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Contribution to the Trichoptera fauna of Belarus

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With 5 figures

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Schlagwörter: Trichoptera, Insecta, Belarus, Faunistik

In May and June 2015, a series of Trichoptera was collected by the third author in the Vitebsk, Gomel, Mogilev and Brest regions. Additionally, material from the second author collected in 2017 at several regions was recently analyzed. Although sampling effort was rather limited, three new species for Belarus (*Asynarchus contumax* McLachlan, 1880, *Oecetis tripunctata* (Fabricius, 1793) and *Chimarra marginata*) were documented and the findings are presented in this paper.

1 The Belarus Trichoptera fauna

Belarus is a lowland, land-locked country in the continental region of Eastern Europe. Aquatic ecosystems comprise a variety of lakes, large bogs - one of them being the enormous Yelnya bog - and rivers, among them the famous Pripyat. The fauna contains typical boreal species such as *Semblis phalaenoides* (Linnaeus, 1767), *Limnephilus fuscinervis* (Zetterstedt, 1840) and *Limnephilus borealis* (Zetterstedt, 1840).

In 1997 Czachorowski published The first Checklist of Belarusian Trichoptera containing 105 species. In 1998 the list was expanded with ten more species (Czachorowski & Prishchepchik 1998).

The most recent Trichoptera fauna of Belarus is listed in the catalogue of Moroz & Lipinskaya (2014). This catalogue, written in Russian, lists 156 species (subspecies are not listed) and refers on Trichoptera findings in literature, including sampling details of each species.

Of the 156 species mentioned in the catalogue, 26 are lacking in the European DAET Atlas, which was published four years later (Neu et al. 2018). One example is *Hydropsyche guttata* Pictet, 1834, of which only records of the Central Europe (mainly Austria) are known. Czachorowski & Serafin (2004) refer to Ciubuc (1993) and mention that many specimens identified as *H. guttata* Pictet, 1834 or *H. ornatula* McLachlan, 1878 turned out to be *H. bulgaromanorum* Malicky, 1977, indicating that there is a need for a revision of existent material.

2 Results

In 2015 the third author collected 457 Trichoptera adults in 13 different locations, mostly with light traps. The samples were identified by the first author and among them were two species that had not previously been included in the catalogue of Moroz & Lipinskaya (2014): *Asynarchus contumax* McLachlan, 1880 and *Oecetis tripunctata* (Fabricius, 1793).

In addition, three males of *Hydropsyche contubernalis contubernalis* McLachlan, 1865 and 44 males of *Hydropsyche contubernalis borealis* Martynov, 1926 were identified. In 2017 the second author collected some Trichoptera in Voytav Most in the western part of the country near Belovezhskaya Pushcha National Park, among which two males of *Hydropsyche contubernalis masovica* Malicky, 1977 were identified.

LIMNEPHILIDAE

***Asynarchus contumax* McLachlan, 1880**

18.06.2015, 1 male, Belarus, Vitebsk region, Vitebsk district, Village Osipovo, Luchosa River, mesophytic meadow in the floodplain of the Luchosa River with shrubs and broad-leaved associations (*Quercus*, *Tilia*, *Acer*), N54.9020, E30.3744, 150m a.s.l., leg. Y. A. Derzhinsky, P. J. Neu.

LEPTOCERIDAE

***Oecetis tripunctata* (Fabricius, 1793)**

18.06.2015, 1 male, same location as above, leg. Y. A. Derzhinsky, det. P. J. Neu.

HYDROPSYCHIDAE

***Hydropsyche contubernalis contubernalis* McLachlan, 1865**

15.06.2015, 2 males, Belarus, Vitebsk region, Senno district, Village Shchitovka, N54.8704, E30.3770, 170 m a.s.l., leg. Y. A. Derzhinsky, det. P. J. Neu.

06.06.2015, 1 male, 2 females, Belarus, Vitebsk region, Shumilino district, Zalesie village, Obol'-2 raised bog, N55.4351, E29.2295, 140m a.s.l., leg. Y. A. Derzhinsky, det. P. J. Neu.

***Hydropsyche contubernalis borealis* Martynov, 1926**

19.05.2015, 13 males, Belarus, Gomel region, Gomel district, Chonki village, Sozh River, sparse oak forest in the floodplain of the Sozh River, N52.3192, E30.9381, 115 m a.s.l. (Fig. 1), leg. Y. A. Derzhinsky, det. P. J. Neu, 2 males in coll. H. Malicky.

Fig. 1. Sampling location at Chonki Village, 16 May 2015. Photo Y. Derzhinsky

14.05.2015, 23 males, Belarus, Gomel region, Rechitsa district, Rudnya Zhigalskaya village, at the bank of river Dnepr, N52.1698, E30.6125, 110 m a.s.l. (Fig. 2), leg. Y. A. Derzhinsky, det. P. J. Neu. 14.06.2015, 7 males, Belarus, Vitebsk region, Vitebsk district, Village Starinki, Luchosa River, spruce forest in the valley of the Luchosa River, a ravine with maple, linden and hazel trees, N55.1245, E30.2066, 170 m a.s.l., leg. Y. A. Derzhinsky, det. P. J. Neu.

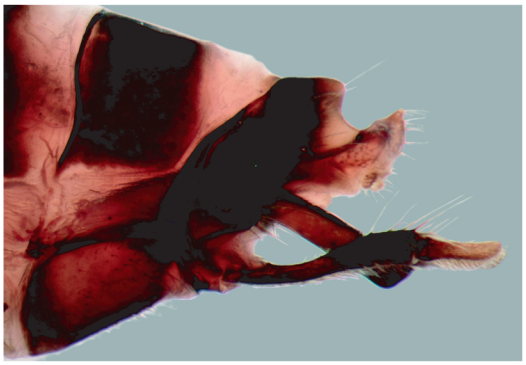
Fig. 2. Sampling location at Rudnya Zhigalskaya, 14 May 2015. Photo Y. Derzhinsky

04.06.2017, 1 male, Belarus, Grodno region, Belovezhskaya Pushcha NP, Navasiolki, Wojtowy Most, N52.8422, E24.2606, 170 m a.s.l., leg. D. Tempelman, det. P. J. Neu, 2 males in coll. Tempelman.

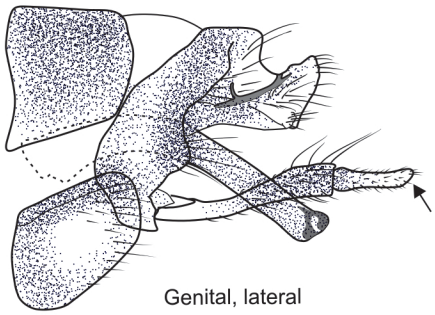
***Hydropsyche contubernalis masovica* Malicky, 1977**

04.06.2017, 2 males, Belarus, Grodno region, Belovezhskaya Pushcha NP, Navasiolki, Wojtowy Most, N52.8422, E24.2606, 170 m a.s.l., leg. D. Tempelman, det. P. J. Neu, in coll. Tempelman.

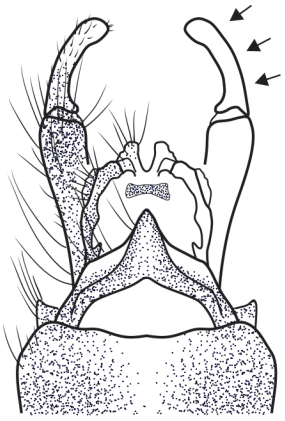
Drawings of the three very closely related *Hydropsyche* subspecies are presented below (Fig. 3-5).



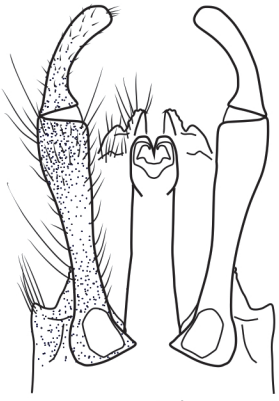
Genital, lateral



Genital, lateral

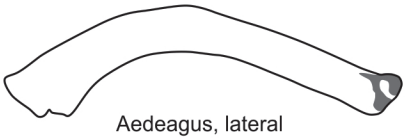


dorsal



ventral

ventral

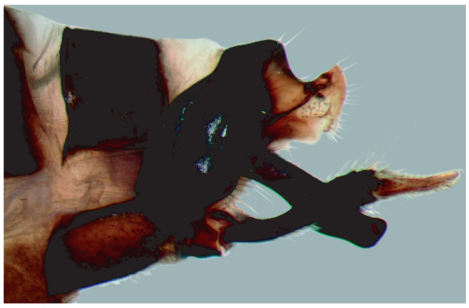


Aedeagus, lateral

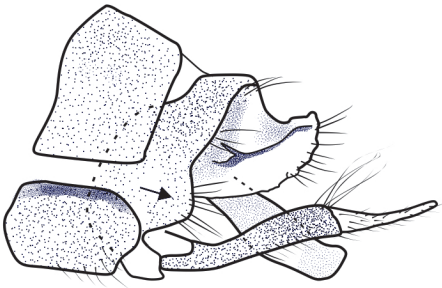
Hydropsyche contubernalis contubernalis
McLACHLAN, 1865
Belarus, Vitebsk, Shumilino district, Zalesie village,
Obol'-2 raised bog, leg. Y.A. Derzhinsky, 06.06.2015

P.J. Neu, 07/2017

Fig. 3. *Hydropsyche contubernalis contubernalis* McLachlan, 1865.

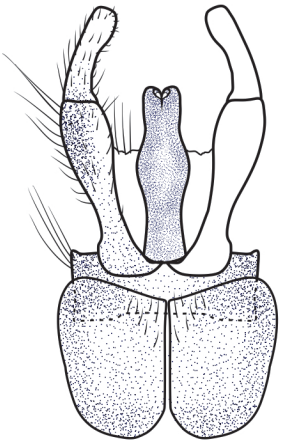


Genital, lateral



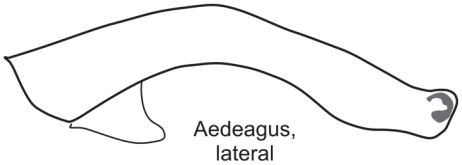
Genital, lateral

dorsal



ventral

ventral



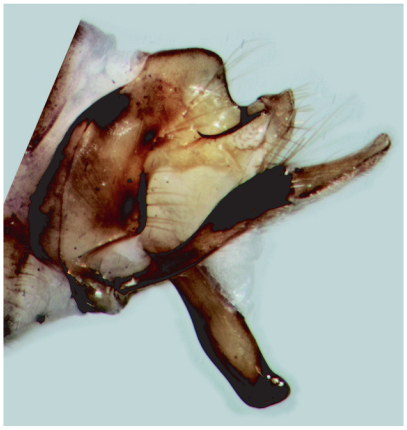
Aedeagus,
lateral

Aedeagus,
ventral

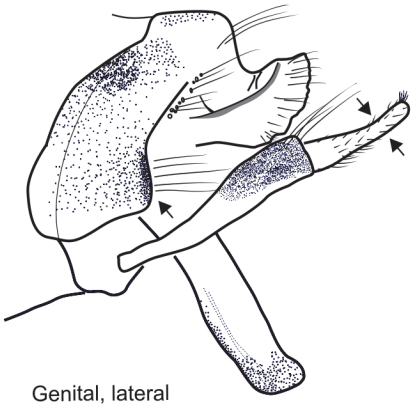
Hydropsyche contubernalis borealis
MARTYNOV, 1926
BLR, Gomel, Rudnya Zhigalskaya village,
The bank of river Dnepr, leg. Y.A. Derzhinsky, 14.06.2015

P.J. Neu, 07/2017

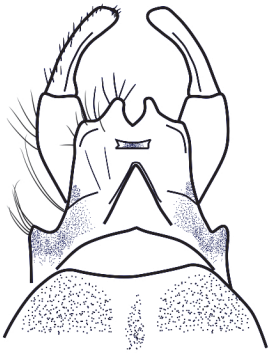
Fig. 4. *Hydropsyche contubernalis borealis* Martynov, 1926



Genital, lateral

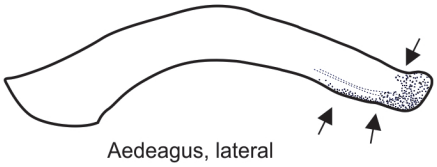


Genital, lateral

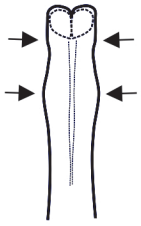


dorsal

Aedeagus, ventral



Aedeagus, lateral



Aedeagus, dorsal

Hydropsyche contubernalis masovica MALICKY, 1977
BLR, Beloweszkaya Pushcha NP, Navasiolki
Wojtowy Most, leg. D. Tempelman, 04.06.2017

P.J. Neu, 02/2022

Fig. 5. *Hydropsyche contubernalis masovica* Malicky, 1977

Molecular genetic studies

While the separation of *H. c. contubernalis*, *H. c. borealis*, and *H. c. masovica* on the basis of morphological criteria is no problem, a molecular genetic distinction has not yet been achieved (Pauls et al. 2019). Perhaps further development of methods and examination technique will yield better results in the future.

PHILOPOTAMIDAE

***Chimarra marginata* (Linnaeus, 1767)**

25.06.2014, 1 male, Belarus, Vitebsk region, Vitebsk district, Western Dvina north east of Vitebsk, N55.3089, E30.3111, 115 m a.s.l., leg., det. D. Tempelman, in coll. D. Tempelman. The river Dvina is 100 m wide here. The specimen was collected by hand during daytime.

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