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ARTYKUŁ / ARTICLE

Contribution to the knowledge of barkflies (Psocodea) in the Polesie State Radiation and Ecological Reserve in Belarus

Materiały do poznania gryzków (Psocodea) Poleskiego Państwowego Rezerwatu Radiacyjno-Ekologicznego w Białorusi

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ABSTRACT. This paper presents information on 12 species of barkflies (Psocodea) collected during 2023-2024 in the territory of the Polesie State Radiation and Ecological Reserve (Belarus). *Valenzuela burmeisteri* has been recorded from the Belarus for the first time.

KEY WORDS: Psocomorpha, new records, fauna.

Introduction

So far, about 5500 species of barkflies (Psocodea) is known globally, with their greatest diversity concentrated in tropical and subtropical zones (LIENHARD 2016). There are 42 species of barkflies recorded in Belarus, however, this it is one of the least faunistically known orders of insects in that country (OSTROVSKY 2024, OSTROVSKY & GEORGIEV 2024).

The most throughoutly studied region of the country is the southeast of Belarus, from which about half of the national barkfly fauna is known. In contrast, the rest of the territory remain relatively poorly studied. It is in this southeastern region that the first author conducted his research (OSTROVSKY 2016, 2017, 2019).

No barkflies had been recorded from the Polesie State Radiation and Ecological Reserve to date, so the documentation of faunal data – even for common species – is justified.

Material and methods

The Polesie State Radiation and Ecological Reserve is a nature reserve in the Narovlya, Khoyniki and Bragin districts of the Gomel region of Belarus. It was established in 1988 and now covers an area of 216,093 hectares. The territory of the current reserve before the Chernobyl disaster of April 26, 1986 was used for agriculture – in large part it was wetlands drained for agriculture. After the cessation of human activity, the territory went wild. The consequence of this phenomenon was a significant increase in biodiversity through the influx of new animal species. It is a forest reserve, the state's small share of non-forest habitats. Among the plant communities, young and middle-aged forests predominate. Among the trees, pine, birch, black alder and oak predominate. Forests are mostly artificial pine plantations (TCHAIKOVSKY et al. 2025).

In recent years, the Polesie State Radiation and Ecological Reserve has been hit by several hurricane-force winds (most recently in July 2024), which have contributed to an increase in the number of dead trees in the reserve.

The materials were collected by the second author using Malaise traps on the territory of the Polesie State Radiation and Ecological Reserve within the Khoyniki district. The barkflies come from 6 localities on 5 former settlements: Masany, Babchin, Tulgovichi, Orevichi, and Nikolayevskiy Starik.

In our study, we used a simplified design of the Malaise tent-type traps, without a rear end barrier, manufactured by ENTHO SPHINX (Fig. 1). Overall dimensions of the trap: length – 150 cm,

width – 100 cm, height – 120 cm. For better catchability, the lower barrier part of the trap is made of black fabric, which probably makes it less visible to insects and increases the likelihood of their collision with it. The traps were installed in a stationary sampling site, preferably mounted to existing trees and shrubs. The collecting container is located at the highest point of the trap roof. The traps in the stationary sampling site were placed so that their highest point faced north, in the brightest direction.

A 96% ethanol solution was used as a fixing liquid in the traps. Sampling was carried out once every 10-14 days during the growing season (May – November 2023-2024).

All the identifications were made by the first author on the basis of the keys of LIENHARD (1998) and SAVILLE (2008).

Results

Here we present data on 12 species of barkflies recorded during the research, including one species newly recorded for the fauna of Belarus (underlined). For each record, the collection site, GPS coordinates, date, number, and sex of the specimens are provided.

AMPHIPSOCIDAE

Kolbia quisquiliarum BERTKAU, 1882

– Babchin (51°44.644′, 29°56.473′), 13 VI – 11 VII 2023, 1♂.

CAECILIUSIDAE

Valenzuela atricornis (MCLACHLAN, 1869)

– Masany (51°31.166′, 30°00.987′), 19 IX – 17 X 2023, 1♂.

Valenzuela burmeisteri (BRAUER, 1876)

– Masany (51°31.166′, 30°00.987′), 13-28 VII 2023, 1♂ (Fig. 2);
– Masany (51°31.166′, 30°00.987′), 19 IX – 17 X 2023, 1♂2♀♀;
– Tulgovichi (51°47.166′, 30°01.132′), 13-28 VII 2023, 1♂3♀♀.

Valenzuela corsicus (KOLBE, 1882)

– Tulgovichi (51°47.166′, 30°01.132′), 13-28 VII 2023, 1♂2♀♀.

ELIPSOCIDAE

Elipsocus abdominalis REUTER, 1904

– Babchin (51°44.644′, 29°56.473′), 13 VI – 11 VII 2023, 1♀.

LACHESILLIDAE

Lachesilla pedicularia (LINNAEUS, 1758)

– Babchin (51°47.169′, 30°01.133′), 14-28 VII 2023, 1♂1♀;
– Masany (51°31.166′, 30°00.987′), 13-28 VII 2023, 1♀;
– Nikolayevskiy Starik (51°31.843′, 29°56.274′), 15 X 2024, 1♂.

Lachesilla tanaidana ROESLER, 1953

– Masany (51°31.166′, 30°00.987′), 28 VII – 15 VIII 2023, 1♂.

PERIPSOCIDAE

Peripsocus alboguttatus (DALMAN, 1823)

– Babchin (51°47.169′, 30°01.133′), 14-28 VII 2023, 1♀**;**
– Masany (51°31.166′, 30°00.987′), 13-28 VII 2023, 1♀**.**

PSOCIDAE

Amphigerontia contaminata (STEPHENS, 1836)

– Babchin (51°44.644′, 29°56.473′), 13 VI – 11 VII 2023, 1♂.

Metylophorus nebulosus (STEPHENS, 1836)

– Babchin (51°44.644′, 29°56.473′), 13 VI – 11 VII 2023, 1♀**;**
– Babchin (51°47.169′, 30°01.133′), 14-28 VII 2023, 1♂;
– Masany (51°31.166′, 30°00.987′), 13-28 VII 2023, 1♂;
– Tulgovichi (51°47.166′, 30°01.132′), 13-28 VII 2023, 1♀**.**

Neopsocopsis hirticornis (REUTER, 1893)

– Masany (51°31.166′, 30°00.987′), 28 VII – 15 VIII 2023, 1♂.

STENOPSOCIDAE

Graphopsocus cruciatus (LINNAEUS, 1768)

– Babchin (51°47.169′, 30°01.133′), 16 X 2024, 2♂♂;
– Masany (51°31.166′, 30°00.987′), 19 IX – 17 X 2023, 4♂♂4♀♀;
– Nikolayevskiy Starik (51°31.843′, 29°56.274′), 15 X 2024, 2♂♂12♀♀;
– Orevichi (51°35.405′, 29°51.083′), 15 X 2024, 24♂♂13♀♀.

Fig. 1. A modified Malaise trap (Photo P. PROKHORCHIK).

Ryc. 1. Zmodyfikowana pułapka Malaise'a (fot. P. PROKHORCHIK).

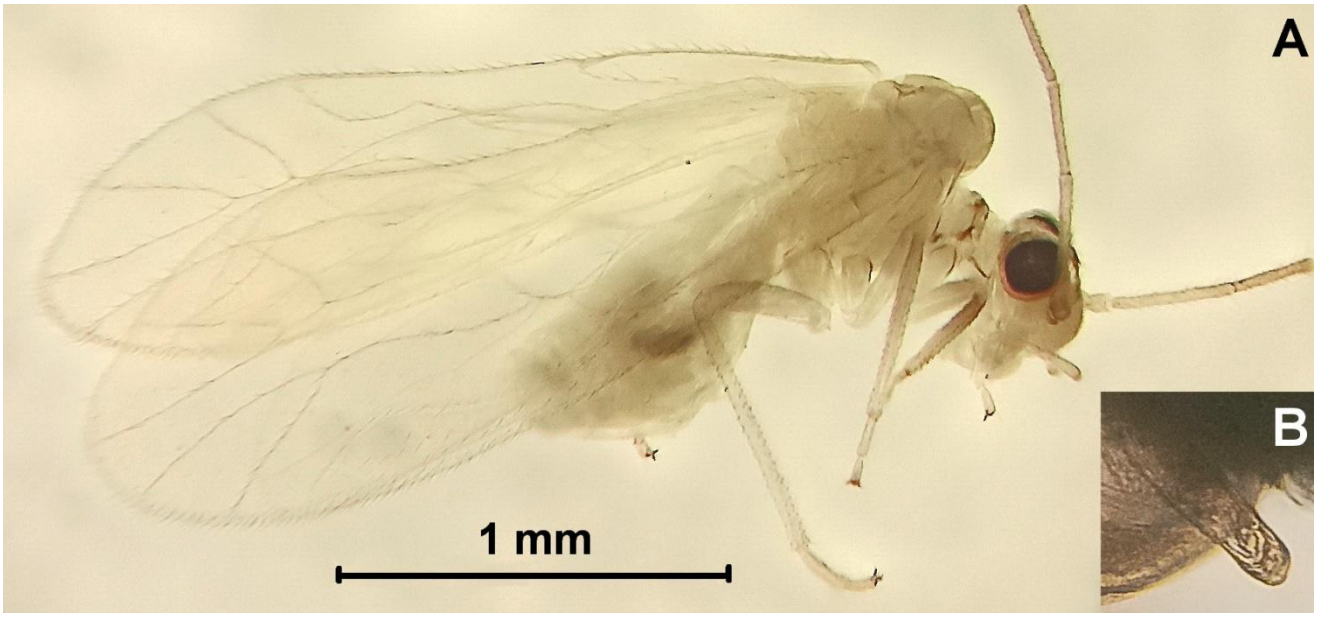

Fig. 2. *Valenzuela burmeisteri*, male specimen from Polesie State Radiation and Ecological Reserve, Belarus: A – habitus, lateral; B – lacinia (not to scale) (Photos A. OSTROVSKY).

Ryc. 2. Samiec *Valenzuela burmeisteri* z Poleskiego Państwowego Rezerwatu Radiacyjno-Ekologicznego, Białoruś: A – widok z boku; B – lacinia (nie w skali) (fot. A. OSTROVSKY).

Conclusion

The paper includes information on 12 species of non-parasitic Psocodea. The data come from 6 localities on 5 former settlements, the largest number of species was caught in the Masany – 8 species, the remaining information concerns: Babchin – 7 species, Tulgovichi – 3 species, Nikolayevskiy Starik – 2 species, and Orevichi – 1 species. The material, although scarce, brings new data on the occurrence of individual species in the above-mentioned territories. They were caught in the of Polesie State Radiation and Ecological Reserve for Malaise traps during fauna research. *Valenzuela burmeisteri* was registered from Belarus for the first time.

STRESZCZENIE

W pracy zawarto informacje o 12 gatunkach Psocodea. Dane pochodzą z 6 stanowisk w 5 dawnych osadach. Najwięcej, 8 gatunków, odłowiono w Masanach, pozostałe informacje dotyczą stanowisk: Babczyn – 7 gat., Tulgowicze – 3 gat., Mikołajewski Starzec – 2 gat. i Orewicze – 1 gat. Są to pierwsze informacje o występowaniu psotników na tych terenach. Odłowiono je podczas badań faunistycznych w Poleskim Państwowym Rezerwacie Radiacyjno-Ekologicznym do pułapek Malaise'a. *Valenzuela burmeisteri* (BRAUER) została stwierdzona po raz pierwszy w Białorusi.

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