

## CHECKLIST OF DIVING BEETLES (COLEOPTERA: DYTISCIDAE, NOTERIDAE) OF MONTENEGRO

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*Abstract* — Published records and original data from recent research were used to compile a checklist of the fauna of diving beetles (Coleoptera: Dytiscidae, Noteridae) of Montenegro. The checklist contains 51 species of Dytiscidae (in 23 genera and five subfamilies) and one species of Noteridae.

*Key words*: Coleoptera, Dytiscidae, Noteridae, checklist, faunistics, Montenegro

### INTRODUCTION

Water beetles of the families Dytiscidae and Noteridae are commonly called diving beetles, since their hind legs are usually highly modified for swimming. Both families are cosmopolitan in distribution and constitute an important part of the macrozoobenthos of freshwater habitats (Vafaei et al., 2008).

Fifty-one species of Dytiscidae and one species of Noteridae have been recorded to date from the studied region (Guéorguiev, 1971; Mikšić, 1977; Nilsson, 2003; Fery, 2006; Pešić and Pavićević, 2005; present paper).

The aim of this paper is to compile data on Montenegrin diving beetles and their current geographic distribution. Species lists are important because they are needed to successfully document and understand the causes and consequences of biodiversity (Pešić and Saboori, 2007). They should facilitate access to all previous data, provide new records, and promote better organization of future research.

### MATERIAL AND METHODS

The checklist of the diving beetle fauna of Montenegro was compiled using published records and original data. The data from all publications were brought into conformity with the presently accepted state of taxonomy according to Nilsson (2007a, 2007b) and all papers published thereafter. Since postgraduate theses and transactions of scientific meetings are not formal publications, species mentioned in them are consequently not considered herein. For new records, diving beetles

were collected by hand netting, sorted on the spot from other living material, and conserved in 95% alcohol, which was replaced by a mixture of 75% alcohol and 5% glycerol after 24 hours. Materials are now in the Zoological Museum of the University of Montenegro's Department of Biology, Podgorica, or in the collection of H. Fery (Berlin).

## RESULTS

### Family NOTERIDAE

Subfamily Noterinae Thomson, 1860

Tribe Noterini Thomson, 1860

***Noterus clavicornis* (Degeer, 1774)**

Published records from Montenegro: Guéorguiev, 1971: 16.

New records: Lake Skadar, Kom Island, 25.iii. 2005, 2 ex., leg. Pešić.

### Family DYTISCIDAE

Subfamily Agabinae Thomson, 1867

Tribe Agabini Thomson, 1867

*Agabus* Leach, 1817

***Agabus (Gaurodytes) bipustulatus* (Linnaeus, 1767)**

Published records from Montenegro: Guéorguiev, 1971:17; »*Agabus solieri*», Guéorguiev, 1971: 18; Pešić and Pavićević, 2005: 25P.

***Agabus (Gaurodytes) biguttatus* (Olivier, 1795)**

Published records from Montenegro: Guéorguiev, 1971: 17; »*Agabus nitidus*«, Guéorguiev, 1971: 17.

***Agabus (Gaurodytes) guttatus* (Paykull, 1798)**

Published records from Montenegro: Guéorguiev, 1971: 17; Pešić and Pavićević, 2005: 26P.

***Agabus (Gaurodytes) didymus* (Olivier, 1795)**

Published records from Montenegro: Guéorguiev, 1971: 18.

***Agabus (Gaurodytes) nebulosus* (Forster, 1771)**

Published records from Montenegro: Guéorguiev, 1971: 18.

***Agabus (Agabus) labiatus* (Brahm, 1791)**

Published records from Montenegro: Guéorguiev, 1971: 18.

*Ilybius* Erichson, 1832

***Ilybius fenestratus* (Fabricius, 1781)**

Published records from Montenegro: Guéorguiev, 1971: 18.

*Platambus* Thomson, 1860

***Platambus maculatus* (Linnaeus, 1758)**

Published records from Montenegro: Guéorguiev, 1971: 16; Pešić and Pavićević, 2005: 25P.

Subfamily Colymbetinae Erichson, 1837

Tribe Colymbetini Erichson, 1837

*Colymbetes* Clairville, 1806

***Colymbetes fuscus* (Linnaeus, 1758)**

Published records from Montenegro: Guéorguiev, 1971: 20.

*Rhantus* Dejean, 1833

***Rhantus (Rhantus) suturalis* (MacLeay, 1825)**

Published records from Montenegro: Guéorguiev, 1971: 19.

Subfamily Dytiscinae Leach, 1815

Tribe Aciliini Thomson, 1867

Genus *Acilius* Leach, 1817

***Acilius sulcatus* (Linnaeus, 1758)**

Published records from Montenegro: Guéorguiev, 1971: 21; Mikšić, 1977: 39; Pešić and Pavićević, 2005: 26P.

Tribe Cybistrini Sharp, 1882

Genus *Cybister* Curtis, 1827

***Cybister lateralimarginalis* (Degeer, 1774)**

Published records from Montenegro: Guéorguiev, 1971: 22; Pešić and Pavićević, 2005: 26P.

Tribe Dytiscini Leach, 1815

*Dytiscus* Linnaeus, 1758

***Dytiscus marginalis* Linnaeus, 1758**

Published records from Montenegro: Guéorguiev, 1971: 21.

New records: Nikšić, Župa, pool near Gračanica River, 06.xi.2005,  
1 ex., leg. Pešić.

***Dytiscus semisulcatus* Müller, 1776**

Published records from Montenegro: Pešić and Pavićević, 2005: 26P.

Tribe Eretini Crotch, 1873

*Eretes* Laporte de Castelnau, 1833

***Eretes sticticus* (Linnaeus, 1767)**

Published records from Montenegro: Guéorguiev, 1971: 20.

Tribe Hydaticini Sharp, 1882

*Hydaticus* Leach, 1817

***Hydaticus (Hydaticus) transversalis* (Pontoppidan, 1763)**

Published records from Montenegro: Guéorguiev, 1971: 20; Mikšić, 1977: 39.

***Hydaticus (Guignotites) leander* (Rossi, 1790)**

Published records from Montenegro: Guéorguiev, 1971: 20.

Subfamily Hydroporinae Aubé, 1836

Tribe Bidessini Sharp, 1882

*Bidessus* Sharp, 1882

***Bidessus delicatulus* (Schamm, 1844)**

Published records from Montenegro: Guéorguiev, 1971: 9.

***Bidessus exornatus* (Reiche, 1855)**

Published records from Montenegro: Guéorguiev, 1971: 9.

***Bidessus muelleri* Zimmermann, 1927**

Published records from Montenegro: Guéorguiev, 1971: 9.

***Bidessus unistriatus* (Goeze, 1777)**

Published records from Montenegro: Guéorguiev, 1971: 10.

*Hydroglyphus* Motschulsky, 1853

***Hydroglyphus geminus* (Fabricius, 1792)**

Published records from Montenegro: “*Guignotus pusillus*”, Guéorguiev, 1971: 10.

***Hydroglyphus signatellus* (Klug, 1834)**

Published records from Montenegro: “*Guignotus signatellus*”, Guéorguiev, 1971: 10.

Tribe Hydroporini Aubé, 1836

*Deronectes* Sharp, 1882

***Deronectes latus* (Stephens, 1828)**

Published records from Montenegro: Guéorguiev, 1971: 14.

***Deronectes moestus* (Fairmaire, 1858)**

Published records from Montenegro: Guéorguiev, 1971: 14; Pešić and Pavićević, 2005: 25P.

*Graptodytes* Seidlitz, 1887

***Graptodytes flavipes* (Olivier, 1795)**

Published records from Montenegro:

“*Graptodytes concinnus*”, Guéorguiev, 1971: 13.

***Graptodytes pictus* (Fabricius, 1787)**

Published records from Montenegro: Guéorguiev, 1971: 13.

***Graptodytes veterator* Zimmermann, 1918**

New records: Podgorica, Sitnica River, 29.viii, 2004, 8 ex., leg. Pešić.

*Hydroporus* Clairville, 1806

***Hydroporus dobrogeanus* Ienistea, 1962**

New records: Podgorica area, village of Gornji Crnici,

Studenac Spring, vii.2005, 2 ex., leg. Pešić.

***Hydroporus ferrugineus* Stephens, 1828**

Published records from Montenegro: Guéorguiev, 1971: 11.

***Hydroporus hebaueri* Hendrich, 1990**

Published records from Montenegro: Nilsson, 2003: 61.

***Hydroporus jonicus* Miller, 1862**

Published records from Montenegro: Nilsson, 2003: 62; Fery, 2006: 28.

***Hydroporus palustris* (Linnaeus, 1761)**

Published records from Montenegro: Guéorguiev, 1971: 12.

***Hydroporus tessellatus* Drapiez, 1819**

Published records from Montenegro: Guéorguiev, 1971: 12.

***Hydroporus zimmermanni* J. Miller, 1926**

Published records from Montenegro: Guéorguiev, 1971: 13; Fery and Petrov, 2005: 261.

***Hydroporus longulus* Mulsant, 1860**

Published records from Montenegro: Guéorguiev, 1971: 13.

***Hydroporus discretus* Fairmaire, 1859**

Published records from Montenegro: Pešić and Pavićević, 2005: 25P; Fery and Pešić, 2006: 599.

*Nebrioporus* Régimbart, 1906

***Nebrioporus (Nebrioporus) suavis* (Sharp, 1882)**

Published records from Montenegro: Guéorguiev, 1971: 15.

*Oreodytes* Seidlitz, 1887

***Oreodytes davisii* (Curtis, 1831)**

Published records from Montenegro: Pešić and Pavićević, 2005: 25P.

***Oreodytes sanmarkii* (C. R. Sahlberg, 1834)**

New records: Kolašin, Bistrica Brook near Crkvine, 15.ix.2004, 12 ex., leg. Pešić.

*Porhydrus* Guignot, 1945

***Porhydrus lineatus* (Fabricius, 1775)**

Published records from Montenegro: Guéorguiev, 1971: 14.

*Scarodytes* Gozis, 1914

***Scarodytes savinensis* Zimmermann, 1933**

Published records from Montenegro: Guéorguiev, 1971: 16.

New records: Mt. Durmitor, ca. 6 km S of Sedlo (ca. 43.6 N 19.20 E), village of Dobri Do, Sopot Spring (source of Komarnica River) 31.vii.2002, 1 ex., leg. Pešić det. H. Fery.

***Scarodytes halensis* (Fabricius, 1787)**

Published records from Montenegro: Guéorguiev, 1971: 15; Pešić and Pavićević, 2005: 25P.

*Stictotarsus* Zimmermann, 1919

***Stictotarsus griseostriatus* (De Geer, 1774)**

Published records from Montenegro: “*Potamonectes griseostriatus*“, Guéorguiev, 1971: 15; “*Potamonectes griseostriatus*“, Pešić and Pavićević, 2005: 25P.

Tribe Hygrotini Portevin, 1929

*Hygrotus* Stephens, 1828

***Hygrotus (Coelambus) confluens* (Fabricius, 1787)**

Published records from Montenegro: “*Coelambus confluens*“, Guéorguiev, 1971:10.

***Hygrotus (Hygrotus) inaequalis* (Fabricius, 1776)**

Published records from Montenegro: Guéorguiev, 1971:10.

Tribe Hyphydrini Sharp, 1882

*Hyphydrus* Illiger, 1802

***Hyphydrus aubei* Ganglbauer, 1892**

Published records from Montenegro: Guéorguiev, 1971: 8.

***Hyphydrus ovatus* (Linnaeus, 1761)**

Published records from Montenegro: Mikšić, 1977: 39; Pešić and Pavićević, 2005: 25P.

Subfamily Laccophilinae Gistel, 1856

Tribe Laccophilini Gistel, 1856

*Laccophilus* Leach 1815

***Laccophilus minutus* (Linnaeus, 1758)**

Published records from Montenegro: Guéorguiev, 1971: 16; Pešić and Pavićević, 2005: 25P.

***Laccophilus hyalinus* (De Geer, 1774)**

Published records from Montenegro: Guéorguiev, 1971: 16; Pešić and Pavićević, 2005: 25P.

***Laccophilus poecilus* Klug, 1834**

Published records from Montenegro: “*Laccophilus variegatus*“, Guéorguiev, 1971: 16.

## DISCUSSION

The checklist of Montenegrin diving beetles (Dytiscidae and Noteridae) presented here contains 51 species of Dytiscidae (in 23 genera and five subfamilies) and one species of Noteridae. It goes without saying that our current knowledge of diversity of the diving beetle fauna is far from complete. Large portions of Montenegro remain

unexplored for diving beetles. In addition, only a fraction of the stagnant habitats in Montenegro have received attention. However, the present study is exhaustive and constitutes the most complete list of diving beetles in Montenegro. Further studies aimed at improving our knowledge about Montenegrin diving beetles should focus on collecting in little-known areas, revision of still unstudied material, and filling of the large gaps in available information about the diversity of diving beetles in stagnant waters and springs.

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## REFERENCES

- Fery, H. (2006). *Hydroporus incommodus* sp. n. from Slovakia, and notes on other members of the *H. striola* group (Coleoptera: Dytiscidae). *Koleopterol. Rund.* **76**, 23-34.
- Fery, H., and P. N. Petrov (2005). Nomenclatural, taxonomic, and faunistic notes on selected species of *Hydroporus* Clairville, 1806 (Coleoptera: Dytiscidae). *Russ. Entomol. J.* **14** (4), 251–262.
- Fery, H., and V. Pešić (2006). *Hydroporus macedonicus* nov. spec., a new member of the *planus* group (Coleoptera, Dytiscidae). *Linzer Biol. Beitr.* **38** (1), 595-604.
- Guéorguiev, B. V. (1971). Coleoptera Hydrocantes et Palpicornia. *Catalogus Faunae Jugoslaviae*, **III/6**, 1-45. Consilium Academiaram Scientiarum Rei Publicae Socialisticae Foederativae Jugoslaviae. Acad. Sci. Art. Slovenica, Ljubljana.
- Mikšić, R. (1977). Neue Beiträge zur Kenntnis des bestandes der Coleopteren-fauna des küstenlandes der Crna Gora. *Glas. Republ. Zavod. Zašt. Prirode* **10**, 37-40.
- Nilsson, A. N. (2003). Family Dytiscidae, In: *Catalog of Palaearctic Coleoptera*, 1. Archostemata - Myxophaga - Adephaga (Eds. I. Löbl and A. Smetana), 819 pp. Apollo Books, Stenstrup.
- Nilsson, A. N. (2007a). Fauna Europaea: Dytiscidae. *Fauna Europaea*, Version 1.3, <http://www.fauna-eur.org>
- Nilsson, A. N. (2007b). Fauna Europaea: Noteridae. *Fauna Europaea*, Version 1.3. <http://www.fauna-eur.org>
- Pešić, V., and A. Pavičević (2005). New records of water beetles (Coleoptera: Haliplidae, Dytiscidae, Gyrinidae) from Montenegro (SE Europe). *Arch. Biol. Sci. (Belgrade)*, **57** (4), 25P-26P.
- Pešić, V., and A. Saboori (2007). A checklist of the water mites (Acari: Hydrachnidia) of Iran. *Zootaxa* **1473**, 45-68.
- Vafaei, R., Ostovan, H., Incekara, Ü., and V. Pešić (2008). A faunistic study on the diving beetles (Coleoptera: Dytiscidae) of Markazi Province (Central Iran) with the new records. *Munis Entomol. Zool.* **3** (1), 165-170.

