

First records of *Hydrobius fuscipes* (LINNAEUS) and *Limnoxenus niger* (ZSCHACH) in Iran (Coleoptera: Hydrophilidae)

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Abstract

Hydrobius fuscipes (LINNAEUS, 1758) and *Limnoxenus niger* (GMELIN, 1790) (Coleoptera: Hydrophilidae) are recorded from Iran for the first time. Line drawings of diagnostic characters and a distributional map for both species are presented.

Key words: Coleoptera, Hydrophilidae, *Hydrobius fuscipes*, *Limnoxenus niger*, first records, Iran.

Introduction

Hydrobius LEACH and *Limnoxenus* MOTSCHULSKY are two small hydrophilid genera comprising eight, resp. six species distributed in the Palaearctic, Nearctic, Afrotropical and Australian regions (HANSEN 1999). These two genera have not been recorded from Iran so far.

Following examination of two major entomological collections in Iran, *Hydrobius* and *Limnoxenus* are here recorded from Iran for the first time.

Acronyms & Material

Material studied is deposited at the following institutions:

CBSU Collection of Department of Biology, Shiraz University, Iran

HMIM Hayk Mirzayans Insect Museum, Tehran, Iran

NMW Naturhistorisches Museum Wien, Austria

Most of the specimens deposited in CBSU are kept in alcohol, those in HMIM are mounted dry.

Hydrobius fuscipes (LINNAEUS, 1758) (Figs. 1–3, 7)

Selected references: BALFOUR-BROWNE 1910, 1958; HANSEN 1987; HEBAUER 1994.

MATERIAL EXAMINED:

Ardebil Province: 1 ex., “E. Azarbayjan [= Ardebil], 1968, Moghan, Arghand” (HMIM); 1 ex., “Ardebil (NMW), 2.9.1998, Asalem to Khalkhal Rd., 55 Km. W. Asalem, Stream, 1890m., Water 14°, #2173, K. Elmi [collector]” (CBSU).

Azarbayjan (Eastern): 1 ex., “Azarbayjan-E, Marku, Siah Cheshmeh, Tazehkand, 1700m., 21-22.VIII.1994, Ebra./Safz. [collector]” (HMIM); 1 ex., “E. Azarbayjan, 17.7.1996, Maragheh to Hashtrud Rd., 31 Km. E. Maragheh, Stream, 1680m., Water 22°, #1786, K. Elmi [collector]” (CBSU); 15 exs., “E. Azarbayjan, 17.7.1996, Maragheh to Hashtrud Rd., 63 Km. W. Maragheh, Pond, 1720m., Water 24°, #1787, K. Elmi” (CBSU); 1 ex., “E. Azarbayjan, 17.7.1996, Maragheh to Hashtrud Rd., 70 Km. E. Maragheh, Marshland, 1640m., Water 25°, #1788, K. Elmi” (CBSU).

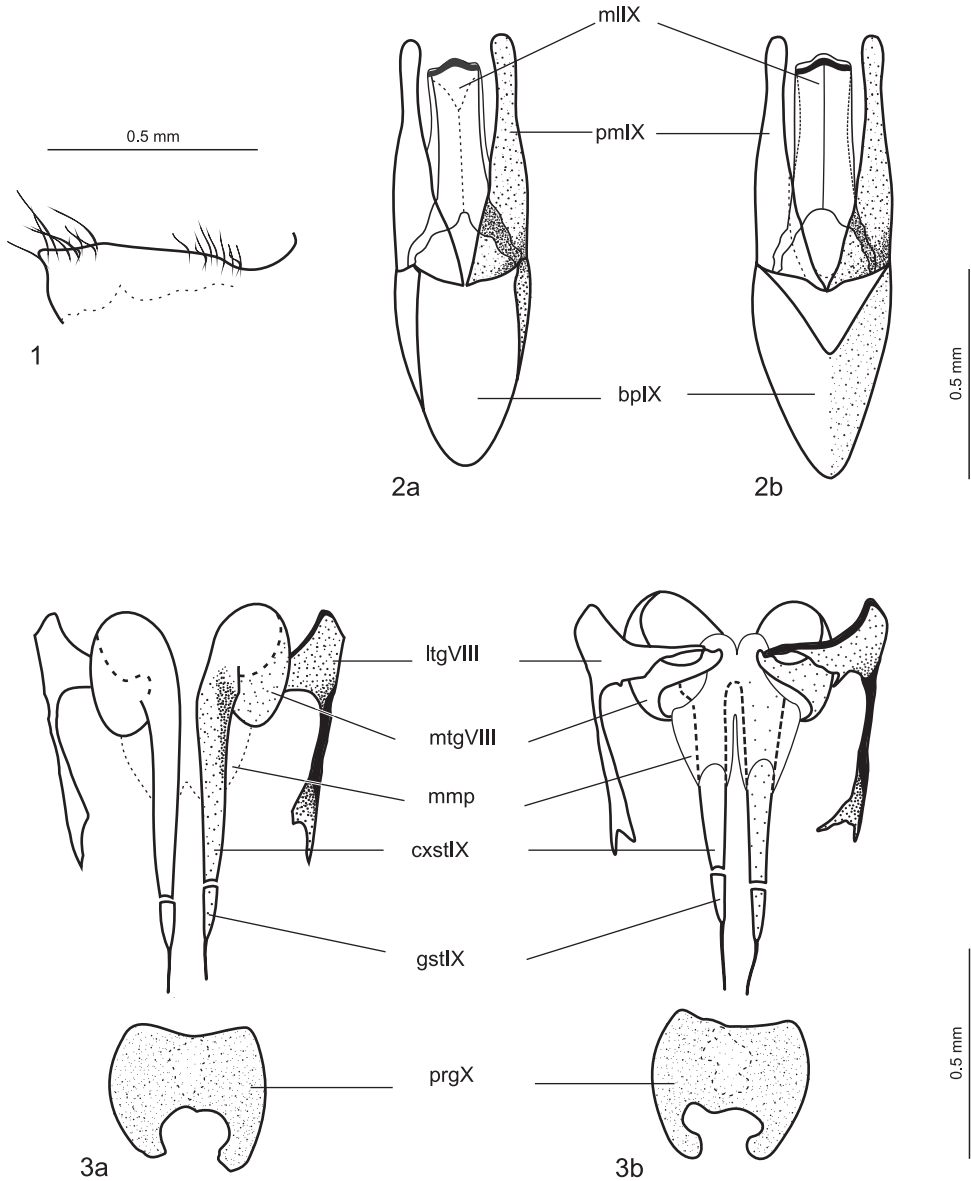
- Azarbayjan (Western):** 1 ex., "Miyandoab, 29-VI-66, Arghand" (HMIM); 24 exs., "W. Azarbayjan, 8.8.1995, Miyandoab to Bijar Rd., 108 Km. SE. Miyandoab, Pond, 2080m., Water 16°, #1655, K. Elmi [collector]" (CBSU); 1 ex., "W. Azarbayjan, 11.7.1996, Bijar to Takab Rd., 85 Km. NW. Bijar, Marshland, 1940m., Water 19°, #1758, K. Elmi" (CBSU); 1 ex., "W. Azarbayjan, 13.7.1996, Urmiyeh to Salmas Rd., 75 Km. N. Urmiyeh, Pond, 1350m., Water 19°, #1771, K. Elmi" (CBSU); 1 ex., "W. Azarbayjan, 13.7.1996, Salmas to Khoi Rd., 30 Km. N. Salmas, Pond, 1260m., Water 20.5°, #1773, K. Elmi" (CBSU).
- Gilan:** 1 ex., "Gilan, 25.9.1996, Rezvanshahr to Rasht Rd., 15 Km. E. Rezvanshahr, Marshland, 120m., Water 22°, #1824, K. Elmi" (CBSU); 1 ex., "Gilan, 8.8.1993, Somesara to Talesh Rd., 7 Km. on the side-road into the Jungle [woods], Pond, #1270, Water 33°, K. Elmi" (CBSU); 1 ex., "Gilan, Rasht, 0m., 17.VI.2001, Gh. [collector]" (HMIM); 10 exs., "Gilan, 30.6.2003, 100m. E. Baresar, 1260m., #C36, Mogh./Nas. [collector]" (HMIM).
- Hamedan:** 2 exs., "Hamedan, 10.7.1996, Kabudarahang to Ghar-e-Alisadr Rd., 19 Km. W. Kabudarahang, Spring stream, 1780m., Water 12°, #1745, K. Elmi [collector]" (CBSU); 3 exs., "Hamedan, 10.7.1996, Ghar-e-Alisadr to Ghorveh Rd., 75 Km. Ghar-e-Alisadr, Pond, 1780m., Water 18°, #1748, K. Elmi" (CBSU).
- Kermanshah:** 1 ex., "Kermanshah, 5.8.1995, Ravansar to Kamyaran Rd., 14 Km. W. Ravansar, Pond, 1420m., Water 20°, #1641, K. Elmi" (CBSU).
- Khuzestan:** 6 exs., "Khuzestan, 30.1.2001, Ahvaz to Masjed-Soleyman Rd., 11 Km. N. Ahvaz, Marshland, 40m., Water 5°, #2395, K. Elmi [collector]" (CBSU).
- Kohkiluyeh & Boyerahmad:** 4 exs., "Boyerahmad, 24.4.1996, 15 Km. NW. Sisakht, Dashtak (50 Km. Sysanj), Stream, #1730, Sh. Hosseinie [collector]" (CBSU).
- Kordestan:** 40 exs., "Kordestan, Kamyaran to Sanandaj Rd., 51 Km. N. Kamyaran, Stream, 1420m., Water 19°, #1644, K. Elmi [collector]" (CBSU); 11 exs., "Kordestan, 7.8.1995, Sanandaj to Saghez Rd., 128 Km. N. Sanandaj, Pond, 2180m., Water 16°, #1648, K. Elmi" (CBSU); 1 ex., "Kordestan, Miyandoab to Bijar Rd., 173 Km. SE. Miyandoab, Marshland, 1880m., Water 21°, #1657, K. Elmi" (CBSU); 3 exs., "Kordestan, Miyandoab to Bijar Rd., 201 Km. SE. Miyandoab, Pond, 1630m., Water 19°, #1658, K. Elmi" (CBSU); 16 exs., "Kordestan, Bijar to Ghorveh Rd., 17 Km. N. Bijar, Marshland, 1730m., Water 14°, #1659, K. Elmi" (CBSU); 10 exs., "Kordestan, 9.7.1995, Ghorveh to Ghar-e-Alisadr Rd., 13 Km. E. Ghorveh, Pond, 1780m., Water 19°, #1662, K. Elmi" (CBSU); 4 exs., "Kordestan, 12.7.1996, Dosar to Bijar Rd., 23 Km. N. Ghorveh, Stream, 1840m., Water 27°, #1751, K. Elmi" (CBSU); 1 ex., "Kordestan, Bijar to Takab Rd., 26 Km. NW. Bijar, Stream, 1600m., Water 14°, #1754, K. Elmi" (CBSU); 4 exs., "Kordestan, Bijar to Takab Rd., 51 Km. NW. Bijar, Pond, 1820m., Water 17°, #1755, K. Elmi" (CBSU); 14 exs., "Kordestan, 11.7.1996, Bijar to Takab Rd. 55 Km. NW. Bijar, Stream, 1840m., Water 17.5°, #1756, K. Elmi" (CBSU); 2 exs., "Kordestan, Zanjan to Bijar Rd., 58 Km. N. Zanjan, Marshland, 1600m., Water 20°, #1797, K. Elmi" (CBSU); 1 ex., "Kordestan (NMW), 9.9.1998, Ghorveh to Hamedan Rd., 17 Km. E. Ghorveh, Stream, 1650m., Water 15°, #2173, K. Elmi" (CBSU).
- Lorestan:** 1 ex., "Lorestan, 4.8.1995, Khorramabad to Ilam Rd., 35 Km. W. Khorramabad, River, 1100m., Water 23°, #1632, K. Elmi [collector]" (CBSU); 3 exs., "Lorestan, 5.8.1995, Khorramabad to Islamabad Rd., 43 Km. W. Khorramabad, River, 1600m., Water 24°, #1635, K. Elmi" (CBSU).
- Markazi:** 1 ex., "Markazi, 3.8.1995, Mahallat to Khomein, 16 Km. SW. Mahallat, Mild river, 1610m., Water 18°, #1621, K. Elmi [collector]" (CBSU); 25 exs., "Markazi, 3.8.1995, Mahallat to Khomein Rd., 37 Km. SE. Mahallat, Marshland, 1760m., Water 20°, #1622, K. Elmi" (CBSU); 1 ex., "Markazi, 3.8.1995, Khomein to Arak Rd., 33 Km. N. Khomein, Stream, 1880m., Water 21°, #1623, K. Elmi" (CBSU).
- Zanjan:** 3 exs., "Zanjan, 18.7.1996, Miyaneh to Zanjan Rd., 99 Km. E. Miyaneh, #1793, Stream, 1420m., Water 15°, K. Elmi" (CBSU).

TAXONOMIC REMARKS: Some specimens from Zanjan province deviate from typical specimens by darker (piceous-black) femora, except near the joints. However, more comparative study would be necessary to find out whether these differences are of taxonomic importance.

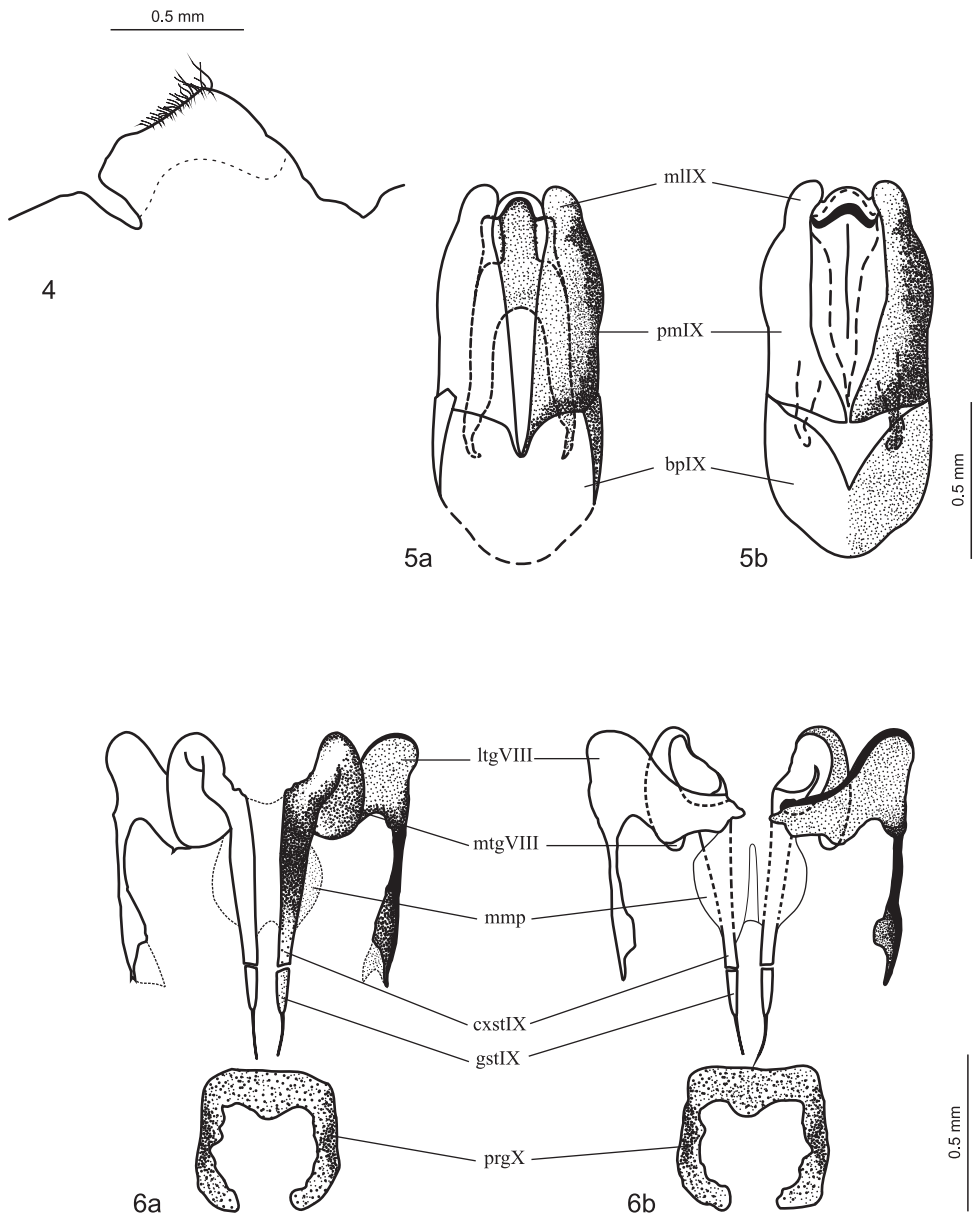
DISTRIBUTION IN IRAN: 218 specimens of this species have been collected from 38 localities. It generally occurs in the Zagros Mountain and the western Elburz Mountain (Fig. 7).

HABITAT: This species was mainly collected among vegetation in shallow waters, mainly at higher elevation. Other specimens were collected in slowly running water, occasionally also in larger rivers.

WORLD DISTRIBUTION: This species is very common, widely distributed throughout the Palaearctic region, also in North America with several aberrations in different localities (HANSEN 1987, 1999).



Figs. 1–3: *Hydrobius fuscipes*; 1) mesosternal process, left lateral view; 2) male external genitalia, a) dorsal view, b) ventral view; 3) female external genitalia, a) dorsal view, b) ventral view; bp – basal piece (of seg. IX); cxst – coxostylus (of seg. IX); gst – gonostylus (of seg. IX); ltg – laterotergite (of seg. VIII); ml – median lobe (of seg. IX); mmp – membranous piece; mtg – mediotergite (of seg. VIII); pm – paramere (of seg. IX); prg – proctiger (anal sternite of seg. X). East Azarbaijan, #1655. Terminology acc. to SHARP & MUIR (1912), SNODGRASS (1935), WATANABE (1975), BAMEUL (1992).



Figs. 4–6: *Limnoxenus niger*; 4) mesosternal process, left lateral view; 5) male external genitalia, a) dorsal view, b) ventral view; 6) female external genitalia, a) dorsal view, b) ventral view. For abbreviations see Figs. 1–3.

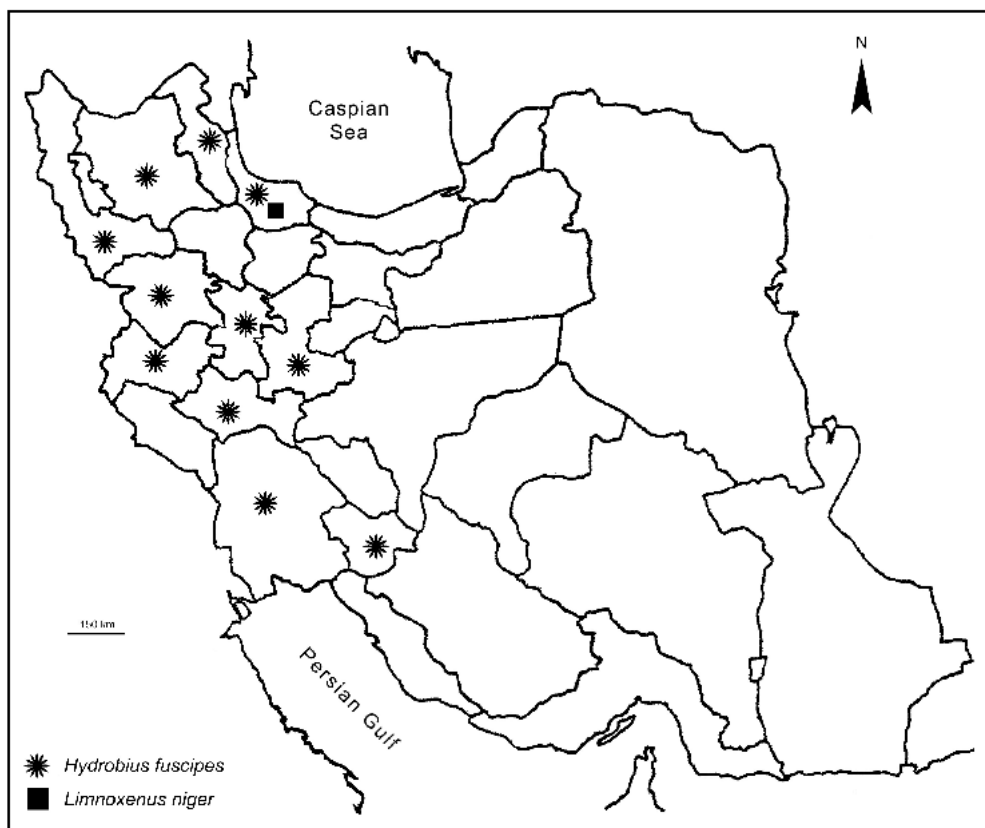


Fig. 7: Geographical distribution of *Hydrobius fuscipes* (asterisks) and *Limnoxenus niger* (square) in Iran.

***Limnoxenus niger* (GMELIN, 1790)**
(Figs. 1–3, 7)

Selected references: BALFOUR-BROWNE 1910, 1958; HANSEN 1987; HEBAUER 1994.

MATERIAL EXAMINED:

Gilan province: 1 ex., “Gilan, Somesara to Talesh Rd., 4 Km. N. Somesara, Marshland, 10m a.s.l., Water 25°, #1267, K. Elmi [collector]” (CBSU); 3 exs., “Gilan, 28.6.1995, Chamkhaleh, 10 Km. N. Langarud, Pond, 80m., Water 23°, #1553, K. Elmi” (CBSU); 15 exs., “Gilan, 28.6.1995, Bandar-e-Anzali, Pond, 120m., Water 25°, #1559, K. Elmi” (CBSU); 2 exs., “Gilan, 30.6.2003, 100m. E. Baresar, Marshland, 1260m., Water 20°, #C36, Mogh./Nas. [collector]” (HMIM).

DISTRIBUTION IN IRAN: 21 specimens have been collected from four localities, all in Gilan province in the western part of Elburz Mountain (Fig. 7).

HABITAT: All specimens were found mainly at low elevations, at the edges of standing waters (ponds and marshlands) among vegetation.

WORLD DISTRIBUTION: From Europe (widespread in the Mediterranean region) to Siberia.

Acknowledgements

The authors wish to thank Mr. K. Elmi, technician at the Department of Biology, Shiraz University (Iran), for collecting the specimens deposited at CBSU. Thanks are also due to HMIM curators for making the specimens available for study. We also appreciate Dr. S. Schödl (†) (NMW), to whom this paper is dedicated, for the gift of two specimens of *Limnoxenus niger*.

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Jahr/Year: 2005

Band/Volume: [75_2005](#)

Autor(en)/Author(s): Nasserzadeh Hiva, Hosseinie Shidokht

Artikel/Article: [First records of *Hydrobius fuscipes* \(LINNAEUS\) and *Limnoxenus niger* \(ZSCHACH\) in Iran \(Coleoptera: Hydrophilidae\). 247-252](#)