

Moth flies (Diptera, Psychodidae) of Králický Sněžník Mts – underestimated area for nature conservation, Czech Republic

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Abstract: Data on the occurrence of non-biting moth flies (Diptera, Psychodidae) from the area of Králický Sněžník Mts and neighbouring environs is presented. A total of 56 species are recorded. Seven species are critically endangered: *Philosepedon (Trichosepedon) balkanicum* Krek, 1971; *Clytocerus (Boreoclytocerus) rivosus* (Tonnoir, 1919); *Saraiella parva* (Vaillant, 1963); *S. rotunda* (Krek, 1970); *Szaboiella hibernica* (Tonnoir, 1940); *Tonnoiriella nigricauda* (Tonnoir, 1919) and *Ulomyia plumata* (Tonnoir, 1919). Four species are endangered: *Threticus incurvus* Krek, 1972; *Pneumia stammeri* (Jung, 1956); *P. vittata* (Tonnoir, 1919) and *Ulomyia vaseki* Ježek, 2002. Two species are vulnerable: *Threticus arvernensis* Vaillant, 1972 and *T. silvaticus* Ježek, 1985. Moreover, one species which has unfortunately so far not assessed useful conservation status (NS, nationally scarce, used newly in the past): *Berdeniella vimmeri* Ježek, 1995 is also recorded. A basic prerequisite for the understanding and protection of biodiversity is the building of a high-quality faunal and taxonomic base. This knowledge can be applied to the protection of endangered species (14 in this account), as well as in the management of their habitats, often destroyed by developers of large mountain touristic bases.

Key words: Trichomyinae, Psychodinae, biodiversity, faunistics, distribution, zoogeography, threatened species, conservation potential, Bohemia, Moravia, Europe, Palaearctic Region

Introduction

The family Psychodidae (moth flies; Fig. 1) is a cosmopolitan holometabolic insect family of lower Diptera with more than 3000 described species (Pape et al. 2011). Adults ((1 – 5 mm) with a body densely covered with hairs and scales) tend to rest in sheltered and relatively moist microhabitats, such as under the bark and in tree holes, on the undersides of leaves, in rock crevices, burrows, stables, caves and on the inside walls of buildings (e.g. Bejarano & Estrada 2016).

The aim of faunistic studies is to find out which and how many species live in individual biotopes of a given region. The resulting species lists are only meaningful if they are based on a correct, thorough and systematic knowledge of each group under consideration. The faunal composition, correctly positioned in its spatial and temporal dimensions, provides a picture of regional biodiversity in relation to changes that have occurred over more or less long periods of time, which has recently been emphasized mainly because of global changes affecting biodiversity and the species composition of communities (Braioni 1994). Species distribution data are an important source of information for the implementation of several goals set by the International Convention on Biological Diversity (Girardello et al. 2018).

The part of Králický Sněžník Mts (Králický Sněžník Mt. – 1423 m a.s.l. and west comb of Malý Sněžník Mt. – 1338 m a.s.l., included in Pardubice and Olomouc regions) was designated as NNR in year 1990 and has 1695 ha. The further elevation point, Klepáč

Mt. (1144 m a.s.l.) is a water-shed of three rivers flowing to the Black Sea (Morava river), the North Sea (Lipka brook and later Tichá Orlice river) and the Baltic Sea (Kłodsko – Nisa river in Poland). There's a great variety of nature elements in this area from 820 – 1423 m a.s.l., which make homogenous nature complex: subalpine grassy uplands, fragments of original plant communities below upper forest border, boulder fields as well as peatbogs. The landscape is in the south demarcated sensu lato by settlements Králíky, Vysoký Potok, Hanušovice and Staré Město pod Sněžníkem. The general natural history of the whole studied areas was characterized briefly by Feřtek & Janoška (2011). Many interesting current details were added by Kobza (2023) and Šmída (2023).

Generally, dipterists have not visited the area of Králícký Sněžník Mts. in the past to collect moth flies, and almost nothing has thus far been published: from the frontier only *Tinearia alternata* (Say, 1824) – Horní Lipka (Ježek 1977). New published records in the last several decades are: *Ulomyia vaseki* Ježek, 2002 – Návrší chalet, Sklené, Sv. Trojice, U strašidel (Ježek 2002, Tkoč et al. 2014); *Philosepedon austriacum* Vaillant, 1974 – Květná, Stříbrnice, Vlaské; *P. balkanicum* Krek, 1971 – Sv. Trojice; *Threticus incurvus* Krek, 1972 – Velká Morava, Prometheus hotel; *Psychodocha itoco* (Tokunaga & Komyo, 1955) – Patzeltova jeskyně cave, U strašidel; *Ypsydocha setigera* (Tonnoir, 1922) – Podlesí, Vikantice; *Berdeniella matthesi* (Jung, 1954) – boundary stone 72/3 (between CZ and PL), Horní Morava (Pod Klepáčem), Kamenitý potok brook, Návrší chalet, Nová Seninka, Patzeltova jeskyně cave, Stříbrnice, U strašidel, Velká Morava; *B. stavniensis* (Krek, 1969) – Horní Morava; *Clytocerus* (*Boreoclytocerus*) *dalii* (Eaton, 1893) – Stříbrnice; *Saraiella parva* (Vaillant, 1963) – U strašidel (all. Ježek 2003); *Szaboiella hibernica* (Tonnoir, 1940) – between Uhlisko Mt. and Podbělka Mt., Dolní Morava, Horní Morava (Pod Klepáčem), Nad strašidly, Patzeltova jeskyně cave (Ježek 2004a); *Psychoda alticola* Vaillant, 1973 – Nad strašidly, Prudký potok brook (Ježek 2006).



Fig. 1: Psychodidae – adult. Photo by Ladislav Racko.

Our study aims are to present published new and unpublished faunal data with the contribution of biodiversity research on moth flies (Diptera: Psychodidae) of Krállický Sněžník NNR and neighbouring areas (Czech Republic).

Material and methods

This study is based on 711 slides of moth flies. The material was collected in the area of Krállický Sněžník Mts (especially Krállický Sněžník NNR with neighbouring not preserved territory and adjacent localities) between 2000 – 2005. A prime mover of the biodiversity research project was the cooperation between the administration of AOPK Pardubice/Olomouc with the Department of Entomology of the National Museum, Prague. The material was collected by sweep netting (Pavel Chvojka, Jan Ježek, Jan Macek – all NM, Prague, Jiří Skuhrovec – GFIPBA, CRI, Prague and in the past Jiří Veselý – AOPK, Pardubice) during individual excursions and using Malaise traps emptied in three weeks' period. Generally, only the date on which the samples were removed is quoted in the list of materials examined in the Results section. The names of collectors are always mentioned in the text. The captured moth flies were preserved in 70% ethanol in the field and subsequently cleared in chloralphenol, treated in xylol, determined by the first author and mounted on glass slides in Canada balsam. The voucher specimens are deposited in the National Museum, Prague, Czech Republic (NMPC). Slides were numbered in the NMPC by INS = Inventory Slide Number of the family Psychodidae (see Tkoč et al. 2014). Most of the recent data comes from a total of 67 localities; see the numbered list of collecting sites prepared in correspondence with the map used: Krállický Sněžník, Edice klubu českých turistů (53) 1: 50 000. Coordinates: the places of sweeping were often changed locally by tens of metres during the quoted seasons in the same space, in contrast to the mentioned single GPS. Detailed data were included and supplied with the codes of fields in the faunistic and floristic grid mapping system for Central Europe (Ehrendorfer & Hamann 1965, Zelený 1972, Pruner & Míka 1996).

The map in the figure was created using public domain layers (OpenStreetMap standard - <https://www.openstreetmap.org>), Czech Republic Administrative Districts from the Natural Earth public domain map dataset - <https://www.naturalearthdata.com>) in QGIS software (version 3.36.0-Maidenhead). The area of interest shown in the overview map in Fig. 3, indicated by a red polygon, was customized using the Overviews option in the Print Layout.

Identification keys used: Vaillant (1971 – 1983), Szabó (1983), Withers (1989) and numerous unnamed original papers by different authors with descriptions of new species. The nomenclature is modified from Vaillant (1971 – 1983) and Wagner (1990, 2023) using the classifications of e.g. Ježek & van Harten (2005, 2009), Ježek (2007), Ježek et al. (2018, 2020, 2021, 2023b), Omelková & Ježek (2012a,b), Oboňa & Ježek (2014), Kvifte (2014) and Kroča & Ježek (2015, 2019, 2022).

Abbreviations used:

♂ = male; ♀ = female; SW = sweeping; MT = Malaise trap; C = Chvojka leg.; J = Ježek; Ma = Macek; S = Skuhrovec; V = Veselý; NNR = national nature reserve; AOPK = Agentura ochrany přírody a krajiny (Administration of nature and landscape protection); GFIPBA, CRI (Group Function of Invertebrate and Plant Biodiversity in Agrosystems, Crop Research Institute); KS NNR = Krállický Sněžník NNR; Threatened species: CR = critically endangered, EN = endangered, VU = vulnerable, NS = species not assessed in Czech Red List (Ježek 2005).

List of all collecting areas (See maps: Figs 2, 3, and Figs 4-15)

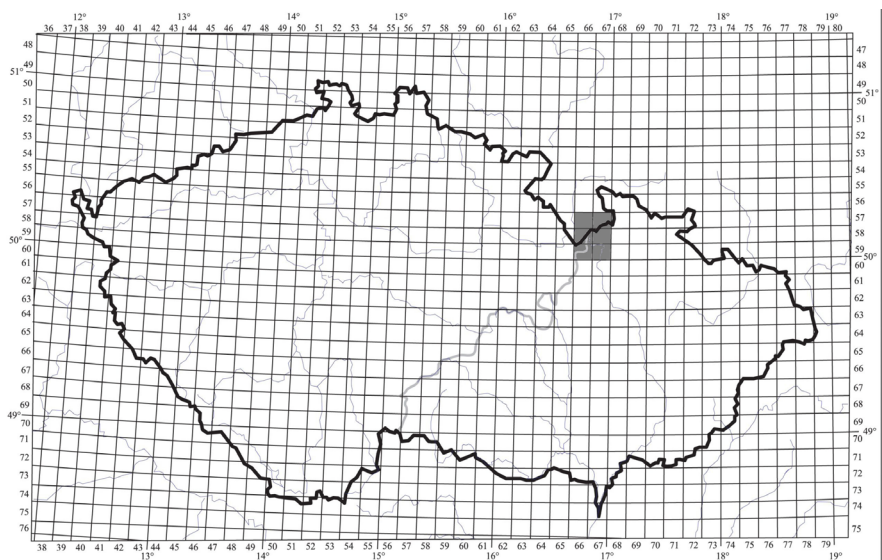


Fig. 2: Map of faunistic squares of the Czech Republic. Created by Jozef Oboňa.

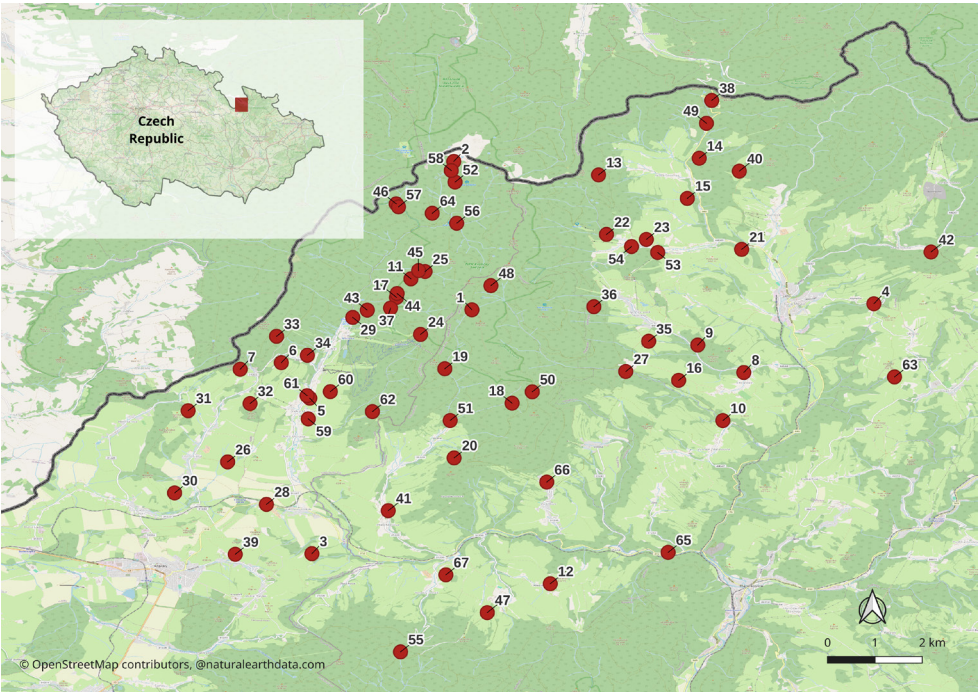


Fig. 3: Map of the study area with sites 1–67. Prepared by Jana Michalková.

1. **Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.)**, small forest brook, KS NNR, 1234 m a.s.l., 5867, 50°09'N 16°51'E.
2. **Below spring of Morava river**, Králický Sněžník Mts, KS NNR, 1181 m a.s.l., 5767, 50°12'N 16°50'E.
3. **Between Červený Potok and Horní Hedeč**, Pod Mlýnem, meadow spring area and forest brook, 612 m a.s.l., 5866, 50°05'N 16°48'E. Veg.: *Alnus*, *Betula*, *Salix*, *Picea*, *Sambucus*, *Sorbus*, *Rubus*, *Senecio*, *Urtica*, Pteropsida.
4. **Between Hajmrlou and Kančí vrch hill (723.7 m a.s.l.)**, brook, swamps, meadows, forest spring area, rills, 680 m a.s.l., 5867, 50°09'N 16°58'E. Veg.: *Picea*, *Alnus*, *Salix*, *Acer*, *Betula*, *Senecio*, *Urtica*, *Lythrum*, *Scirpus*, *Filipendula*, *Rubus*, *Nasturtium*, *Stachys*, *Geranium*, *Petasites*, Pteropsida, Musci.
5. **Between Horní and Velká Morava**, cottages, polluted pond, 368 m a.s.l., 5866, 50°08'N 16°48'E. Veg.: *Alnetum*, *Fraxinus*, *Senecio*, *Geum*, *Myosotis*, *Caltha*, *Scirpus*, *Daucaceae*.
6. **Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.)**, chalets, park small brook, putrid rotten hay, 822 m a.s.l., 5866, 50°08'N 16°47'E. Veg.: *Fraxinus*, *Juniperus*, *Sambucus*, *Caltha*, *Nasturtium*, *Veratrum*, *Petasites*, Pteropsida.
7. **Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.)**, small forest brook, 830 m a.s.l., 5866, 50°08'N 16°47'E. Veg.: *Acer*, *Picea*, *Alnus*, *Petasites*, *Veratrum*, *Equisetum*.
8. **Between Hynčice pod Sušinou and Chrástice, Chrástický potok brook**, cluster of spruces, 531 m a.s.l., 5867, 50°08'N 16°55'E. Veg.: *Picea*, *Saponaria*, *Petasites*, *Nasturtium*, Pteropsida.
9. **Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.)**, spring area, forest swamps, 591 m a.s.l., 5867, 50°08'N 16°55'E. Veg.: *Picea*, *Filipendula*, *Mentha*.
10. **Between Chrástice and Vysoké Žibřidovice, Pasínky area**, Prudký potok brook, fountain, swamps, 529 m a.s.l., 5867, 50°07'N 16°55'E. Veg.: *Alnus*, *Corylus*, *Picea*, *Veratrum*, Pteropsida, *Petasites*, *Fagus*, *Senecio*.
11. **Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.)**, Králický Sněžník Mts, KS NNR, planting Alnetum, swamps, spring area, muddy pools, 1040 m a.s.l., 5866, 50°10'N 16°50'E. Veg.: *Picea*, *Alnus*, *Sorbus*, *Fagus*, *Senecio*, *Filipendula*, *Sphagnum*, *Aconitum*, *Petasites*.
12. **Between Křivá Voda and Kamenáč hill (656.7 m a.s.l.)**, ruin of farm, brook, 620 m a.s.l., 5967, 50°04'N 16°52'E. Veg.: *Fraxinus*, *Alnus*, *Sorbus*, *Sambucus*, *Urtica*.
13. **Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.)**, confluence of several brooks, small meadows, rill, 639 m a.s.l., 5767, 50°11'N 16°53'E. Veg.: *Betula*, *Fraxinus*, *Populus*, *Salix*, *Petasites*, *Phragmites*, *Nasturtium*, *Senecio*, *Daucaceae*.
14. **Between Nová Seninka and Javořina**, Krupá brook, 629.5 m a.s.l., 5767, 50°12'N 16°55'E. Veg.: *Picea* – forest, *Alnus*, *Acer*, *Salix*, *Betula*, *Rubus*, *Petasites*, *Senecio*, Pteropsida, *Daucaceae*.
15. **Between Nová Seninka and Nový Rumburk**, pastures, small brooks, swamps, solitary trees, 613 m a.s.l., 5867, 50°11'N 16°54'E. Veg.: *Picea*, *Fraxinus*, *Alnus*, *Betula*, *Scirpus*, *Filipendula*.
16. **Between Pasínky area and Bystřina gamekeeper's lodge, Chrástice env.**, pasture, spring area, rill, 579 m a.s.l., 5867, 50°08'N 16°54'E. Veg.: *Fraxinus*, *Filipendula*, *Scirpus*, *Lysimachia*.
17. **Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave** (opening), wet rocky walls, Kamenitý potok brook and small streams, forest slope spring areas, boulders, shrubs, path, Králický Sněžník Mts, KS NNR, 878 m a.s.l., 5866, 50°09'N 16°49'E. Veg.: *Picea* – forest, *Fagus*, *Senecio*, *Aconitum*, *Nasturtium*, *Petasites*, *Juncus*, *Viola*, *Asperula*, *Hepaticae*, Pteropsida, Musci.
18. **Between Pomocná and Hubertova chalets, near Srážná Mt. (1073.8 m a.s.l.)**, Vojtíškov env., forest rills and swamps, 1006 m a.s.l., 5867, 50°07'N 16°51'E. Veg.: *Picea*, *Sambucus*, Pteropsida.
19. **Between Sklené and Chlum Mt. (1115.8 m a.s.l.)**, small forest brook, 1020 m a.s.l., 5867, 50°08'N 16°50'E. Veg.: *Picea*, *Rubus*, *Senecio*, Pteropsida, Musci.
20. **Between Sklené and Malá Morava**, stream, swamps, 800 m a.s.l., 5866, 50°06'N 16°50'E. Veg.: *Alnus*, *Juncus*, *Petasites*, Pteropsida, Musci.
21. **Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook**, rills, pasture, ski-tow, rotten hay, 570 m a.s.l., 5867, 50°10'N 16°55'E. Veg.: *Picea*, *Acer*, *Alnus*, *Betula*, *Frangula*, *Caltha*, *Calamagrostis*, *Petasites*, *Rubus*, *Senecio*, *Nasturtium*, *Scirpus*, *Lysimachia*, *Daucaceae*, Musci, Pteropsida.
22. **Between Stříbrnice and Návrší chalet**, forest spring area, rills, stream, 720 m a.s.l., 5867, 50°10'N 16°53'E. Veg.: *Picea*, *Alnus*, *Acer*, *Fagus*, *Rubus*, *Petasites*, *Nasturtium*, *Urtica*, *Vaccinium*, *Oxalis*, Pteropsida, Musci.
23. **Between Stříbrnice and Nový Rumburk**, meadows, brook, rills, polluted water, 642 m a.s.l., 5867, 50°10'N 16°54'E. Veg.: *Fraxinus*, *Acer*, *Salix*, *Alnus*, *Petasites*, *Aegopodium*, *Daucaceae*.
24. **Between Sviní hora Mt. (1232.4 m a.s.l.) and Chlum Mt. (1115.8 m)**, forest, spring area, rill, stones, Králický Sněžník Mts, KS NNR, 1140 m a.s.l., 5866, 50°09'N 16°50'E. Veg.: *Picea*, *Vaccinium*, *Juncus*, *Nasturtium*, *Viola*.
25. **Between Uhliisko Mt. (1240.7 m) and Podbělka Mt. (1307.4 m a.s.l.)**, Morava river, wet slopes, swamps, Králický Sněžník Mts, KS NNR, 1040 m a.s.l., 5866, 50°10'N 16°50'E. Veg.: *Picea*, *Alnus*, *Fagus*, *Petasites*, *Myosotis*, *Juncus*, *Daucaceae*, Musci.

26. **Between Velká Morava and Horní Lipka** (cowsheds), sources of three brooks, pastures, swamps, footprints of cattles, 621 m a.s.l., 5866, 50°06'N 16°46'E. Veg.: *Alnus*, *Salix*, *Caltha*, *Scirpus*, *Myosotis*, *Filipendula*, *Typha*, *Juncus*.
27. **Bystřina gamekeeper's lodge near Chrastice**, Prudký potok brook, rills, 677 m a.s.l., 5867, 50°08'N 16°53'E. Veg.: *Picea*, *Pteropsida*, *Nasturtium*, *Senecio*, *Veratrum*, *Geranium*, *Rubus*, *Musci*.
28. **Červený Potok (settlement)**, brook, soil soaks, polluted area, dustbins, 601 m a.s.l., 5866, 50°06'N 16°47'E. Veg.: *Alnus*, *Acer*, *Fraxinus*, *Sambucus*, *Aegopodium*, *Rubus*, *Ribes*, *Urtica*, *Petasites*, *Pteropsida*, *Daucaceae*.
29. **Dolní Morava (upper part)**, Morava river, cottages, slope meadow spring area, very small power station, Králický Sněžník Mts, 728 m a.s.l., 5866, 50°09'N 16°49'E. Veg.: *Ulmus*, *Fraxinus*, *Acer*, *Picea*, *Salix*, *Rubus*, *Filipendula*, *Equisetum*, *Myosotis*, *Orchis*, *Polygonum*, *Scirpus*, *Juncus*, *Petasites*, *Ranunculus*, *Daucaceae*.
30. **Dvorečky near Horní Lipka**, brook alluvium, 611 m a.s.l., 5866, 50°06'N 16°45'E. Veg.: *Alnus*, *Sorbus*, *Acer*, *Fraxinus*, *Petasites*, *Nasturtium*, *Phragmites*, *Urtica*, *Impatiens*, *Pteropsida*.
31. **Heřmanice – U křížku near elevation point Špička hill (755 m a.s.l.)**, slope forest spring area, chalet, pasture, footprints of cattle, 691 m a.s.l., 5866, 50°07'N 16°46'E. Veg.: *Picea*, *Acer*, *Alnus*, *Salix*, *Phragmites*, *Impatiens*, *Rumex*, *Scirpus*, *Juncus*, *Filipendula*, *Pteropsida*.
32. **Horní Lipka, upper part of settlement**, source, 762 m a.s.l., 5866, 50°07'N 16°47'E. Veg.: *Alnus*, *Salix*, *Petasites*, *Phragmites*, *Nasturtium*, *Equisetum*, *Senecio*.
33. **Horní Morava – Pod Klepáčem**, Klepáč Mt. (1144 m a.s.l.), slope, pond overgrown by plants, swamps, 906 m a.s.l., 5866, 50°09'N 16°47'E. Veg.: *Betula*, *Alnus*, *Picea*, *Petasites*, *Geum*, *Equisetum*, *Filipendula*, *Nasturtium*, *Phragmites*, *Scirpus*, *Mentha*, *Valeriana*, *Daucaceae*.
34. **Horní Morava near Dolní Morava**, alluvium of small brook near road, 734 m a.s.l., 5866, 50°08'N 16°48'E. Veg.: *Alnus*, *Acer*, *Fraxinus*, *Rubus*, *Rosa*, *Saponaria*, *Petasites*, *Nasturtium*, *Aesculus*, *Geum*, *Geranium*, *Ranunculus*, *Urtica*, *Pteropsida*, *Daucaceae*, *Musci*.
35. **Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.)**, forest spring area, 350 m a.s.l., 5867, 50°09'N 16°54'E. Veg.: *Fagus*, *Picea*, *Acer*, *Senecio*, *Pteropsida*.
36. **Hynčice pod Sušinou**, rill, meadow, 878 m a.s.l., 5867, 50°09'N 16°53'E. Veg.: *Betula*, *Alnus*, *Picea*, *Scirpus*, *Caltha*, *Urtica*, *Nasturtium*, *Juncus*.
37. **Kamenitý potok brook env. Patzeltova jeskyně cave**, Králický Sněžník Mts, KS NNR, 870 m a.s.l., 5866, 50°09'N 16°49'E. Veg.: *Picea* – forest, *Fagus*, *Senecio*, *Aconitum*, *Nasturtium*, *Petasites*, *Juncus*, *Asperula*, *Hepaticae*, *Pteropsida*, *Musci*.
38. **Kladské sedlo pass env. Seninka**, spring area below, cottage, fountain, swamps, stream, forest, 785 m a.s.l., 5767, 50°13'N 16°55'E. Veg.: *Picea* – forest, *Fagus*, *Sorbus*, *Rubus*, *Vaccinium*, *Petasites*, *Senecio*, *Caltha*, *Marchantiopsida*, *Musci*, *Pteropsida*.
39. **Králiky**, pasture, chalets, paddocks, free range, small brook, 623 m a.s.l., 5866, 50°05'N 16°46'E. Veg.: *Salix*, *Alnus*, *Cerasus*, *Scirpus*, *Juncus*, *Filipendula*, *Urtica*.
40. **Kunčice – Krupná**, pasture, small brook, 590 m a.s.l., 5767, 50°12'N 16°55'E. Veg.: *Fraxinus*, *Padus*, *Filipendula*, *Scirpus*, *Petasites*.
41. **Malá Morava env. Vysoký Potok**, pasture near cowshed, stream, 581 m a.s.l., 5866, 50°06'N 16°49'E. Veg.: *Tilia*, *Acer*, *Salix*, *Sambucus*, *Fraxinus*, *Rumex*, *Campanula*, *Petasites*, *Senecio*, *Urtica*, *Pteropsida*.
42. **Malé Vrbno env. Staré Město pod Sněžníkem**, village, Medvědí rokle gorge, rill, 632 m a.s.l., 5867, 50°10'N 16°59'E. Veg.: *Picea*, *Fraxinus*, *Alnus*, *Petasites*, *Urtica*, *Daucaceae*.
43. **Mléčný pramen source near Velká Morava**, Králický Sněžník Mts, KS NNR, 781 m a.s.l., 5866, 50°09'N 16°49'E.
44. **Morava river env. Podbělka Mt. (1307.4 m a.s.l.)**, 760,7 m a.s.l., wet rocky walls, Králický Sněžník Mts, KS NNR, 878 m a.s.l., 5866, 50°09'N 16°49'E. Veg.: *Fagus* – forest, *Picea*, *Petasites*, *Saponaria*, *Daucaceae*, *Pteropsida*, *Musci*.
45. **Morava river env. Uhlisko Mt. (1240.7 m a.s.l.)**, swampy glade, Králický Sněžník Mts, KS NNR, 1040 m a.s.l., 5866, 50°10'N 16°50'E. Veg.: *Fagus*, *Picea*, *Betula*, *Alnus*, *Equisetum*, *Juncus*.
46. **Nad strašidly, boundary stone 72/3, crossroads near top of Králický Sněžník Mt. (1423.7 m a.s.l.)**, forest, stream, wet soil tongues, KS NNR, 722 m a.s.l., 5766, 50°11'N 16°49'E. Veg.: *Picea*, *Fagus*, *Petasites*, *Nasturtium*, *Sphagnum*, *Pteropsida*.
47. **Podlesí env. Hanušovice**, spring area and small brook with canopy of tree branches, calf-byre, 645 m a.s.l., 5967, 50°04'N 16°51'E. Veg.: *Fraxinus*, *Alnus*, *Acer*, *Sambucus*, *Populus*, *Padus*, *Rubus*, *Phragmites*, *Petasites*, *Filipendula*, *Urtica*, *Senecio*, *Calamagrostis*, *Impatiens*, *Cirsium*.
48. **Prudký potok brook, Mokřiny**, Králický Sněžník Mts, KS NNR, 1088 m a.s.l., 5867, 50°10'N 16°51'E.
49. **Seninka**, small stream – tributary of a brook, forest spring area, glade, 717 m a.s.l., 5767, 50°12'N 16°55'E. Veg.: *Picea*, *Sorbus*, *Fagus*, *Alnus*, *Acer*, *Nasturtium*, *Stachys*, *Caltha*, *Petasites*, *Rubus*, *Senecio*, *Scirpus*, *Pteropsida*, *Musci*, *Marchantiopsida*.

- 50. Sklené (elevation point 1096 m a.s.l. NE),** small forest brook, 1009 m a.s.l., 5867, 50°08'N 16°52'E. Veg.: *Picea*, *Fagus*, *Acer*, *Rubus*, *Sphagnum*, *Juncus*, *Senecio*, *Asplenium*, Pteropsida.
- 51. Sklené (upper part),** swamps in Alnetum, 739 m a.s.l., 5866, 50°07'N 16°50'E. Veg.: *Acer*, *Salix*, *Filipendula*, *Equisetum*, *Scirpus*, *Senecio*, *Petasites*.
- 52. Stone way to Sněžná chata timbered chalet,** concrete wading, Morava river, stratal road near a tributary of river, hydropetric walls, Králícký Sněžník Mts, KS NNR, 1040 m a.s.l., 5766, 50°11'N 16°50'E. Veg.: *Picea*, *Salix*, *Acer*, *Petasites*, *Myosotis*, Pteropsida, Musci.
- 53. Stříbrnice – ski hoist,** slope spring area, 626 m a.s.l., 5867, 50°10'N 16°54'E. Veg.: *Picea* – forest, *Acer*, *Alnus*, *Petasites*, *Nasturtium*, *Veratrum*, Lamiaceae, Pteropsida, Musci.
- 54. Stříbrnice (settlement),** stream, 663 m a.s.l., 5867, 50°10'N 16°53'E. Veg.: *Picea* – forest, *Alnus*, *Petasites*, *Senecio*.
- 55. Sv. Trojice (862.4 m a.s.l.) env. Vysoký Potok,** fountain „Na hranici“, elevation point 949.6 m a.s.l., 5966, 50°03'N 16°49'E. Veg.: *Picea* – forest, *Impatiens*, *Vaccinium*, *Maianthemum*, Pteropsida, Marchantiopsida, Musci.
- 56. Tvarožné díry hollows near Koňský hřbet Mt. (991.1 m a.s.l.),** Morava river, Králícký Sněžník Mts, KS NNR, 882 m a.s.l., 5867, 50°11'N 16°50'E. Veg.: *Picea* – forest, *Fagus*, *Petasites*, rocky walls covered with Pteropsida and Musci.
- 57. U strašidel, swampy slope near gamekeeper's timbered lodge,** spring area, stream, gorge, rocky cascades, wet tongues, near frontier stone 72/21, KS NNR, 1070 m a.s.l. 5866, 50°11'N 16°49'E. Veg.: *Picea* – forest, *Fagus*, *Nasturtium*, *Petasites*, *Senecio*, *Viola*, Pteropsida.
- 58. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.),** KS NNR, 1180 m a.s.l., 5766, 50°12'N 16°50'E. Veg.: *Picea*, *Petasites*, *Viola*, *Nasturtium*, *Sphagnum*, Musci.
- 59. Velká Morava – church,** rill and swamps near road, 642 m a.s.l., 5866, 50°07'N 16°48'E. Veg.: *Alnus*, *Salix*, *Filipendula*, *Equisetum*, *Phragmites*, Pteropsida, Daucaceae.
- 60. Velká Morava (settlement), Prometheus hotel env.,** Morava river, banks, rills, ski tow, forest edge, slope spring area, meadow, 781.3 m a.s.l., 5866, 50°08'N 16°48'E. Veg.: *Picea*, *Acer*, *Fraxinus*, *Alnus*, *Betula*, *Juncus*, *Equisetum*, *Orchis*, *Stellaria*, *Petasites*, *Geum*, *Urtica*, Pteropsida, Daucaceae, Musci.
- 61. Velká Morava between hills 909.7 m and 1061.0 m a.s.l.,** seedling forest glades, brook, Králícký Sněžník Mts, 638 m a.s.l., 5866, 50°08'N 16°48'E. Veg.: *Picea*, *Fagus*, *Oxalis*, Pteropsida.
- 62. Velká Morava, Selské vrchy hills, Mlýnský potok brook,** wet pastures, forest edge, 842 m a.s.l., 5866, 50°07'N 16°49'E. Veg.: *Picea*, *Cerasus*, *Acer*, *Fraxinus*, *Salix*, *Rubus*, *Petasites*, *Nasturtium*, *Ranunculus*, *Scirpus*, *Urtica*, Pteropsida, Daucaceae.
- 63. Vikantice env. Šléglův,** wet pastures and brooks, 587 m a.s.l., 5867, 50°08'N 16°58'E. Veg.: *Picea*, *Acer*, *Fraxinus*, *Salix*, *Scirpus*, *Urtica*, Pteropsida, Daucaceae.
- 64. Vilemínka chalet, Kazatelna forest territory above,** thin wood, river, wet slope, swamps, rill, Králícký Sněžník Mts, KS NNR, 874 m a.s.l., 5866, 50°11'N 16°50'E. Veg.: *Fagus*, *Picea*, *Myosotis*, *Carex*, *Juncus*, *Senecio*, *Vaccinium*, Daucaceae.
- 65. Vlaské near Hanušovice,** river alluvium, rill, wet peeled barks, 446 m a.s.l., 5867, 50°05'N 16°54'E. Veg.: portly *Salix*, *Alnus*, *Betula*, *Frangula*, *Petasites*, *Urtica*, *Impatiens*.
- 66. Vojtíškov near Hanušovice,** „U mizerů“, outflow from small pond, wet meadows, 701 m a.s.l., 5867, 50°06'N 16°52'E. Veg.: *Fraxinus*, *Betula*, *Petasites*, *Heracleum*, Daucaceae.
- 67. Vysoký Potok, Žlíbek hill (639.4 m a.s.l.),** small brook, pasture, footprints of cattles, 547 m a.s.l., 5967, 50°04'N 16°50'E. Veg.: *Alnus*, *Betula*, *Salix*, *Padus*, *Scirpus*, *Juncus*, *Filipendula*.



Fig. 4: Broken stones below the top of Králický Sněžník Mt. (southern slope) with growth of *Picea* and *Vaccinium* (Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 5: Peat spruce area with small lakes and fallen trunks of giants – *Picea*, *Vaccinium*, *Carex*, *Sphagnum* (Mokrý hřbet ridge, Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 6: Brook immediately below Mléčný pramen spring with numerous boulders covered with moss – suitable habitat for development of larvae of water insects (Králický Sněžník NNR, near former Mramorový lom quarry). Vegetation: *Picea*, *Fagus*, *Acer*, *Petasites*, *Geranium*, *Senecio*, *Carex*, *Sphagnum*, *Daucaceae*, *Pteropsida*, *Musci*. Photo by Zuzana Růžicková.



Fig. 7: Peatbogs with lakes represent forestless enclaves in the zone of mountain spruces. Apart from bog moss are included e.g. *Eriophorum* and *Carex* etc. (Mokrý hřbet ridge, Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 8: The south-eastern part of the massif of Krállický Sněžník – view from near Zlatý Potok. Photo by Zuzana Růžicková.



Fig. 9: Pastures in full bloom env. Heřmanice (*Chrysanthemum*, *Campanula*, *Trifolium*, *Hieracium*, *Phleum*, etc.) with a massif of Krállický Sněžník in the background. Photo by Zuzana Růžicková.



Fig. 10: Characteristics wood scenery during daybreak (vernal aspect) – mountain spruce forest above Sněžná chata chalet (Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 11: View from the touristic trail (red marking) across the valley of Morava river to Malý Sněžník Mt. and Vlaštevčí skály rocks (Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 12: Typical morphology of mountain landscape in the upper forest zone (tongues of scree fields with growth of *Vaccinium* and *Sorbus*) – Králický Sněžník NNR. Photo by Zuzana Růžicková.



Fig. 13: View from Vlaštovčí skály rocks to Mokřý hřbet ridge and Slavník Mt. (Králický Sněžník NNR). Photo by Zuzana Růžicková.



Fig. 14: Arable land in the vicinity of Králíky (view from the monastery Hora Matky Boží, Horní Hedeč). Photo by Věra Ježková.



Fig. 15: Alternation of pastures and brooks is characteristic for the hilly region near the village Hynčice pod Sušinou (environment of Staré Město pod Sněžníkem). Photo by Věra Ježková.

Results and Discussion

Faunistics

Order Diptera

Family Psychodidae

Sycorax silacea Haliday in Curtis, 1839

Unpublished record: Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), ♂, 30.5.1999, J, SW, INS 9515.

Comments. European species, some details see e.g. Omelková & Ježek (2012c).

Panimerus notabilis (Eaton, 1893)

Unpublished record: Heřmanice – U křížku near elevation point Špička (755 m a.s.l.) (31), ♂, 10.7.2001, J, SW, INS 10239.

Comments. Mainly European species, however distributed as well in Northern Iran. Actualized occurrence is summarized e.g. by Ježek et al. (2018).

Paramormia (*Paramormia*) *polyascoidea* (Krek, 1971)

Unpublished record: Prudký potok brook, Mokřiny (48), ♂, 13.6.2005, J, MT, INS 14445.

Comments. European and Western Siberian species, penetrates to Transcaucasia (Krek 1999, Ježek et al. 2021).

Peripsychoda auriculata (Haliday in Curtis, 1839)

Unpublished records: Between Křivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10248. Between Velká Morava and Horní Lipka (26), ♂, 14.7.2001, J, SW, INS 10387.

Comments. European and Western Siberian species, penetrates to Georgia (incl. Abkhazia) and Armenia – Ježek et al. (2023).

Seoda carthusiana (Vaillant, 1972)

Unpublished record: Velká Morava (settlement), Prometheus hotel env. (60), ♂, 26.5.1999, J, SW, INS 9264.

Comments. European species, detailed distribution see Ježek & Omelková (2012).

Philosepedon (*Philosepedon*) *austriacum* Vaillant, 1974

Published records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21); Stříbrnice (settlement) (54); Vlaské near Hanušovice (65) – Ježek (2023).

Unpublished record: Dvorečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10354.

Comments. European and Western Siberian species – Ježek et al. (2018).

Philosepedon (*Philosepedon*) *humerales* (Meigen, 1818)

Unpublished records: Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), ♂, 31.7.2001, J, SW, INS 14474. Dvorečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10376.

Comments. Widely distributed European species, known as well from Northern and Western Africa, some islands in the Atlantic and the Indian ocean, and in the Mediterranean Sea – Ježek et al. (2021), Oboňa et al. (2024b).

Philosepedon (*Trichosepedon*) *balkanicum* Krek, 1971

Published record: Sv. Trojice (862.4 m a.s.l.) env. Vysoký Potok (55) – Ježek (2003).

Degree of endangerment: Critically endangered (CR).

Comments. Known from Western and Central Europe, in the last time as well from Transcaucasia (Krek 1999, Ježek et al. 2023, Oboňa et al. 2024a).

Threticus arvernicus Vaillant, 1972

Unpublished record: Between Horní Morava – Zátíši and Jelení vrch hill (935.7 m a.s.l.) (6), ♂, 14.7.2001, J, SW, INS 11839.

Degree of endangerment: Vulnerable (VU).

Comments. Very rare European species known only from France and the Czech Republic (Bohemia, Moravia) – Wagner (1990, 2023), Ježek (2003) and Ježek et al. (2021).

Threticus incurvus Krek, 1972

Published record: Velká Morava (settlement) – Prometheus hotel env. (60) – Ježek (2003).

Unpublished records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 7.5.2000, J, SW, INS 9520. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9481. Dolní Morava (upper part) (29), ♂, 2.6.1999, J, SW, INS 11810. Horní Morava near Dolní Morava (34), 2 ♂♂, 26.5.1999 and 30.5.2003, J, SW, INS 11755 and 12779.

Degree of endangerment: Endangered (EN).

Comments. European species (Krek 1999, Ježek 2003, Ježek & Omelková 2012, Ježek et al. 2020).

Threticus lucifugus (Walker, 1856)

Unpublished records: Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), 3 ♂♂, 6.8.2001, J, SW, INS 10255, 11864 and 12823. Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9184. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 17.8.2001, J, SW, INS 11795. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 7.5.2000 and 28.7.2001, J, SW, INS 9522 and 11844. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9479. Červený Potok (settlement) (28), 2 ♂♂, 6.5.2000 and 20.8.2001, J, SW, INS 9533 and 11765. Horní Morava near Dolní Morava (34), ♂, 1.6.1999, J, SW, INS 9260. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♂, 25.9.2000, J, SW, INS 9565. Seninka (49), 2 ♂♂, 17.8.2001, J, SW, INS 11787 and 12768. Velká Morava – church (59), ♂, 31.5.1999, J, SW, INS 9241. Velká Morava (settlement) – Prometheus hotel env. (60), ♂, 26.5.1999, J, SW, INS 9256.

Comments. European species, known occurrence see e.g. Ježek et al. (2008, 2018).

Threticus silvaticus Ježek, 1985

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10365. Between Sklené and Malá Morava (20), ♂, 21.9.2000, J, SW, INS 9498. Between Stříbrnice and Návrší chalet (22), ♂, 25.5.1999, J, SW, INS 9212. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 19.9.2001, V, MT, INS 12792.

Degree of endangerment: Vulnerable (VU).

Comments. Very rare species with the following distribution: Czech Republic and Slovakia – Oboňa & Ježek (2014), Ježek et al. (2021).

Trichopsychoda hirtella (Tonnoir, 1919)

Unpublished records: Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), ♂, 6.8.2001, J, SW, INS 12828. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10237. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, ♀, 28.7.2001, J, SW, INS 10416 and 11842. Dolní Morava (upper part) (29), ♂, 2.6.1999, J, SW, INS 11806. Horní Morava near Dolní Morava (34), ♀, 30.5.2003, J, SW, INS 12787. Velká Morava (settlement), Prometheus hotel env. (60), ♀, 19.9.2000, J, SW, INS 9542. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10229.

Comments. European species, penetrates to Transcaucasia (Abkhazia) – Ježek et al. (2020, 2023).

Chodopsycha lobata (Tonnoir, 1940)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), ♀, 8.8.2005, J, SW, INS 14433. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), ♀, 6.8.2001, J, SW, INS 11857. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♀, 31.7.2001, J, SW, INS 10274. Between Kamenitý potok brook and Poníklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), ♀, 16.9.2004, J, SW, INS 12774. Between Sklené and Malá Morava (20), ♀, 21.9.2000, J, SW, INS 9499. Dvorečky near Horní Lipka (30), ♀, 14.7.2001, J, SW,

INS 10374. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♀, 2.8.2001, J, MT, INS 10327. Kladské sedlo pass env. Seninka (38), ♀, 17.8.2001, J, SW, INS 10331. Kunčice – Krupná (40), ♀, 28.7.2001, J, SW, INS 10301. Podlesí env. Hanušovice (47), ♀, 26.7.2001, J, SW, INS 10286. Prudký potok brook, Mokřiny (48), 2 ♂♂, ♀, 19.7., 8. and 18.8.2005, J, MT, INS 14397, 14417 and 14451. U strašidel, swampy slope near gamekeeper's timbered lodge (57), 2 ♀♀, 23.8. and 19.9.2001, C+Ma, V, MT, INS 10338 and 12799. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), ♂, 17.8.2003, C+J+Ma+V, MT, INS 11746. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10250.

Comments. Common European species, Transcaucasian sites represent Georgia incl. Abkhazia – Ježek et al. (2023).

Copropsychoda brevicornis (Tonnoir, 1940)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), ♀, 18.8.2005, J, SW, INS 14459. Dvorečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10370.

Comments. European species, published as well from Anatolia – Ježek & Yağci (2005), Ježek et al. (2018).

Logima albipennis (Zetterstedt, 1850)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), ♀, 18.8.2005, J, SW, INS 14457. Between Červený Potok and Horní Hedeč (3), ♀, 20.8.2001, J, SW, INS 10363. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), 3 ♀♀, 6.8.2001, J, SW, INS 10254, 11859 and 12825. Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♀, 14.7.2001, J, SW, INS 11835. Between Horní Morava and Jelení vrch (935.7 m a.s.l.) (7), ♀, 14.7.2001, J, SW, INS 10236. Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), ♀, 31.7.2001, J, SW, INS 14472. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♀, 17.8.2001, J, SW, INS 11789. Between Nová Seninka and Javořina (14), ♀, 17.8.2001, J, SW, INS 12841. Between Pasínky area and Bystrýna gamekeeper's lodge, Chrástice env. (16), ♀, 31.7.2001, J, SW, INS 14478. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♀, 28.7.2001, J, SW, INS 10417. Between Stříbrnice and Nový Rumburk (23), ♀, 25.5.1999, J, SW, INS 9482. Between Velká Morava and Horní Lipka (26), ♀, 14.7.2001, J, SW, INS 10391. Červený Potok (settlement) (28), ♀, 20.8.2001, J, SW, INS 11768. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♀, 2.8.2001, J, MT, INS 10348. Kunčice – Krupná (40), ♀, 28.7.2001, J, SW, INS 10297. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♀, 25.9.2000, J, SW, INS 9476. Podlesí env. Hanušovice (47), ♀, 26.7.2001, J, SW, INS 10411. Prudký potok brook, Mokřiny (48), 3 ♀♀, 19.7., 8. and 18.8.2005, J, MT, INS 14400, 14425 and 14455. Seninka (49), ♀, 17.8.2001, J, SW, INS 12770. Stone way to Sněžná chata timbered chalet (52), ♀, 24.6.2004, J+C+S, MT, INS 12754. Sv. Trojice (862.4 m a.s.l.) env. Vysoký Potok, (55), ♀, 14.8.2001, J, SW, INS 10408. U strašidel, swampy slope near gamekeeper's timbered lodge (57), 2 ♀♀, 23.8.2001 and 3.8.2004, C+J+Ma+S, MT, INS 10304 and 12816. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), 2 ♀♀, 9.7.2003 and 24.9.2003, C+J+Ma+V, MT, INS 11722 and 11801. Velká Morava (settlement), Prometheus hotel env. (60), 2 ♀♀, 26.5.1999 and 19.9.2000, J, SW, INS 9263 and 9541. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10253. Vlaské near Hanušovice (65), ♀, 26.7.2001, J, SW, INS 10403. Vojtěškov near Hanušovice (66), ♀, 23.7.2001, J, SW, INS 10269.

Comments. Cosmopolitan species, details see Ježek & Yağci (2005).

Logima erminea (Eaton, 1893)

Unpublished record: Červený Potok (settlement) (28), ♂, 20.8.2001, J, SW, INS 11759.

Comments. Palaearctic species, known from Europe, Transcaucasia, North Africa, Taiwan and Japan – Ježek et al. (2023).

Logima satchelli (Quate, 1955)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 3 ♂♂, 13.6., 19.7. and 8.8.2005, J, SW, INS 14410, 14435 and 14463. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), ♀, 6.8.2001, J, SW, INS 10263. Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♂, 14.7.2001, J, SW, INS 11836. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10235. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♀, 31.7.2001, J, SW, INS 10275. Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), ♀, 31.7.2001, J, SW, INS 14471. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9201. Between Pomocná and Hubertova chalets, near Srážná (1073.8 m a.s.l.) (18), ♂,

23.7.2001, J, SW, INS 14486. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 2 ♀♀, 25.9.2000 and 28.7.2001, J, SW, INS 9548 and 10418. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9480. Between Velká Morava and Horní Lipka (26), ♀, 14.7.2001, J, SW, INS 10390. Červený Potok (settlement) (28), ♀, 20.8.2001, J, SW, INS 11769. Dvorečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10351. Heřmanice – U křížku near elevation point Špička (755 m a.s.l.) (31), ♂, 10.7.2001, J, SW, INS 10238. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♂, 31.7.2001, J, SW, INS 12763. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♂, 2.8.2001, J, MT, INS 10346. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10330. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10295. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♀, 25.9.2000, J, SW, INS 9566. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 2 ♂♂, ♀, 23.8.2001, 19.9.2001 and 3.8.2004, J+C+Ma+S+V, MT, INS 10315, 12795 and 12807. Podlesí env. Hanušovice (47), 2 ♂♂, 26.7.2001, J, SW, INS 10289 and 10410. Prudký potok, Mokřiny (48), 2 ♂♂, 2 ♀♀, 13.6., 19.7., 8.8. and 18.8.2005, J, MT, INS 14406, 14398, 14438 and 14453. Seninka (49), ♂, 17.8.2001, J, SW, INS 12771. Tvarožné díry hollows near Koňský hřbet Mt. (991.1 m a.s.l.) (56), ♂, 27.5.1999, J, SW, INS 9182. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 12847. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58) 2 ♂♂, ♀, 9.7., 17.8., and 24.9.2003, C+J+Ma+V, MT, INS 11723, 11740 and 11799. Velká Morava (church) (59), ♀, 31.5.1999, J, SW, INS 9244. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10230.

Comments. Holarctic species. Known from Europe, Canada, USA, Anatolia, Armenia, Azerbaijan and Georgia (incl. Abkhazia) – Ježek & Yağci (2005) and Ježek et al. (2023).

Logima zetterstedti Ježek, 1983

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 2 ♀♀, 19.7. and 8.8.2005, J, SW, INS 14412 and 14431. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), ♂, ♀, 6.8.2001, J, SW, INS 11860 and 12824. Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♀, 14.7.2001, J, SW, INS 11837. Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), ♂, 31.7.2001, J, SW, INS 14473. Between Nová Seninka and Javořina (14), ♀, 17.8.2001, J, SW, INS 12840. Bystřina gamekeeper's lodge near Chrástice (27), ♀, 31.7.2001, J, SW, INS 14491. Červený Potok (settlement) (28), ♂, 20.8.2001, J, SW, INS 11762. Dvorečky near Horní Lipka (30), ♀, 14.7.2001, J, SW, INS 10377. Horní Morava near Dolní Morava (34), ♀, 26.5.1999, J, SW, INS 11758. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♀, 31.7.2001, J, SW, INS 12764. Hynčice pod Sušinou (36), ♀, 31.7.2001, J, SW, INS 11781. Podlesí env. Hanušovice (47), ♂, 26.7.2001, J, SW, INS 10409. Prudký potok brook, Mokřiny (48), 2 ♂♂, ♀, 13.6., 8.8. and 18.8.2005, J, MT, INS 14420, 14439 and 14454. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, ♀, 19.9.2001 and 3.8.2004, J+C+S+V, MT, INS 12794 and 12809. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), 3 ♀♀, 9.7., 17.8. and 24.9.2003, C+J+Ma+V, MT, INS 11721, 11739 and 11796. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10252.

Comments. European and Western Siberian species, as well as Transcaucasian; Anatolia, Mediterranean Islands, Japan, Fiji I., Rjukju I. – without verification may probably be cosmopolitan: – Ježek & Yağci (2005), Ježek et al. (2018, 2023).

Psyche grisea (Tonnoir, 1922)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 3 ♂♂, ♀, 13.6., 19.7. 8.8. and 18.8.2005, J, SW, INS 14409, 14430, 14460 and 14464. Below spring of Morava river (2), 2 ♂♂, 9.7. and 17.8.2003, C+J+Ma+V, MT, INS 11733 and 11822. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 2 ♀♀, 7.5.2000, C, J, SW, INS 9525 and 11828. Between Stříbrnice and Nový Rumburk (23), ♀, 25.5.1999, J, SW, INS 9486. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♂, 2.8.2001, J, MT, INS 10328. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 3 ♂♂, 23.8., 19.9.2001 and 3.8.2004, J+C+Ma+S+V, MT, INS 10314, 12791 and 12806. Podlesí env. Hanušovice (47), ♂, 26.7.2001, J, SW, INS 10413. Prudký potok brook, Mokřiny (48), 4 ♂♂, 13.6., 19.7., 8.8. and 18.8.2005, J, MT, INS 14405, 14421, 14443 and 14449. Stone way to Sněžná chata timbered chalet (52), 2 ♀, MT, 24.6. and 3.8.2004, J+C+S, MT, INS 12752 and 12803. Tvarožné díry hollows near Koňský hřbet Mt. (991.1 m a. s. l.) (56), ♂, 27.5.1999, J, SW, INS 9183. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 12846. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), 3 ♂♂, 9.7., 17.8. and 24.9.2003, C+J+Ma+V, MT, INS 11717, 11744 and 11804. Velká Morava – church (59), ♀, 31.5.1999, J, SW, INS 9242. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10249.

Comments. European species, however published as well from Central Anatolia and North Africa, penetrates to Azerbaijan and Abkhazia – Ježek et al. (2023).

Psychoda alticola Vaillant, 1973

Published records: Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46); Prudký potok brook, Mokřiny (48) – Ježek (2006).

Comments. West and Central European species (Wagner 1990, 2023), penetrates to Transcaucasia (Abkhazia) – Ježek et al. (2023).

Psychoda phalaenoides (Linnaeus, 1758)

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 2 ♀♀, 8.8. and 19.7.2005, J, SW, INS 14408 and 14428. Below spring of Morava river (2), ♂, ♀, 9.7. and 17.8.2003, C+J+Ma+V, MT, INS 11734 and 11821. Between Červený Potok and Horní Hedeč (3), ♀, 20.8.2001, J, SW, INS 10366. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), 3 ♀♀, 6.8.2001, J, SW, INS 10256, 11856 and 12826. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♀, 14.7.2001, J, SW, INS 10232. Between Chrástice and Vysoké Žibřidovice, Pasinky area (10), ♀, 31.7.2001, J, SW, INS 14468. Between Kamenitý potok brook and Ponílek brook near Podbělka Mt. (1307.4 m a.s.l.) (11), 2 ♀♀, 16.9.2004, J, SW, INS 12772 and 12820. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 25.5.1999, J, SW, INS 9175. Between Nová Seninka and Javořina (14), ♀, 17.8.2001, J, SW, INS 12838. Between Pasinky area and Bystřina gamekeeper's lodge, Chrástice env. (16), ♂, 31.7.2001, J, SW, INS 14466. Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), 2 ♂♂, 30.5.1999, J, SW, INS 9224 and 9248. Between Pomocná and Hubertova chalets, near Srážná Mt. (1073.8 m a.s.l.) (18), ♂, 23.7.2001, J, SW, INS 14488. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 2 ♂♂, 2 ♀♀, 7.5.2000 and 28.7.2001, C, J, SW, INS 9516, 10405, 11830 and 11845. Between Stříbrnice and Návrší chalet (22), ♀, 25.5.1999, J, SW, INS 9211. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9478. Between Velká Morava and Horní Lipka (26), ♀, 14.7.2001, J, SW, INS 10388. Bystřina gamekeeper's lodge near Chrástice (27), ♂, 31.7.2001, J, SW, INS 14495. Červený Potok (settlement) (28), 2 ♀♀, 21.9.2000 and 20.8.2001, J, SW, INS 9563 and 11767. Dolní Morava (upper part) (29), 2 ♀♀, 2.6.1999 and 16.9.2004, J, SW, INS 11809 and 12832. Dvůřečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10372. Horní Morava – Pod Klepáčem (33), ♀, 1.6.1999, J, SW, INS 9192. Horní Morava near Dolní Morava (34), ♂, ♀, 1.6.1999 and 30.5.2003, J, SW, INS 9272 and 12786. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♀, 31.7.2001, J, SW, INS 12760. Kladské sedlo pass env. Hynčice pod Sušinou (36), ♀, 31.7.2001, J, SW, INS 11779. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♂, 2.8.2001, J, MT, INS 10326. Seninka (38), ♀, 7.5.2000, J, SW, INS 9536. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10296. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, 2 ♀♀, 3., 23.8. and 19.9.2001, C+J+Ma+S+V, MT, INS 10340, 12802 and 12811. Podlesí env. Hanušovice (47), 2 ♂♂, 26.7.2001, J, SW, INS 10287 and 10412. Prudký potok brook, Mokřiny (48), 3 ♂♂, ♀, 13.6., 19.7., 8.8. and 18.8.2005, INS 14404, 14422, 14444 and 14448. Sklené (elevation point 1096 m a.s.l. NE) (50), ♂, 23.7.2001, J, SW, INS 10378. Stone way to Sněžná chata chalet (52), ♂, ♀, 24.6. and 3.8.2004, J+C+S, MT, INS 12751 and 12804. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♀, 29.5.1999, J, SW, INS 12844. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), ♂, 2 ♀♀, 9.7., 17.8. and 24.9.2003, C+J+Ma+V, MT, INS 11716, 11742 and 11802. Velká Morava (settlement), Prometheus hotel env. (60), ♀, 26.5.1999, J, SW, INS 9257. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), 2 ♂♂, 31.5.1999 and 2.8.2001, J, SW, MT, INS 9176 and 10224. Vileminka chalet, Kazatelna forest territory above (64), ♀, 6.5.2000, J, SW, INS 9502. Vojtiškov near Hanušovice (66), ♀, 23.7.2001, J, SW, INS 10270.

Comments. Holarctic species published as well from Azerbaijan and Georgia (incl. Abkhazia) – Ježek et al. (2023), Oboňa et al. (2019 a,b).

Psychodocha cinerea (Banks, 1894)

Unpublished records: Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9487. Dvůřečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10373. Morava river env. Podbělka Mt. (1307.4 m a.s.l.) (44), ♂, 27.5.1999, J, SW, INS 9221. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10228.

Comments. Cosmopolitan species – details see Ježek & Yağci (2005).

Psychodocha gemina (Eaton, 1904)

Unpublished records: Babuša, timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 3 ♀♀, 19.7., 8.8. and 18.8.2005, J, SW, INS 14411, 14432 and 14456. Below spring of Morava river (2), ♀, 9.7.2003, C+J+Ma+V, MT, INS 11823. Between Červený Potok and Horní Hedeč (3), ♀, 20.8.2001, J, SW, INS 10383. Between Hajmrlav and Kančí vrch hill

(723.7 m a.s.l.) (4), 2 ♀♀, 6.8.2001, J, SW, INS 10279 and 11858. Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♀, 14.7.2001, J, SW, INS 11838. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10231. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♀, 31.7.2001, J, SW, INS 10273. Between Nová Seninka and Javořina (14), ♀, 17.8.2001, J, SW, INS 12839. Between Sklené and Malá Morava (20), ♀, 21.9.2000, J, SW, INS 9500. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, ♀, 7.5.2000, C, J, SW, INS 9521 and 11829. Between Stříbrnice and Návrší chalet (22), ♀, 25.5.1999, J, SW, INS 9210. Between Stříbrnice and Nový Rumburk (23), ♀, 25.5.1999, J, SW, INS 9488. Bystřina gamekeeper's lodge near Chrástice (27), ♀, 31.7.2001, J, SW, INS 14493. Červený Potok (settlement) (28), ♂, 20.8.2001, J, SW, INS 11761. Dolní Morava (upper part) (29), ♀, 2.6.1999, J, SW, INS 11805. Dvorečky near Horní Lipka (30), ♀, 14.7.2001, J, SW, INS 10371. Heřmanice – U křížku near elevation point Špička hill (755 m a.s.l.) (31), ♂, 10.7.2001, J, SW, INS 10281. Horní Morava near Dolní Morava (34), ♀, 1.6.1999, J, SW, INS 9271. Kamenitý potok brook env. Patzeltova jeskyně cave (37), 3 ♀♀, 30.5.1999 and 2.8.2001, J, MT, INS 9231, 9232 and 10325. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♂, 25.9.2000, J, SW, INS 9564. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 3 ♀♀, 3., 23.8. and 19.9.2001, C+J+Ma+S+V, MT, INS 10306, 12798 and 12810. Podlesí env. Hanušovice (47), ♂, ♀, 26.7.2001, J, SW, INS 10288 and 10401. Prudký potok brook, Mokřiny (48), 4 ♀♀, 13.6., 19.7., 8.8. and 18.8.2005, J, MT, INS 14402, 14416, 14441 and 14450. Seninka (49), ♀, 17.8.2001, J, SW, INS 12769. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), 3 ♀♀, 9.7., 17.8. and 24.9.2003, C+J+Ma+V, MT, INS 11719, 11738 and 11798. Velká Morava – church (59), ♂, 31.5.1999, J, SW, INS 9243. Velká Morava (settlement), Prometheus hotel env. (60), ♀, 26.5.1999, J, SW, INS 9265. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10244. Vilemínka chalet, Kazatelna forest territory above (64), ♀, 6.5.2000, J, SW, INS 11831.

Comments. European species, distribution in details see e.g. Ježek et al. (2020).

***Psychodocha itoco* (Tokunaga & Komyo, 1955)**

Published records: Kamenitý potok brook env. Patzeltova jeskyně cave (37); Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46) – Ježek (2003).

Unpublished records: Babuša, timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 4 ♂♂, 13.6., 19.7., 8. and 18.8.2005, J, MT, INS 14413, 14434, 14462 and 14475. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 2 ♂♂, 3.8. and 19.9.2001, C+J+Ma+S+V, MT, INS 12793 and 12815. Prudký potok brook, Mokřiny (48), 4 ♂♂, 13.6., 19.7., 8. and 18.8.2005, J, MT, INS 14401, 14424, 14440, 14452. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), ♂, 17.8.2003, C+J+Ma+V, MT, INS 11741.

Comments. Probably Palaearctic species, however, so far known only from Japan, Czech Republic and Finland (Ježek et al. 2021).

***Psychodula minuta* (Banks, 1894)**

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), ♂, 18.8.2005, J, SW, INS 14458. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, ♀, 23.8. and 19.9.2001, C+Ma+V, MT, INS 10312 and 12796. Prudký potok brook, Mokřiny (48), ♂, 8.8.2005, J, MT, INS 14465. Stone way to Sněžná chata timbered chalet (52), ♀, 24.6.2004, J+C+S, MT, INS 12753. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), ♂, ♀, 9.7. and 17.8.2003, C+J+Ma+V, MT, INS 11720 and 11745. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10226.

Comments. Holarctic species, from Europe penetrates to Transcaucasia (Ježek et al. 2023).

***Psychomora mycophila* (Vaillant, 1988)**

Unpublished record: Between Pasinky area and Bystřina gamekeeper's lodge, Chrástice env. (16), ♂, 31.7.2001, J, SW, INS 14483.

Comments. European rare species, slight distribution see e.g. Ježek et al. (2008).

***Psychomora trinodulosa* (Tonnoir, 1922)**

Unpublished records: Below spring of Morava river (2), ♂, 17.8.2003, C+J+Ma+V, MT, INS 11735. Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10382. Between Pomocná and Hubertova chalets, near

Srázná Mt. (1073.8 m a.s.l.) (18), ♀, 23.7.2001, J, SW, INS 14487. Dolní Morava (upper part) (29), ♀, 16.9.2004, J, SW, INS 12833. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♂, 2.8.2001, J, MT, INS 10329. Podlesí env. Hanušovice (47), ♀, 26.7.2001, J, SW, INS 10414. Prudký potok brook, Mokřiny (48), 2 ♂♂, 19.7. and 18.8.2005, J, MT, INS 14414 and 14423. U strašidel, swampy slope near gamekeeper's timbered lodge (57), 2 ♀♀, 23.8.2001 and 3.8.2004, C+J+Ma+S, MT, INS 10316 and 12814. Vysoký Potok, Žlíbek hill (639.4 m a.s.l.) (67), ♀, 26.7.2001, J, SW, INS 10266.

Comments. Holarctic species. Many European countries incl. Anatolia, as well as North Africa and USA – see e.g. Ježek & Yağci (2005), Ježek et al. (2020).

Tinearia alternata (Say, 1824)

Unpublished records: Between Pasínky area and Bystřina gamekeeper's lodge, Chrastice env. (16), ♀, 31.7.2001, J, SW, INS 14482. Červený Potok (settlement) (28), ♀, 20.8.2001, J, SW, INS 11760. Králíky (39), ♂, 20.8.2001, J, SW, INS 10397. Kunčice – Krupná (40), ♀, 28.7.2001, J, SW, INS 10303. Malá Morava env. Vysoký Potok (41), ♀, 23.7.2001, J, SW, INS 11834. Prudký potok brook, Mokřiny (48), ♀, 19.7.2005, J, MT, INS 14415. Stone way to Sněžná chata timbered chalet (52), ♀, 16.9.2004, J, SW, INS 12842. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), ♀, 24.9.2003, V, MT, INS 11797.

Comments. Cosmopolitan species, review of distribution was published by Ježek & Yağci (2005).

Ypsydocha setigera (Tonnoir, 1922)

Published records: Podlesí env. Hanušovice (47); Vikantice env. Šléglov (63) – Ježek (2003).

Unpublished records: Babuša timbered chalet env. Podbělka Mt. (1307.4 m a.s.l.) (1), 3 ♀♀, 19.7., 8.8. and 18.8.2005, J, SW, INS 14407, 14429 and 14461. Below spring of Morava river (2), ♀, 17.8.2003, C+J+Ma+V, MT, INS 11736. Between Pasínky area and Bystřina gamekeeper's lodge, Chrastice env. (16), ♀, 31.7.2001, J, SW, INS 14480. Dvůřečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10375. Horní Lipka, upper part of settlement (32), ♀, 14.7.2001, J, SW, INS 10308. Králíky (39), ♀, 20.8.2001, J, SW, INS 10393. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♀, 23.8.2001, C+Ma, MT, INS 10341. Prudký potok brook, Mokřiny (48), 2 ♂♂, 2 ♀♀, 13.6., 19.7., 8. and 18.8.2005, J, SW, INS 14399, 14418, 14442, 14447. Stone way to Sněžná chata timbered chalet (52), ♀, 3.8.2004, C+J+S, MT, INS 12805. U strašidel, swampy slope near gamekeeper's lodge (57), 2 ♀♀, 19.9.2001 and 3.8.2004, J+C+S+V, MT, INS 12797 and 12808. Ve strži, avalanche bed below top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (58), 3 ♀♀, 9.7., 17.8. and 24.9.2003, C+J+Ma+V, MT, INS 11718, 11743 and 11800. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♀, 2.8.2001, J, MT, INS 10251.

Comments. Holarctic species. European countries, Canada, USA, Japan – Ježek et al. (2021).

Berdeniella manicata (Tonnoir, 1920)

Unpublished records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 7.5.2000, C, SW, INS 11826. Červený Potok (settlement) (28), ♂, 6.5.2000, J, INS 9535.

Comments. European species, penetrates to Transcaucasia – Oboňa et al. (2019 a,b), Wagner (2023).

Berdeniella matthesi (Jung, 1954)

Published records: Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13); Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17); Between Stříbrnice and Návrší chalet (22); Horní Morava – Pod Klepáčem (33); Kamenitý potok brook env. Patzeltova jeskyně cave (37); Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46); Stříbrnice (settlement) (54); U strašidel, swampy slope near gamekeeper's timbered lodge (57); Velká Morava between hills 909.7 m and 1061.0 m a.s.l. (61) – Ježek (2003).

Unpublished records: Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12782. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 3.6.2004, C+J+S, MT, INS 12757. Velká Morava (settlement), Prometheus hotel env. (60), ♂, 27.5.1999, J, SW, INS 11770.

Comments. European species (so far 6 countries only) – Ježek et al. (2021).

***Berdeniella stavniensis* (Krek, 1969)**

Published record: Horní Morava near Dolní Morava (34) – Ježek (2003).

Unpublished record: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 7.5.2000, C, SW, INS 11825.

Comments. European species (so far 8 countries only) – Ježek et al. (2021).

***Berdeniella unispinosa* (Tonnoir, 1919)**

Unpublished records: Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9189. Between Křivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10261. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), 2 ♂♂, 25.5.1999 and 17.8.2001, J, SW, INS 9173 and 11790. Horní Lipka, upper part of settlement (32), ♂, 14.7.2001, J, SW, INS 10310. Horní Morava – Pod Klepáčem (33), 3 ♂♂, 1.6.1999, J, SW, INS 9197, 9557 and 11748. Horní Morava near Dolní Morava (34), 2 ♂♂, 1.6.1999 and 30.5.2003, J, SW, INS 9269 and 12784. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10302. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 3 ♂♂, 23.8. and 19.9.2001, 3.8.2004, C+J+Ma+S+V, MT, INS 10313, 12790 and 12812. Podlesí env. Hanušovice (47), ♂, 26.7.2001, J, SW, INS 10291. Sklené (upper part) (51), ♂, 23.7.2001, J, SW, INS 11726. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 15.6.2001, J, SW, INS 12849.

Comments. European species: France, Central European Zone, Poland and Slovakia, Apennines and Balkan – Ježek et al. (2020, 2021).

***Berdeniella vimmeri* Ježek, 1995**

Unpublished record: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10360.

Degree of endangerment: Nationally scarce (NS) (Ježek et al. 2024a).

Comments. Mainly a central European species (knowledge of distribution is poor so far): Czech Republic, Slovakia, Ukraine – Ježek et al. (2018).

***Clytocer (Boreoclytocer) dalii* (Eaton, 1893)**

Published record: Stříbrnice – ski hoist (53) – Ježek (2003).

Comments. European species (10 countries only) – Ježek et al. (2021).

***Clytocer (Boreoclytocer) ocellaris* (Meigen, 1804)**

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10381. Between Hajmlov and Kančí vrch hill (723.7 m a.s.l.) (4), 3 ♂♂, 6.8.2001, J, SW, INS 10257, 11861 and 12829. Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9187. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♂, 31.7.2001, J, SW, INS 10278. Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), ♂, 31.7.2001, J, SW, INS 14469. Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), ♂, 16.9.2004, J, SW, INS 12818. Between Křivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10262. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 17.8.2001, J, SW, INS 11793. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9199. Between Pasínky area and Bystřina gamekeeper's lodge, Chrástice env. (16), ♂, 31.7.2001, J, SW, INS 14484. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 3 ♂♂, 7.5.2000 and 28.7.2001, J, SW, INS 9517, 10406 and 11848. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9485. Between Uhlisko (1240.7 m) and Podbělka (1307.4 m a.s.l.) (25), ♂, 15.6.2001, J, SW, INS 10343. Between Velká Morava and Horní Lipka (cowsheds) (26), ♂, 14.7.2001, J, SW, INS 10384. Bystřina gamekeeper's lodge near Chrástice (27), ♂, 31.7.2001, J, SW, INS 14492. Červený Potok (settlement) (28), ♂, 6.5.2000, J, SW, INS 9531. Dolní Morava (upper part) (29), 3 ♂♂, 2.6.1999 and 29.5.2003, J, SW, INS 9216, 11732 and 11807. Horní Morava – Pod Klepáčem (33), 3 ♂♂, 1.6.1999, J, SW, INS 9198, 9560. and 11754. Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12785. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♂, 31.7.2001, J, SW, INS 12759. Hynčice pod Sušinou (36), ♂, 31.7.2001, J, SW, INS 11778. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10332. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10294. Morava river env. Uhlisko Mt. (1240.7 m a.s.l.) (45), ♂, 27.5.1999, J, SW, INS 9240. Podlesí env. Hanušovice (47), 2 ♂♂, 26.7.2001, J, SW, INS 10290 and 10398. Seninka (49), 2 ♂♂, 17.8.2001, J, SW, INS 12766 and 11784. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9165. Stříbrnice (settlement) (54), ♂, 7.5.2000, J, SW,

INS 9496. Velká Morava (settlement), Prometheus hotel env. (60), 2 ♂♂, 26. and 27.5.1999, J, SW, INS 9258 and 11775. Velká Morava between hills 909.7 m and 1061.0 m a.s.l. (61), ♂, 6.5.2000, J, SW, INS 9493. Vojtiškov near Hanušovice (66), ♂, 23.7.2001, J, SW, INS 10271. Vysoký Potok, Žlíbek hill (639.4 m a.s.l.) (67), ♂, 26.7.2001, J, SW, INS 10268.

Comments. Registered from 25 European countries incl. Sardinia and Sicilia – Ježek et al. (2018, 2020), Oboňa et al. (2024b).

Clytocerus (Boreoclytocerus) rivosus (Tonnoir, 1919)

Unpublished records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 28.7.2001, J, SW, INS 11846. Between Velká Morava and Horní Lipka (26), ♂, 14.7.2001, J, SW, INS 10392. Králíky (39), ♂, 20.8.2001, J, SW, INS 10394.

Degree of endangerment: Critically endangered (CR).

Comments. Known from 8 European countries (Ježek 2003, Ježek et al. 2018).

Parabazarella subneglecta (Tonnoir, 1922)

Unpublished record: Červený Potok (settlement) (28), ♂, 6.5.2000, J, SW, INS 9529.

Comments. Western and Central European zone, Scandinavian bioregion, Lithuania, Balkan and Anatolia – Ježek et al. (2018).

Pericoma (Pachypericoma) fallax Eaton, 1893

Unpublished records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 2 ♂♂, 7.5.2000, C, J, SW, INS 9519 and 11827. Červený Potok (settlement) (28), ♂, 20.8.2001, J, SW, INS 11766.

Comments. European and Western Siberian species, penetrates to Anatolia, Transcaucasia, North Africa as well as Mediterranean Sea islands – Ježek et al. (2021).

Pneumia mutua (Eaton, 1893)

Unpublished records: Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9186. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10233. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 25.5.1999, J, SW, INS 9172. Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), 4 ♂♂, 30.5.1999, J, SW, INS 9226, 9228, 9236 and 9512. Between Sviní hora Mt. (1232.4 m a.s.l.) and Chlum Mt. (1115.8 m) (24), ♂, 31.5.1999, J, SW, INS 11851. Between Uhlisko Mt. (1240.7 m) and Podbělka Mt. (1307.4 m a.s.l.) (25), ♂, 15.6.2001, J, SW, INS 10342. Between Velká Morava and Horní Lipka (26), ♂, 14.7.2001, J, SW, INS 10389. Bystřina gamekeeper's lodge near Chrastice (27), ♂, 31.7.2001, J, SW, INS 14477. Dolní Morava (upper part) (29), 3 ♂♂, 2.6.1999 and 29.5.2003, J, SW, INS 9215, 11728 and 11812. Horní Lipka, upper part of settlement (32), ♂, 14.7.2001, J, SW, INS 10299. Horní Morava – Pod Klepáčem (33), 3 ♂♂, 1.6.1999, J, SW, INS 9196, 9553 and 11752. Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12783. Kamenitý potok brook env. Patzeltova jeskyně cave (37), ♂, 2.8.2001, J, MT, INS 10349. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10335. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10300. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 2 ♂♂, 29.5.1999 and 23.8.2001, J, C+Ma, SW, MT, INS 10305 and 11817. Prudký potok brook, Mokřiny (48), 3 ♂♂, 13.6., 19.7. and 8.8.2005, J, MT, INS 14403, 14426 and 14446. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 9506. Velká Morava (settlement), Prometheus hotel env. (60), 2 ♂♂, 26. and 27.5.1999, J, SW, INS 9259 and 11771. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♂, 31.5.1999, J, SW, INS 9225. Vilemínka chalet, Kazatelna forest territory above (64), ♂, 15.6.2001, J, SW, INS 11854. Vojtiškov near Hanušovice (66), ♂, 23.7.2001, J, SW, INS 10272.

Comments. A species distributed largely in Western and Central Europe, British Islands and Scandinavian bioregion, known from countries along the Northern Sea, penetrates eastwards to Poland and Lithuania, the southern frontier is limited by Apennines and Balkan. Some details see e.g. Ježek et al. (2018).

Pneumia nubila (Meigen, 1818)

Unpublished records: Dvůřečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10359. Heřmanice – U křížku near elevation point Špička (755 m a.s.l.) (31), ♂, 10.7.2001, J, SW, INS 10242.

Comments. European species, known from many countries, penetrates to Transcaucasia – Armenia, Azerbaijan and Georgia (incl. Abkhazia). See e.g. Ježek et al. (2018, 2020, 2021), Oboňa et al. (2019 a,b).

Pneumia pilularia (Tonnoir, 1940)

Unpublished records: Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 25.9.2000, J, SW, INS 9549. Velká Morava (settlement), Prometheus hotel env. (60), ♂, 6.5.2000, J, SW, INS 9491.

Comments. Distributed almost throughout Europe, including Spain, British Isles, the Scandinavian bioregion, North Africa, Central Caucasus, Armenia and Tajikistan (Ježek et al. 2018).

Pneumia plumicornis (Tonnoir, 1922)

Unpublished records: Between Hajmrlův and Kančí vrch hill (723.7 m a.s.l.) (4), ♂, 25.9.2000, J, SW, INS 11824. Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), ♂, 16.9.2004, J, SW, INS 12821. Between Sklené and Malá Morava (20), ♂, 21.9.2000, J, SW, INS 9501. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 25.9.2000, J, SW, INS 9551. Červený Potok (settlement) (28), ♂, 21.9.2000, J, SW, INS 9562. Dolní Morava (upper part) (29), ♂, 16.9.2004, J, SW, INS 12834. Malá Morava env. Vysoký Potok (41), ♂, 21.9.2000, J, SW, INS 9547. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♂, 25.9.2000, J, SW, INS 9477. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, 19.9.2001, V, MT, INS 12800. Velká Morava (settlement), Prometheus hotel env. (60), ♂, 19.9.2000, J, SW, INS 9545.

Comments. A central European species, published only from Austria, Czech Republic, Germany, Italy, Slovakia and Slovenia (Ježek et al. 2018, Wagner 2023).

Pneumia stammeri (Jung, 1956)

Unpublished record: Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12780.

Degree of endangerment: Endangered (EN).

Comments. A rare European species distributed from the British Isles, countries along the North Sea coast and Scandinavian bioregion eastwards to Slovakia and the Balkan region (Ježek & Omelková 2012).

Pneumia trivialis (Eaton, 1893)

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10368. Between Hajmrlův and Kančí vrch hill (723.7 m a.s.l.) (4), 2 ♂♂, 6.8.2001, J, SW, INS 10259 and 12822. Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9185. Between Hynčice pod Sušinou and Chrástice, Chrástický potok brook (8), ♂, 7.5.2000, J, SW, INS 9539. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♂, 31.7.2001, J, SW, INS 10277. Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), ♂, 16.9.2004, J, SW, INS 12775. Between Křivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10246. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), 2 ♂♂, 25.5.1999 and 17.8.2001, J, SW, INS 9168 and 11792. Between Nová Seninka and Javořina (14), ♂, 17.8.2001, J, SW, INS 12837. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9202. Between Pasinky area and Bystřina gamekeeper's lodge, Chrástice env. (16), ♂, 31.7.2001, J, SW, INS 14485. Between Pomocná and Hubertova chalets, near Srážná Mt. (1073.8 m a.s.l.) (18), ♂, 23.7.2001, J, SW, INS 14489. Between Sklené and Chlum Mt. (1115.8 m a.s.l.) (19), ♂, 31.5.1999, J, SW, INS 9252. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 4 ♂♂, 7.5. and 25.9.2000, 28.7.2001, J, SW, INS 9518, 9550, 10419 and 11843. Between Stříbrnice and Návrší chalet (22), ♂, 25.5.1999, J, SW, INS 9205. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9483. Between Sviní hora Mt. (1232.4 m a.s.l.) and Chlum Mt. (1115.8 m) (24), ♂, 31.5.1999, J, SW, INS 11852. Between Velká Morava and Horní Lipka (26), ♂, 14.7.2001, J, SW, INS 10385. Červený Potok (settlement) (28), 3 ♂♂, 6.5. and 21.9.2000, 20.8.2001, J, SW, INS 9532, 9561 and 11763. Dolní Morava (upper part) (29), 2 ♂♂, 2.6.1999, J, SW, INS 9217 and 11811. Dvůřečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10353. Heřmanice – U křížku near elevation point Špička (755 m a.s.l.) (31), ♂, 10.7.2001, J, SW, INS 10241. Horní Lipka, upper part of settlement (32), ♂, 14.7.2001, J, SW, INS 10311. Horní Morava – Pod Klepáčem (33), 3 ♂♂, 1.6.1999, J, SW, INS 9191, 9555

and 11753. Horní Morava near Dolní Morava (34), 2 ♂♂, 1.6.1999 and 30.5.2003, J, SW, INS 9270 and 12776. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♂, 31.7.2001, J, SW, INS 12762. Hynčice pod Sušinou (36), ♂, 31.7.2001, J, SW, INS 11777. Kamenitý potok brook env. Patzeltova jeskyně cave (37), 2 ♂♂, 30.5.1999, J, SW, INS 9233 and 9513. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10337. Králíky (39), ♂, 20.8.2001, J, SW, INS 10395. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10293. Malá Morava env. Vysoký Potok (41), ♂, 21.9.2000, J, SW, INS 9546. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♂, 25.9.2000, J, SW, INS 9524. Mléčný pramen source near Velká Morava (43), ♂, 6.5.2000, C, SW, INS 11832. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 2 ♂♂, 28.5. and 29.5.1999, J, SW, INS 9180 and 11814. Podlesí env. Hanušovice (47), 2 ♂♂, 26.7.2001, J, SW, INS 10284 and 10399. Prudký potok brook, Mokřiny (48), 2 ♂♂, 8. and 18.8.2005, J, MT, INS 14419 and 14437. Seninka (49), ♂, 17.8.2001, J, SW, INS 11783. Sklené (upper part) (51), ♂, 23.7.2001, J, SW, INS 11725. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9166. Stříbrnice (settlement) (54), ♂, 7.5.2000, J, SW, INS 9497. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 9508. Velká Morava – church (59), ♂, 31.5.1999, J, SW, INS 9245. Velká Morava (settlement), Prometheus hotel env. (60), 3 ♂♂, 27.5.1999, 6.5. and 19.9.2000, J, SW, INS 9489, 9544 and 11772. Velká Morava between hills 909.7 m and 1061.0 m a.s.l. (61), ♂, 26.5.1999, J, SW, INS 9251. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♂, 31.5.1999, J, SW, INS 9178. Vileminka chalet, Kazatelna forest territory above (64), ♂, 6.5.2000, J, SW, INS 9505. Vojtěškov near Hanušovice (66), ♂, 23.7.2001, J, SW, INS 10283. Vysoký Potok, Žlíbek hill (639.4 m a.s.l.) (67), ♂, 26.7.2001, J, SW, INS 10265

Comments. European species published from many countries, penetrates to Azerbaijan and Georgia incl. Abkhazia (Ježek et al. 2021, 2023).

Pneumia vittata (Tonnoir, 1919)

= syn. *Pneumia crispi* (Freeman, 1953) as well as *Pneumia hungarica* (Szabó, 1960) – reclassified by Ježek et al. (2020).

Unpublished records: Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), ♂, 6.8.2001, J, SW, INS 11865. Seninka (49), ♂, 17.8.2001, J, SW, INS 12767.

Degree of endangerment: Endangered (EN).

Comments. Currently known to occur in many European countries – compare e.g. Wagner (1990), Krek (1999) and Ježek et al. (2020).

Saraiella parva (Vaillant, 1963)

Published record: Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46) – Ježek (2003).

Unpublished records: Between Sviní hora Mt. (1232.4 m a.s.l.) and Chlum Mt. (1115.8 m) (24), ♂, 31.5.1999, J, SW, INS 11850. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 3.6.2004, C+J+S, MT, INS 12756.

Degree of endangerment: Critically endangered (CR).

Comments. Rare European species, known only from France, Romania and Czech Republic (Wagner 1990, Ježek 2003).

Saraiella rotunda (Krek, 1970)

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10369. Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9188. Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), 2 ♂♂, 16.9.2004, J, SW, INS 12773 and 12817. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9200. Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), 4 ♂♂, 30.5.1999, J, SW, INS 9222, 9229, 9234 and 9510. Between Sklené and Chlum Mt. (1115.8 m a.s.l.) (19), ♂, 31.5.1999, J, SW, INS 9253. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), ♂, 7.5.2000, J, SW, INS 9526. Between Stříbrnice and Návrší chalet (22), ♂, 25.5.1999, J, SW, INS 9206. Between Sviní hora Mt. (1232.4 m a.s.l.) and Chlum Mt. (1115.8 m) (24), ♂, 31.5.1999, J, SW, INS 11853. Between Uhlisko Mt. (1240.7 m a.s.l.) and Podbělka Mt. (1307.4 m) (25), ♂, 15.6.2001, J, SW, INS 10358. Dolní Morava (upper part) (29), 4 ♂♂, 2.6.1999, 29.5.2003 and 16.9.2004, J, SW, INS 9213, 11731, 11808 and 12830. Horní Morava – Pod Klepáčem (33), 2 ♂♂, 1.6.1999, J, SW, INS 9554 and 11749. Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12781. Kladské sedlo pass env. Seninka (38), 2 ♂♂, 7.5.2000 and 17.8.2001, J, SW, INS 9537 and 10333. Morava river env. Podbělka Mt. (1307.4 m a.s.l.) (44), ♂, 27.5.1999, J, SW, INS 9220. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), 5 ♂♂, 28. and 29.5.1999, 23.8. and 19.9.2001, 3.6.2004, J,

C+J+Ma+S+V, SW, MT, INS 9181, 10307, 11819, 12755 and 12789. Prudký potok, Mokřiny (48), ♂, 13.6.2005, J, MT, INS 14427. Seninka (49), ♂, 17.8.2001, J, SW, INS 11782. Stone way to Sněžná chata timbered chalet (52), ♂, 15.6.2001, J, SW, INS 10355. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9170. Stříbrnice (settlement) (54), ♂, 7.5.2000, J, SW, INS 9495. U strašidel, swampy slope near gamekeeper's timbered lodge (57), 3 ♂♂, 29.5.1999 and 15.6.2001, J, SW, INS 9507, 12843 and 12848. Ve strži, avalanche bed below top of Králický Sněžník Mt. (1423.7 m a.s.l.) (58), 2 ♂♂, 15.6.2001 and 24.9.2003, J, V, SW, MT, INS 11737 and 11803. Velká Morava (settlement), Prometheus hotel env. (60), 2 ♂♂, 26. and 27.5.1999, J, SW, INS 9262 and 11774. Velká Morava between hills 909.7 m and 1061.0 m a.s.l. (61), ♂, 19.9.2000, J, SW, INS 11833. Vileminka chalet, Kazatelna forest territory above (64), ♂, 15.6.2001, J, SW, INS 11855.

Degree of endangerment: Critically endangered (CR).

Comments. Probably Sub-Mediterranean mountainous species, registered in 9 European countries, penetrates to Transcaucasia (Azerbaijan, Georgia incl. Abkhazia) – Ježek et al. (2018, 2021, 2023).

Szaboieiella hibernica (Tonnoir, 1940)

Published records: Between Uhlisko Mt. (1240.7 m) and Podbělka Mt. (1307.4 m a.s.l.) (25); Dolní Morava (upper part) (29); Horní Lipka, upper part of settlement (32); Horní Morava – Pod Klepáčem (33); Kamenitý potok brook env. Patzeltova jeskyně cave (37); Nad strašidly, boundary stone 72/3, crossroads near top of Králický Sněžník Mt. (1423.7 m a.s.l.) (46) – Ježek (2004a).

Unpublished records: Between Kamenitý potok brook and Poniklec brook near Podbělka Mt. (1307.4 m a.s.l.) (11), ♂, 16.9.2004, J, SW, INS 12819. Horní Morava near Dolní Morava (34), ♂, 30.5.2003, J, SW, INS 12778. Nad strašidly, boundary stone 72/3, crossroads near top of Králický Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, 19.9.2001, V, MT, INS 12801.

Degree of endangerment: Critically endangered (CR).

Comments. European species, known from many countries, with a zone of distribution covering Iberian Peninsula, British Isles, countries along Northern Sea and Central European region, Apennines and Balkan, penetrates to Transcaucasia (Abkhazia). More details see e.g. Ježek et al. (2021, 2023).

Tonnoiriella nigricauda (Tonnoir, 1919)

Unpublished records: Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♂, 31.7.2001, J, SW, INS 10280. Červený Potok (settlement) (28), ♂, 6.5.2000, J, SW, INS 9530. Morava river env. Uhlisko Mt. (1240.7 m a.s.l.) (45), ♂, 27.5.1999, J, SW, INS 9239. Vysoký Potok, Žlíbek hill (639.4 m a.s.l.) (67), ♂, 26.7.2001, J, SW, INS 10267.

Degree of endangerment: Critically endangered (CR).

Comments. European species, known from 9 countries, some details see e.g. Kvifte et al. (2011) and Ježek et al. (2018, 2021), Oboňa et al. (2024a).

Tonnoiriella pulchra (Eaton, 1893)

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10362. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 17.8.2001, J, SW, INS 11794. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9204. Between Pasínky area and Bystřina gamekeeper's lodge, Chrástice env. (16), ♂, 31.7.2001, J, SW, INS 14481. Červený Potok (settlement) (28), ♂, 6.5.2000, J, SW, INS 9528. Dolní Morava (upper part) (29), ♂, 29.5.2003, J, SW, INS 11730. Horní Morava – Pod Klepáčem (33), ♂, 1.6.1999, J, SW, INS 11747.

Comments. European species published from Western, Southern and Central parts, known as well from North Africa, see e.g. Wagner (2023) and Ježek et al. (2018, 2020).

Ulomyia cognata (Eaton, 1893)

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10364. Between Hajmlov and Kančí vrch hill (723.7 m a.s.l.) (4), 3 ♂♂, 6.8.2001, J, SW, INS 10260, 11862 and 12827. Between Hynčice pod Sušinou and Chrástice, Chrástický potok brook (8), ♂, 7.5.2000, J, SW, INS 9538. Between Krivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10245. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), ♂, 17.8.2001, J, SW, INS 11788. Between Nová Seninka and Javořina (14), ♂, 17.8.2001, J, SW, INS 12836. Between Pasínky area and Bystřina gamekeeper's lodge, Chrástice env. (16), 2 ♂♂, 31.7.2001, J,

SW, INS 14479 and 14494. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 2 ♂♂, 7.5.2000 and 28.7.2001, J, SW, INS 9523 and 11847. Between Stříbrnice and Návrší chalet (22), ♂, 25.5.1999, J, SW, INS 9209. Horní Morava – Pod Klepáčem (33), ♂, 1.6.1999, J, SW, INS 9558. Horní Morava near Dolní Morava (34), 2 ♂♂, 26.5.1999 and 30.5.2003, J, SW, INS 11757 and 12788. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♂, 31.7.2001, J, SW, INS 12761. Hynčice pod Sušinou (36), ♂, 31.7.2001, J, SW, INS 11780. Kamenitý potok brook env. Patzeltova jeskyně cave (37), 3 ♂♂, 30.5.1999, J, SW, INS 9225, 9237 and 9514. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, 29.5.1999, J, SW, INS 11815. Seninka (49), 2 ♂♂, 17.8.2001, J, SW, INS 11786 and 12765. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9171. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 9509. Velká Morava (settlement), Prometheus hotel env. (60), 3 ♂♂, 26. and 27.5.1999, 6.5.2000, J, SW, INS 9261, 9490 and 11773. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), ♂, 2.8.2001, J, MT, INS 10227. Vileminka chalet, Kazatelna forest territory above (64), ♂, 6.5.2000, J, SW, INS 9503.

Comments. European species, penetrates to Transcaucasia (Armenia, Georgia incl. Abkhazia) – Ježek et al. (2021, 2023).

Ulomylia fuliginosa (Meigen, 1804)

Unpublished records: Between Červený Potok and Horní Hedeč (3), ♂, 20.8.2001, J, SW, INS 10367. Between Hajmrlav and Kančí vrch hill (723.7 m a.s.l.) (4), 2 ♂♂, 6.8.2001, J, SW, INS 10258 and 11863. Between Horní and Velká Morava (5), ♂, 1.6.1999, J, SW, INS 9190. Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♂, 14.7.2001, J, SW, INS 11841. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10243. Between Hynčice pod Sušinou and Chrástice, Chrástický potok brook (8), ♂, 7.5.2000, J, SW, INS 9540. Between Hynčice pod Sušinou and Chrástice, Mlýnský vrch hill (688.6 m a.s.l.) (9), ♂, 31.7.2001, J, SW, INS 10276. Between Chrástice and Vysoké Žibřidovice, Pasínky area (10), 2 ♂♂, 31.7.2001, J, SW, INS 14467 and 14470. Between Krivá Voda and Kamenáč hill (656.7 m a.s.l.) (12), ♂, 26.7.2001, J, SW, INS 10247. Between Nová Seninka and Hraniční hora hill (853.7 m a.s.l.) (13), 2 ♂♂, 25.5.1999 and 17.8.2001, J, SW, INS 9169 and 11791. Between Nová Seninka and Javořina (14), ♂, 17.8.2001, J, SW, INS 12835. Between Nová Seninka and Nový Rumburk (15), ♂, 25.5.1999, J, SW, INS 9203. Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), 2 ♂♂, 30.5.1999, J, SW, INS 9227 and 9247. Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook (21), 4 ♂♂, 7.5. and 25.9.2000, 28.7.2001, SW, J, INS 9527, 9552, 10420 and 11849. Between Stříbrnice and Návrší chalet (22), ♂, 25.5.1999, J, SW, INS 9207. Between Stříbrnice and Nový Rumburk (23), ♂, 25.5.1999, J, SW, INS 9484. Between Uhlisko Mt. (1240.7 m) and Podbělka Mt. (1307.4 m a.s.l.) (25), ♂, 15.6.2001, J, SW, INS 10344. Between Velká Morava and Horní Lipka (26), ♂, 14.7.2001, J, SW, INS 10386. Bystřina gamekeeper's lodge near Chrástice (27), ♂, 31.7.2001, J, SW, INS 14476. Červený Potok (settlement) (28), 2 ♂♂, 6.5.2000 and 20.8.2001, J, SW, INS 9534 and 11764. Dolní Morava (upper part) (29), 4 ♂♂, 2.6.1999, 29.5.2003 and 16.9.2004, J, SW, INS 9219, 11727, 11813 and 12831. Dvorečky near Horní Lipka (30), ♂, 14.7.2001, J, SW, INS 10352. Heřmanice – U křížku near elevation point Špička (755 m a.s.l.) (31), 2 ♂♂, 10.7.2001, J, SW, INS 10240 and 10264. Horní Lipka, upper part of settlement (32), ♂, 14.7.2001, J, SW, INS 10298. Horní Morava – Pod Klepáčem (33), 3 ♂♂, 1.6.1999, J, SW, INS 9194, 9556 and 11751. Horní Morava near Dolní Morava (34), 3 ♂♂, 26.5. and 1.6.1999, 30.5.2003, J, SW, INS 9273, 11756 and 12777. Hynčice pod Sušinou, Bučina hill (683.3 m a.s.l.) (35), ♂, 31.7.2001, J, SW, INS 12758. Hynčice pod Sušinou (36), ♂, 31.7.2001, J, SW, INS 11776. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10334. Králíky (39), ♂, 20.8.2001, J, SW, INS 10396. Kunčice – Krupná (40), ♂, 28.7.2001, J, SW, INS 10292. Malé Vrbno env. Staré Město pod Sněžníkem (42), ♂, 25.9.2000, J, SW, INS 9475. Morava river env. Uhlisko Mt. (1240.7 m a.s.l.) (45), ♂, 27.5.1999, J, SW, INS 9238. Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt. (1423.7 m a.s.l.) (46), ♂, 29.5.1999, J, SW, INS 11820. Podlesí env. Hanušovice (47), 2 ♂♂, 26.7.2001, J, SW, INS 10285 and 10400. Seninka (49), ♂, 17.8.2001, J, SW, INS 11785. Sklené (upper part) (51), ♂, 23.7.2001, J, SW, INS 11724. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9167. U strašidel, swampy slope near gamekeeper's timbered lodge (57), ♂, 29.5.1999, J, SW, INS 12845. Velká Morava (church) (59), ♂, 31.5.1999, J, SW, INS 9246. Velká Morava (settlement), Prometheus hotel env. (60), 3 ♂♂, 26.5.1999, 6.5. and 19.9.2000, J, SW, INS 9266, 9494 and 9543. Velká Morava between hills 909.7 m and 1061.0 m a.s.l. (61), ♂, 26.5.1999, J, SW, INS 9250. Velká Morava, Selské vrchy hills, Mlýnský potok brook (62), 3 ♂♂, 31.5.1999 and 2.8.2001, J, SW, MT, INS 9177, 9254 and 10225. Vileminka chalet, Kazatelna forest territory above (64), ♂, 6.5.2000, J, SW, INS 9504. Vlaské near Hanušovice (65), ♂, 26.7.2001, J, SW, INS 10404. Vojtěškov near Hanušovice (66), ♂, 23.7.2001, J, SW, INS 10282.

Comments. Known throughout nearly all of Europe in contrast to eastern part (only Lithuania has positive funds) – Ježek et al. (2020, 2021), Wagner (2023).

Ulomyia plumata (Tonnoir, 1919)

Unpublished records: Between Horní Morava – Zátíší and Jelení vrch hill (935.7 m a.s.l.) (6), ♂, 14.7.2001, J, SW, INS 11840. Between Horní Morava and Jelení vrch hill (935.7 m a.s.l.) (7), ♂, 14.7.2001, J, SW, INS 10234. Between Podbělka Mt. (1307.4 m a.s.l.) and Patzeltova jeskyně cave (17), 2 ♂♂, 30.5.1999, J, SW, INS 9223 and 9511. Between Pomocná and Hubertova chalets, near Srážná Mt. (1073.8 m a.s.l.) (18), ♂, 23.7.2001, J, SW, INS 14490. Between Uhlisko Mt. (1240.7 m) and Podbělka Mt. (1307.4 m a.s.l.) (25), ♂, 15.6.2001, J, SW, INS 10356. Dolní Morava (upper part) (29), ♂, 2.6.1999, J, SW, INS 9218. Horní Morava – Pod Klepáčem (33), ♂, 1.6.1999, J, SW, INS 9195. Kladské sedlo pass env. Seninka (38), ♂, 17.8.2001, J, SW, INS 10336. Prudký potok brook, Mokřiny (48), ♂, 8.8.2005, J, MT, INS 14436. Stříbrnice – ski hoist (53), ♂, 25.5.1999, J, SW, INS 9163.

Degree of endangerment: Critically endangered (CR).

Comments. Rare species, known from Albania, Belgium, Czech Republic, France – Ježek (2004b), Ježek et al. (2018, 2023).

Ulomyia vaseki Ježek, 2002

Published records: Between Stříbrnice and Návrší chalet (22); Sklené (elevation point 1096 m a.s.l. NE) (50); Sv. Trojice (862.4 m a.s.l.) env. Vysoký Potok (55); U strašidel, swampy slope near gamekeeper's timbered lodge (57) – Ježek (2002), Tkoč et al. (2014).

Unpublished record: Nad strašidly, boundary stone 72/3, crossroads near top of Králický Sněžník Mt. (1423.7 m a.s.l.) (46), 2 ♂♂, 23.8.2001 and 3.8.2004, C+J+Ma+S, MT, INS 10323 and 12813.

Degree of endangerment: Endangered (EN).

Comments. Very rare species, known only from Czech Republic (Bohemia, Moravia), Slovakia and Slovenia, some details see Ježek (2002) and Oboňa & Ježek (2014).

In present study 56 species were recorded, which represents approximately 31.5 % of all known moth flies (Diptera, Psychodidae – 178 species, see appendix in Ježek et al. (2021)) known from the Czech Republic. In 42 sites (62.7 %) were recorded species with a conservation potential / status.

The detail overview of all recorded species per site is summarized in Tab 1. The highest biodiversity was recorded at the sites: 21 (20 spp.), 16 (19 spp.), 48 and 57 (18 spp.), 28 and 34 (17 spp.). Only one species is recorded at sites 43 and 63, two species at sites 19, 44, 50 and 56. The highest biodiversity of species with a conservation potential was recorded at the sites 29, 34, 46 and 57 (4 spp.), 21, 22, 25 and 33 (3 spp.), 3, 6, 11, 24, 38, 48, 53, 55 and 60 (2 spp.), sites 4, 5, 7, 9, 15, 17, 18, 19, 20, 23, 26, 28, 32, 37, 39, 44, 45, 49, 50, 54, 58, 61, 64 and 67 with one species.

Tab. 1: List of localities with recorded species (see Fig. 3).

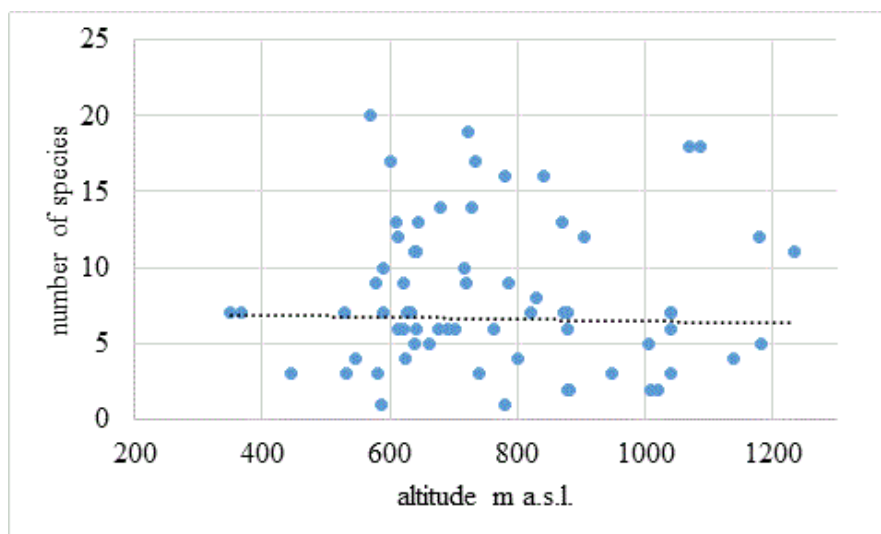
No.	Site	Recorded species
1	Babuša timbered chalet env. Podbělka Mt.	<i>lobata</i> , <i>brevicornis</i> , <i>albipennis</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>griseusens</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>itoco</i> , <i>minuta</i> , <i>setigera</i>
2	Below spring of Morava river	<i>griseusens</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>trinodulosa</i> , <i>setigera</i>
3	Between Červený potok and Horní Hedeč	<i>silvaticus</i> (VU), <i>albipennis</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>trinodulosa</i> , <i>vimmeri</i> (NS), <i>ocellaris</i> , <i>trivialis</i> , <i>rotunda</i> (CR), <i>pulchra</i> , <i>cognata</i> , <i>fuliginosa</i>
4	Between Hajmrlov and Kančí vrch hill	<i>lucifugus</i> , <i>hirtella</i> , <i>lobata</i> , <i>albipennis</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>ocellaris</i> , <i>plumicornis</i> , <i>trivialis</i> , <i>vittata</i> (EN), <i>cognata</i> , <i>fuliginosa</i>

5	Between Horní and Velká Morava	<i>lucifugus, unispinosa, ocellaris, mutua, trivialis, rotunda</i> (CR), <i>fuliginosa</i>
6	Between Horní Morava – Zátíší and Jelení vrch hill	<i>arvernicus</i> (VU), <i>albipennis, satchelli, zetterstedti, gemina, fuliginosa, plumata</i> (CR)
7	Between Horní Morava and Jelení vrch hill	<i>hirtella, albipennis, satchelli, phalaenoides, gemina, mutua, fuliginosa, plumata</i> (CR)
8	Between Hynčice pod Sušinou and Chrastice, Chrastický potok brook	<i>trivialis, cognata, fuliginosa</i>
9	Between Hynčice pod Sušinou and Chrastice, Mlýnský vrch hill	<i>lobata, satchelli, gemina, ocellaris, trivialis, nigricauda</i> (CR), <i>fuliginosa</i>
10	Between Chrastice and Vysoké Žibřidovice, Pasínky area	<i>humerales, albipennis, satchelli, zetterstedti, phalaenoides, ocellaris, fuliginosa</i>
11	Between Kamenitý potok brook and Poniklec brook near Podbělka Mt.	<i>lobata, phalaenoides, ocellaris, plumicornis, trivialis, rotunda</i> (CR), <i>hibernica</i> (CR)
12	Between Krivá Voda and Kamenáč hill	<i>auriculata, unispinosa, ocellaris, trivialis, cognata, fuliginosa</i>
13	Between Nová Seninka and Hraniční hora hill	<i>lucifugus, albipennis, phalaenoides, matthesi, unispinosa, ocellaris, mutua, trivialis, pulchra, cognata, fuliginosa</i>
14	Between Nová Seninka and Javořina	<i>albipennis, zetterstedti, phalaenoides, gemina, trivialis, cognata, fuliginosa</i>
15	Between Nová Seninka and Nový Rumburk	<i>satchelli, ocellaris, trivialis, rotunda</i> (CR), <i>pulchra, fuliginosa</i>
16	Between Pasínky area and Bystřina gamekeeper's lodge, Chrastice env.	<i>albipennis, phalaenoides, mycophila, alternata, setigera, ocellaris, trivialis, pulchra, cognata</i>
17	Between Podbělka Mt. and Patzeltova jeskyně cave	<i>silacea, phalaenoides, matthesi, mutua, rotunda</i> (CR), <i>fuliginosa, plumata</i> (CR)
18	Between Pomocná and Hubertova chalets, near Srážná Mt.	<i>satchelli, phalaenoides, trinodulosa, trivialis, plumata</i> (CR)
19	Between Sklené and Chlum Mt.	<i>trivialis, rotunda</i> (CR)
20	Between Sklené and Malá Morava	<i>silvaticus</i> (VU), <i>lobata, gemina, plumicornis</i>
21	Between Staré Město pod Sněžníkem and Květná, alluvium of Krupá brook	<i>austriacum, incurvus</i> (EN), <i>lucifugus, hirtella, albipennis, satchelli, grisescens, phalaenoides, gemina, manicata, stavniensis, ocellaris, rivosus</i> (CR), <i>fallax, pilularia, plumicornis, trivialis, rotunda</i> (CR), <i>cognata, fuliginosa</i>
22	Between Stříbrnice and Návrší chalet	<i>silvaticus</i> (VU), <i>phalaenoides, gemina, matthesi, trivialis, rotunda</i> (CR), <i>cognata, fuliginosa, vaseki</i> (EN)
23	Between Stříbrnice and Nový Rumburk	<i>incurvus</i> (EN), <i>lucifugus, albipennis, satchelli, grisescens, phalaenoides, cinerea, gemina, ocellaris, trivialis, fuliginosa</i>
24	Between Sviní hora Mt. and Chlum Mt.	<i>mutua, trivialis, parva</i> (CR), <i>rotunda</i> (CR)
25	Between Uhlisko Mt. and Podbělka Mt.	<i>ocellaris, mutua, rotunda</i> (CR), <i>hibernica</i> (CR), <i>fuliginosa, plumata</i> (CR)
26	Between Velká Morava and Horní Lipka	<i>auriculata, albipennis, satchelli, phalaenoides, ocellaris, rivosus</i> (CR), <i>mutua, trivialis, fuliginosa</i>
27	Bystřina gamekeeper's lodge near Chrastice	<i>zetterstedti, phalaenoides, gemina, ocellaris, mutua, fuliginosa</i>

28	Červený Potok (settlement)	<i>lucifugus</i> , <i>albipennis</i> , <i>erminea</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>alternata</i> , <i>manicata</i> , <i>ocellaris</i> , <i>subneglecta</i> , <i>fallax</i> , <i>plumicornis</i> , <i>trivialis</i> , <i>nigricauda</i> (CR), <i>pulchra</i> , <i>fuliginosa</i>
29	Dolní Morava (upper part)	<i>incurvus</i> (EN), <i>hirtella</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>trinodulosa</i> , <i>ocellaris</i> , <i>mutua</i> , <i>plumicornis</i> , <i>trivialis</i> , <i>rotunda</i> (CR), <i>hibernica</i> (CR), <i>pulchra</i> , <i>fuliginosa</i> , <i>plumata</i> (CR)
30	Dvorečky near Horní Lipka	<i>austriacum</i> , <i>humerales</i> , <i>lobata</i> , <i>brevicornis</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>phalaenoides</i> , <i>cinerea</i> , <i>gemina</i> , <i>setigera</i> , <i>nubila</i> , <i>trivialis</i> , <i>fuliginosa</i>
31	Heřmanice – U křížku near elevation point Špička	<i>notabilis</i> , <i>satchelli</i> , <i>gemina</i> , <i>nubila</i> , <i>trivialis</i> , <i>fuliginosa</i>
32	Horní Lipka, upper part of settlement	<i>setigera</i> , <i>unispinosa</i> , <i>mutua</i> , <i>trivialis</i> , <i>hibernica</i> (CR), <i>fuliginosa</i>
33	Horní Morava – Pod Klepáčem	<i>phalaenoides</i> , <i>matthesi</i> , <i>unispinosa</i> , <i>ocellaris</i> , <i>mutua</i> , <i>trivialis</i> , <i>rotunda</i> (CR), <i>hibernica</i> (CR), <i>pulchra</i> , <i>cognata</i> , <i>fuliginosa</i> , <i>plumata</i> (CR)
34	Horní Morava near Dolní Morava	<i>incurvus</i> (EN), <i>lucifugus</i> , <i>hirtella</i> , <i>zetterstedti</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>matthesi</i> , <i>stavniensis</i> , <i>unispinosa</i> , <i>ocellaris</i> , <i>mutua</i> , <i>stammeri</i> (EN), <i>trivialis</i> , <i>rotunda</i> (CR), <i>hibernica</i> (CR), <i>cognata</i> , <i>fuliginosa</i>
35	Hynčice pod Sušinou, Bučina hill	<i>satchelli</i> , <i>zetterstedti</i> , <i>phalaenoides</i> , <i>ocellaris</i> , <i>trivialis</i> , <i>cognata</i> , <i>fuliginosa</i>
36	Hynčice pod Sušinou	<i>zetterstedti</i> , <i>phalaenoides</i> , <i>ocellaris</i> , <i>trivialis</i> , <i>cognata</i> , <i>fuliginosa</i>
37	Kamenitý potok brook env. Patzeltova jeskyně cave	<i>lobata</i> , <i>albipennis</i> , <i>satchelli</i> , <i>grisescens</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>itoco</i> , <i>trinodulosa</i> , <i>matthesi</i> , <i>mutua</i> , <i>trivialis</i> , <i>hibernica</i> (CR), <i>cognata</i>
38	Kladské sedlo pass env. Seninka	<i>lobata</i> , <i>satchelli</i> , <i>phalaenoides</i> , <i>ocellaris</i> , <i>mutua</i> , <i>trivialis</i> , <i>rotunda</i> (CR), <i>fuliginosa</i> , <i>plumata</i> (CR)
39	Králíky	<i>alternata</i> , <i>setigera</i> , <i>rivosus</i> (CR), <i>trivialis</i>
40	Kunčice – Krupná	<i>lobata</i> , <i>albipennis</i> , <i>satchelli</i> , <i>phalaenoides</i> , <i>alternata</i> , <i>unispinosa</i> , <i>ocellaris</i> , <i>mutua</i> , <i>trivialis</i> , <i>fuliginosa</i>
41	Malá Morava env. Vysoký Potok	<i>alternata</i> , <i>plumicornis</i> , <i>trivialis</i>
42	Malé Vrbno env. Staré Město pod Sněžníkem	<i>lucifugus</i> , <i>albipennis</i> , <i>satchelli</i> , <i>gemina</i> , <i>plumicornis</i> , <i>trivialis</i> , <i>fuliginosa</i>
43	Mléčný pramen source near Velká Morava	<i>trivialis</i>
44	Morava river env. Podbělka Mt.	<i>cinerea</i> , <i>rotunda</i> (CR)
45	Morava river env. Uhlisko Mt.	<i>ocellaris</i> , <i>nigricauda</i> (CR), <i>fuliginosa</i>
46	Nad strašidly, boundary stone 72/3, crossroads near top of Králícký Sněžník Mt.	<i>satchelli</i> , <i>grisescens</i> , <i>alticola</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>itoco</i> , <i>minuta</i> , <i>setigera</i> , <i>matthesi</i> , <i>unispinosa</i> , <i>mutua</i> , <i>plumicornis</i> , <i>trivialis</i> , <i>parva</i> (CR), <i>rotunda</i> (CR), <i>hibernica</i> (CR), <i>cognata</i> , <i>fuliginosa</i> , <i>vaseki</i> (EN)
47	Podleší env. Hanušovice	<i>lobata</i> , <i>albipennis</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>grisescens</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>trinodulosa</i> , <i>setigera</i> , <i>unispinosa</i> , <i>ocellaris</i> , <i>trivialis</i> , <i>fuliginosa</i>
48	Prudký potok brook, Mokřiny	<i>polyascoidea</i> , <i>lobata</i> , <i>albipennis</i> , <i>satchelli</i> , <i>zetterstedti</i> , <i>grisescens</i> , <i>alticola</i> , <i>phalaenoides</i> , <i>gemina</i> , <i>itoco</i> , <i>minuta</i> , <i>trinodulosa</i> , <i>alternata</i> , <i>setigera</i> , <i>mutua</i> , <i>trivialis</i> , <i>rotunda</i> (CR), <i>plumata</i> (CR)
49	Seninka	<i>lucifugus</i> , <i>albipennis</i> , <i>satchelli</i> , <i>gemina</i> , <i>ocellaris</i> , <i>trivialis</i> , <i>vittata</i> (EN), <i>rotunda</i> (CR), <i>cognata</i> , <i>fuliginosa</i>
50	Sklené (elevation point 1096 m NE)	<i>phalaenoides</i> , <i>vaseki</i> (EN)

51	Sklené (upper part)	<i>unispinosa, trivialis, fuliginosa</i>
52	Stone way to Sněžná chata timbered chalet	<i>albipennis, griseus, phalaenoides, minuta, alternata, setigera, rotunda</i> (CR)
53	Stříbrnice – ski hoist	<i>dalii, ocellaris, trivialis, rotunda</i> (CR), <i>cognata, fuliginosa, plumata</i> (CR)
54	Stříbrnice (settlement)	<i>austriacum, matthesi, ocellaris, trivialis, rotunda</i> (CR)
55	Sv. Trojice env. Vysoký Potok	<i>balkanicum</i> (CR), <i>albipennis, vaseki</i> (EN)
56	Tvarožné díry hollows near Koňský hřbet Mt.	<i>satchelli, griseus</i>
57	U strašidel, swampy slope near gamekeeper's timbered lodge	<i>silvaticus</i> (VU), <i>lobata, albipennis, satchelli, zetterstedti, griseus, phalaenoides, trinodulosa, setigera, matthesi, unispinosa, mutua, trivialis, parva</i> (CR), <i>rotunda</i> (CR), <i>cognata, fuliginosa, vaseki</i> (EN)
58	Ve strži, avalanche bed below top of Králícký Sněžník Mt.	<i>lobata, albipennis, satchelli, zetterstedti, griseus, phalaenoides, gemina, itoco, minuta, alternata, setigera, rotunda</i> (CR)
59	Velká Morava – church	<i>lucifugus, satchelli, griseus, gemina, trivialis, fuliginosa</i>
60	Velká Morava (settlement), Prometheus hotel env.	<i>carthusiana, incurvus</i> (EN), <i>lucifugus, hirtella, albipennis, phalaenoides, gemina, matthesi, ocellaris, mutua, pilularia, plumicornis, trivialis, rotunda</i> (CR), <i>cognata, fuliginosa</i>
61	Velká Morava between hills 909.7 and 1061.0 m	<i>matthesi, ocellaris, trivialis, rotunda</i> (CR), <i>fuliginosa</i>
62	Velká Morava, Selské vrchy hills, Mlýnský potok brook	<i>hirtella, lobata, albipennis, satchelli, zetterstedti, griseus, phalaenoides, cinerea, gemina, minuta, setigera, mutua, trivialis, cognata, fuliginosa</i>
63	Vikantice env. Šléglov	<i>setigera</i>
64	Vilemínka chalet, Kazatelna forest territory above	<i>phalaenoides, gemina, mutua, trivialis, rotunda</i> (CR), <i>cognata, fuliginosa</i>
65	Vlaské near Hanušovice	<i>austriacum, albipennis, fuliginosa</i>
66	Vojtiškov near Hanušovice	<i>albipennis, phalaenoides, ocellaris, mutua, trivialis, fuliginosa</i>
67	Vysoký Potok, Žlíbek hill	<i>trinodulosa, ocellaris, trivialis, nigricauda</i> (CR)

A good knowledge of biodiversity is the basic building block of many researches, classifications and, last but not least, knowledge of the ecology and biology of selected species. This knowledge can be applied in to protection of endangered species, as well as in the management of their habitats.



Graph 1: Graph of altitude and the number of species of moth flies at sampling sites, with exponential trend line (black colour) (created by Jozef Oboňa).

Analyses of the relationships between altitude and the number of species found at the site did not confirm a significant relationship between these parameters (see also in Ježek et al. 2024 a,b). Although the trend line in Graph 1. initially indicate a decrease in the number of species with altitude, only cca 0.1 % (coefficient of determination $R^2 = 0.0009$) of the variance in the dependent variable is explained by the exponential model.

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