



Short Note

On the Psocodea (Insecta) fauna of the Sveti Iliyski Heights, South-East Bulgaria

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Abstract. This study presents the first data on the barkfly fauna (Insecta: Psocodea) of the Sveti Iliyski Heights, an isolated lowland hilly chain in South-East Bulgaria (Upper Thracian Lowland). A total of 14 species belonging to eight families (Trogidae, Liposcelididae, Caeciliusidae, Stenopsocidae, Lachesillidae, Ectopsocidae, Elipsocidae, and Mesopsocidae) were recorded based on material collected irregularly between 2017 and 2024. Most species were found in reforested stands of *Pinus nigra* and surrounding broadleaved vegetation, predominantly inhabiting dry foliage, live and dead branches, tree bark, and leaf litter.

Keywords: lowland heights, psocids, diversity, species, habitats, microhabitats

Introduction

Despite intensive studies on Psocodea in Bulgaria over the past ten years, to date there has been no published data on this insect group from the area of the Sveti Iliyski Heights (Georgiev, 2016a, b, 2017a, b, 2018, 2020, 2022; Georgiev *et al.*, 2024; Georgiev & Genchev, 2025). This low, hilly region, located in the Upper Thracian Lowland south of the town of Nova Zagora, represents a distinct 'island' of biodiversity amid the agricultural lands dominating the lowlands of Upper Thrace (Georgiev, 2006). This paper presents the first data on Psocodea from this region.

Material and methods

Barkflies were collected irregularly between 2017 and 2024 from different

habitats and localities of the Upper Thracian Lowland, Southern Bulgaria. Sieving of leaf litter and beating the vegetation were mainly used. The material was preserved in 96% ethanol and examined in the laboratory. Species identifications were based mainly on Lienhard (1998).

Results and Discussion

A total of 14 species (one identified to generic level) were registered during the study:

Family Trogidae

Lepinotus reticulatus Enderlein, 1905

Material examined: 03.03.2017, near “Edoardo Mirolio” winery, N42° 24' 42.1"

E26° 08' 45.4", 310 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 2♀, from detritus, collected by sieving; 24.02.2024, E of Radevo vill., N42° 25' 31.4" E26° 04' 36.5", 248 m a.s.l., *P. nigra* forest, 2♀, from bark of dead trunk of *P. nigra*, collected by sieving.

Family Liposcelididae

***Liposcelis decolor* (Pearman, 1925)**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., 3♀, mixed forest (*Pinus nigra*, *Quercus* sp.), from dry branches with leaves of *P. nigra*, collected by beating the vegetation.

***Liposcelis priesneri* Enderlein, 1925**

Material examined: 06.05.2022, N of Mezhdha vill., *P. nigra* forest, N42° 23' 26.0" E26° 15' 07.0", 201 m a.s.l., 2♀, from leaf litter of *P. nigra*, collected by sieving.

***Liposcelis rufa* Broadhead, 1950**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1♀, from branches of *P. nigra*, collected by beating the vegetation.

***Liposcelis silvarum* (Kolbe, 1888)**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 2♀, from branches of *P. nigra*, collected by beating the vegetation.

Family Caeciliusidae

***Valenzuela piceus* (Kolbe, 1882)**

Material examined: 02.01.2022, S of Nova Zagora town, N42° 26' 16.8" E26° 03' 47.3", 177 m a.s.l., *P. nigra* forest, 1♂, 1♀, from dry branches with leaves of *P. nigra*, collected by beating the vegetation.

Family Stenopsocidae

***Graphopsocus cruciatus* (Linnaeus, 1768)**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 2♂, 2♀, from dry and live branches of *P. nigra*, collected by beating the vegetation.

Family Lachesiliidae

***Lachesilla quercus* (Kolbe, 1880)**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1♂, 1♀, from dry and live branches of *P. nigra*, 1♂, from *Quercus* sp., collected by beating the vegetation.

Family Ectopsocidae

***Ectopsocus petersi* Smithers, 1978**

Material examined: 26.11.2021, near "Edoardo Mirolio" winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 3♂, 1♀, from dry and live branches of *P. nigra*, collected by beating the vegetation; 02.01.2022, S of Nova Zagora town, bushes and trees, N42° 26' 43.2" E26° 02' 53.0", 127 m a.s.l., 2♂, 5♀, from *Quercus* sp., collected by beating the vegetation; 02.01.2022, S of Nova Zagora town, N42° 26' 16.8" E26° 03' 47.3", 177 m a.s.l., *P. nigra* forest, 3♂, 17♀, from dry branches with leaves of *P. nigra*, collected by beating the vegetation; 06.05.2022, N of Mezhdha vill., *P. nigra* forest, 2♀, from dry branches with leaves of *P. nigra*, collected by beating the vegetation; 25.11.2024, Prohorovo vill., N42° 21' 07.9" E26° 12' 26.7", 167 m a.s.l., river bank forest, 3♂, 1♀, from dry branches with leaves of *Salix* sp., collected by beating the vegetation.

***Ectopsocus vachoni* Badonnel, 1945**

Material examined: 26.11.2021, near “Edoardo Mirolio” winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1♀ (macropterous), from dry and live branches of *P. nigra*, from bark of *P. nigra* on the ground, 1♂, 3♀ (2 apterous, 1 brachypterous), collected by beating the vegetation; 02.01.2022, S of Nova Zagora town, N42° 26' 16.8" E26° 03' 47.3", 177 m a.s.l., *P. nigra* forest, 10♂, 12♀, from dry branches with leaves of *P. nigra*, collected by beating the vegetation.

Family Elipsocidae

***Cuneopalpus cyanops* (Rostock, 1876)**

Material examined: 26.11.2021, near “Edoardo Mirolio” winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1♂, 1♀, from dry and live branches of *P. nigra*, collected by beating the vegetation; 02.01.2022, S of Nova Zagora town, N42° 26' 16.8" E26° 03' 47.3", 177 m a.s.l., *P. nigra* forest, 5♀, from branches of *P. nigra*, collected by beating the vegetation; 06.05.2022, N of Mezhdia vill., *P. nigra* forest, 2♂, from dry branches with leaves of *P. nigra*, collected by beating the vegetation; 24.02.2024, E of Radevo vill., N42° 25' 31.4" E26° 04' 36.5", 248 m a.s.l., *P. nigra* forest, 1♀, from branches of *P. nigra*, collected by beating the vegetation.

***Elipsocus moebiusi* Tetens, 1891**

Material examined: 26.11.2021, near “Edoardo Mirolio” winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1♂, 3♀, from dry and live branches of *P. nigra*, collected by beating the vegetation.

***Hemineura dispar* Tetens, 1891**

Material examined: 26.11.2021, near “Edoardo Mirolio” winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 2♀, from dry and live branches of *P. nigra*, collected by beating the vegetation; 02.01.2022, S of Nova Zagora town, N42° 26' 16.8" E26° 03' 47.3", 177 m a.s.l., *P. nigra* forest, 1♀, from branches of *P. nigra*, collected by beating the vegetation.

Family Mesopsocidae

***Mesopsocus* sp.**

Material examined: 26.11.2021, near “Edoardo Mirolio” winery, N42° 24' 25.3" E26° 08' 55.1", 277 m a.s.l., mixed forest (*Pinus nigra*, *Quercus* sp.), 1 nymph, from dry and live branches of *P. nigra*, collected by beating the vegetation; 25.11.2024, Savino vill., N42° 20' 15.0" E26° 17' 18.0", 225 m a. s. l., bushes, 1 nymph, from *P. spinachristi*, collected by beating the vegetation.

The registered 14 species represent the first contribution to the Psocodea fauna of the Sveti Iliyski Heights. The recorded species inhabit a variety of macro- and microhabitats within this lowland landscape:

- Coniferous and Mixed Forests (*Pinus nigra* stands): Artificial coniferous plantations, dominated by *Pinus nigra*, hosted the highest species richness. Microhabitats such as dry branches retaining dead needles and outer bark provided shelter and micro-fungal food sources for species like *Valenzuela piceus*, *Ectopsocus petersi*, *Ectopsocus vachoni*, *Cuneopalpus cyanops*, *Elipsocus moebiusi*, and *Hemineura dispar*;

- Deciduous Forest Margins and Shrublands: Broadleaved vegetation (e.g., *Quercus* spp., *Salix* sp., and xerophilous shrubs like *Paliurus spinachristi*) yielded species such as *Lachesilla quercus* and *Ectopsocus petersi*;

- Soil Surface, Detritus, and Litter Microhabitats: Apterous and wing-dimorphic species, including *Lepinotus reticulatus* and various *Liposcelis* species (*L. decolor*, *L. priesneri*, *L. rufa*, and *L. silvarum*), were predominantly recorded from detritus, pine leaf litter, and under loose bark near the ground.

Given that sampling was conducted irregularly over several years, the current species list should be considered preliminary. The presence of nymphal stages of *Mesopsocus* sp. indicates active breeding populations that require further spring/early summer sampling for accurate species-level identification. Additional systematic research covering unstudied habitats (such as natural oak remnants, open rocky terrains, and riparian vegetation along small streams) will undoubtedly reveal further species and expand our understanding of the biogeographic significance of this lowland "island" of biodiversity.

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