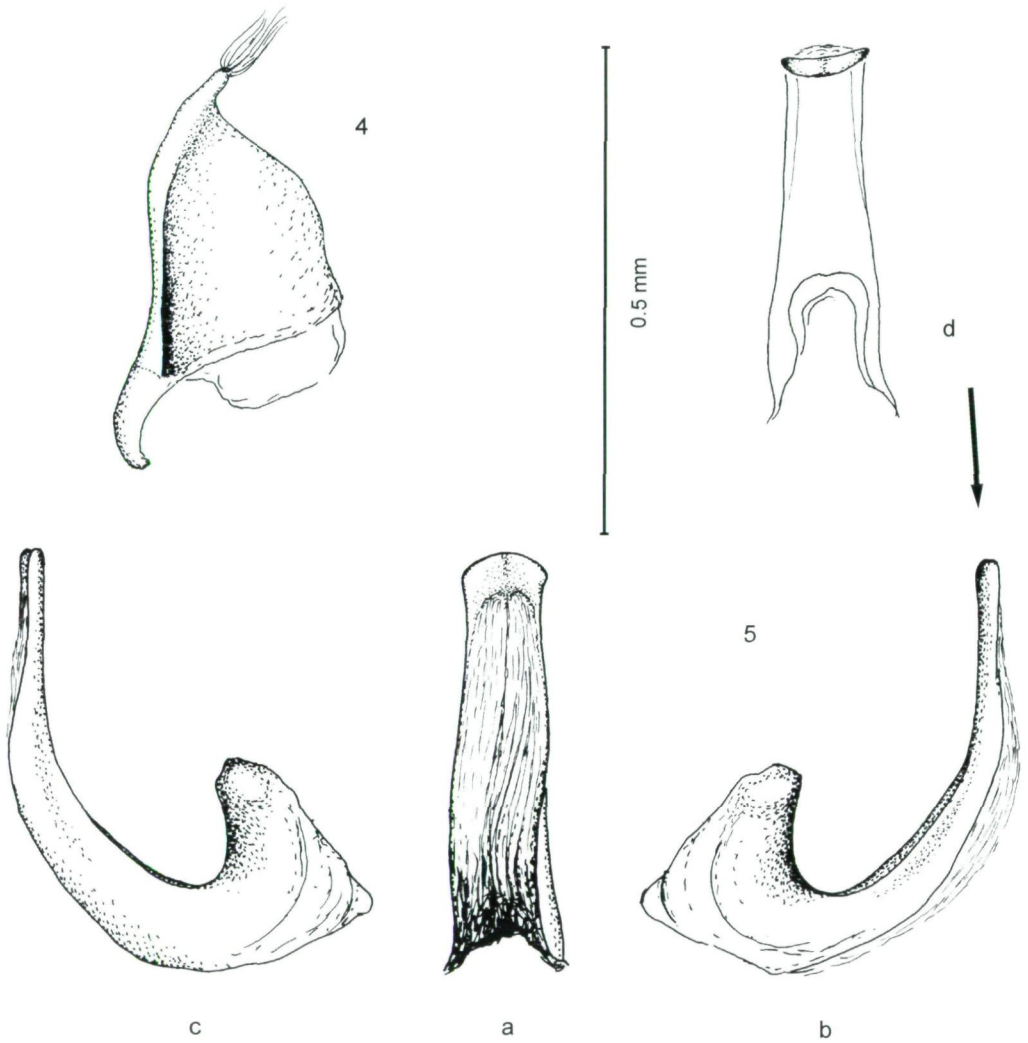


Figs. 1 - 3: *Hydroporus erzurumensis* sp.n.: (1) habitus, (2) metacoxal processes, (3) right protarsus.

Ventral surface black; posterior margin of metacoxal processes and hind margins of last abdominal sterna shining through dark brown. Gula as well as genae black. Most parts of venter microreticulated, centre of metacoxae and metacoxal processes smooth. Gula not reticulated, provided with some punctures laterally. Genae smooth close to gula, but reticulated on lateral part.

Prosternal apophysis lancet-like posteriorly, tectiform in cross-section, sides narrowly flattened, and provided with long setae. Anteriorly apophysis with a small transverse ridge, rugose sub-basally before this ridge, and without transverse grooves; apophysis not prolonged anteriorly as a narrow convexity; prosternum medially with a flat rugosely sculptured depression at the base of the apophysis.

Punctuation on epipleura and sides of metasternum coarse, on metacoxal plates a little less coarse; on centre of metasternum rather fine and sparse. First and second sternum with coarse punctures laterally; centre of second sternum and following sterna less coarsely punctured, last visible sternum more or less uniformly punctured. Most punctures on venter with a fine indistinct seta. Posterior margins of metacoxal processes sinuate and medially protruded backwards (Fig. 2).



Figs. 4 - 5: *Hydroporus erzurumensis* sp.n.: (4) paramere, (5) median lobe in dorsal (a), lateral (b from right, c from left) and in frontal view (d), the direction of which is indicated by an arrow.

Legs and mouthparts brownish, femora partially darkened. Anterior tarsomeres (Fig. 3) not dilated, anterior claws not prolonged, but curved near base and almost straight in distal two thirds. Antennae brownish, darkening of the articles – except apex of the last one – absent or extremely indistinct. Fourth article very short, shorter than articles three and five; articles five to ten rather short also, about 1.5 times as long as wide.

♂♂: Median lobe of aedeagus asymmetric (Fig. 5a-c) with apex oblique in frontal view (Fig. 5d); the arrow indicates the direction of the "frontal view" for Fig. 5d; paramere Fig. 4.

♀♀: The female from Yedigöller – probably belonging to the new species – shows no conspicuous external differences to the male. It has, however, the elytra indistinctly dark brown near the suture.

**Measurements:** Holotype (male): total length: 3.4 mm; length without head: 3.25 mm; maximum width: 1.75 mm. The single female from Yedigöller: total length: 3.75 mm; length without head: 3.4 mm; maximum width: 1.9 mm.

**Distribution:** The new species so far is only known from the Erzurum province in north-eastern Turkey.

**Derivatio nominis:** The species is named after the Turkish province Erzurum.

## Discussion

*Hydroporus erzurumensis* sp.n. belongs to a group of *Hydroporus* which have the posterior margin of the metacoxal processes strongly sinuate and medially protruded backwards (see Fig. 2), and thus in the past have been treated as belonging to the subgenus *Sternoporus* FALKENSTRÖM, 1930. Some modern authors, however, criticise the use of this characteristic as being inaccurate and arbitrary, and regard *Sternoporus* as well as *Hydroporinus* GUIGNOT, 1945 and *Hydroporidius* GUIGNOT, 1949 as junior subjective synonyms of *Hydroporus* s.str. (see e.g. NILSSON 1989: 113). Indeed there exist several species, particularly those of the *Hydroporus memnonius*-group (FERY 1999) with metacoxal processes which do not allow an undoubted subgeneric classification. For more information about this problem the reader is referred to the following works: BALFOUR-BROWNE (1934: 247 ff.), WOLFE & MATTA (1981: 150 ff.), FOSTER & ANGUS (1985: 4), NILSSON (1987: 501), and PEDERZANI (1995: 38, 66).

The following allied species have distribution areas which overlap or border on that of the new species: *H. libanus* from Lebanon and Hatay province in southern Turkey; *Hydroporus dobrogeanus* IENIȘTEA, 1962 from Italy, Austria, Bosnia, Romania, Greece, Cyprus, and Turkey; *Hydroporus jacobsoni* ZAITZEV, 1927 from Georgia. For that reason we have compared *H. erzurumensis* sp.n. with one male of *H. libanus* from the Amanos mountain range in southern Turkey (see WEWALKA 1989: 149), a male paratype and several other *H. dobrogeanus* from diverse countries, in particular from Turkey, and a few *H. jacobsoni* from Georgia, including some female syntypes. The results are as follows: The new species seems to be most closely related to *H. libanus*, but has at least a median lobe, which, in dorsal view, is distinctly broader and has the apex less rounded (compare Fig. 5 in WEWALKA (1989: 152)). *Hydroporus dobrogeanus* has the apex of the median lobe in dorsal view almost truncate and can thus not be confused with *H. erzurumensis* sp.n. (see e.g. IENIȘTEA (1962: 426, Fig. 8) and GERECKE & BRANCUCCI (1989: 49, Fig. 2; sub *Hydroporus jurjurensis* RÉGIMBART, 1895)). *Hydroporus jacobsoni* also cannot be mixed up with the new species because its median lobe in dorsal view is evenly attenuate in apical third and has a pointed tip (see also the description of the median lobe in ZAITZEV (1927: 17)).

*Hydroporus bodemeyeri* GANGLBAUER, 1900 from Albania, Greece, Bulgaria, and south-western Turkey, as well as *Hydroporus anatolicus* J. BALFOUR-BROWNE, 1963 from north-eastern Turkey, have also been treated as *Sternoporus* in the past. These species, however, can easily be separated from *H. erzurumensis* sp.n. by their more brownish coloration of the surface, and particularly by the shape of the median lobe in dorsal view, which tapers distinctly to the apex in *H. bodemeyeri* and is almost needle-like in *H. anatolicus* (see MILLER & FERY (1995: 407, Figs. 3, 5)).

### Notes on biology

There is little knowledge about the habitats preferred by *H. erzurumensis* sp.n. The holotype was found in a small pond beside the road from Erzurum to Çat, at an altitude of about 1900 m. A flow of water has not been recognisable. The female from Yedigöller was collected in a small pool without distinct seep of water, at an altitude of about 3000 m. It is assumed that these localities are not the habitats which are usually preferred by the new species. In contrast, the new species is likely to behave ecologically like closely related ones, which live in small springs, seepages, in wet terrain beneath springs etc.

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