

Koleopterologische Rundschau	78	43–53	Wien, Juli 2008
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Diving Beetles of Mongolia (Coleoptera: Dytiscidae)

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Abstract

Sixty-four species of the water beetle family Dytiscidae were collected from 84 localities in the north-central part of Mongolia, in the basin of the Selenge River, during 2003–2006. Twenty species and one subspecies of Dytiscidae are recorded from Mongolia for the first time. According to the present study and literature data, 87 species of Dytiscidae are currently known from Mongolia.

Key words: Coleoptera, Dytiscidae, faunistics, Mongolia.

Introduction

The dytiscid fauna of Mongolia is relatively well known due to the works of BELLSTEDT (1985), BRANCUCCI (1982), BRINCK (1943), GUÉORGUIEV (1965, 1968, 1969, 1972), and more recent studies (FERY 2003, SHAVERDO 2004, SHAVERDO & FERY 2001).

Nonetheless, new faunistic data and new species of Dytiscidae were obtained recently through the “Selenge River Basin Expeditions, 2003–2006” (FERY & PETROV 2006, SHAVERDO & FERY 2006).

The aim of this paper is to report the faunistic results of the Dytiscidae collected during the “Selenge River Basin Expeditions, 2003–2006”, and to present a checklist of the Mongolian dytiscids known so far. A similar checklist for the Hydrophilidae has been published by SHORT & KANDA (2006).

Material and methods

The present work is primarily based on our examination of well over 3500 diving beetle specimens collected during the “Selenge River Basin Expeditions, 2003–2006”, carried out by scientists associated with The Academy of Natural Sciences of Philadelphia, USA and the Mongolian Academy of Sciences, Ulaan Baatar, Mongolia. It also includes additional material made available by E. Davaadorj.

The material is deposited in the following collections: The Academy of Natural Sciences of Philadelphia, USA (J. Gelhaus); University of Kansas Natural History Museum, Lawrence, Kansas, USA (A.E.Z. Short); Mongolian Academy of Sciences, Ulaan Baatar, Mongolia (B. Namkhaidorj); collection of H.V. Shaverdo, deposited in the Vienna Natural History Museum, Austria; collection of H. Fery, Berlin, Germany, property of the Vienna Natural History Museum, Austria; Museo Nacional de Ciencias Naturales, Madrid, Spain (I. Ribera).

The faunistic data on the species treated herein are based on the following papers: FERY (2003), NILSSON (2001, 2002, 2003, 2004), SHAVERDO (2004), SHAVERDO & FERY (2001).

Larvae were identified using existing descriptions but mostly based on collecting in association with the adults.

Description of study area and sampling localities

The study area is situated in the north-central part of Mongolia, in the basin of the Selenge River (Fig. 1). The Selenge River Basin is approximately 800 km (east to west) by 400–500 km (north to south). The region contains a variety of aquatic habitats, including rivers, streams, marshes, springs, and freshwater as well as saltwater lakes (Figs. 2–7). Three main mountain chains are present in the drainage, including the Hentii (Hentiy), Hangai (Hangay), and Sayan Mountains, with elevations over 3000 m. The Selenge River is composed of a number of tributaries that coalesce to form the Selenge River proper just prior to flowing into Russia. These include the Orkhon, draining the eastern and north-central Hangai Mountains, the Egin and Delger Moron Rivers, draining the Lake Hovsgol region, the Ider and Chuluut Rivers, draining the north and western Hangai, and the Tuul and Yeroo Rivers, draining the southern and western Hentii Mountains. Terrestrially, the basin is a mixture of steppe grasslands, larch forests, and alpine and taiga biomes. The watershed eventually terminates in the geologically ancient Lake Baikal (Russia), although the Russian portion of the basin was not surveyed for this work.

During the expeditions 197 sampling stations were examined. Only those 84 localities – also including the label data (11 localities) of the material made available by E. Davaadorj – which yielded dytiscid beetles are listed below and presented on the map (Fig. 1).

1. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, Tuul River, ca. 0.5 km upstream of Park Gate bridge, N47.82258 E107.33613, 1305 m a.s.l., 05.VII.2003, leg. Selenge River Project Team, SRP03070501.
2. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, W Bayangin Gol, 8.2 km upstream of Tuul River Road, N48.08026 E107.63841, 1527 m a.s.l., 06.VII.2003, leg. Selenge River Project Team, SRP03070603.
3. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, Khokh Chuluutiin Gol, N48.12675 E107.57996, 1680 m a.s.l., 06.VII.2003, leg. Selenge River Project Team, SRP03070604.
4. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, W Bayangin Gol, 20.1 km upstream of Tuul River Road, N48.16668 E107.69548, 1623 m a.s.l., 06.VII.2003, leg. Selenge River Project Team, SRP03070605.
5. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, E Bayangin Gol, 12.9 km upstream of Tuul River Bridge, N48.14846 E107.75838, 1596 m a.s.l., 07.VII.2003, leg. Selenge River Project Team, SRP03070703.
6. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, E Bayangin Gol, 4.2 km upstream of Tuul River Bridge, N48.07956 E107.77729, 1526 m a.s.l., 07.VII.2003, leg. Selenge River Project Team, SRP03070704.
7. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, Tuul River, 10.1 km upstream of Tuul River Bridge, N48.09549 E107.84265, 1531 m a.s.l., 08.VII.2003, leg. Selenge River Project Team, SRP03070801.
8. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, pond in floodplain of Galtain Gol, N48.13066 E107.92122 1563 m a.s.l., 08.VII.2003, leg. Selenge River Project Team, SRP03070803.
9. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, unnamed braid of Tuul River, N48.14846 E107.91267 1564 m a.s.l., 08.–09.VII.2003, leg. Selenge River Project Team, SRP03070805.
10. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, Galtain Spring, 4.5 km upstream of road crossing, N48.18393 E107.96222, 1649 m a.s.l., 09.VII.2003, leg. Selenge River Project Team, SRP03070901.
11. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, pool on unnamed tributary of Tuul River on west side, ca. 5 km upstream from Daichin crossing, N48.24734 E107.90589, 1610 m a.s.l., 10.VII.2003, leg. Selenge River Project Team, SRP03071001-C.
12. Tov Aimag, Erdene Soum, Gorkhi Terelj National Park, E side oxbow of Tuul River, N48.11488 E107.89319, 1560 m a.s.l., 11.VII.2003, leg. Selenge River Project Team, SRP03071102.
13. Tov Aimag, Batsumber Soum, unnamed tributary of Segnogor Gol, 14.3 km upstream of Segnogor Amralt, N48.43755 E107.03066, 1255 m a.s.l., 15.VII.2003, leg. Selenge River Project Team, SRP03071501-A.
14. Tov Aimag, Batsumber Soum, Segnogor Gol, 14.3 km upstream of Segnogor Amralt, N48.43755 E107.03066, 1255 m a.s.l., 15.VII.2003, leg. Selenge River Project Team, SRP03071501-B.

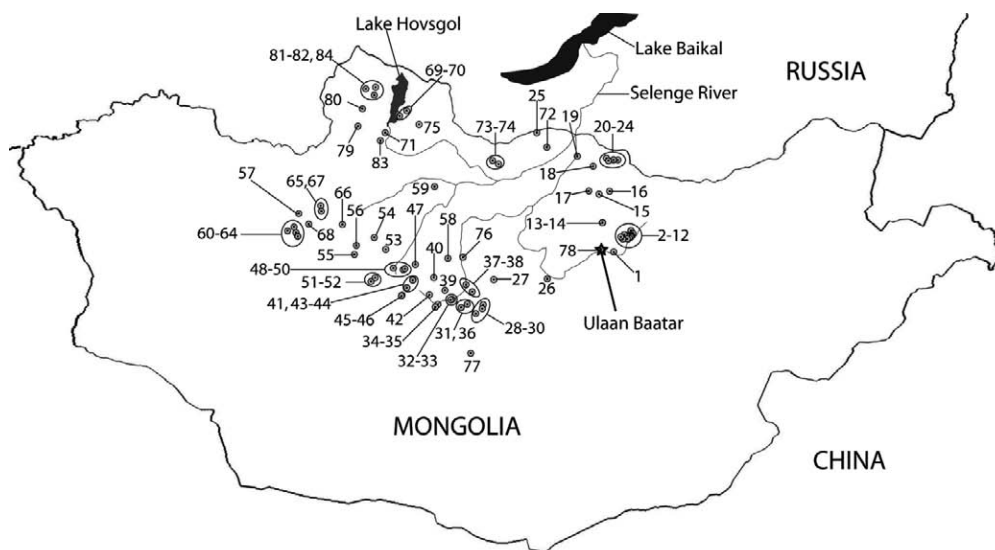


Fig. 1: Map of Mongolia showing sampling localities which yielded Dytiscidae.

15. Selenge Aimag, Bugant/Yaroo Soum, Bar Chuluu Gol, N49.03282 E106.96935, 975 m a.s.l., 17.VII.2003, leg. Selenge River Project Team, SRP03071704.
16. Selenge Aimag, Bugant/Yaroo Soum, Khongiin Gol at Yeroo Gol confluence, N49.08636 E107.30750, 943 m a.s.l., 18.–19.VII.2003, leg. Selenge River Project Team, SRP03071803.
17. Selenge Aimag, Mandal Soum, Sharingol headwaters, 4.6 km below southern ridgetop, N49.10789 E106.65275, 1124 m a.s.l., 21.VII.2003, leg. Selenge River Project Team, SRP03072101.
18. Selenge Aimag, Bugant/Yaroo Soum, Yeroo River, ca. 14 km upstream of Yavin/Yeroo Bridge, N49.61985 E106.82693, 695 m a.s.l., 22.VII.2003, leg. Selenge River Project Team, SRP03072201.
19. Selenge Aimag, Javkhlant Soum, Yeroo River, 11.5 km upstream of Dulaan Khaan Bridge, N49.84014 E106.33228, 647 m a.s.l., 22.–23.VII.2003, leg. Selenge River Project Team, SRP03072202-A.
20. Selenge Aimag, Khuder Soum, Khandgait Lake, 35.4 km E Khandgait Brigade (farm) and ca. 18 km SW Khuder, N49.72086 E107.32710, 819 m a.s.l., 23.VII.2003, leg. Selenge River Project Team, SRP03072301
21. Selenge Aimag, Khuder Soum, Tsagaan Shiluustiin Gol, ca. 5 km S Khuder, N49.73763 E107.49333, 704 m a.s.l., 23.–24.VII.2003, leg. Selenge River Project Team, SRP03072302.
22. Selenge Aimag, Khuder Soum, Zerlegiin Gol, ca. 12 km E Khuder, N49.73130 E107.63484, 763 m a.s.l., 24.VII.2003, leg. Selenge River Project Team, SRP03072401.
23. Selenge Aimag, Khuder Soum, Galttiin Gol, ca. 6 km S Khuder, N49.73769 E107.48766, 702 m a.s.l., 24.–25.VII.2003, leg. Selenge River Project Team, SRP03072402.
24. Selenge Aimag, Khuder Soum, unnamed stream, 54.2 km E Tavin (Yeroo), N49.77751 E107.26517, 907 m a.s.l., 25.VII.2003, leg. Selenge River Project Team, SRP03072501.
25. Selenge Aimag, Tushig Soum, Zelter Gol at Zelter, N50.35162 E105.04436, 736 m a.s.l., 26.VII.2003, leg. Selenge River Project Team, SRP03072601.
26. Tov Aimag, Ondorshireet Soum, Tuul River, ca. 1.5 km W Tuul Ovoot Bridge, downstream of road to Arvayheer, N47.31096 E105.27119, 1042 m a.s.l., 03.–04.VII.2004, leg. A.E.Z. Short, AS-04-071 / SRP04070301.
27. Bulgan Aimag, Rashaant Soum, Tarnin Gol at Millenial Road A0301, marker 283.7 km, N47.30766 E103.64377, 1255 m a.s.l., 04.VII.2004, leg. A.E.Z. Short, AS-04-073 / SRP04070402.

28. Ovorhangay Aimag, Esonzyil Soum, Zegst/Sarin Gol, 74 km NW Arvayheer, N46.79062 E103.32486, 1665 m a.s.l., 04.–05.VII.2004, leg. A.E.Z. Short, AS-04-074 / SRP04070403.
29. Ovorhangay Aimag, Zuunbayan-Ulaan Soum, Millenium Road A0301, marker 380.6 km, ca. 50 km NE Arvayheer, N46.60919 E103.10400, 1820 m a.s.l., 05.VII.2004, leg. A.E.Z. Short, AS-04-076 / SRP04070502.
30. Ovorhangay Aimag, Olziyt Soum, Zegesteyn Gol at Millenium Road A0301, N46.70964 E103.29938, 1694 m a.s.l., 05.VII.2004, leg. A.E.Z. Short, AS-04-077 / SRP04070503.
31. Ovorhangay Aimag, Khujirt Soum, Kharzanii Gol, 12 km SE Khujirt, N46.80020 E102.84406, 1706 m a.s.l., 06.VII.2004, leg. A.E.Z. Short, AS-04-079 / SRP04070601.
32. Ovporhangay Aimag, Bat-Olziy Soum, Orkhon Gol, ca. 34 km W Khujirt, N46.89303 E102.39457, 1610 m a.s.l., 06.VII.2004, leg. A.E.Z. Short, AS-04-080 / SRP04070602.
33. Ovorhangay Aimag, Bat-Olziy Soum, braid of Orkhon Gol, ca. 40 km W Khujirt, N46.88586 E102.34386, 1646 m a.s.l., 06.–07.VII.2004, leg. A.E.Z. Short, AS-04-081 / SRP04070603.
34. Ovorhangay Aimag, Bat-Olziy Soum, Orkhon's Waterfall on Ulaan Gol, ca. 300 m S Orkhon Gol, ca. 84 km W Khujirt, N46.78742 E101.96021, 1809 m a.s.l., 07.VII.2004, leg. A.E.Z. Short, AS-04-082 / SRP04070701.
35. Ovorhangay Aimag, Bat-Olziy Soum, Ulaan Gol, ca. 93 km W Khujirt, N46.73093 E101.88583, 1894 m a.s.l., 07.–08.VII.2004, leg. A.E.Z. Short, AS-04-083 / SRP04070702.
36. Ovorhangay Aimag, Khujirt Soum, pools by springs, 10 km W Khujirt, N46.91520 E102.66273, elev. 1651 m a.s.l., 08.VII.2004, leg. A.E.Z. Short, AS-04-084 / SRP04070802.
37. Ovorhangay Aimag, Kharkhorin Soum, Kharzani Gol, 3.5 km NE Shankh Bridgade, N47.05722 E102.99191, 1519 m a.s.l., 08.VII.2004, leg. A.E.Z. Short, AS-04-085 / SRP04070803.
38. Ovorhangay Aimag, Kharkhorin Soum, Orkhon Gol, 6 km W Kharkhorin center, N47.20226 E102.80169, 1462 m a.s.l., 08.–09.VII.2004, leg. A.E.Z. Short, AS-04-086 / SRP04070901.
39. Arkhangay Aimag, Khotont Soum, tributary of Tsagaan Sumiin/Jarantain Gol, ca. 43 km SW Khotont, N47.07888 E102.16608, 1699 m a.s.l., 09.–10.VII.2004, leg. A.E.Z. Short, AS-04-087 / SRP04070902.
40. Arkhangay Aimag, Tsenkher Soum, Nuuriin Khooloi Lake, ca. 9 km SW Tavanbulag, N47.33933 E101.82093, 1693 m a.s.l., 10.VII.2004, leg. A.E.Z. Short, AS-04-088 / SRP04071001.
41. Arkhangay Aimag, Tsenkher Soum, Tsenkher River of branch Tamir River, N47.27322 E101.180360, 10.VII.2004, leg. E. Davaadorj.
42. Arkhangay Aimag, Tsenkher Soum, Uliin Gol in Budent Valley, ca. 60 km SSW Tavanbulag, N46.97927 E101.69877, 2075 m a.s.l., 11.VII.2004, leg. A.E.Z. Short, AS-04-089 / SRP04071101.
43. Arkhangay Aimag, Bulgan Soum, Urd Tamir Gol, ca. 38 km SW Tsetserleg, N47.28244 E101.18793, 1872 m a.s.l., 12.–13.VII.2004, leg. A.E.Z. Short, AS-04-090 / SRP04071201.
44. Arkhangay Aimag, Bulgan Soum, Urd Tamir Gol braid upstream of bridge, ca. 63 km SW Tsetserleg, N47.11192 E101.01048, 2066 m a.s.l., 13.–15.VII.2004, leg. A.E.Z. Short, AS-04-091 / SRP04071302.
45. Arkhangay Aimag, Bulgan Soum, unnamed hillside tributary of Khairkhan Davaani Gol, N46.94286 E100.85532, 2311 m a.s.l., 13.VII.2004, leg. J.K. Gelhaus, J.C. Morse, A.E.Z. Short, AS-04-092 / SRP04071303.
46. Arkhangay Aimag, Bulgan Soum, 4 m puddle in road of dry Khaihkan Davaani Gol, ca. 86 km SW Tsetserleg, N46.95639 E100.87267, 2282 m a.s.l., 13.VII.2004, leg. A.E.Z. Short, J.K. Gelhaus, AS-04-093 / SRP04071304.
47. Arkhangay Aimag, Ikhtamir Soum, E side of Khoit Tamir Gol, 4 km NE Ikhtamir, N47.59928 E101.24521, 1602 m a.s.l., 14.VII.2004, leg. A.E.Z. Short, AS-04-095 / SRP04071401.
48. Arkhangay Aimag, Ikhtamir Soum, NW braid of Khoit Tamir Gol, ca. 25 km SW Ikhtamir, N47.50523 E100.93208, 1728 m a.s.l., 14.–15.VII.2004, leg. A.E.Z. Short, AS-04-096 / SRP04071402.
49. Arkhangay Aimag, Ikhtamir Soum, Khoit Tamir Gol, ca. 29 km SW Ikhtamir, N47.48567 E100.87875, 1749 m a.s.l., 15.VII.2004, leg. A.E.Z. Short, AS-04-097 / SRP04071501.
50. Arkhangay Aimag, Chuluut Soum, Khanui Gol, ca. 60 km SW Ikhtamir, N47.50949 E100.57510, 1981 m a.s.l., 15.VII.2004, leg. A.E.Z. Short, AS-04-098 / SRP04071502.

51. Arkhangay Aimag, Chuluut Soum, ponds at Egiin Davaa, ca. 47 km SW Chuluut/Jargalant, N47.21198 E99.94114, 2582 m a.s.l., 16.VII.2004, leg. A.E.Z. Short, J.K. Gelhaus, E. Davaadorj, AS-04-100 / SRP04071601.
52. Arkhangay Aimag, Chuluut Soum, Chuluutin Gol, ca. 33 km SW Chuluut/Jargalant, N47.29702 E100.03136, 2287 m a.s.l., 16.–17.VII.2004, leg. A.E.Z. Short, AS-04-102 / SRP04071603.
53. Arkhangay Aimag, Chuluut Soum, Chuluutin Gol, 40 km N Chuluut/Jargalant, N47.890440 E100.31810, 1937 m a.s.l., 17.VII.2004, leg. A.E.Z. Short, AS-04-103 / SRP04071701.
54. Arkhangay Aimag, Tariat Soum, Nariin Gichgenii Gol/Urd Terkh Gol, ca. 5 km SE Khorgo/Tariat, N48.12661 E99.94128, 2019 m a.s.l., 17.–18.VII.2004, leg. A.E.Z. Short, AS-04-104 / SRP04071702.
55. Arkhangay Aimag, Khangay Soum, Khoit Ekhonii Gol, ca. 13 km SW Khunt, N47.75747 E99.35827, 2215 m a.s.l., 18.–19.VII.2004, leg. Selenge River Project Team, AS-04-107 / SRP04071803.
56. Arkhangay Aimag, Khangay Soum, Urd Terkhiin Gol/Tatuur Gol, ca. 10 km N Khunt, N47.94551 E99.40171, 2108 m a.s.l., 19.VII.2004, leg. Selenge River Project Team, AS-04-108 / SRP04071902.
57. Zavkhan Aimag, Tosontsengel Soum, Delgarakhiin Gol, ca. 16 km S Tosontsengel, N48.61518 E98.23096, 1761 m a.s.l., 20.–21.VII.2004, leg. Selenge River Project Team, AS-04-110 / SRP04072001.
58. Zavkhan Aimag, Tosontsengel Soum, oxbow of Ideriin Gol, 9 km SW Tosontsengel, N48.72943 E98.19552, 1714 m a.s.l., 21.VII.2004, leg. Selenge River Project Team, AS-04-111 / SRP04072101.
59. Zavkhan Aimag, Tosontsengel Soum, unnamed reed lake and marsh by Tegshiin Gol, ca. 70 km SW Tosontsengel, N48.33127 E97.8645, 22.VII.2004, leg. A.E.Z. Short, J.K. Gelhaus, E. Davaadorj, AS-04-113 / SRP04072202.
60. Zavkhan Aimag, Ider Soum, Ideriin Gol, ca. 4 km NE Zuunmod/Ider, N48.24995 E97.40627, 1929 m a.s.l., 22.–23.VII.2004, leg. Selenge River Project Team, AS-04-114 / SRP04072203.
61. Zavkhan Aimag, Ider Soum, ponds by Ideriin Gol at Darkhjan Uul Brigade, ca. 12 km SE Zuunmod/Ider, N48.13246 E97.48425, 2025 m a.s.l., 23.VII.2004, leg. A.E.Z. Short, AS-04-115 / SRP04072301.
62. Zavkhan Aimag, Ider Soum, Ideriin Gol, ca. 22 km SE Zuunmod/Ider, N48.05989 E97.55073, 2053 m a.s.l., 23.–24.VII.2004, leg. A.E.Z. Short, AS-04-116 / SRP04072303.
63. Zavkhan Aimag, Ider Soum Dogshin/Nogoon Nuur, ca. 21 km SE Zuunmod/Ider, N48.06257 E97.55064, 2054 m a.s.l., 23.–24.VII.2004, leg. A.E.Z. Short, AS-04-117 / SRP04072302.
64. Zavkhan Aimag, Ider Soum, Zagastain Gol, ca. 11 km NNE Zagastain Davaa, N48.15779 E97.21441, 2108 m a.s.l., 24.VII.2004, leg. A.E.Z. Short, AS-04-118 / SRP04072401.
65. Zavkhan Aimag, Telmen Soum, Ideriin Gol, ca. 15 km SSW Telmen/Ovogdii, N48.53255 E97.52093, 1823 m a.s.l., 24.–25.VII.2004, leg. A.E.Z. Short, AS-04-119 / SRP04072402.
66. Zavkhan Aimag, Ikh-Uul Soum, Deed Tsetsuukhiin Gol, ca. 10 km NW Solongotiin Davaa, N48.36436 E98.92737, 2072 m a.s.l., 25.VII.2004, leg. A.E.Z. Short, AS-04-121 / SRP04072502.
67. Arkhangay Aimag, Battsengel Soum, Tamirin/Shandinam Gol, ca. 25 km WNW Zegstei, N47.73941 E102.23811, 1377 m a.s.l., 26.–27.VII.2004, leg. A.E.Z. Short, AS-04-123 / SRP04072601.
68. Bulgan Aimag, Bayan Agt Soum, Hoyor Ikhtiin am mountain, 35 km NW of village center, N49.2220 E101.7745, 1523 m a.s.l., 16.VI. 2005, leg. E. Davaadorj.
69. Hovsgol Aimag, Chandmani-Ondor Soum, pond near the Bulnai hot spring, 59 km NW Hatgal Soum, N50.79661 E100.79002, 1732 m a.s.l., 21.VI.2005, leg. E. Davaadorj.
70. Hovsgol Aimag, Hatgal Soum, 39.2 km NE Hatgal Soum center, N50.68402 E100.56275, 1727 m a.s.l., 22.VI.2005, leg. E. Davaadorj.
71. Hovsgol Aimag, Hatgal Soum, valley of Aduunii am, 18 km WS of village center, N50.31875 E100.12263, 1609 m a.s.l., leg. E. Davaadorj.
72. Selenge Aimag, Tsagaan Nuur Soum, 10.1 km SW Tsagaan Nuur, N50.04519 E105.36084, 706 m a.s.l., wetland, 6.VII.2005, leg. E. Davaadorj, SRP05070601.
73. Bulgan Aimag, Teshig Soum, west branch of Tariakhtain Gol, N49.70189 E103.80034, 1432 m a.s.l., 9.VII.2005, leg. E. Davaadorj, SRP05070901.



Figs. 2–7: Sampling localities: 2) 35; 3) 42; 4) 45; 5) 47; 6) 55; 7) 63. Photographs by A.E.Z. Short.

74. Bulgan Aimag, Teshig Soum, main branch of Tariakhtain Gol, N49.77796 E103.60863, 1203 m a.s.l., 9.–10.VII.2005, leg. E. Davaadorj, SRP05070902.
75. Hovsgol Aimag, Chandmani-Ondor Soum, Khalkhan Gol, 19.8 km E Chandmani-Ondor, N50.51523 E101.21074, 1220 m a.s.l., 17.–18.VII.2005, leg. E. Davaadorj, SRP05071702a.
76. Arkhangay Aimag, Ugii Soum, confluence of Old Orkhon River and Ugii Lake, N47.76516 E102.70136, 1334 m a.s.l., leg. Badamjargal.

77. Ovorhangay Aimag, Bat-Ulziit Soum, upper of falls Ulaan Tsutgalan, N45.78861 E102.96002, 1797 m a.s.l., 09.IX.2005.
78. Tov Aimag, Ulaan Baatar Soum, S from Ulaan Baatar, on Tuul Gol, N47.88849 E106.9419, 23.VI.2006, leg. P.J. Torres.
79. Hovsgol Aimag, Ulaan Uul Soum, unnamed tributary of Beltes Gol, 38 km NW Sumber, N50.43012 E99.21664, 2090 m a.s.l., 28.VI.2006, leg. P.J. Torres, SRP06062803.
80. Hovsgol Aimag, Ulaan Uul Soum, Bagtag Gol and wetland, ponds, marshy meadow, 15 km NNE Ulaan Uul, N50.80484 E99.32228, 1598 m a.s.l., 29.–30.VI.2006, leg. P.J. Torres, SRP06062904 & 06063001.
81. Hovsgol Aimag, Renchinlumbe Soum, wetland (three ponds) in sandy grassland, 19 km N Renchinlumbe, N51.27236 E99.71152, 1595 m a.s.l., 2.VII.2006, leg. P.J. Torres, SRP06070202.
82. Hovsgol Aimag, Tsagaan Nuur Soum, Dood Tsagaan Nuur, 7.6 km SE Tsagaan Nuur, 04.VII.2006, N51.23057 E99.38822, leg. P.J. Torres, SRP06070402.
83. Hovsgol Aimag, Bayanzurh Soum, stream of Emtin Gol, ca. 2 km S Bayanzurh, N50.15020 E99.97738, 1625 m a.s.l., 6.VII.2006, leg. P.J. Torres, SRP06070602.
84. Hovsgol Aimag, Renchinlumbe Soum, 1 km SE Renchinlumbe, in puddle near road, 06.VII.2006, leg. P.J. Torres.

Results

The results of the study are given as a checklist of species (Table 1) which is arranged according to NILSSON (2001). The checklist is based mainly on identified adults since the larvae of some species (particularly those of *Agabus*, *Hydroporus*, *Hygrotus*, and *Dytiscus*) cannot be identified with certainty. Also it includes literature records. Altogether, 64 species of Dytiscidae have been collected by the “Selenge River Basin Expeditions, 2003–2006”. Twenty species and one subspecies of Dytiscidae are here recorded from Mongolia for the first time. One species of the *Hydroporus acutangulus*-complex could not be identified with certainty pending a revision of this species complex. We have not included *Oreodytes alpinus* into the list since its record from Mongolia most probably refers to *O. mongolicus* (SHAVERDO & FERY 2006).

According to this checklist 87 species of Dytiscidae are currently known from Mongolia.

Table 1: List of the species recorded from Mongolia.

Species recorded from Mongolia for the first time are indicated by an asterisk (*).

L1–L3: larval instars.

	Species	localities (number of specimens) / references
1	<i>Agabus adpressus</i> AUBÉ	3(2), 9(1), 11(2), 24(1), 35(6), 42(1), 43(9), 48(17), 52(1), 55(5), 62(1), 64(5), 66(2), 83(3)
2	* <i>Agabus aequalis</i> SHARP	31(2), 41(4), 42(2)
3	<i>Agabus angusi</i> NILSSON	NILSSON (2003)
4	<i>Agabus arcticus alpinus</i> (MOTSCHULSKY)	11(3), 12(1), 47(1), 58(10), 61(18), 63(1)
5	<i>Agabus basalis</i> (GEBLER)	NILSSON (2003)
6	<i>Agabus biguttulus</i> (THOMSON)	NILSSON (2003)
7	<i>Agabus brandti</i> HAROLD	NILSSON (2003)
8	<i>Agabus clavicornis</i> SHARP	4(2), 6(1), 11(2), 12(1), 70(1)
9	<i>Agabus confinis</i> (GYLLENHAL)	NILSSON (2003)
10	<i>Agabus congener</i> (THUNBERG)	17(1)
11	<i>Agabus costulatus</i> (MOTSCHULSKY)	4(1), 5(2), 10(2), 11(2), 17(4), 39(1), 42(16), 55(91),

		57(3), 62(16), 64(4), 65(1), 66(9), 68(4), 69(1)
12	<i>Agabus c. coxalis</i> SHARP	30(1), 31(1), 35(1), 59(39), 60(1), 61(3), 65(7)
13	<i>Agabus dichrous</i> SHARP	27(2), 59(2), 65(1)
14	<i>Agabus fulvaster</i> ZAITZEV	NILSSON (2003)
15	<i>Agabus infuscatus</i> AUBÉ	5(6), 11(1), 42(2), 53(17), 57(1), 58(1), 59(1), 62(1), 64(9)
16	<i>Agabus kaszabi</i> GUÉORGUIEV	NILSSON (2003)
17	* <i>Agabus kholini</i> NILSSON	12(3)
18	* <i>Agabus laferi</i> NILSSON	42(17)
19	* <i>Agabus lapponicus</i> (THOMSON)	21(1), 23(3), 55(3), 68(1), 73(1), 75(1)
20	* <i>Agabus lineatus</i> GEBLER	61(1)
21	<i>Agabus pallens</i> POPPIUS	28(1), 35(5), 51(6), 52(7+1L3), 56(1), 57(5), 59(1), 61(1)
22	<i>Agabus svenhedini</i> (FALKENSTRÖM)	NILSSON (2003)
23	<i>Ilybius angustior</i> (GYLLENHAL)	12(1), 23(1), 41(1), 42(29), 48(15), 55(2), 59(5), 63(22), 75(1)
24	* <i>Ilybius balkei</i> FERY & NILSSON	23(1)
25	* <i>Ilybius chishimanus</i> KÔNO	6(1), 11(4), 16(8), 22(1), 23(1), 25(1), 74(3), 75(1)
26	<i>Ilybius cinctus</i> SHARP	NILSSON (2003)
27	<i>Ilybius erichsoni</i> GEMMINGER & HAROLD	16(3), 21(3), 23(7), 73(1)
28	<i>Ilybius f. fuliginosus</i> (F.)	NILSSON (2003)
29	<i>Ilybius lateralis</i> (GEBLER)	18(1), 47(14), 82(1)
30	<i>Ilybius obtusus</i> SHARP	55(21), 66(1), 68(1), 69(1), 71(2), 75(1)
31	<i>Ilybius opacus</i> (AUBÉ)	21(8), 23(4)
32	<i>Ilybius poppiusi</i> ZAITZEV	28(3), 30(5), 31(1), 49(1), 50(21), 51(1), 52(1), 53(13), 59(27), 61(7), 64(1), 65(1), 68(1), 81(1)
33	<i>Ilybius subaeneus</i> ERICHSON	37(1), 41(1), 61(2), 75(1)
34	<i>Platambus maculatus</i> (L.)	NILSSON (2003)
35	<i>Colymbetes dahuricus</i> AUBÉ	16(1), 26(1), 42(2), 57(5)
36	* <i>Colymbetes pseudostriatus</i> NILSSON	20(1)
37	<i>Rhantus bistriatus</i> (BERGSTRÄSSER)	NILSSON (2003)
38	<i>Rhantus frontalis</i> (MARSHAM)	NILSSON (2003)
39	<i>Rhantus notaticollis</i> (AUBÉ)	2(3), 5(1), 7(2), 6(1), 10(2), 18(1), 26(1), 27(4), 28(3+7L3), 29(1), 35(19), 37(4), 38(1), 39(38), 40(8+1L3), 42(11), 43(1), 47(2), 48(12+1L2), 49(2), 50(2+1L1, 2L3), 52(1), 53(1), 55(34), 54(1), 57(6+1L3), 59(9), 60(2), 61(5), 64(5), 65(72+18L3), 66(5), 80(1), 82(1), 84(1)
40	<i>Rhantus suturalis</i> (MACLEAY)	NILSSON (2003)
41	<i>Rhantus vermiculatus</i> MOTSCHULSKY	26(1), 27(1+4L3), 28(10+3L2, 13L3), 30(7+12L3), 37(1), 47(1), 57(2+10L3), 58(1), 65(2+2L3), 82(1)
42	<i>Graphoderus austriacus</i> (STURM)	30(1)
43	<i>Graphoderus cinereus</i> (L.)	NILSSON (2003)
44	* <i>Graphoderus zonatus verrucifer</i> (SAHLBERG)	72(2)
44a	<i>Graphoderus z. zonatus</i> (HOPPE)	19(1), 78(1), 82(1)
45	<i>Cybister tripunctatus lateralis</i> (F.)	NILSSON (2003)
46	<i>Dytiscus d. dauricus</i> GEBLER	6(1), 8(1), 63(1), 67(1)
47	* <i>Dytiscus latro</i> SHARP	76(1), 77(1)
48	<i>Hydroglyphus geminus</i> (F.)	25(1), 26(1), 38(26), 39(1), 40(1), 47(4), 67(7)

49	<i>Hydroglyphus hamulatus</i> (GYLLENHAL)	NILSSON (2003)
50	* <i>Hydroglyphus licenti</i> (FENG)	26(3)
51	<i>Hydroporus</i> sp. <i>acutangulus</i> -complex	35(37), 46(1), 48(1), 55(16), 57(2), 59(2), 60(1), 62(3), 64(9), 65(1), 66(37), 79(2), 83(3)
52	* <i>Hydroporus angusi</i> NILSSON	23(2)
53	<i>Hydroporus crinitisternus</i> SHAVERDO & FERY	SHAVERDO & FERY (2001)
54	* <i>Hydroporus elongatulus</i> STURM	2(1), 12(1)
55	<i>Hydroporus fuscipennis</i> SCHAUM	15(1), 21(3), 23(4)
56	* <i>Hydroporus geniculatus</i> THOMSON	42(8), 49(2), 55(1), 57(1), 59(16), 60(1), 62(3), 65(1), 66(1)
57	<i>Hydroporus kabakovi</i> FERY & PETROV	16(2), 57(2)
58	<i>Hydroporus morio</i> AUBÉ	11(21), 51(1), 55(14), 66(20), 84(1)
59	* <i>Hydroporus nigellus</i> MANNERHEIM	10(1), 21(2), 23(6)
60	* <i>Hydroporus notabilis</i> LECONTE	42(1), 55(1), 59(46), 61(1), 64(2), 65(14)
61	* <i>Hydroporus palustris</i> (L.)	16(1)
62	* <i>Hydroporus sibiricus</i> SAHLBERG	2(1), 4(2), 5(1), 11(9), 12(2)
63	* <i>Hydroporus submuticus</i> THOMSON	10(3), 11(13), 21(1), 42(11), 48(3), 55(23), 66(1), 68(1), 72(1)
64	<i>Hydroporus uenoi</i> NAKANE	4(1), 11(6), 16(4), 23(4), 25(1), 42(120), 47(2), 48(15), 49(4), 53(10), 57(8), 62(4), 63(48)
65	<i>Nebrioporus airumilus</i> (KOLENATI)	22(1), 27(1), 31(1), 32(1), 33(1), 34(1), 38(2), 42(10), 47(34), 49(3), 82(1)
66	* <i>Nebrioporus depressus</i> (F.)	82(6)
67	<i>Nebrioporus f. formaster</i> (ZAITZEV)	51(1), 52(2), 61(22), 62(2)
68	<i>Oreodytes mongolicus</i> (BRINCK)	1(1), 7(1), 32(1), 43(4), 47(1+1L1), 49(15), 53(12), 54(1), 55(1), 57(3), 62(1+3L3), 64(7), 81(3)
69	<i>Oreodytes s. sanmarkii</i> (SAHLBERG)	13(4), 14(1), 17(2), 23(1), 32(1), 33(1L3), 34(5), 35(1), 43(28), 48(15), 49(15), 54(15+1L3), 62(170+9L3), 64(6)
70	<i>Oreodytes septentrionalis</i> (GYLLENHAL)	31(1), 32(1), 34(9), 49(14), 53(2), 54(1+2L3), 57(24+1L3), 60(1), 62(1L3), 66(1)
71	<i>Oreodytes shorti</i> SHAVERDO & FERY	43(123), 45(19), 46(4)
72	<i>Stictotarsus griseostriatus</i> (DEGEER)	NILSSON(2003)
73	<i>Hygrotus caspius</i> (WEHNCKE)	26(3), 27(20), 28(1), 30(48), 31(1), 40(1), 48(1)
74	<i>Hygrotus chinensis</i> (SHARP)	NILSSON (2003)
75	<i>Hygrotus enneagrammus</i> (AHRENS)	NILSSON (2003)
76	<i>Hygrotus flaviventris</i> (MOTSCHULSKY)	27(2), 51(1), 55(1)
77	<i>Hygrotus i. impressopunctatus</i> (SCHALLER)	26(2), 27(7), 28(32+1L3), 30(4), 31(5), 35(1), 36(1), 37(66), 38(12), 39(46), 40(6), 42(9), 44(2), 47(58), 48(5), 50(7+2L3), 53(1), 54(3), 56(1), 57(1), 59(72), 60(2), 61(10), 62(1), 63(4), 65(19+4L3), 67(2), 78(1), 82(3), 84(4)
78	<i>Hygrotus inaequalis</i> (F.)	15(1), 40(2), 78(1)
79	<i>Hygrotus marklini</i> (GYLLENHAL)	17(1), 19(1), 26(8), 27(17), 28(46), 30(2), 31(5), 34(2), 35(4), 37(1), 38(16), 39(3), 40(8), 47(47), 50(1), 56(3), 57(1), 58(1), 59(1), 65(18), 66(1), 81(1)
80	<i>Hygrotus nigrolineatus</i> (STEVEN)	27(1), 37(1), 48(1)
81	<i>Hygrotus parallelogrammus</i> (AHRENS)	FERY (2003)
82	<i>Hygrotus pectoralis</i> (MOTSCHULSKY)	65(1)
83	<i>Hygrotus quinquelineatus</i> (ZETTERSTEDT)	6(14), 12(9), 38(1), 47(135), 48(1), 50(10), 57(6+5L3), 60(2), 62(1), 65(2), 78(5), 82(1)

84	<i>Hygrotus unguicularis</i> (CROTCH)	27(6), 30(2), 35(3), 40(24), 47(6), 50(6), 53(3), 54(4), 55(1), 56(145), 57(2), 58(7), 60(2), 61(7), 62(1)
85	<i>Hygrotus urgensis</i> (JAKOVLEV)	26(1)
86	<i>Laccophilus biguttatus</i> KIRBY	6(1), 27(8+4L3), 28(9), 30(62+2L3), 31(1), 37(2), 38(1), 40(9+2L3), 47(45), 50(9+1L2, 2L3), 53(1), 54(15), 56(7+4L3), 57(2+4L3), 58(37+1L1), 59(25+2L3), 61(67+1L1, 1L3), 67(1), 82(1), 83(4)
87	<i>Laccophilus minutus</i> (L.)	NILSSON (2003)

Acknowledgements

Financial support of the travels and fieldwork was provided by the US National Science Foundation grant DEB-BSI #0206674, "A Survey of the Aquatic Macroinvertebrates of the Selenge River Basin, Mongolia". We wish to express our sincere thanks to Dr. J. Gelhaus, Dr. B. Namkhaidorj, and the other Selenge River Basin project leaders for providing support for the field trips and valuable advice. Also we are very grateful to Dr. A.N. Nilsson, Dr. H. Fery, Dr. G. Wewalka, and M. Toledo for help with identification of some specimens.

Zusammenfassung

In den Jahren 2003–2006 wurden an insgesamt 84 Untersuchungspunkten im Norden der Mongolei (im Einzugsgebiet der Selenga) 64 Dytisciden-Arten gesammelt. Zwanzig Arten und eine Unterart werden zum ersten Mal für die Mongolei gemeldet. Zusammen mit den aus der Literatur verfügbaren Daten umfasst die Liste der Dytiscidae der Mongolei nun 87 Spezies.

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Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 2008

Band/Volume: [78_2008](#)

Autor(en)/Author(s): Shaverdo Helena Vladimirovna, Short Andrew Edward Z., Davaadorj E.Enkhnasan

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