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Contribution to the knowledge of the fauna of water scavenger beetles (Coleoptera: Hydrophilidae) of Mazandaran Province of Iran

Материалы к фауне жуков-водолюбов (Coleoptera: Hydrophilidae) провинции Мазандаран, Иран

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Ключевые слова: Coleoptera, Hydrophiloidea, Иран, Мазандаран, фауна, новые указания.

Abstract. Eighteen species of water scavenger beetles (Coleoptera: Hydrophilidae) belonging to 5 genera were collected in Mazandaran Province of Iran during 2012 and 2014. Three species from the genus *Laccobius* are new for Iranian fauna and 6 species are new for Mazandaran Province.

Резюме. В 2012 и 2014 годах в провинции Мазандаран были собраны 18 видов жуков-водолюбов (Coleoptera: Hydrophiloidea), относящихся к 5 родам. Из них 3 вида рода *Laccobius* оказались новыми для фауны Ирана и 6 видов впервые указываются для Мазандарана.

In the most recent list of Palaearctic beetles, Catalogue of Palaearctic Coleoptera [Fikáček et al., 2015] 58 species of Hydrophilidae are referred to Iranian fauna. Among these only 20 species are cited for Mazandaran Province in some survey works on Iranian fauna or reviews of some taxa of wider geographic scale [Shatrovskij, 1984; Schödl, 1991, 1993; Vafaei et al., 2007, 2009; Khalifani et al., 2013; Incekara et al., 2013, etc.]. So, faunistic composition of the fauna of Mazandaran has to be clarified. In this paper the results of study of material collected by one of the authors, A. Mousavi, and her colleague Sh. Faghihzadeh Gorji in 2012 and 2014 in the province are presented, in general 18 species were collected. Three of them belonging to the genus *Laccobius* Erichson, 1837 (Hydrophilidae) are new for Iranian fauna, and 6 species for the fauna of Mazandaran.

Material and methods

The material was collected in several wetlands of Mazandaran Province in 2012 and 2014, as follows:

1) Siyah Bisheh River flows from the Alborz mountains to the Caspian Sea, nearly at the mid part of the province. Sampling site is situated at the upper flow of the river near Siyahbisheh village up of Siyahbishe Powerhouse and its dam, 36.2149°N / 51.3159°E, altitude 2112 m.

2) Koshk Sara River flows parallel to down flow of

Siyah Bisheh River to the east of it from Khanikiyan Forest; sampling site is situated to the southwest of Nowshahr, where the river flows through its suburb, Koshk Sara village; the coordinates are 36.6327°N / 51.4679°E, altitude 18 m.

3) Abpari waterfall is located on Golnaroud River which is flowing at the foothills of Alborz approximately equidistant from Chalus and Amol cities; sampling site is situated just down of the waterfall at 36.4849°N / 51.9199°E, altitude 390 m.

4) Daronsar River is located in the plain east of Amol city going through several villages, sampling site is situated at 36.5923°N / 52.5372°E, altitude –11 m.

5) Kiakola River flows to the east of Golnaroud River at the foothills of Alborz from the northern slopes of the Wolf Mountains; sampling site is situated near Lavij village at 36.3691°N / 52.0414°E, altitude 706 m.

6) Neka River is situated in the east of the province near the border with Golestan Province. Sampling site is situated in southeast environs of Neka village at 36.6379°N / 53.3210°E, altitude 52 m.

7) Siahroud River originates from Alborz Mountains in the eastern part of Mazandaran and flows through Savadkouh and Shirgah Forests towards Qaemshahr and Juybar; sampling site is situated at the down flow of the river near Qaemshahr at 36.4586°N / 52.8908°E, altitude 47 m.

8) Shiyadeh Dam is situated on the Chlym River near Shiyadeh village to the southeast of Amol city. The sampling site's coordinates are 36.3283°N / 52.5095°E, altitude 206 m.

9) Ahlam Dam is situated in the plain northeast of Amol city near the Caspian Sea coast collecting water from several small streams. Sampling site is situated at 36.6195°N / 52.2317°E, altitude –20 m.

10) Shahid Rajaye or Soleyman Tange Dam is situated on the Tajan River to the south of the province' capital Sari city; sampling site is situated at 36.2486°N / 53.2266°E, altitude 480 m.

11) Beshel or Sonbol Dam is situated at the confluence of two rivers, Telar and Kesliyan to the West of Shirgah city in the east part of the province; sampling site is situated at 36.3205°N / 52.8108°E, altitude 200 m.

12) Juybar Dams. About 47 reservoirs with more than 2323 hectares total area are situated in the plain eastwards of Juybar city. Sampling site is situated in one of the reservoirs at 36.6271°N / 52.9505° E, altitude –10 m.

13) Larim Dam is situated in the most downstream of Siahroud River to the northwest of Sari city, sampling site is situated at 36.7296°N / 52.9404°E, altitude –20 m.

14) Kuohikheil Dam is situated westwards of Larim Dam collecting water from Siahropud as well; sampling site is situated at 36.7199°N / 52.9231°E, altitude –22 m.

15) Rice fields (Sari). There are numerous rice fields in the plain in Mazandaran along Caspian Sea coast. Sampling was carried out in several sites; Hydrophilidae specimens were found near Sari city at 36.5385°N / 52.9623°E, altitude 4 m.

16) Valasht Lake is the largest waterbody of Mazandaran having area 240704 ha. It is situated in the western part of the province in the foothills of Alborz; sampling site is situated at 36.5382°N / 51.2899° E, altitude 930 m.

Material was collected using D-shaped and Surber samplers. The size of the D-shaped sampler was 20 × 20 cm with depth of about 45 cm and Surber sampler – 30 × 30 cm. Material was fixed in 4% formaldehyde and then replaced to the lab where materials of each sample were sieved with a sieve with 250-micron cells. Then material was washed under running water to remove organic particles and formaldehyde. The contents of the sieve were transferred into large flat trays with light background, divided by the higher taxa and kept in 70% ethanol.

Hydrophilidae selected were identified mainly in Scientific Centre of Zoology and Hydroecology of the National Academy of Sciences of Armenia, Yerevan. Some specimens were kindly identified by Dr. Mustafa Cemal Darılmaz (University of Aksaray, Aksaray, Turkey) and Dr. Albrecht Komarek (Naturhistorisches Museum, Wien, Austria). Material is deposited in the collection of the Institute of Zoology, Branch of Scientific Center above mentioned. Data on general distribution, taxonomy and nomenclature are given according to Catalogue of Palaearctic Coleoptera [Fikáček et al., 2015]. Data on distribution in Iran are taken mainly from some surveys on country's fauna listed in Introduction.

Berosus (Enoplurus) bispina Reiche et Saulcy, 1856

Material. 3 ex., Siyahbishe River, 31.07.2014 (A. Mousavi leg.).

Distribution. Spain, Italy, Greece, Bulgaria, Ukraine, south of European Russia, Asian Turkey, Middle East, Kazakhstan, Afghanistan, Turkmenistan; Algeria, Egypt, Tunisia. Iran: reported for Gilan, Khuzestan and Mazandaran.

Berosus (Enoplurus) spinosus (Steven, 1808)

Material. 5 ex., Rice fields (Sari), 8.05.2012 (A. Mousavi leg.).

Distribution. Nearly whole Europe except Iberian Peninsula; Afghanistan, Central Asia (including Mongolia), West Siberia, Western China; Tunisia. Iran: reported for Mazandaran, West Azerbaijan, Khuzestan, Khorasan, Gilan.

Berosus (s. str.) signaticollis (Charpentier, 1869)

Material. 2 ex., Shiyadeh Dam, 8.05.2012 (Sh. Faghihzadeh leg.).

Distribution. Whole Europe, Asian Turkey, Central Asia, Afghanistan; Algeria, Morocco, Tunisia. Iran: reported for Khorasan; new record for Mazandaran.

Enochrus (Lumetus) bicolor (Fabricius, 1792)

Material. 5 ex., Siyahbishe River, 31.07.2014 (A. Mousavi leg.).

Distribution. Whole Europe and North Africa, Canary Islands, Armenia, Azerbaijan, Central Asia (including Mongolia), Siberia, Russian Far East, Japan, Western China, Nepal. Iran: reported for Kohgiluyeh and Boyerahmad; new record for Mazandaran.

Enochrus (Lumetus) fuscipennis (Thomson, 1884)

Material. 4 ex., Siahroud River, 23.07.2012 (A. Mousavi leg.).

Distribution. Whole Europe, Asian Turkey, Armenia, Azerbaijan, Kirghizia, Kazakhstan, Western China, East Siberia; Tunisia. Iran: reported for Gilan, Mazandaran, Qazvin, Tehran, Markazi.

Enochrus (Lumetus) halophilus (Bedel, 1878)

Material. 2 ex., Kuohikheil Dam, 6.08.2012 (Sh. Faghihzadeh leg.).

Distribution. Spain, British Islands, France, Italy, Germany, Denmark, Netherlands, Sweden, Ukraine, south of European Russia, Cyprus, Asian Turkey. Iran: reported for Gilan and West Azerbaijan; new record for Mazandaran.

Helochaeres (s. str.) obscurus Mulsant, 1844

Material. 2 ex., Valasht Lake, 30.09.2012 (A. Mousavi leg.).

Distribution. Whole Europe, Asian Turkey, Israel, Kazakhstan, West Siberia, Northwestern China. Iran: reported for Gilan and Mazandaran.

Helochaeres (s. str.) punctatus Sharp, 1869

Material. 6 ex., Kuohikheil Dam, 6.08.2012 (Sh. Faghihzadeh leg.).

Distribution. British Islands, Central and South Europe, Belarus, Ukraine, south of European Russia, Asian Turkey. Iran: reported for Kohgiluyeh, Boyerahmad, and Markazi; new record for Mazandaran.

Hydrobius fuscipes (Linnaeus, 1758)

Material. 2 ex., Neka River, 15.07.2012; 1 ex., Siahroud River, 23.07.2012 (Sh. Faghihzadeh leg.).

Distribution. Whole Europe, Middle East, Central Asia (including Mongolia), Siberia, Russian Far East, Western China; Algeria, Tunisia; North America. Iran: reported for Mazandaran.

Laccobius (s. str.) colon (Stephens, 1829)

Material. 2 ex., Siahroud River, 23.07.2012 (A. Mousavi leg.).

Distribution. Whole Europe, Siberia and Russian Far East, Central Asia (including Mongolia), China. New record for Iran.

Laccobius (Microlaccobius) gracilis gracilis
Motschulsky, 1855

Material. 4 ex., Kuohikheil Dam, 6.08.2012 (Sh. Faghihzadeh leg.).

Distribution. Whole Europe, Israel, Turkey; North Africa. Iran: reported for Kerman, Tehran, Mazandaran, Khuzestan, Baluchistan, Qazvin, East Azerbaijan, Khorasan, and Markazi.

Laccobius (Dimorpholaccobius) obscuratus obscuratus
Rottenberg, 1874

Material. 2 ex., Koshk Sara River, 25.09.2014 (A. Mousavi leg.).

Distribution. South and Central Europe, Asian Turkey, Transcaucasia, Israel, Turkmenistan, Tajikistan. Iran: reported for Gilan, Mazandaran, Tehran, and East Azerbaijan.

Laccobius (Dimorpholaccobius) scutellaris
Motschulsky, 1855

Material. 4 ex., Koshk Sara River, 25.09.2014 (A. Mousavi leg.).

Distribution. Balkan Peninsula, Turkey, Egypt, Cyprus, Israel, Lebanon, Azerbaijan; Tunisia. New record for Iran.

Laccobius (Dimorpholaccobius) sinuatus sinuatus
Motschulsky, 1849

Material. 1 ex., Shiyadeh Dam, 8.05.2012 (Sh. Faghihzadeh leg.); 1 ex., Beshel Dam, 23.07.2012 (Sh. Faghihzadeh leg.); 2 ex., Siahroud River, 23.07.2012 (Sh. Faghihzadeh leg.); 1 ex., Kuohikheil Dam, 6.08.2012 (Sh. Faghihzadeh leg.); 1 ex., Shahid Rajaye Dam, 23.08.2012 (Sh. Faghihzadeh leg.); 3 ex., Kiakola River, 4.09.2012 (Sh. Faghihzadeh leg.); 1 ex., Ahlam Dam, 24.09.2012 (Sh. Faghihzadeh leg.); 5 ex., Juybar Dam, 31.05.2014 (A. Mousavi leg.); 3 ex., Larim Dam, 31.05.2014 (A. Mousavi leg.); 2 ex., Daronsar River, 24.09.2014 (Sh. Faghihzadeh leg.).

Distribution. Whole Europe, North Africa. New record for Iran.

Laccobius (Dimorpholaccobius) striatulus
(Fabricius, 1792)

Material. 14 ex., Siyahbishe River, 31.07.2014 (A. Mousavi leg.).

Distribution. Whole Europe, Turkey, Georgia, Armenia, Central Asia, Western China; Tunisia. New record for Iran.

Laccobius (Dimorpholaccobius) sulcatulus
Reitter, 1909

Material. 5 ex., Abpari Waterfall, 7.08.2014 (A. Mousavi leg.).

Distribution. Asian Turkey, Transcaucasia, Turkmenistan, Tajikistan. Iran: reported from Kurdistan, East Azerbaijan, Esfahan, Lorestan, Fars; new record for Mazandaran.

Laccobius (Dimorpholaccobius) sipylos
d'Orcheymout, 1989

Material. 4 ex., Koshk Sara River, 25.09.2014 (A. Mousavi leg.).

Distribution. Asian Turkey, Lebanon, Iraq, Armenia, Azerbaijan. Iran: reported for East Azerbaijan, Markazi, Khorasan, Fars, Qazvin; new record for Mazandaran.

Laccobius (Dimorpholaccobius) syriacus
Guillebeau, 1896

Material. 4 ex., Valasht Lake, 25.05.2012, 15.06.2012, 13.07.2012, 6.09.2012 (A. Mousavi leg.).

Distribution. Central Europe, Balcan Peninsula, Romania, Egypt, Middle East, Central Asia, Afghanistan, Iraq, India. Iran: reported for Khorasan, Mazandaran, Gilan, Kurdistan, Tehran, Esfahan, Markazi, and Alborz.

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References

- Fikáček M., Angus R.B., Gentili E., Jia F., Minoshima Y.N., Prokin A., Przewoźny M., Ryndevich S.K. 2015. Family Hydrophilidae Latreille, 1802. *In: Catalogue of Palaearctic Coleoptera*. Vol. 2/1. Revised and Updated Edition. Hydrophiloidea – Staphylinoidea. (I. Löbl, D. Löbl eds). Leiden-Boston: Brill: 37–76.
- Incekara Ü., Darılmaz M., Vafaei R., Polat A. 2013. Contributions to the knowledge of Iranian aquatic Polyphaga (Coleoptera) fauna. *Turkiye Entomoloji Dergisi*. 37(1): 49–56.
- Khalifani B., Ataamehr A., Lotfizade H. 2013. Faunistic study of Hydrophilidae of Naghdeh – West Azarbaijan. *In: Proceedings of First National Conference on Agriculture and Environment Sciences*. Available at: http://www.civilica.com/Paper-NACONF01-NACONF01_0640.html.
- Schödl S. 1991. Revision der Gattung *Berosus* Leach. 1. Teil: Die paläarktischen Arten der Untergattung *Enoplurus* (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau*. 61: 111–135.
- Schödl S. 1993. Revision der Gattung *Berosus* Leach. 3. Teil: Die paläarktischen und orientalischen Arten der Untergattung *Berosus* s. str. (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau*. 63: 189–233.
- Shatrovskij A.G. 1984. A review of hydrophilids of the genus *Laccobius* Er. (Coleoptera, Hydrophilidae) of the fauna of the USSR. *Entomologicheskoe Obozrenie*. 63(2): 301–325 (in Russian).
- Vafaei R., Darılmaz M.C., Nazari E., Incekara U., Piazak N. 2009. Contributions to the knowledge of Iranian aquatic Coleoptera fauna (Dytiscidae, Gyrinidae, Helophoridae and Hydrophilidae) with new records and notes on the rare species *Coleostoma transcaspicum* Reitter, 1906. *Acta entomologica Serbica*. 14(1): 101–107.
- Vafaei R., Ostovan H., Incekara Ü., Pesic V. 2007. Faunistic Study of the Aquatic beetles (Coleoptera: Polyphaga) of Markazi Province (Central Iran) with new records. *Archives of Biological Sciences Belgrade*. 59(3): 239–242.