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S. K. Ryndevich

Institution of Education “Baranavichy State University”, 21 Voykova str., , 225404 Baranavichy, the Republic of Belarus, ryndevichsk@mail.ru

***HYDROPHILUS PICEUS* (LINNAEUS, 1758) (INSECTA: COLEOPTERA: HYDROPHILIDAE): A NEW SPECIES FOR BELARUSIAN FAUNA**

Hydrophilus piceus (Linnaeus, 1758) has been repeatedly indicated for the territory of Belarus. However, these records were based on incorrect species identifications and referred to *Hydrophilus aterrimus* Eschscholtz, 1822. Therefore, the species was excluded from the list of the fauna of Belarus. It has been suggested that *H. piceus* may be found in the west and south of Belarus. As a result of studying the aquatic coleopterofauna on the territory of the “Golubye Oзера” Reserve (the Narochansky National Park) *H. piceus* was founded in Lake Glublya.

In the article diagnostic features of *H. piceus* are recorded.

Hydrophilus piceus is a rheophilic species. It prefers shallow water bodies (old river-beds, fens, ponds, reservoirs, large temporary pools, often in floodplains) with warm water, overgrown with macrophytes, also lives in rivers, lakes, anabranched and canals. *H. piceus* is widely distributed in Europe, Northern Africa and Asia. It is transpalearctic subboreal-subtropical species.

There is a downward trend in the European population of *H. piceus*. This species is considered to be extinct in Luxemburg and Norway, and also has a status of a protected species in Czech Republic, Slovakia, the United Kingdom, Poland and Sweden. Therefore, the study of distribution of this species in Belarus is relevant. Perhaps this species arrived from the Baltics as a result of range expansion due to climate warming. However, only further research will be able to confirm this assumption.

Key words: Insecta; Coleoptera; Hydrophilidae; *Hydrophilus*; fauna; Belarus.

Fig. 6. Ref.: 14 titles.

С. К. Рындевич

Учреждение образования «Барановичский государственный университет», ул. Войкова, 21, 225404 Барановичи, Республика Беларусь, ryndevichsk@mail.ru

***HYDROPHILUS PICEUS* (LINNAEUS, 1758) (INSECTA: COLEOPTERA: HYDROPHILIDAE): НОВЫЙ ВИД ДЛЯ БЕЛОРУССКОЙ ФАУНЫ**

Hydrophilus piceus (Linnaeus, 1758) неоднократно отмечался на территории Беларуси. Однако эти указания были основаны на неверной видовой идентификации и относились к *Hydrophilus aterrimus* Eschscholtz, 1822. Поэтому вид был исключен из фауны Беларуси. Было высказано предположение о возможности обнаружения *H. piceus* на западе и юге Беларуси. В результате изучения водной колеоптерофауны на территории заказника «Голубые озера» (Нарочанский национальный парк) *H. piceus* был найден в озере Глубля.

В статье представлены диагностические признаки *H. piceus*.

Hydrophilus piceus — реофильный вид. Предпочитает мелкие водоёмы (старицы, низинные болота, пруды, водохранилища, крупные лужи, часто в поймах рек) с теплой водой, заросшие макрофитами, обитает также в реках, озёрах, ериках и каналах.

H. piceus широко распространен в Европе, Северной Африке и Азии. Это транспалеарктический суббореально-субтропический вид.

Этот вид считается вымершим в Люксембурге и Норвегии, а также имеет статус охраняемого вида в Чехии, Словакии, Великобритании, Польше и Швеции. Поэтому изучение распространения вида в Беларуси актуально. Возможно, вид прибыл из Прибалтики в результате расширения ареала из-за потепления климата. Однако только дальнейшие исследования смогут подтвердить это предположение.

Ключевые слова: Insecta; Coleoptera; Hydrophilidae; *Hydrophilus*; фауна; Беларусь.

Рис. 6. Библиогр.: 14 назв.

Introduction. *Hydrophilus piceus* (Linnaeus, 1758) has been repeatedly indicated for territory of Belarus [1—3]. However, these records were based on incorrect species identifications and referred to *Hydrophilus aterrimus* Eschscholtz, 1822. Therefore, the species was excluded from the list of the fauna of Belarus [4—6].

Hydrophilus piceus is widely distributed in Europe, Northern Africa and Asia [6—11]. It was assumed that the possibility of finding this species in western or southern Belarus cannot be ruled out due to global warming [5]. This assumption was confirmed in September 2023 for the west of Belarus in the Narochansky National Park. This species had not previously been recorded in the National park [13]. *H. piceus* inhabits in Lithuania and Latvia [7], therefore, there is high probability of this species arriving from the Baltic territory.

There is a downward trend in the European population of *H. piceus*. This species is considered to be extinct in Luxemburg and Norway, and also has a status of an endangered species in Czech Republic (CR), Slovakia (VU), the United Kingdom (NT), Poland (NT) and Sweden (NT) [11]. Therefore, the study of this species in Belarus is relevant.

Materials and methods. The material for this article was the author's collection in the reserve "Golubye Oзера" in 2023. The beetles were collected using a hydrobiological net.

The material was examined with the use of a Nikon SMZ-745T stereomicroscope. Habitus photographs were taken with the use of Nikon D5100 with Nikon 60 mm 1:2.8G Macro Lens and Meik Macro Extension Ring Kit. The figures were prepared with the help of Photoshop CS5 program.

Results and discussion. As a result of studying the aquatic coleopterofauna on the territory of the reserve "Golubye Oзера" (Narochansky National Park), a new species for the fauna of Belarus was found. Its localization data, species diagnostic features and environmental preferences are listed below.

Hydrophilus piceus (Linnaeus, 1758) (Figures 1—6)

Differential diagnosis. Length 30—51 mm. Body oval, dorsal side convex, strongly narrowed in the posterior half of the body, without microsculpture and pubescence. Total color black, elytra with very slight olive sheen, tarsi blackish brown (Figures 1—2). Antennae, maxillary palpi and labial palpi yellowish or reddish yellow. Apical spines at the end of the elytral sutures are clear. Last segment of male antennal club with slight notch. Apical spines at the end of the elytral sutures are clear (Figure 3). Abdomen are arched medially with strong keel. Expansion of the apical segment of male fore tarsi very large (Figures 1—2). Male genitalia have slightly converging inwards and more massive apical part of parameres and more narrowed apex of medial lobe (Figures 12 in [5]).

Material. Belarus, Minsk reg., Myadel distr., Narochansky Nat. Park., "Golubye Oзера" res., near vill. Grumbinty, Glublya lake, 10.IX.2023., leg. A. G. Shulyak, S. K. Ryndevich, 1 specimen.

Ecology. Rheophilic species, prefers shallow water bodies (old river-beds, fens, ponds, reservoirs, large temporary pools, often in floodplains) with warm water, overgrown with macrophytes, also lives in rivers, lakes, anabranches and canals. In the desert regions of Middle Asia *Hydrophilus piceus* can endure the drought season by burrowing into the ground to a depth of 80 cm (personal communication by I. K. Lopatin, 2000).

Beetles fly at light.

Imagoes are saprophytophages: they feed on algae, macrophytes, and can eat dead invertebrates, fish, etc. Larvae are predators, feed on freshwater snails of the family Lymnaeidae [11].

The live specimen collected in Belarus did not have a tarsus on the right middle leg (Figure 2). In addition, the beetle has severe damage to the right elytra (Figure 4). Most likely this damage was caused by some species of bird, possibly a heron. This assumption is made due to the fact that herons often use larvae and imago of water beetles, including species of the genus *Hydrophilus*, as food [4; 12].

Distribution. Transpalearctic subboreal-subtropical species [7—11; 14]. In Belarus it is known from Narochansky National Park ("Golubye Oзера" Reserve) only.

Comparison. *Hydrophilus piceus*. is often confused with *Hydrophilus aterrimus*. The distinctive features of these two species were illustrated in our previous article [5].



Figures 1—6. — *Hydrophilus piceus* (Linnaeus, 1758): 1 — dorsal view of habitus; 2 — ventral view of habitus; 3 — apex of elytra; 4 — damage of elytra; 5 — habitats of *H. piceus* in Lake Glublya; 6 — location of *H. piceus* in Belarus

Рисунки 1—6. — *Hydrophilus piceus* (Linnaeus, 1758): 1 — габитус, вид сверху; 2 — габитус, вид снизу; 3 — вершина надкрылья; 4 — повреждение надкрылья; 5 — местообитание *H. piceus* в озере Глубля; 6 — локация находки *H. piceus* в Беларуси

Conclusion. As a result of the research the second species of the genus *Hydrophilus* was found on the territory of Belarus for the first time. *Hydrophilus piceus* was collected in Glublya Lake on the territory of “Golubye Oзера” reserve (Narochansky National Park). Perhaps this species arrived from the Baltics as a result of range expansion due to climate warming. However, only further research can confirm this assumption.

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