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Coleophora carchara FALKOVITSH, 1972 (Lepidoptera: Coleophoridae) – the second record from Europe

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Abstract: *Coleophora carchara* FALKOVITSH, 1972 (Lepidoptera: Coleophoridae) – the second record from Europe. Two male specimens of *Coleophora carchara* were collected in the buffer zone of the Wigry National Park in north-eastern Poland. In Europe, apart from Poland, the species is known only from Latvia. Its occurrence is probably the result of the accidental introduction to eastern Europe.

Key words: Lepidoptera, Coleophoridae, *Coleophora carchara*, new record, Poland.

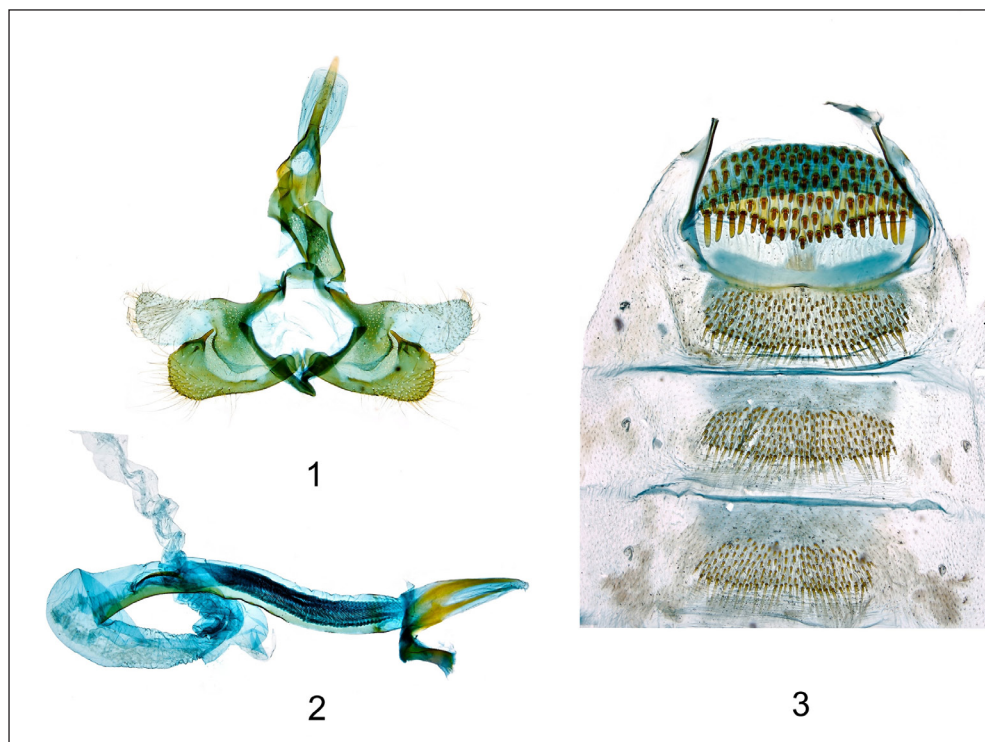
INTRODUCTION

The Coleophoridae family consists of about 1520 species (BALDIZZONE pers. com.), most of them occur in the temperate zone of the Palearctic. Relatively few species are known from tropical regions. Until now 156 species have been found in Poland (RYNARZEWSKI 2017). Moths are morphologically very uniform and about 95% of them belong to the genus *Coleophora* HBN. They are predominantly found in open habitats like steppes or semideserts, less frequently inhabit wooded areas. In Poland the most rich in species are xerothermic habitats. As concerns host plant preferences they are monophages or narrow oligophages on herbaceous plants or low shrubs, but uncommon on trees. Some species are associated with synanthropic weeds. Larvae of Coleophoridae live generally in portable cases from which they mine leaves. Some species feed on fruits and seeds, and exceptionally make galls or hollow out plant stems. Recent lepidopterological inventories in the Wigry National Park allowed to find an extraordinary moth species. In its buffer zone was collected *Coleophora carchara* FALK. The species is new to the Polish fauna and it is the second record from Europe.

RESULTS

2♂♂, Krzywe [FE39] (54°04'50,23"N 23°00'19,92"E), 6.08. 2016, A. Krzysztofiak leg.

Moths were attracted to a stationary light trap equipped with mercury vapor bulb 250 W. Because of poor condition of specimens only genitalia slides were prepared. They were stained with Chlorazol Black E and mounted in Euparal. Photos of the genitalia were made using focus stacking method. Genitalia slides are stored in authors' collections.



Figs. 1–3. *Coleophora carchara* FALK., Krzywe [FE39], 6.08.2016, A. Krzysztofiak leg. 1 – male genitalia, 2 – phallus, 3 – spines on the abdominal tergites (photo G. Banasiak).

DISCUSSION

Coleophora carchara FALKOVITSH has been described after specimens collected in the southern part of the Gobi Desert in Mongolia (FALKOVITSH 1972). It was also found in China (LI & ZHENG 1998). In Europe one specimen was collected in 1996 in Latvia (SAVENKOV & ŠULCS 2004), and the second site has just been discovered in north-eastern Poland. It can be assumed that the species was accidentally introduced to eastern Europe, because there is a huge disjunction between the localities in Europe and its native area in Asia. It seems that the species is not very expansive as it has only been found in two places within 20 years. However, it can be expected in other sites in NE Poland.

Coleophora carchara FALKOVITSH represents the *salicorniae* species group (TOLL 1952, EMMET *et al.* 1996). Most distinctive characters of male genitalia are a shape of gnathos and a spine on the dorsal edge of sacculus (Figs. 1–2). Many species have large patches of strong spines on the tergites of abdomen (Fig. 3). The species of this group are the most numerous

in the steppe and semi-desert areas of Central Asia (FALKOVITSH 1972, 1973). Their larvae feed on plants of the Chenopodiaceae family, and when full grown they leave the case and descend into the soil where they pupate in a strong cocoon. Host plants of *Coleophora carchara* FALK. are not known, but it most likely also lives on the Chenopodiaceae, especially in agrocenoses and ruderal habitats.

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REFERENCES

- EMMET A.M., LANGMAID J.R., BLAND K.P., CORLEY M.F.V., RAZOWSKI J. 1996. Coleophoridae, In: *The Moths and Butterflies of Great Britain and Ireland* 3: 126–338.
- FALKOVITSH M.I. 1972. New species of casebearers (Lepidoptera, Coleophoridae) from the Gobi Desert. Biological resources and natural conditions of the Mongolian People's Republic. Vol. I, *Insects of Mongolia* 1: 698–715. [in Russian]
- FALKOVITSH M.I. 1973. Contribution to the knowledge of casebearers (Lepidoptera, Coleophoridae) of the Kisilkum Desert. *Trudy Vsesojuznogo Entologitscheskogo Obshtcestva* 56: 199–233. [in Russian]
- LI H., ZHENG L. 1998. Studies on the Chinese Coleophoridae (Lepidoptera): *Coleophora salicorniae* group, with descriptions of twelve new species. *Entomologica Sinica* 5: 189–221.
- RYNARZEWSKI T. 2017. Coleophoridae, In: BUSZKO J., NOWACKI J. (Eds.), A distributional Checklist of the Lepidoptera of Poland. *Polish Entomological Monographs* 13: 42–46.
- SAVENKOV N., ŠULCS I. 2004. New and rare Lepidoptera for the Latvian fauna. *Baptria* 29: 52–58.
- TOLL S. 1952 [1953]. Rodzina Eupistidae Polski. Materiały do Fizjografii Kraju, Kraków, 32, 293 pp, 38 pl. [in Polish]

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