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## AQUATIC BEETLE DATA FROM THE „SAILING AROUND THE BALKAN PENINSULA EXPEDITION” RANGING FROM THE CANAL SIÓ TO THE DANUBE DELTA

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### VÍZIBOGÁR-FAUNISZTIKAI ADATOK A „BALKÁNKERÜLŐ VITORLÁSEXPEDÍCIÓ” SIÓ-CSATORNÁTÓL DUNA-DELTAIG TARTÓ SZAKASZÁRÓL

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**KIVONAT:** 2006 tavaszán vízibogár-faunisztikai mintákat gyűjtöttünk a Sió-csatornából, a Dunából (Magyarország, Szerbia, és Románia területéről), valamint ezek szűkebb környezetéből. A mintavételi helyek többségét a vízparton és a csatlakozó vizes élőhelyeken jelöltük ki. Az állatokat kézháló segítségével gyűjtöttük.

A 30 mintavételi helyen 33 faj előfordulását mutattuk ki. Főleg tág tűrőképességű, gyakori fajok kerültek elő, de megtalálhatók voltak meleg-, illetve áramláskedvelő fajok is. A leggyakoribb fajok a *Hydroglyphus geminus* és a *Laccophilus poecilus* voltak. Kiemelendő faunisztikai adat a *Rhantus exsoletus* magyarországi előkerülése (Rezéti Holt-Duna), eddig ugyanis a fajnak nem volt hazai bizonyító példánya.

**ABSTRACT:** In the year 2006 aquatic beetle faunistical samples were taken from the Canal Sió, from the Danube (through Hungary, Serbia, Romania), and from the near surroundings. Sampling sites were mostly on the shores of the rivers, and on the connecting wet habitats. Aquatic beetles were collected by a long handled pond net. The occurrences of 33 species were reported from 30 sampling sites. Mostly common, ubiquitous species were detected, but thermo- and rheophilous species also occurred. The most frequent species were *Hydroglyphus geminus* and *Laccophilus poecilus*. An important faunistical record is the occurrence of *Rhantus exsoletus* from Rezéti Holt-Duna (Hungary), this species did not have any documented specimen in Hungary before.

**Key words:** aquatic coleoptera, faunistics, *Rhantus exsoletus*, Balkan

## Introduction

In accordance with its great length rather few investigations were carried out on the aquatic beetle fauna of the Danube, so the river has more or less an unknown beetle fauna (OERTEL et al. 2005). We found only eight publications in this topic. Seven of them gave data from Hungary (ÁDÁM 1992, CSABAI et al. 2003, CSABAI et al. 2005, CSABAI and NOSEK 2006a,b, OERTEL et al. 2005, SZÉL 1992) and one from Romania, from the Danube delta (ŠŤASTNÝ and TRÁVNÍČEK 2000).

## Materials and methods

A very good opportunity was to achieve new aquatic beetle faunistical records from the Danube and the narrow surroundings the Sailing Expedition around the Balkan Peninsula. It started on the 10th of May 2006 from the Lake Balaton, Hungary, reached the River Danube through the Canal Sió at the 1497 river kilometer, continued along the flow of the river in Hungary, Serbia, Romania and reached the Black Sea through the Danube Delta and the Branch Saint Georges on the 6th of June 2006. However the expedition continued through Bulgaria, Turkey, Greece, Italy, Croatia and Slovenia, water beetles were sampled only from freshwater habitats along the Canal Sió, the River Danube, and the Danube Delta.

Aquatic beetles were collected by a long handled pond net, with a mesh size of 0.2 mm. The captured specimens were preserved in ethyl-alcohol (70%). The beetles were identified in laboratory by using keys and descriptions by CSABAI (2000) and CSABAI et al. (2002), the nomenclature follows CSABAI (2003). The specimens of Dryopidae and Hydraenidae were identified at family level.

By the choosing of the sampling sites we aimed to sample the utmost kind of habitats, and to sample at the utmost days of the expedition. The main habitat types we sampled were the followings:

- a.) The shore of the main stream of the rivers (Canal Sió and Danube), covered with any vegetation (grass, sedge, reed-grass, rush, etc.)
- b.) The minor streams connecting to the Danube. Beetles were collected from the woody debris.
- c.) Floodplains generally with softwood plantations inundated more or less with water (*Salix*, *Populus* species mostly)
- d.) Water bodies with submerged and/or emerged vegetation (*Lemna* spp, *Potamogeton* spp, *Stratiotes* spp, *Nymphaea* spp.)
- e.) Fountains in Mohács (Hungary).

Altogether 30 samples were taken from the Canal Sió to the Danube delta, from 10<sup>th</sup> May to 04<sup>th</sup> June 2006.

The list of the sampling sites (with location, date, geo-coordinates and nearest settlement):

1. Shore of Canal-Sió. 10.05.2006. N 46°52.59', E 18°10.91'. Ádánd (Hungary).
2. Shore of Canal Sió. 05.10.2006. N 46°43.2', E 18°37.2'. Pálfa (Hungary).
3. Shore of Canal Sió. 05.10.2006. N 46°37.8', E 18°36.6'. Sárszentlőrinc (Hungary).
4. Shore of Canal Sió. 05.11.2006. N 46°25.98', E 18°38.95'. Medina (Hungary).
5. Wet meadow along the Canal Sió, near the site N<sup>o</sup>4. 2006. 05. 11. N 46°25.98',

- E 18°38.95'. Medina (Hungary).
6. Rezéti Holt-Duna (oxbow-lake). 05.11.2006. N 46°12.73', E 18°53.88'. Baja (Hungary).
  7. Small pond near the Danube. 05.12.2006. N 46°2.01' E 18°42.43'. Mohács, (Hungary)
  8. Fountain in Mohács, Szepessy-square (not working). 14.05.2006. N 45°59.4', E 18°41.4'. (Hungary)
  9. Fountain in Mohács, Bensheim-square (working). 14.05.2006. N 45°59.4', E 18°41.4'. (Hungary)
  10. Danube floodplain with Populus-plantation, woody debris. Kality-island. 15.05.2006. N 45°29.05', E 19°4.32'. Pelagicovo (Serbia).
  11. Danube (Bökényi-Duna) floodplain, Serbia. 15.05.2006. N 45°14.38', E 19°16.52'. Backa Palanka (Serbia).
  12. Oxbow-lake of Danube, before the Tisza-inflow. 16.05.2006. N 45°08.20', E 20°16.42'. Stari Stankamen (Serbia).
  13. Danube shore, Serbia. 18.05.2006. N 44°48.03', E 21°22.93'. Ram (Serbia).
  14. Brook flowing into the Danube, in the Vaskapu-valley (Portile de Fier (Iron Gate)). 20.05.2006. N 44°32.45', E 22°03.28'. Lepenski Vir (Romania).
  15. Small pond sloughed off from the Danube, 1 km down from sampling site N<sup>o</sup>14. 20.05.2006. N 44°31.7', E 22°03.7'. Lepenski Vir (Romania).
  16. Brook flowing into the Danube. 20.05.2006. N 44°42', E 22°24'. Orsova (Romania).
  17. Danube shore with Phragmites and Typha species. 21.05.2006. N 44°33.92', E 22° 45.50'. Hinova (Romania)
  18. Populus plantation, before the village Cetate. 22.05.2006. N 44°06.06', E 22°59.51'. Evdokya (Romania).
  19. Side arm of the Danube, behind the Island Carabulea. 24.05.2006. N 43°45.12', E 23°54.13'. Orjakhovo (Romania).
  20. The west part of the Island Piasacinic, softwood forest. 26.05.2006. N 44°02.33', E 26°20.48'. Ryakhovo (Romania).
  21. Danube floodplain with Salix species. 26.05.2006. N 44°13.59', E 27°46.24'. Oltina (Romania).
  22. Inundated softwood forest. 27.05.2006. N 44°33.21', E 28°01.56'. Topalu (Romania).
  23. Inundated softwood forest. 28.05.2006. N 45°03.94', E 27°54.74'. Gropeni (Romania).
  24. Danube floodplain with Salix species. 29.05.2006. N 45°18.6', E 28°22.3'. Olivka (Romania).
  25. Danube delta. 30.05.2006. N 45°13.04', E 28°45.31'. Paltageanca (Romania).
  26. Danube delta, St. George arm, floodplain with softwood forest. 30.05.2006. N 45°08.90', E 28°56.67'. Nufaru (Romania).
  27. Danube delta, Canal Litcov, inundated forest-plantation. 31.05.2006. N 45°07.27', E 29°11.88'. Bestepe (Romania).
  28. Danube delta, the inflow of the Canal Litcov and Potcoava. 01.06.2006. N 45°08.07', E 29°13.84'. Bestepe (Romania).
  29. Danube delta, side arm of the Danube. 04.06.2006. N 45°00.66', E 29°24.92'. Crisan (Romania).
  30. Danube delta. 04.06.2006. N 44°53.68', E 29°35.29'. Sfintu Gheorghe (Romania).



Aquatic beetles were not found at 5 sampling sites (N<sup>o</sup> 3, 4, 26, 27, 28). The most frequent species were *Hydroglyphus geminus* (7 sites) and *Laccophilus poecilus* (6 sites). We found mostly common, ubiquitous species (*Anacaena limbata*, *Helochares obscurus*, *Noterus crassicornis*, etc.). Several thermophilous species also occurred (e.g. *Berosus signaticollis*, *Helophorus montenegrinus*), as like species which prefer slow-flowing waters (e.g. *Halipus fluviatilis*, *Gyrinus distinctus*).

An important faunistical data is the occurrence of a female *Rhantus exsoletus*: this is the first documented specimen of the species in Hungary. This species was mentioned only in publications (BÍRÓ 1883, ENDRÓDI 1974, SPEISER 1893, WACHSMANN 1907) probably based on misidentification (ÁDÁM 1992), (there are no voucher specimens).

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