

PAOLO MAZZOLDI* and MARIO TOLEDO*

Hydroporus hellenicus
A NEW SPECIES OF THE *palustris* GROUP
(Coleoptera Dytiscidae)

SUMMARY - A new species of *Hydroporus* from Greece belonging to the group of *H. palustris*, *Hydroporus hellenicus* n. sp., is described and compared with other species of the same group. Diagnostic characters are given and genitalia are figured. *Herophydrus musicus* (Klug) is recorded for the first time in continental Greece.

RIASSUNTO - *Hydroporus hellenicus*, una nuova specie del gruppo *palustris*. Viene descritto un nuovo *Hydroporus* della Grecia appartenente al gruppo *palustris*, *Hydroporus hellenicus* n.sp.; la nuova entità viene confrontata con altre specie dello stesso gruppo, ne vengono indicati i caratteri diagnostici e illustrati i genitali. Vengono inoltre segnalate le prime catture di *Herophydrus musicus* (Klug) per la Grecia continentale.

During a trip to Greece, we collected in Chalcidice and Thrace some specimens of an *Hydroporus* belonging to the *palustris* group. Subsequent study, and comparison of the material collected with other species of the same group, demonstrated that the above mentioned specimens must be assigned to a new species, which we describe here below.

H y d r o p o r u s h e l l e n i c u s n. sp.

Type material: Holotype: ♂, labelled GR, Chalkidiki, Paleochori, 24.VII.1989, leg. Mazzoldi P. and Toledo M., small stream, m 400; allotype, ♀, same label as holotype, MCSNB; paratypes: 38 ♂♂ and 44 ♀♀, same label as holotype, leg. Mazzoldi P. and Toledo M., 17 ♂♂ and 23 ♀♀ PM, 13 ♂♂ and 14 ♀♀ MT, 2 ♂♂ e 2 ♀♀ MCSNB, 2 ♂♂ and 1 ♀ FP, 1 ♂ and 1 ♀ LH, 1 ♂ and 1 ♀ GW, 1 ♂ and 1 ♀ SR, 1 ♂ and 1 ♀ AS; 1 ♀, Fere (Thrace), 21.VII.1989, leg. Mazzoldi P. and Toledo M., PM; River Evros mouth, 1 ♂ and 1 ♀ leg. Mazzoldi P. and Toledo M., MT.

Acronyms: MCSNB: Museo Civico di Scienze Naturali of Brescia; PM: Mazzoldi collection (Brescia); MT: Toledo collection (Brescia); FP: Pederzani collection (Ravenna); LH: Hendrich collection (Berlin); GW: Wewalka collection (Wien); SR: Rocchi collection (Firenze); AS: Schizzerotto collection (Trento).

* Centro Studi Naturalistici Bresciani

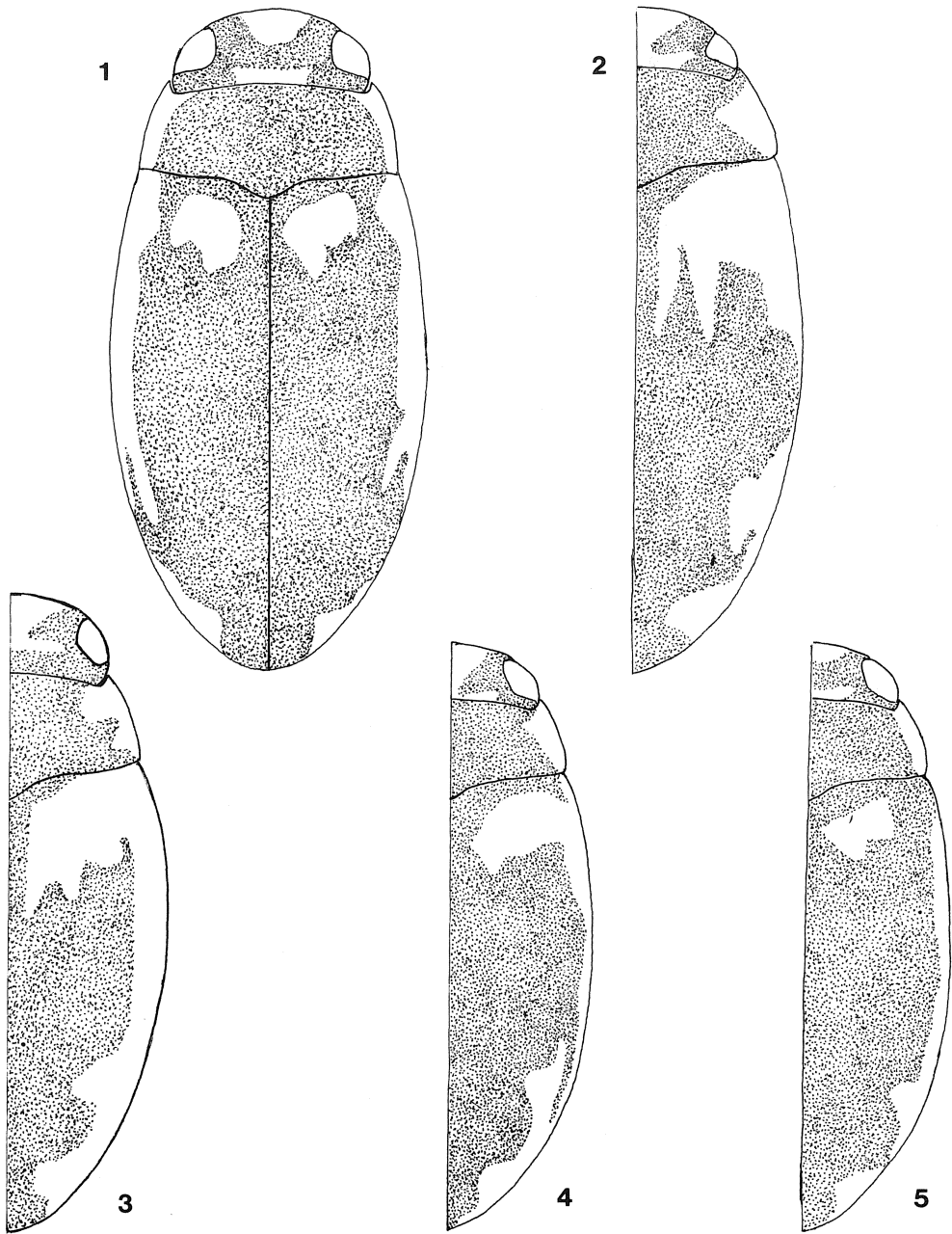
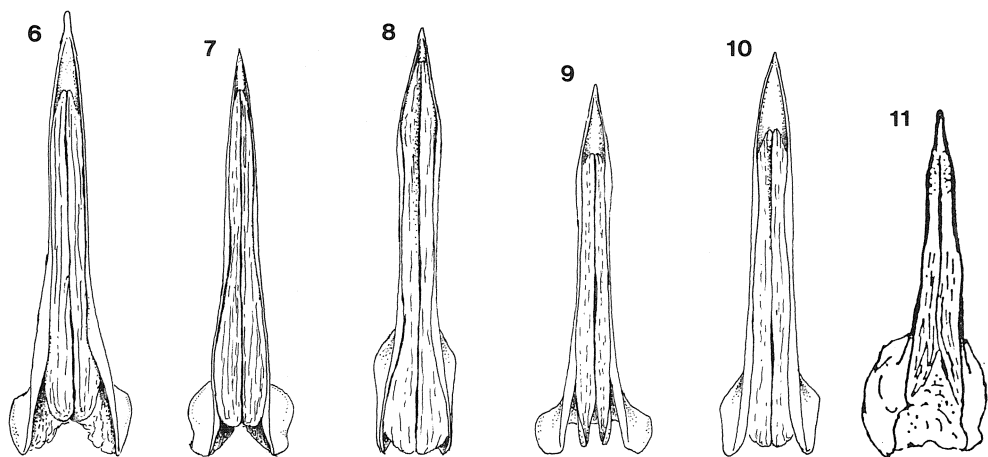


Fig. 1-5 - Habitus of 1: *H. hellenicus* n. sp.; 2: *H. vagepictus* Fairm. et Lab. (France); 3: *H. palustris* (L.) (Greece-Chalcidice, Paleochori); 4: *H. palustris* (L.) (Italy-Lombardy, Le Bine); 5: *H. palustris* (L.) (Corsica, Portovecchio).



mm 0,5

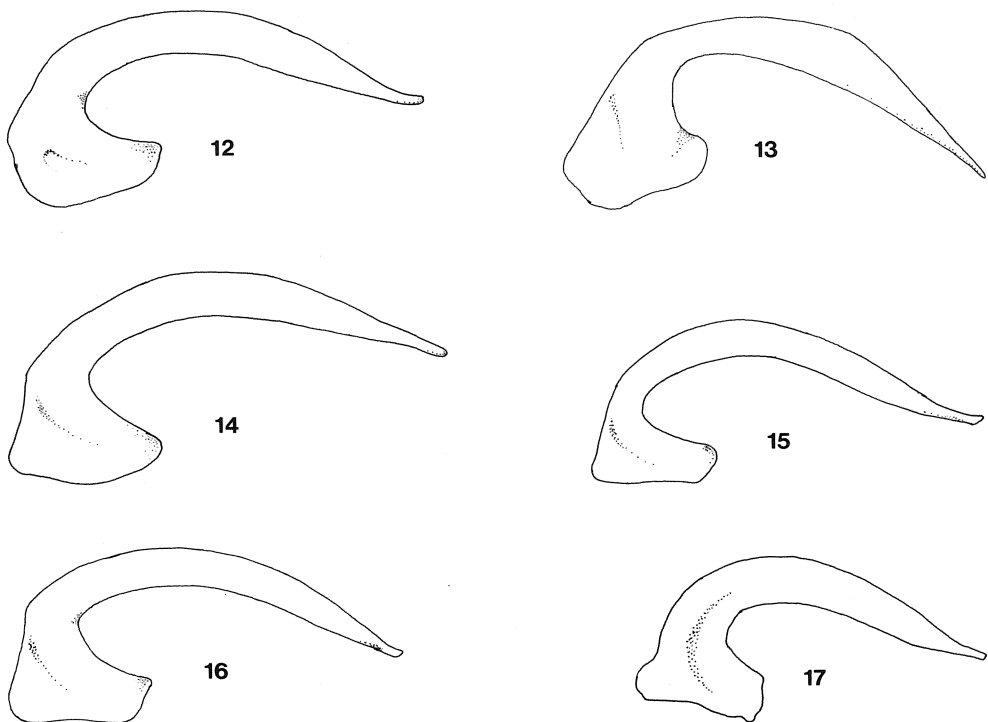


Fig. 6-17 - Aedeagi (6-11 dorsal sight, 12-16 lateral sight). 6,12: *H. hellenicus* n. sp.; 7, 13: *H. vagepictus* Fairm. et Lab. (Spain-Cantabria, Fuente Dé, Vega de Llordes); 8, 14: *H. palustris* (L.) (Greece-Chalcidice, Paleochori); 9, 15: *H. palustris* (L.) (Italy-Lombardy, Calvatone, Le Bine); 10, 16 *H. palustris* (Norway-Lapland, Mageroya); 11, 17: *H. kasyi* Wew. (Turkey, from WEWALKA, 1984).

Description

Length (4,0) 4,3-4,5 (4,6) mm; width 1,9-2,1 mm. Oval rather elongated, with angle between pronotum and elytra almost imperceptible, moderately convex, microreticulated and punctuated, sparsely covered by thin hairs, brownish-black with testaceous marking.

Head ferruginous, with two brown spots near the eyes blending together in the middle, thinly and sparsely punctuated; antennal segments brown with testaceous base, except the first 2-3 which are completely testaceous.

Pronotum brownish-black with wide testaceous band at the sides; the margins are evidently bordered and weakly arcuate, at the base almost straight; punctuation of pronotal disc rather thin and sparse, coarser and thicker near the posterior border, where a weak impression is present at both sides of the middle.

Elytra weakly microreticulated, brownish-black with testaceous marking as in fig. 1, made up by a transverse patch at the humeri and a band at the sides; the humeral patch in many specimens blends with the lateral band. The lateral margin of the elytra, seen sidewise, is very weakly arcuate.

Underside of body hairy, black except prothorax and epipleura which are testaceous, with very strong punctuation particularly on the metacoxae and the first two abdominal sternites. Prosternal process as in fig. 19; base of prosternum without transverse grooves (same fig.). Metacoxal lines well marked, weakly diverging.

Legs testaceous-ferruginous, with slightly darkened tarsal segments.

♂: inner claw of anterior tarsi slightly shorter, more arcuate than the outer, thickened; aedeagus as in fig. 6 and 12, very elongated, in dorsal sight regularly tapering from base to apex, pointed; parameres as in fig. 18.

♀: claws of anterior tarsi not differentiated, gonocoxosterna as in fig. 19.

Derivatio nominis: Adjective derived from Hellas, Greece, as the species has so far been found only in Greece.

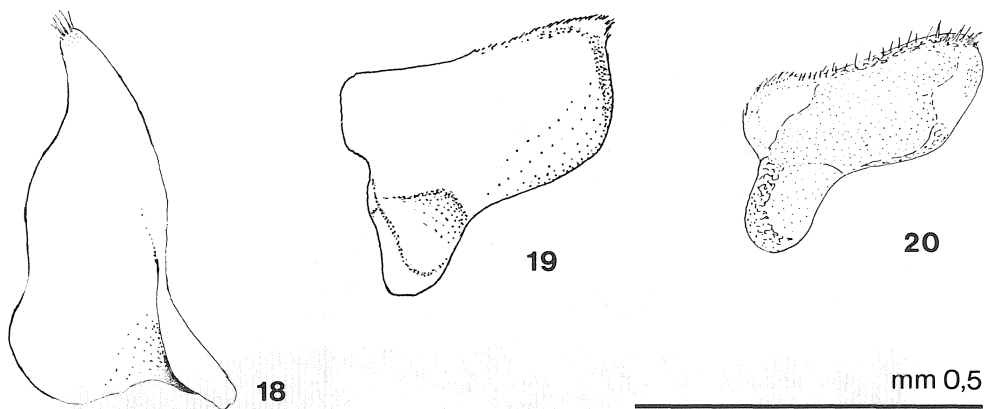


Fig. 18-20 - *Hydroporus hellenicus* n. sp., 18: left paramere; 19: right gonocoxosternum; 20: *Hydroporus palustris* L., right gonocoxosternum (from FRANCISCOLO, 1979).

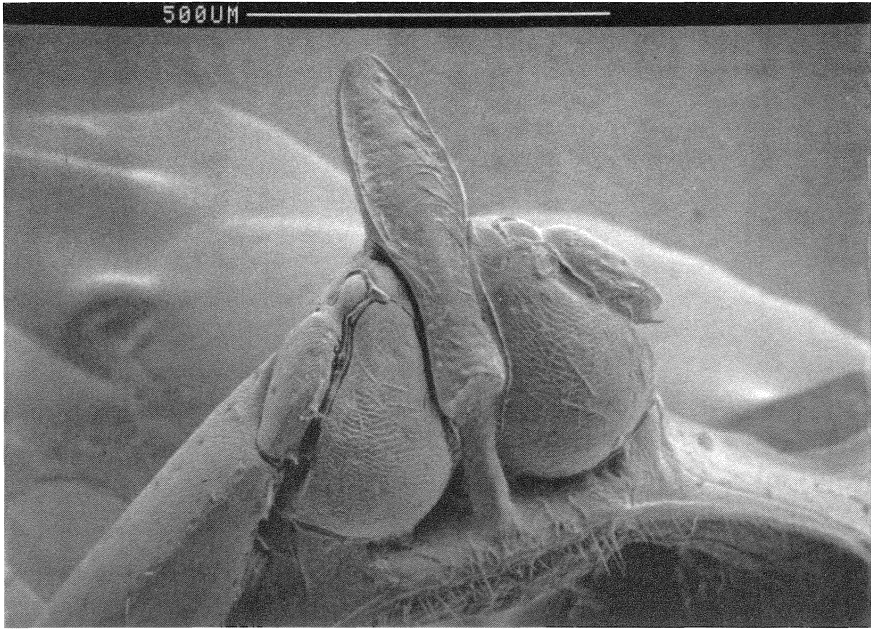


Fig. 21 - Prosternum of *Hydroporus hellenicus* n. sp.

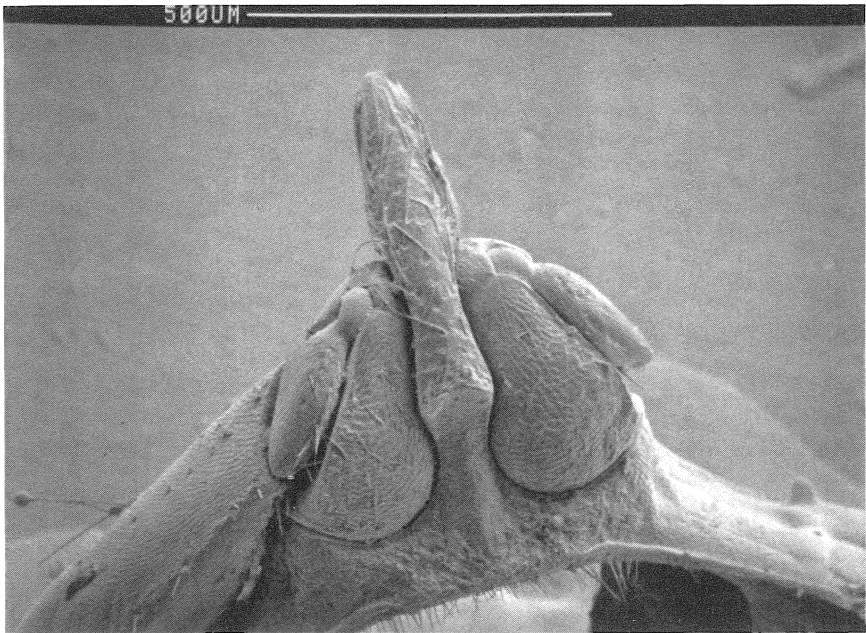


Fig. 22 - Prosternum of *Hydroporus palustris* (L.).



Fig. 23 - The typical locality of Paleochori (Chalcidice).

DISCUSSION

The new species clearly belongs to the group *palustris*, and within this group is most closely related to *Hydroporus palustris* (L.), from which it can be differentiated by: the bigger size and the shape of the body (see fig. 1, 3, 4, 5), which in *hellenicus* is more elongated with an angle between pronotum and elytra almost invisible, while in *palustris* this angle is clearly visible; the different shape of prosternum (see fig. 21 and 22); the shape of the aedeagus, which in dorsal view is more regularly tapered from base to apex while in *palustris* (L.) it is first parallel-sided and then rather brusquely tapered (see fig. 8, 9, 10 and 14, 15, 16); the shape of the gonocoxosterna (see fig. 19). The validity of *H. hellenicus* is also confirmed by the fact that at Paleochori *H. hellenicus* was associated with a rich population of *H. palustris* (at Fere only a single specimen of *palustris* could be found): beetles belonging to the two species could be easily separated and no intermediate forms were observed.

It must be noted that the specimens of *palustris* found in Chalcidice, although clearly belonging to this species, nonetheless show some differences relative to other European populations of *palustris*; bigger size (mm 3,9-4,2 against 3,3-3,9 in the other European populations) and more extended yellow markings, but at present it would not appear justified creating a new name for this form.

The shape of body and aedeagus also allows separation from the other species close to *palustris*, *Hydroporus vagepictus* Fairm. et Lab. (see fig. 2, 7 and 13), which of course has a very different geonomy too, being found only in south-western Europe (Spain, Portugal, southern France) (GUIGNOT, 1947).

We have also considered the possibility that our specimens might belong to the recently described *Hydroporus kasyi* from Turkey (WEWALKA, 1984), but Prof. Wewalka (Wien) kindly compared for us a couple of *H. ellenicus* n. sp. with the type of *kasyi* and he rules out this possibility, as *kasyi* is different for having a much sparser punctuation on the pronotal disc and for the shape of the aedeagus (see fig. 11 and 17). For safety's sake Prof. Wewalka also compared *H. hellenicus* with specimens of *Hydroporus palustris* ssp. *buressi* Maran, although the description by MARAN (1938) did not match *hellenicus*; in every case the comparison confirmed that the two taxa are different.

Another species to consider could be *Hydroporus ampliatus* Zaitzev, described from Caucasus, as according to ZAITZEV (1953) this species lacks the transverse grooves on the base of pronotum, but thanks to the kindness of Lars Hendrich (Berlin), who compared a couple of *hellenicus* with a specimen of *ampliatus* in his collection, we can rule out this possibility too.

From the other species of the group *palustris* *H. hellenicus* is easily separated by the shape of the aedeagus and the differentiated inner claw in the male (and the absence of transverse grooves on the base of prosternum, although this character is difficult to appreciate).

GEONEMY AND ECOLOGY

The beetle is known only from the three typical localities above listed, in Thrace and Chalcidice.

The biotope of Paleochori (Chalcidice) was a small stream with clear, slowly flowing water and abundant vegetation (*Nasturtium* sp., *Lemna* sp. and along the shores *Typha* sp.) (see fig. 23); the bottom was gravelly with mats of green algae. The associated species of Hydradephaga were *Gyrinus substriatus* Steph., *Hydroporus pubescens* (Gyll.), *Hydroporus palustris* (L.), *Graptodytes veterator* Zimm., *Scarodytes halensis* (F.), *Laccophilus hyalinus* (Deg.) *Agabus didymus* (Ol.), *Agabus chalconatus* (Panz.), *Agabus skyathos* Hint., *Agabus bipustulatus* (L.), *Illybius fuliginosus* (F.), *Ilybius ater* (Deg.), *Dytiscus marginalis* L.

The biotope near Fere was an isolated pool on a dry stream bed, with muddy bottom and extended mats of *Chara* sp. The associated species of Hydradephaga were *Peltodytes caesus* (Duft.), *Haliphys lineatocollis* (Marsh.), *Haliphys fluviatilis* Aubé, *Haliphys variegatus* (Sturm), *Haliphys flavicollis* Sturm, *Haliphys mucronatus* Steph., *Hydrovatus cuspidatus* (Kunze), *Hyphydrus ovatus* (L.), *Bidessus minutissimus* (Germ.), *Guignotus pusillus* (F.) (= *Hydroglyphus pusillus* (F.)), *Hygrotus inaequalis* (F.), *Herophydrus musicus* (Klug.), *Hydroporus palustris* (L.), *Graptodytes veterator* Zimm., *Scarodytes halensis* (F.), *Laccophilus variegatus* (Germ.), *Laccophilus minutus* (L.), *Laccophilus hyalinus* (Deg.), *Agabus didymus* (Ol.), *Rhantus suturalis* (Macleay) (= *Rhantus pulverosus* Steph.), *Colymbetes fuscus* (L.), *Hydaticus transversalis* (Pontopp.), *Noterus clavicornis* (Deg.).

The biotope at the Evros River mouth was a marshy area with low water, muddy bottom, Typhetum along the shore and semisubmersed herbaceous vegetation; the associated species of Hydradephaga were: *Hydrovatus cuspidatus* Kunze, *Bidessus exornatus* Reiche, *Guignotus pusillus* (F.), *Hygrotus inaequalis* (F.), *Coelambus lernaeus* (Schaum), *Herophydrus musicus* (Klug), *Graptodytes veterator* Zimm., *Noterus clavicornis* (Deg.), *Laccophilus minutus* (L.), *Laccophilus variegatus* (Germ.), *Hydaticus grammicus* (Germ.), *Hydaticus transversalis* (Pontopp.).

It is interesting to remark that these are the first records of *Herophydrus musicus* (Klug) for continental Greece; this is not particularly surprising, as this species, which has a wide distribution in Africa and Asia, has recently been found in other southern European regions, namely Sicily (ROMANO, 1982), Sardinia (BURMEISTER, *et al.*, 1987) and southern Spain (MILLAN and SOLER, 1990) and is also known from Turkey (GUEORGUIEV, 1981).

As in the locality near Paleochori, with flowing water, we found 84 specimens of *H. hellenicus* while in each of the other two localities near Fere and at the river Evros mouth, with still water, we found only 1 specimens, we think that *Hydroporus hellenicus* shows a preference for environments with slowly flowing waters.

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Authors' addresses:

PAOLO MAZZOLDI, Via G. Galilei 87-25128 BRESCIA

MARIO TOLEDO, Via Tosoni 20-25124 BRESCIA