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***Hydroporus incommodus* sp.n. from Slovakia, and notes on other members of the *H. striola*-group (Coleoptera: Dytiscidae)**

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Abstract

Hydroporus incommodus sp.n. (Coleoptera: Dytiscidae) is described from Slovakia. The new species belongs to the *H. striola*-group. It shows affinities to the eastern Mediterranean *H. jonicus* MILLER, 1862 and the western Mediterranean *H. distinguendus* DESBROCHERS DES LOGES, 1871. *Hydroporus gridellii* FOCARILE, 1960 is recognised as junior subjective synonym of *H. distinguendus*, and recorded under this name for the first time from Italy and Algeria. Lectotypes are designated for *H. jonicus* and *H. distinguendus*.

Key words: Coleoptera, Dytiscidae, *Hydroporus striola*-group, new species, lectotype, synonymy, first record, Slovakia, Italy, Algeria, Mediterranean.

Introduction

The *Hydroporus striola*-group is one of the taxonomically most difficult species groups of the genus *Hydroporus* CLAIRVILLE, 1806. This is due to the considerable variability of external characters, in particular the pattern of the upper surface, which certainly is the main reason for the high number of synonyms, variations etc. (see NILSSON 2001). Furthermore, four standard works on Hydradephaga present incorrect illustrations of the median lobes of some species:

- GUIGNOT (1932: 318; 1947: 89; 1959: 386) figured the median lobe of *H. distinguendus* DESBROCHERS DES LOGES, 1871 in three works under the name *H. jonicus* MILLER, 1862.
- GUIGNOT (1947: 89) mislabelled the median lobes of *H. palustris* (LINNAEUS, 1761) and *H. vagepictus* FAIRMAIRE & LABOULBÈNE, 1854.
- FRANCISCOLO (1979: 377) presented incorrect figures at least of the apical part of the median lobes in ventral view of *H. vagepictus*, *H. jonicus*, and *H. springeri* MÜLLER, 1924.

These difficulties may have contributed to the fact that *H. incommodus* so far has not been recognised as valid species. Thanks to the recent collecting activities of several Slovakian colleagues (F. Čiampor, R. Cséfalvay, V. Janský, J. Kodada) and the attention of M.A. Jäch, who noticed the remarkable external characters of the species, this new taxon can now be described. In order not to increase the number of synonyms, a careful comparison with relevant types was carried out and – if types were not available – at least topotypical material has been studied. In particular, *H. distinguendus* and *H. jonicus* are two similar species which have been studied more in detail.

All lectotype designations in this article were made in order to maintain taxonomic stability.

Acronyms, material, and acknowledgements

CFA	coll. F. Angelini, Francavilla, Italy
CGW	coll. G. Wewalka, Vienna, Austria
CHF	coll. H. Fery, Berlin, Germany, property of the NMW
CJH	coll. J. Hájek, Praha, Czech Republic
CMT	coll. M. Toledo, Brescia, Italy
CPM	coll. P. Maltzeff, Roma, Italy
MCMI	Museo Civico di Storia Naturale di Milano, Italy (F. Rigato)
MNCN	Museo Nacional de Ciencias Naturales (I. Ribera)
MNHN	Muséum National d'Histoire Naturelle, Paris, France (H. Perrin)
MZUR	Museo di Zoologia dell'Università di Roma "La Sapienza", Roma, Italy (A. Vigna Taglianti)
NMB	Naturhistorisches Museum Basel, Switzerland (M. Brancucci)
NMW	Naturhistorisches Museum Wien, Austria (M.A. Jäch)
SNMB	Slovenské Národné Muzeum, Bratislava, Slovakia (R. Cséfalvay)
ZISP	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (B. Katajev, A.G. Kirejtshuk)

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The following abbreviations are used in the text: hw (handwriting), TL (total length), MW (maximum width). Comments in square brackets are those of the author.

Systematics

NILSSON & HOLMEN (1995) characterised the Fennoscandian members of the *striola*-group as follows:

- Elytron on disk with evident although sometimes finely impressed reticulate sculpture.
- Pronotum with lateral beading distinct, but narrow.
- Elytron with lateral margin strongly ascending to humeral angle.
- Metacoxal processes with posterior margin conjointly truncate.
- Elytron black or brown with yellow maculations, at least distinct pale humeral and subapical spots. Pronotum black or brown, with a more or less sharply delimited pale margin.
- Prosternal process reticulate, not shining medially.
- Epipleuron in lateral view visible to humeral angle (compare Figs. 180–183 in NILSSON & HOLMEN 1995: 48).

These features are shared by the species treated in the present work and thus are not necessarily repeated in the description of *H. incommodus*. In order to keep the descriptions of *H. distinguendus* and *H. jonicus* short, only differential diagnoses are given.

Hydroporus incommodus sp.n.

Type locality: Slovakia, Lakšárska Nová Ves, ca. 50 km N Bratislava, ca. 48.34N 17.10E.

Type material: Holotype: ♂, "Slovakia occ., Lakšárska Nová Ves, 29.6.2000, Csefalvay leg.", "Holotype, *Hydroporus incommodus* sp. n., Fery det. 2003" [red] (NMW). **Paratypes: Slovakia:** 101 exs., same label data as

the holotype (NMW, SNMB, CHF). 2 ♂♂, "Slovakia occ., Borská Nižina, Lakšárska Nová Ves, V. Janský lgt.", "24.9.1998, Červený rybník" (SNMB). 1 ♂, "Slovakia occ., 31.3.1999, Lakšár. N. Ves, Cerv. rybn., Csefalvay leg." (SNMB). 1 ♂, "Slovakia occ., 6.4.1999, Lakšár. N. Ves, Cerv. rybn., Csefalvay leg." (SNMB). 14 exs., "Slovakia mer. occ., 24.v.2005, Lakš. N. Ves, Červený rybník, Csefalvay leg." (MNCN, SNMB). **Notes:** The DNA of one of these paratypes will be extracted and kept in the DNA collection of the MNCN with the reference number MNCN-AI382. 1 ♂, "Slovakia occ., Borská nižina, Lakšárska Nová Ves, V. Janský lgt.", on reverse "24.5.2005, Červený rybník" (SNMB). 1 ♂, "Slovakia, 1985, Bezedné, J Kodada Lgt." (SNMB). 1 ♀, "Slovakia, V.1997, Bezedné, Kodada, lgt." (SNMB). 12 exs., "Slovakia, 8.XI.1996, Plavecký. Štvrtok [ca. 30 km NNE Bratislava, ca. 48.22N 16.59E], ŠPR Bezedné, Kodada & Ciampor Leg." (SNMB, CHF). 4 ♂♂, 8 ♀♀, "Slovakia occ., Plavec. Štvrtok, Bezedné, 25.4.2000, Csefalvay leg." (SNMB, CHF). 1 ♂, "Slovakia IV. 1999, Závod [ca. 40 km N Bratislava], Kodada lgt." (CJH). Each paratype is provided with its respective red label.

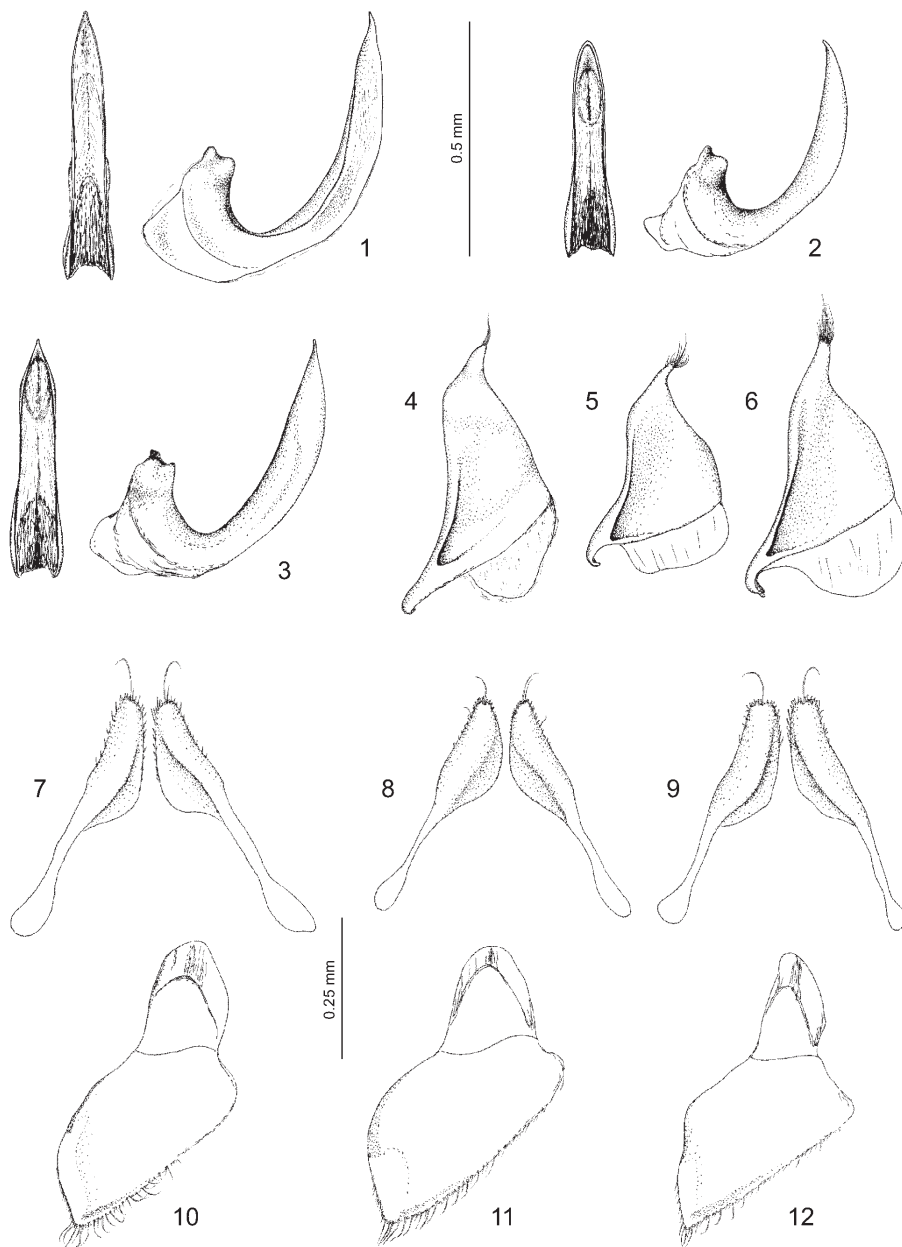
Description: Habitus oval oblong, total body length large compared to other Central European species; sides of elytra more or less evenly rounded; outline in dorsal view with a discontinuity between pronotum and elytron. Maximum width of elytra near posterior part of their anterior third. In most specimens sides of pronotum evenly rounded and pronotum broadest slightly before base; in other specimens straight before base and here more or less parallel; posterior angles shortly rounded, rectangular to slightly obtuse.

Head reddish to yellowish brown, more reddish than pale spots on elytra; vertex and two large interocular spots piceous, spots often connected. Pronotum dark brown, each side with broad yellowish band, these often being extended inwards in middle, here indistinctly delimited, and pronotum near anterior and posterior margin often slightly darker than centrally. Distinct and rather long (ca. 0.1 mm) setae on pronotum and elytra – these sometimes lost; on disk of pronotum somewhat sparser. Elytra dark brown, each with large yellowish basal fascia, broad lateral band, two spots in posterior half and one before apex. Base with narrow transverse dark band, becoming still narrower towards sides, suture with a longitudinal black band. Basal yellowish fascia often prolonged backwards into one or rarely two short vittae; lateral band in middle and posterior third divided by a dark vitta running parallel to margin; spots in posterior half indistinct in some specimens, in others external one connected with lateral band.

Head with microreticulation consisting of small round cells; reticulation interspersed with punctures, these becoming a little larger and less dense near frons; anterior border of clypeus and vertex almost without punctures. Two large, but flat clypeal grooves between eyes, here punctures somewhat denser. Pronotum with microreticulation as on head; punctures coarser, in particular in posterior third; punctation denser near margins; centre of disk with a larger puncture or longitudinal scratch. Microreticulation on elytra less impressed, punctures as coarse as on disk of pronotum, more or less evenly distributed, denser than on disk of pronotum, however; on disk of elytra distance between punctures more or less equal to their diameter; punctures lines not recognisable.

Ventral surface dark brown to blackish in large parts; legs, epipleura, apex of metacoxal processes, sides of prosternum, and head reddish brown; contrast between reddish gula and slightly darker genae weak in most specimens; in some specimens genae becoming darker externally; inner part of first and second sternites, and sides of third to fifth sternites paler; hind margins of third to fifth sternites shining through brownish; prosternal process behind transverse ridge paler brownish. Antennae yellowish brown, with articles progressively darkened distally, beginning with fifth; first and second article rather long, fourth article shorter than third and fifth.

Prosternal process reticulate behind procoxae, slightly vaulted, progressively more convex to apex, surface with rather long setae; apex of process rounded, sides beaded. Process with a strong transverse ridge near anterior margin of procoxae, flat before it and here with three or four indistinct transverse grooves; process strongly carinate adjacent to anterior margin of prosternum.

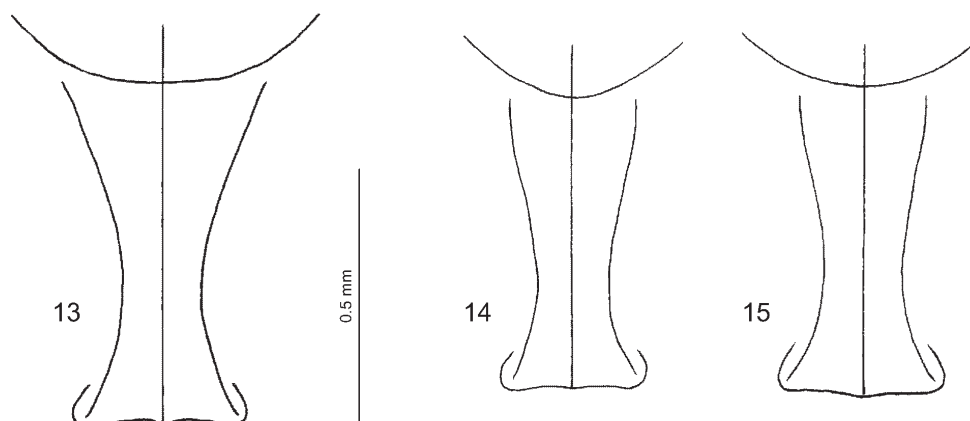


Figs. 1–3: Median lobe of aedeagus (ventral and lateral view) of 1) *Hydroporus incommodus* sp.n., 2) *H. jonicus*, 3) *H. distinguendus*.

Figs. 4–6: Paramere of 4) *Hydroporus incommodus* sp.n., 5) *H. jonicus*, 6) *H. distinguendus*.

Figs. 7–9: Gonocoxae of 7) *Hydroporus incommodus* sp.n., 8) *H. jonicus*, 9) *H. distinguendus*.

Figs. 10–12: Gonocoxosternum of 10) *Hydroporus incommodus* sp.n., 11) *H. jonicus*, 12) *H. distinguendus*.



Figs. 13–15: Metacoxal processes of 13) *Hydroporus incommodus* sp.n., 14) *H. jonicus*, 15) *H. distinguendus*.

Venter microreticulate, not matt, however, covered with sparse long setae in large extent; reticulation less impressed on third to fifth sternites, thus here more shiny. Punctuation on venter and epipleura coarse, sparser on metacoxae, absent on centre of metaventricle and between metacoxal lines. Metaventral wings very narrow and acute. Metacoxal lines strongly diverging forwards, ending shortly before hind margin of metaventricle (Fig. 13). Hind margin of metacoxal processes slightly sinuate, a little protruded backwards in middle. Last visible abdominal segment about half as long as wide; with stronger impressed reticulation and denser punctuation; in some specimens punctures longitudinally extended and thus spaces between these punctures appearing as flat wrinkles. Middle of meso- and metafemora with a row of coarse setiferous punctures.

♂♂: Median lobe as in Fig. 1; dorsal side not tectiform in apical half, more evenly rounded. Parameres with apical part distinctly curved backwards (Fig. 4). Protarsal claws subequal in length, anterior one slightly thickened and a little more curved, with a denticle near base. These features, however, somewhat variable and thus not allowing a quick and correct separation of sexes. Pro- and mesotarsomeres not distinctly broader than in females.

♀♀: Protarsal claws subequal in length and shape. Reticulation on upper and ventral surface equal to that of males. Gonocoxa as in Fig. 7, gonocoxosternum as in Fig. 10.

Measurements: TL: 3.9–4.5 mm, MW: 1.9–2.2 mm, TL/MW: 2.0–2.2.

Distribution: Slovakia, so far known only from a small region north of Bratislava.

Biology: Roman Cséfalvay (Bratislava) kindly communicated: “The Červený rybník Nature Reserve (= Red Pond – the name stems from the red coloured soil, caused by oxidised mineral salts) is situated in the Borská nížina lowland, ca. 50 km north of Bratislava. The locality has an altitude of 186 m and is represented by small ponds, banked by temporarily dried-up depressions which are typical for peat bogs, inside alder wood with plant association *Carici elongatae Alnetum* KOCH. The depressions are overgrown with *Phragmites australis* (CAV.) TRIN., *Carex elongata* LINNAEUS, *Carex paniculata* LINNAEUS, *Hottonia palustris* LINNAEUS, and the fern *Dryopteris cristata* (LINNAEUS) A. GRAY. The margins of the depressions are formed by *Sphagnum*. In these depressions *H. incommodus* was collected several times, together with the

following other Dytiscidae: *Agabus affinis* (PAYKULL), *Ilybius aenescens* THOMSON, *I. guttiger* (GYLLENHAL), *I. subaeneus* (ERICHSON), *Rhantus grapii* (GYLLENHAL), *H. angustatus* STURM, *H. incognitus* SHARP, *H. melanarius* STURM, *H. neglectus* SCHAUM, *H. palustris* (LINNAEUS), *H. planus* (FABRICIUS), *H. striola* (GYLLENHAL), *H. tristis* (PAYKULL), *H. umbrosus* (GYLLENHAL), *Suphrodytes dorsalis* (FABRICIUS), and the Hydrophilidae *Enochrus coarctatus* (GREDLER), *E. affinis* (THUNBERG), and *Helophorus nanus* STURM. In June 2000, *Hydroporus incommodus* was the most abundant water beetle in this locality and was particularly collected from the muddy surface of almost dry depressions. The locality Bezedné has a similar character, but here the new species was not so abundant as in Červený rybník”.

Etymology: *incommodus*, Latin: uncomfortable, inconvenient, arduous; much effort was needed to ascertain that the new species has not already been described under one of the many names known in the difficult *H. striola*-group.

Hydroporus jonicus MILLER, 1862

Hydroporus jonicus MILLER 1862: 276. – RÉGIMBART 1895: 24 (partim). – FOCARILE 1960: 69.

Hydroporus ionicus MILLER; GUIGNOT 1932: 320, 1947: 89, 1959: 380 (partim). – FRANCISCOLO 1979: 355 (partim).

Hydroporus vagepictus var. *jonicus* MILLER; ZIMMERMANN 1919: 164, 1920: 106, 1931: 111 (partim).

Hydroporus vagepictus var. *ionicus* MILLER; BEDEL 1925: 367 (see also footnote in GUIGNOT 1947: 89).

Hydroporus jonicus jonicus MILLER; NILSSON 2001: 165, 2003: 62.

Hydroporus jonicus var. ♀ *opacinus* SAHLBERG 1903: 17 (not given as name).

Hydroporus palustris var. *jonicus* MILLER; SEIDLITZ 1887: 69 (partim).

Hydroporus vagepictus FAIRMAIRE & LABOULBENE; BEDEL 1925: 367 (partim).

Type locality: Corfu, Greece.

Type material: Lectotype (by present designation): ♂, “Miller, 1862” [hw Miller], “Hydroporus gridellii Focarile, Shaverdo H. det. [19]98”, “Lectotype, *Hydroporus jonicus* L. Miller, 1862, des. H. Fery 2005” [red, printed] (NMW). **Paralectotype:** 1 ♀, “Miller, 1862.” [hw L. Miller], and the respective red paralectotype label (NMW).

Additional material studied: Greece: 1 ♂, a very small square violet label without any text, “Corfu” [hw Wehncke], “Miller” [hw Wehncke], “Muséum Paris, ex Coll. R. Oberthur, ex Wehncke” (MNHN). 1 ♂, “Corfu” [printed], “J. Sahlb.” [printed], a male sex symbol, “Muséum Paris, coll. F. Guignot” (MNHN). 1 ♀, “Corfu” [printed], “U. Sahlb.” [printed], a female sex symbol, “Muséum Paris, coll. F. Guignot” (MNHN). 1 ♂, 1 ♀, “Corfu”, “J. Sahlb.”, “Collect. Hauser”, “Hydroporus gridellii Foc., Shaverdo H. det. 1999”; the male has the tip of the median lobe somewhat deformed, thus slightly resembling that of *H. distinguendus* (NMW). 1 ♂, “Corfu, Reitter.” (CHF). 1 ♀, “Korfu, Leg. Stephanides”, “Hydroporus vagepictus jonicus Mill., det. Rich. Hicker” (NMW). 1 ♂, “Korfu, Nalikiopoulos, 22.4.[19]35” (NMW). 4 exs., “2.8.[19]78 Korfu, Ag. Matheos, Bächlein [streamlet], Fery leg.” (CHF). 1 ♂, “13.8.[19]78 Korfu, Ag. Matheos, Bächlein [streamlet], Fery leg.” (CHF). 11 exs., “4.8.[19]78 Korfu, Messonghi, Fluß [river], Fery leg.” (CHF). 14 exs., “16.4.[19]84 Corfu, Roda, Wassergraben [ditch], Fery leg.” (CHF). 2 exs., “16.4.[19]84 Corfu, Messonghi, Tümpel [pool], Fery leg.” (CHF). 17 exs., “24.3.[19]85 Graecia, Corfou, Tembloni, Rinnsal, Fery leg.” (CHF). 23 exs., “24.3.1985 (GR) Corfou, E Paläokastritsa, brook, Fery leg.” (CHF). 5 exs., “24.3.[19]85 Graecia, Corfou, östl. [east of] Paläokastritsa, Lache [puddle], Fery leg.” (CHF). 1 ♀, “13.4.[19]84 Griech., östl. Igumenitsa, Tümpel, Fery leg.” (CHF). 6 exs., “25.3.[19]85 Graecia, östl. Igumenitsa, Tümpel, Fery leg.” (CHF). 1 ♂, 1 ♀, “Zante [Zákinthos], Limni Makri, 20.-27.-III.1936” (NMW). 1 ♂, “Zante, Maries, 20.-27.-III.1936” (NMW). 6 exs., “25.4.2000 GR (13) Etolia-Akarmania [Aitolokarnania], SW Amfilochia, ca. 70 m”, “38°49.7'N 21°06.4'E, Schillhammer, Komarek & Schönmann leg.” (NMW). 12 exs., “21.7.[19]76 [Neas] Marmaras, Chalkidiki Gr., ehem. Fluß [remnants of river], Fery leg.” (CHF). 2 exs., “GR-Chalk. 22.7.[19]88, Sithonia (13), leg. Manfred Jäch”, one specimen with “Hydroporus ionicus Mill., det. Wewalka 2003” (NMW). 4 exs., “GR - Halkidiki, Kassandra, 3 km W Polichrono, 3.7.2002, ca. 220 m, leg. Jäch (5)” (NMW). 16 exs., “GR - Halkidiki, Kassandra, 3 km W Polichrono, 7.7.2002, ca. 220 m, leg. Jäch (8)” (NMW). **Republic of Macedonia:** 7 exs., “YU-Maced. 20.7.[19]88, Ohrid See, leg. M. Jäch (7)” (NMW). **Albania:** 1 ♂, “22.5.2001 Albania, Mursi, Cattle pond, 39.80 N/20.14 E, Nieuwenhuyzen leg.” (CHF). **Montenegro:** 1 ♂, 1 ♀, “Skutari-See, 13.05.1980”, “YU-Montenegro, leg. H. Hebauer” (CHF). 1 ♂, “Yugoslavia VI.[19]82, Ulcinj (Licht [light]), leg. J. Hjalil [!]

15.-17.IX.2001, 5 km E Ulcinj, 'Velika plaža' Adriatic Sea coast, Jiří Hájek leg., (pool, drain)", "coll. Jiří Hájek, Prague, Charles University" (CJH). **Italy:** 3 ♂♂, 6 ♀♀, "Puglia Ris. WWF, Le Cesine, S. Cataldo, (LE) 11.-21. VI. [19]95, leg. F. Angelini" (CFA). 6 exs., "Puglia Ris. WWF, Le Cesine, S. Cataldo, (LE) 14.-17. VII. [19]95, leg. F. Angelini" (CFA, CHF). 2 ♀♀, "Puglia, Tuturano (BR), 24-XI-1969, leg. Angelini F." (CFA). 3 ♀♀, "Puglia, Tuturano (BR), 28-X-1972, leg. Angelini F." (CFA). 2 ♂♂, "Torre Testa, (BR) 31-X-[19]69, Angelini F." [hw Angelini] (CFA). 2 ♂♂, 1 ♀, "Puglia, Torre Testa (BR), 18-VI-1970, leg. Angelini F." (CFA). 4 ♀♀, "Basilicata - OASI WWF, 'L.S. Giuliano'. 100 m, Ponte Cagnolino., 9.VIII.1992, light trap, leg. Angelini" (CFA). 1 ♂, 1 ♀, "Polieslo [?] MT, 15-III-[19]70, Leg. Angelini F." [hw Angelini] (CFA). 1 ♂, on reverse of glue card "Castelporziano [ca. 10 km E Lido di Ostia], Ponte Ruffo, 26 X. 1999", "Lazio: Roma, Litorale, Tenuta di Castelporziano, 26.X. (ottobre) 1999, legit Paolo Maltzef", "Piscina di Ponte Ruffo, retino [net] da acqua", "Hydroporus ionicus Miller, 1862, ♂, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio Roma Tenuta di Castelporziano, Piscina di Ponte Ruffo, 4.XI.1999, P. Maltzef", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio Roma Tenuta di Castelporziano, 14.XII.1999, P. Maltzef leg.", on reverse "Le Grotte - Ponte Ruffo, Fontanile Trafusino, retino", "Hydroporus ionicus Miller, 1862, ♂, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio Roma Tenuta di Castelporziano, 9.III.2000, P. Maltzef leg.", on reverse "Malafede - Ponte Ruffo, Fontanile Trafusino, retino da acqua", "Hydroporus ionicus Miller, 1862, ♂, det. G. Nardi 2001" (CGN). 1 ♂, "LA. [Lazio] Latina Lido, Capo Portiere, acquitrini [marsh], leg. Nardi G.-A.", on reverse "25.III.[19]90, prati allagari", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 1 ♂, on glue card "1725 ♂", below a plastic card with the male genitalia enclosed in Euparal and "1725 ♂", "LA. Latina Lido, Capo Portiere, acquitrini, leg. Nardi G.-A.", on reverse "25.III.[19]90, prati allagari", "Hydroporus gridellii Foc., Det. Sanfilippo", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 3 ♂♂, "LA. Latina Lido, Capo Portiere, acquitrini, leg. Nardi G.-A.", on reverse "24.VII.[19]90, piccola forma [little ditch]", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 1 ♂, "LA. Latina Lido, Capo Portiere", "acquitrini, leg. Nardi G.-A.", on reverse "24.VII.1990, piccola forma", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio (Roma), Cerenova, 24.II.1991, R. Scalerà leg.", on reverse "Zona agricola, presso il mare, in un fossetto", "Hydroporus ionicus Miller, 1862, ♂, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio - Campagna Romana, dint. di Ponte Galeria, 19.III.2000, legit Paolo Maltzef", on reverse "Retino", "Hydroporus ionicus Miller, 1862, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio - Campagna Romana, dint. di Ponte Galeria, 23.V.1999, legit Paolo Maltzef", on reverse "Retino", "Hydroporus ionicus Miller, 1862, ♂, det. G. Nardi 2001" (CGN). 2 ♂♂, 2 ♀♀, "Ravenna (Italy), S. Vitale forest, 4/4/[19]87 Pederzani" (CHF).

Differential diagnosis: Habitus resembling that of *H. incommodus*, but outline in dorsal view with discontinuity between pronotum and elytron considerably weaker, sides of pronotum almost straight posteriorly and diverging backwards, anteriorly more rounded; pronotum broadest at base; posterior angles more or less rectangular, very shortly rounded. Elytra broadest before middle, short behind first third. Pattern of elytra and pronotum equal principally that of *H. incommodus*, but contrast between lighter and darker areas less distinct because darker areas more reddish brown; basal lighter areas on elytra on average less extended backwards, in several specimens consisting of two or rarely three small spots because one or two narrow dark vittae reaching base of elytra; lateral dark vitta parallel to elytral margin often connected with dark area on disk. Setae on pronotum and elytra as in *H. incommodus*. Ventral surface as in *H. incommodus*, except head and metacoxal lines: genae in most specimens darker than gula, in others genae near gula also somewhat paler; metacoxal lines distinctly less diverging anteriorly (Fig. 14).

♂♂: Median lobe as in Fig. 2; dorsal side tectiform in apical third. Parameres with apical part distinctly curved backwards (Fig. 5). Protarsal claws more or less subequal in length and shape, indistinctly longer than in females; anterior claw only weakly thickened, denticle near base small.

♀♀: Dimorphic: In most females reticulation on upper and ventral surfaces equal to that of males, however, a few with stronger impressed reticulation on elytra, thus appearing matt; elytral punctation less distinct in these dull females. Gonocoxae as in Fig. 8, gonocoxosternum as in Fig. 11.

Measurements: TL: 3.5–4.2 mm, MW: 1.75–2.05 mm, TL/MW: 2.0–2.1.

Distribution: Italy, Greece, Albania, Montenegro. Records from Bulgaria, Macedonia, Bosnia-Herzegovina, Croatia, Slovenia (NILSSON 2003: 62), and “Asia Minor” (GUIGNOT 1947: 90, under the name *H. ionicus*) are not unlikely, but should be confirmed by the study of respective material. Records from Algeria (e.g. NILSSON 2003: 62; BEDEL 1925: 367 under the name *H. vagepictus*) must be related to *H. distinguendus*.

Hydroporus distinguendus DESBROCHERS DES LOGES, 1871

Hydroporus distinguendus DESBROCHERS DES LOGES 1871: 338.

Hydroporus avunculus FAIRMAIRE 1872: lxxii.

Hydroporus palustris var. *jonicus* MILLER; SEIDLITZ 1887: 69 (partim).

Hydroporus siculus RAGUSA 1921: 36 (nomen nudum).

Hydroporus vagepictus var. *ionicus* MILLER; BEDEL 1925: 367 (see also footnote in GUIGNOT 1947: 89).

Hydroporus vagepictus FAIRMAIRE & LABOULBENE; ZIMMERMANN 1920: 106, 1931: 111 (partim).

Hydroporus jonicus MILLER; RÉGIMBART 1895: 24 (partim). – SAINTE-CLAIRE DEVILLE 1914: 54.

Hydroporus ionicus MILLER; GUIGNOT 1932: 320, 1947: 89, 1959: 380 (partim).

Hydroporus gridellii FOCARILE 1960: 71. – FRANCISCOLO 1979: 356. – NILSSON 2001: 165, 2003: 61. (**new synonymy**)

Type material:

Hydroporus distinguendus: **Lectotype** (by present designation): ♂, “52 Db” [light green], “52 Hydrop. distinguendus, Corse Desbroch. 89.” [hw Motschulsky], “St. Petersburg, Zool. Inst.”, “Lectotype, *Hydroporus distinguendus* Desbrochers des Loges, 1871, des. H. Fery 2005” [red, printed] (ZISP). **Paralectotype**: 1 ♂, originally glued onto the same card as the lectotype. The specimens were separated by me, and the additional pin provided with copies of the original labels and the respective red paralectotype label (ZISP). **Type locality**: Corsica, France.

In the Aubé collection (MNHN) stand 15 specimens around a label “1984 *Hydroporus* Clairville, *Distinguendus* Aubé inédit”; five of these with “Piémont” [not hw Aubé] on reverse of the glue card and a label “Museum Paris, Coll. Aubé”; these specimens are *H. foveolatus* HEER, 1839; two specimens with “France meridional” [hw Aubé] on reverse of the glue card, and labels “568” [most probably hw Aubé] and “Museum Paris, Coll. Aubé”; both specimens glued onto one card; one of these is *H. distinguendus* the other *H. vagepictus*; finally eight specimens with “Corse” [hw Aubé] on reverse of glue card, and “Museum Paris, Coll. Aubé”; specimens glued in twos on four cards. The latter eight specimens indeed are *H. distinguendus* and may be those which BEDEL (1925: 367) refers to as “*distinguendus* Desbr. 1871, typ.: Corse (ex Aubé)”. I do not consider these specimens to be syntypes of *H. distinguendus*, but I am convinced that they belong to a larger series of specimens of which Desbrochers has got some for his description which is clearly based on more than one specimen. About the origin of the specimens the author gives “Je l’ai reçu du Docteur Aubé sous le nom que je lui ai laissé. Il m’a aussi été donné par M. Koziarowicz.” In addition, the glue card seems to be of the same material as of those specimens which stand in the Aubé collection. The light green label with “52 Db” is typical for specimens from the Desbrochers des Loges collection. All these observations let me assume that Desbrochers has got the syntypes from Aubé, and that Motschulsky probably has received the two specimens from Desbrochers’ collection – possibly in 1889 via L.W. Schaufuss who demonstrably has got parts of Desbrochers’ collection and – on the other hand – exchanged material with Motschulsky.

Hydroporus avunculus: **Syntypes** assumed, not located; most probably originally stored in oll. Fairmaire (MNHN), but here not present any more. **Type locality**: Corsica, France.

Hydroporus gridellii: **Holotype** not studied. According to FOCARILE (1960: 71) the holotype, the allotype, and some paratypes originally should have been stored in the “author’s collection”, while other paratypes from the type locality should be deposited in the MCMI. Further specimens mentioned in original description have been collected in Toscana, Sardinia, Corsica, and Nizza. Nevertheless, these also must be treated as paratypes (Article 72.4 of the ICZN 1999). My inquiry to the MCMI established that no paratype has ever been stored in this Museum (personal communication by F. Rigato, Milano, Italy; see also the fruitless efforts to locate these specimens outlined in FRANCISCOLO 1979: 350). Focarile himself kindly told me that the holotype, allotype, and all Sicilian paratypes must be considered as lost. This means that a name-bearing type does not exist any more. I refrain, however, to designate a neotype because there is no doubt about the identity of *H. gridellii* (Articles 75.1 and 75.2 of the ICZN 1999). Anyway, I recommend to use material from Sicily as “typical” if in future investigations this taxon must be

re-considered. **Type locality:** Gorgo Salato (ca. 36.41N 15.02E), between Capo Lilibeo (Pachino) and mouth of river Cava d'Ispica, Sicily, Italy.

Additional material studied: Italy: 2 ♀♀, "Sicilia, Caronie, 25.VI.[19]70, leg. Romano, m. 1000"; abdomen absent (CFA). 1 ♂, 2 ♀♀, "Sicilia, Caronie, (ME) 1.XI. 1972, leg. Aliquo, m 1000"; females lacking the abdomen (CFA). 2 exs., "Sicilia - ME, Caronie, M. Soro, P.IIa Maulazzo 24.VI.[19]86 leg. M. Romano" (CMT). 1 ♀, "19.6.[19]83 Sicilia, Gangi, F. Sperlinga, Fery leg." (CHF). 2 exs., "Sicilia - ME, Caronie m. 1400, P.IIa Maulazzo 24.VI.[19]86 leg. M. Romano" (CMT). 2 ♂♂, "Sicilia - ME, Urio, Quattrocchi, 24.IV.1992, leg. Mario Toledo" (CMT). 1 ♀, "Sicilia, Madonie, Comunello, 15.V.[19]69, leg. Romano" (CFA). 1 ♂, "Sicilia, Ficuzza (PA), 8.III.[19]70, leg. Romano" (CFA). 1 ♀, "Sardinia, Damry", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 1 ♂, 1 ♀, "43", "Hydroporus jonicus, Sardinia. Merkl. [18]86" [hw Zaitzev], "St. Petersburg, Zool. Inst." (ZISP). 1 ♂, "Sardegna, Arzachena [ca. 20 km NNE Olbia] (SS) [Sassari province], 21/V/[19]72, leg. Ravizza" (CFA). 1 ♂, "Sardegna, Arzachena (SS), 21.V.1972, leg. Bucciarelli" (CFA). 2 ♂♂, 2 ♀♀, "Sardegna, Mulino di Azzachena (SS), stagno, 21-5-[19]72 leg. Bucciarelli" (CFA). 1 ♀, "Sardegna SS, Olbia - Stagno Presso, Fiume Padrogiano, 27.VII.[19]88 I. Mazzoldi" (CMT). 1 ♂, "I-Sardegna SS, Pattada, 28.VII.1988, I. Mazzoldi P.", "Ponte Molinu, Rusculetto", "Hydroporus gridellii, Mazzoldi 1989" (CMT). 1 ♂, "Lazio Roma, Tenuta di Castelporziano, 4.VI.[19]99 Gobbi", "Hydroporus gridellii Focarile, ♂, det. G. Nardi 2001" (MZUR). 1 ♂, "Lazio Roma Tenuta di Castelporziano [ca. 10 km E Lido di Ostia], Piscina dell' Infermeria, 27.IV.2000 P. Maltzeff", on reverse "Retino [net]", "Hydroporus gridellii Focarile, ♂, det. G. Nardi 2001" (CPM). 1 ♂, "Lazio: Roma, Litorale, Tenuta di Castelporziano, 22.V.2000, legit Paolo Maltzeff", on reverse "Piscina dell' Infermeria, Retino", "Hydroporus gridellii Focarile, 1960, ♂, det. G. Nardi 2001" (CGN). 1 ♂, "Lazio: Roma, Litorale, Tenuta di Castelporziano, 23.V.2001, legit Paolo Maltzeff", on reverse "Piscina dei Materiali, Retino", "Piscina dei Materiali, Retino da acqua", "Hydroporus gridellii Focarile, ♂, det. G. Nardi 2001" (CPM). 2 ♂♂, 2 ♀♀, "Toscana, Dr. Roshr. [Rosenhauer]", "Collect. Hauser", one female with additional "H. vagepictus Frm.", one male with additional "Hydroporus gridellii Foc., Shaverdo H. det. [19]98" (NMW). 1 ♂, 1 ♀, "16.6.[19]83 Italia, Toscana, Chuisi, Wassergraben [ditch] Fery leg."; together with six *H. palustris* (CHF). **France:** 1 ♀, "Corse", "H. v. jonicus Mill.", "Collect. Hauser" (NMW). 2 ♂♂, "Corse" [hw Lefèvre?], "Ex Musæo Lefèvre 1894" [printed], "Muséum Paris, ex Coll. R. Oberthur"; one specimen with additional "distinguendus Desbr." [hw Lefèvre?] (MNHN). 1 ♂, "Haag" [hw Wehncke], "Corsica" [hw Wehncke], "distinguendus Desbr." [hw Wehncke], "Muséum Paris, ex Coll. R. Oberthur, ex Wehncke" (MNHN). 1 ♂, 1 ♀, "P^a [Porto] Vecchio, font du port Sh. [?] [hw?], "avunculus" [hw?], "Corse, Damry." [printed], "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 4 exs., "P. V. [Porto Vecchio] font du port" [hw?], "jonicus Sh. [?]" [hw?], "Corse, Damry", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 2 exs., "Biguglia, Corse", "Jonicus", "Corse, Damry", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 2 exs., "Kusio, Ajaccio", "Jonicus", "Corse, Damry", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 2 exs., "Lamp. di loro [?], Kusio, Ajaccio", "Jonicus", "Corse, Damry", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 7 exs., "9.4.[19]81 Corse, Porticcio [near Ajaccio], Wassergraben [ditch], Fery leg." (NMB, CGW, CHF). 1 ♂, 1 ♀, "13.4.[19]81 Corse, Casamozza [ca. 20 km S Bastia], Tümpel [pool], Fery leg."; together with *H. palustris* (CHF). 3 ♀♀, "1.4.[19]82 Korsika, Monacia [ca. 20 km NW Bonifacio], Lache [puddle], Fery leg." (CHF). 2 exs., "Corsica, Porto Vecchio, 25.VII.1991, I. Toledo M.", "Rau l'Osù near S. Cipriano" (CMT). 1 ♂, 1 ♀, "Nice St. Cl. Deville jonicus" [hw Sainte-Claire Deville], the male with additional "Hydroporus gridellii Focarile, Shaverdo H. det. [19]98" (NMW). 1 ♂, "Nice Ste Cl. Deville", "jonicus Mill" [hw Régimbart] (NMW). 8 exs., "Antibes, (Embst. de la Brague), S^{te} Claire Deville", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 1 ♂, 3 ♂♂, "Vaugrenier, pres Antibes, Alp. Marit", "jonicus Mill." (NMW). 1 ♂, "Gonfaron [ca. 40 km NE Toulon], Var, V 1929" [hw Guignot], a male sex symbol, "Muséum Paris, coll. F. Guignot" (MNHN). 3 ♂♂, "Gonfaron, Var, VI 1930" [hw Guignot], a male sex symbol, "Muséum Paris, coll. F. Guignot" (MNHN). 4 exs., "La Garde [ca. 10 km E Toulon], Var, III.[19]40", one specimen with additional "ionicus Mill." [hw Legros], "Muséum Paris, coll. C. Legros" (MNHN). **Algeria** (first record): 1 ♂, "Bône [Annaba]", "Muséum Paris, coll. L. Bedel" (MNHN). 32 exs., "La Calle, (Hénon), Coll. de Vauloger", "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 5 ♂♂, 4 ♀♀, "La Calle [El Kala, ca. 60 km E Annaba]", one ♂ with additional "jonicus", "Muséum Paris, coll. L. Bedel" (MNHN). 20 exs., "La Calle, Algérie, de Vauloger", "Muséum Paris, coll. C. Legros" (MNHN). 2 ♂♂, 1 ♀, "Algérie, Env. de la Calle, V. de Salvaza" [hw Guignot], the respective sex symbol, "Muséum Paris, coll. F. Guignot" (MNHN). 1 ♂, 2 ♀♀, "Algeria, Cap Aokas [not found on any map], J. Dayrem, IV-1909", "Museum Paris, ex. Coll. R. Oberthur" (MNHN). 1 ♂, "Lucas ii Ol [?], coretinus [?] Luc, Algér" [hw Fairmaire, in large parts almost illegible], "Muséum Paris, ex Coll. R. Oberthur" (MNHN). 1 ♀, a very small violet quadrate label without any text, "Algeria" [green, hw Wehncke], "Muséum Paris, ex Coll. R. Oberthur, ex Wehncke" (MNHN).

Differential diagnosis: Habitus equal to those of both preceding species; body outline with elytral-pronotal discontinuity less prominent than in *H. incommodus*, but more distinct than in *H. jonicus*; sides of pronotum straight and diverging posteriorly or very weakly rounded; more

rounded anteriorly, widest between hind angles. Pattern of upper surface principally same as in both other species, but contrast of lighter and darker areas still less prominent than in *H. jonicus*; most specimens on a first glance appearing almost uniformly reddish brown since borders between areas diffusely delimited; this being in best agreement with Desbrocher's original description ("... bande transversale ... qui souvent est peu visible ...") and also with Fairmaire's description of *H. avunculus* ("... elytris macula basali et vitta marginali ... obscure determinatis ..."). Ventral surface as in *H. jonicus*, with metacoxal lines distinctly less diverging forwards than in *H. incommodus* (Fig. 15); punctures on last abdominal segment weaker impressed, not prolonged longitudinally.

♂♂: Median lobe as in Fig. 3; dorsal side tectiform in apical half. Parameres with apical part only weakly curved backwards (Fig. 6). Anterior protarsal claw slightly broader than in *H. jonicus*, denticle very small. FOCARILE (1960: 71) states (under the name *H. gridellii*) that males of *H. distinguendus* have the protarsomeres – in particular the second one – smaller and less dilated than *H. jonicus*. This feature is hardly perceptible and not really suitable for the separation of both species.

♀♀: Apex of gonocoxae characteristically truncate (Fig. 9); gonocoxosternum as in Fig. 12. No females with stronger reticulation studied.

Measurements: TL: 3.9–4.4 mm, MW: 1.9–2.1 mm, TL/MW: 2.0–2.1.

Distribution: Italy, France (Corsica, Alpes Maritimes, Var), Algeria. According to BEDEL (1925: 367) specimens from Algeria have been reported by LUCAS (1846: 96) under the name *Hydroporus sexpustulatus* (FABRICIUS, 1776).

Notes: The distribution of *H. jonicus* and *H. distinguendus* in Italy needs still more investigations. Both have been found in Castelporziano (Lazio), but not together at the same locality (NARDI & MALTZEFF 2001: 196; NARDI 2005: 166).

Additional diagnostic notes

After comparison with the two most similar species *H. jonicus* and *H. distinguendus*, the main differences between *H. incommodus* and further members of the *striola*-group shall be emphasised. *Hydroporus incommodus* is one of the largest members of the group (TL: 3.9–4.5 mm) and, thus, cannot be mistaken for any of the three other species which occur in Central Europe: *H. palustris* (TL: 3.0–3.9 mm; exceptionally up to 4.2 mm in Greek populations, see MAZZOLDI & TOLEDO 2004: 188), *H. incognitus* (TL: 3.0–3.6 mm), and *H. striola* (TL: 3.0–3.5 mm). In addition, the median lobes of all these three species are distinctly different from that of the new species (cf., e.g., FRANCISCOLO 1979: Figs. 934, 945, 947), so that a dissection will leave no doubt at least about the identity of males. Other large members of the *H. striola*-group from outside Central Europe are *H. vagepictus* from France, Spain and Portugal (TL: 3.8–4.5 mm), *H. springeri* from northern Italy and Slovenia (TL: 4.0–4.1 mm), *H. hellenicus* MAZZOLDI & TOLEDO from Greece (TL: 4.0–4.6 mm), *H. ampliatus* ZAITZEV from Georgia and southern Russia (TL: 4.0–4.5 mm), and the recently described *H. talyschensis* BILYASHIVSKI from Azerbaijan (TL: 4.0–4.5 mm). Material of all these species has been studied and the male genitalia of each are no doubt different in shape from those of *H. incommodus* (cf. the figures in MAZZOLDI & TOLEDO 1992: 185 and in BILYASHIVSKI 2004: 45).

References

- BEDEL, L. 1895–1925: Catalogue raisonné des coléoptères du Nord de l’Afrique (Maroc, Algérie, Tunisie et Tripolitaine) avec notes sur la faune des Îles Canaries et de Madère. Première partie. – Paris: Société Entomologique de France, 402 pp. [pp. 321–402 in 1925]
- BILYASHIVSKI [BILYASHIVS’KYY], M.M. 2004: New and little known dytiscid species (Coleoptera, Dytiscidae) from the south of the Palearctic region. – Proceedings of the Zoological Museum of Kiev Taras Shevchenko National University 2: 44–55. [in Ukrainian, with English and Russian abstracts]
- DESBROCHERS DES LOGES, J. 1871: Description de coléoptères nouveaux d’Europe et confins et remarques diverses. – Mitteilungen der Schweizerischen Entomologischen Gesellschaft 3: 337–376.
- FAIRMAIRE, L. 1872: Diagnoses de quelques coléoptères nouveaux de la faune européenne. – Annales de la Société Entomologique de France (5) 1 (1871), Bulletin: lxxii–lxxiii.
- FAIRMAIRE, L. & LABOULBENE, A. 1854–1856: Faune entomologique française ou description des insectes qui se trouvent en France, coléoptères. Vol. 1. – Paris: Deyrolle, xxxv + 665 pp. [pp. 1–180 in 1854, pp. 181–370 in 1855, pp. 371–665 in 1856]
- FOCARILE, A. 1960: Ricerche coleotterologiche sul litorale ionico della Puglia, Lucania e Calabria, Campagne 1956–1957–1958, III. Coleoptera: Haliplidae, Dytiscidae, Gyrinidae. – Memorie della Società Entomologica Italiana 38: 41–114.
- FRANCISCOLO, M.E. 1979: Coleoptera, Haliplidae, Hygrobiidae, Gyrinidae, Dytiscidae. – Fauna d’Italia 14: 1–804.
- GUIGNOT, F. 1931–1933: Les hydrocanthares de France. – Toulouse: Les Frères Douladoure, xv + 1057 pp. [pp. 1–188 in 1931, pp. 189–799 in 1932, pp. 800–1057 in 1933]
- GUIGNOT, F. 1947: Coléoptères hydrocanthares. – Faune de France 48: 1–287.
- GUIGNOT, F. 1959: Revision des hydrocanthares d’Afrique (Coleoptera Dytiscoidea). 2. – Annales du Musée Royal du Congo Belge Série 8vo (Sciences Zoologiques) 78: 323–648.
- LUCAS, H. 1846–1849: Histoire naturelle des animaux articulés. Deuxième partie. Insectes. – In: Exploration scientifique de l’Algérie pendant les années 1840, 1841, 1842 publiée par ordre du gouvernement et avec le concours d’une commission académique. Sciences physiques. Zoologie. Vol. 2. – Paris: Imprimerie Nationale, 590 pp. [pp. 1–360 in 1846, pp. 361–? in 1847, pp. ?–590 in 1848 or 1849.]
- MAZZOLDI, P. & TOLEDO, M. 1992: *Hydroporus hellenicus* a new species of the *palustris* group (Coleoptera Dytiscidae). – “Natura Bresciana” Annali del Museo Civico di Scienza Naturale, Brescia 27 (1990–91): 183–190.
- MILLER, L. 1862: Ergebnisse einer entomologischen Reise nach Cephalonia. – Wiener Entomologische Monatschrift 6 (9): 269–282.
- NARDI, G. 2005: Dati preliminari sui coleotteri idroaefagi del Parco Nazionale del Circeo. – In: Zerunian, S. (ed.): Habitat, flora e fauna del Parco Nazionale del Circeo. – Uff. Gestione Beni ex ASFD di Sabaudia – Parco Nazionale del Circeo: 151–178.
- NARDI, G. & MALTZEFF, P. 2001: Gli idroaefagi della Tenuta Presidenziale di Castelporziano (Coleoptera, Gyrinidae, Haliplidae, Noteridae, Hygrobiidae, Dytiscidae). – Bollettino dell’Associazione Romana di Entomologia 56 (1–4): 175–232.
- NILSSON, A.N. 2001: Dytiscidae (Coleoptera). – In: World Catalogue of Insects 3: 1–395.
- NILSSON, A.N. 2003: Family Dytiscidae, pp. 35–78. – In: Löbl, I. & Smetana, A. (eds.): Catalogue of Palearctic Coleoptera, 1. Archostemata - Myxophaga - Adephaga. – Stenstrup: Apollo Books, 819 pp.

- NILSSON, A.N. & HOLMEN, M. 1995: The aquatic Adephaga (Coleoptera) of Fennoscandia and Denmark, II. Dytiscidae. – *Fauna Entomologica Scandinavica* 32: 1–192.
- RAGUSA, E. 1921: Coleotteri nuovi o poco conosciuti della Sicilia. – *Bullettino della Società Entomologica Italiana* 53: 31–36.
- RÉGIMBART, M. 1895: Révision des Dytiscidae et Gyrinidae d’Afrique, Madagascar et îles voisines. – *Mémoires de la Société Entomologique de Belgique* 4: 1–244.
- SAHLBERG, J. 1903: Mëssis hiemalis Coleopterorum Corcyraeorum. Enumeration Coleopterorum mensibus Novembri-Februario 1895-1896 et 1898-1899 nec non primo vere 1896 in insula Corcyra collectorum. – *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* 45 (11): 1–85.
- SAINTE-CLAIRE DEVILLE, J. 1914: Catalogue critique des coléoptères de la Corse. – Caen: G. Poisson, 573 pp.
- SEIDLITZ, G. 1887: Bestimmungs-Tabelle der Dytiscidae und Gyrinidae des europäischen Faunengebietes. – *Verhandlungen des Naturforschenden Vereines in Brünn* 25 (1886): 3–136.
- ZIMMERMANN, A. 1919: Die Schwimmkäfer des Deutschen Entomologischen Museums in Berlin-Dahlem. – *Archiv für Naturgeschichte* 83 (1917) (A12): 69–249.
- ZIMMERMANN, A. 1920: Dytiscidae, Haliplidae, Hygrobiidae, Amphizoidae. – In: Schenkling, S. (ed.): *Coleopterorum Catalogus* Vol. 4, pars 71. – Berlin: W. Junk, 326 pp.
- ZIMMERMANN, A. 1931: Monographie der paläarktischen Dytiscidae, II. Hydroporinae (2. Teil: Die Gattung *Hydroporus*). – *Koleopterologische Rundschau* 17: 97–159.

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