

Sawflies of the Cserhát Mountains (Hymenoptera: Symphyta)

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HARIS, A.: *Sawflies of the Cserhát Mountains (Hymenoptera: Symphyta)*.

Abstract: 573 specimens of 110 species were collected in the Cserhát Mountains. The presence of *Sterictiphora furcata* (Villers, 1789) confirmed and documented first time in the Carpathian Basin. Rare species are: *Empria hungarica* (Konow, 1895), *Aprosthemata austriacum* (Konow, 1892), *Arge pleuritica* (Klug, 1834), *Monardis plana* (Klug, 1817), *Hoplocampa pectoralis* Thomson, 1871, *Pachynematus moerens* (Förster, 1854) and *Pristiphora abbreviata* (Hartig, 1837).

Keywords: Hymenoptera, Symphyta, Cserhát Mountains, Hungary, new record

Introduction

Cserhát is a member of the North Hungarian Mountains (Fig. 1 and 3). It is bordered on the north by the Ipoly Valley, on the east by the Tarján and the Zagyva brooks, on the south by the Great Hungarian Plain, and on the west by the Nógrád Basin and the Börzsöny Mountains. Its geology and surface forms are diverse. Unlike the two neighboring mountains, the Börzsöny and the Mátra, not the volcanic but the sedimentary rocks dominate here.

The mountains can be divided into five parts. The western Cserhát consists mostly of Oligocene sediments the highest point of the mountains: the Naszály is located here. The North Cserhát (or Kopasz-Cserhát) has heavily fragmented, hilly landscape. Miocene volcanoes and sediments are mixed in the Central Cserhát. The rock material of the Eastern Cserhát (Pásztói-Cserhát) is mostly volcanic. In the south, the hills of Cserhátalja melts gradually into the Great Hungarian Plain.

Due to the characteristic inter-mountainous "basin effect", the climate of the area is moderately cool and moderately dry. The shiny hours are quite low, 1900-1950 hours / year. The average annual temperature varies between 8 and 10 °C increasing from North to South. Frosts occur from middle of October, the number of frost-free days is only 170-180 days per year.

Due to the inter-mountainous basin effect, Cserhát is drier than the surrounding areas. The annual rainfall varies between 560 and 620 mm. In the north it is 600-620 mm/year, while in the south and at the eastern foots of the mountains it is only 560-600 mm. The dominant wind direction of the area is northwest-west.

The area of the mountains was originally covered with Turkey oak (*Quercus cerris*) forests and hornbeam-oak forest associations (*Quercus petraeae-Carpinetum*), most of these forest associations disappeared as a result of human activity. Now, the typical for-

est associations of the southern slopes and the Gödöllő Hills are the xerotherm oak forests frequently mixed with Tartar maple (*Aceri tatarico-Quercetum*). Alien Robinia (black locust) or black pine were often planted in place of former vineyards abandoned during the phylloxera disaster.

In addition to the forests, two characteristic grassland associations are also native: the loess steppe grasslands and the subcontinental semi-dry grasslands. They are mostly repressed due to human intervention and harmful alien species such as the Canadian goldenrod (*Solidago canadensis*), the tall goldenrod (*Solidago gigantea*) or the silkworm (*Asclepias syriaca*).

Material and methods

The applied method was net sweeping from the beginning till the last decade of May. After this, the capture of individuals was the dominant method combined with netsweeping of lower canopies and bushes.

For identification, Zhelochovtsev's work on the sawflies of the European part of the former USSR, the handbook of Lacourt on the identification of the European sawflies and the latest Czech and Slovakian monograph (ZHELOCHOVTSEV 1988, MACEK et al. 2020, LACOURT 2020) were consulted. We also used some recent revisions and works to make the identifications even more precise (HARIS 2006, KOCH 1988, PROUS et al. 2021).

For the discussion of the distribution of sawflies, we consulted the book of ROLLER and HARIS titled Sawflies of the Carpathian Basin, History and Current Research (ROLLER & HARIS 2008), the most recent European checklist of species (TAEGER et al. 2006) and the monograph of Sundukov of the sawflies of Russia (SUNDUKOV 2017) augmented by other faunistic records from the Carpathian Basin (MOCSÁRY 1900, ROLLER 1993, 1994, 1996, 1998, 1999a, b, c, d, e, 2000a, b, c, 2001, 2004, 2005, 2006a, b, 2010, ROLLER & LUKÁŠ 1999, ROLLER et al. 2006, ROLLER & MACEK, 2017 ROLLER & OLŠOVSKÝ, 2012, BALÁZS & HARIS 2019a, b, HARIS 2001a, 2009, 2010, 2011, 2012, 2018a, b, HARIS & GYURKOVICS 2012).

The used nomenclature in this paper, follows the latest monograph of European sawflies (LACOURT 2020).

The higher classification of sawflies applied in this work follows the Hymenoptera part of Fauna Europaea (ACHTERBERG 2013).

List of sampling sites

Alsópetény: Bánki-völgy (Bánki valley): between 47°53'8.26"N, 19°13'50.50"E and 47°53'15.09"N, 19°13'56.40"E, altitude: 219-237 m.

Alsópetény: Cser-tó (Cser lake): between 47°52'7.97"N, 19°15'17.19"E and 47°52'6.68"N, 19°15'8.67"E, altitude: 215 m.

Alsótold: Nagy-Mező-hegy (Nagy-Mező hill): between 47°56'47.79"N, 19°35'29.85"E and 47°56'32.58"N, 19°35'32.87"E, altitude: 230-258 m.

Bánk: Száva-hegy (Száva hill): between 47°55'20.06"N, 19°12'52.27"E and 47°55'32.80"N, 19°12'43.31"E, altitude: 169-202 m.

Bokor: Belterület (inside the village): between 47°55'27.95"N, 19°32'47.30"E and 47°55'23.63"N, 19°32'53.72"E, altitude: 254 m.

Cserhátszentiván: Zsunyi-patak (Zsunyi brook): between 47°56'29.70"N, 19°35'21.54"E and 47°56'42.07"N, 19°35'13.29"E, altitude: 218-224 m.

Csővár: Sinkár-tó (Sinkár lake): between 47°48'7.45"N, 19°21'26.83"E and 47°47'57.97"N, 19°21'35.35"E, altitude: 162-165 m (Fig. 2).

Ecseg: Kozárdi-tó (Kozárdi lake): between 47°54'15.28"N, 19°36'36.72"E and 47°54'21.82"N, 19°36'51.85"E, altitude: 172-185 m (Fig.4).

Felsőtold: temető (meadow opposite of the cemetery): between 47°57'53.11"N, 19°36'19.44"E and 47°57'54.36"N, 19°36'15.58"E, altitude: 234 m.

Galgaguta: Galga-patak (Galga brook): between 47°49'50.94"N, 19°23'36.37"E and 47°49'44.25"N, 19°23'41.15"E, altitude: 171-172 m.

Garáb: Garábi-patak (Garábi brook): between: 47°58'25.16"N, 19°37'29.95"E and 47°58'14.36"N, 19°37'24.59"E, altitude: 276-277 m.

Kébodony: Rákóczi-emlékmű (meadow at Rákóczi monument): between 47°55'37.03"N, 19°16'13.96"E and 47°55'34.33"N, 19°16'13.30"E, altitude: 160-162 m.

Kisecset: Kiliántelep: between 47°55'59.80"N, 19°19'32.30"E and 47°56'2.11"N, 19°19'36.76"E, altitude: 218-233 m.

Kozárd: Bézma: between 47°55'56.12"N, 19°36'37.38"E and 47°55'51.97"N, 19°36'27.53"E, altitude: 349-355 m.

Kutasó: Középső-hegy (Középső hill, former vineyards): between 47°57'3.51"N, 19°32'55.93"E and 47°57'12.90"N, 19°32'48.09"E, altitude: 284-318 m.

Legénd: Hosszú-föld: between 47°52'19.05"N, 19°19'17.99"E and 47°52'18.13"N, 19°19'12.68"E, altitude: 206 m.

Nagylóc: Alsó-Zsúny: between 47°59'27.86"N, 19°36'45.75"E and 47°59'33.82"N, 19°36'37.35"E, altitude: 257-259 m.

Nagylóc: Zsunypusztá: between 47°59'56.32"N, 19°37'8.74"E and 47°59'53.99"N, 19°37'6.64"E, altitude: 261 m.

Penc: Kis-völgy (Kis valley): between 47°47'41.32"N, 19°15'22.00"E and 47°47'47.59"N, 19°15'22.33"E, altitude: 149-151 m.

Penc: Observatórium (forest at Observatory): between 47°47'34.14"N, 19°15'53.15"E and 47°47'20.40"N, 19°16'7.32"E, altitude: 189-173 m.

Penc: Ujhrabina: between 47°49'6.82"N, 19°15'49.80"E and 47°49'6.52"N, 19°15'56.41"E, altitude: 218-217 m.

Penc: Zsobraák: between 47°48'47.10"N, 19°14'28.16"E and 47°48'37.27"N, 19°14'31.81"E, altitude: 155-164 m.

Rád: Lágyas-erdő (Lágyas forest): between 47°47'14.85"N, 19°13'21.50"E and 47°47'8.51"N, 19°13'33.56"E, altitude: 135-148 m.

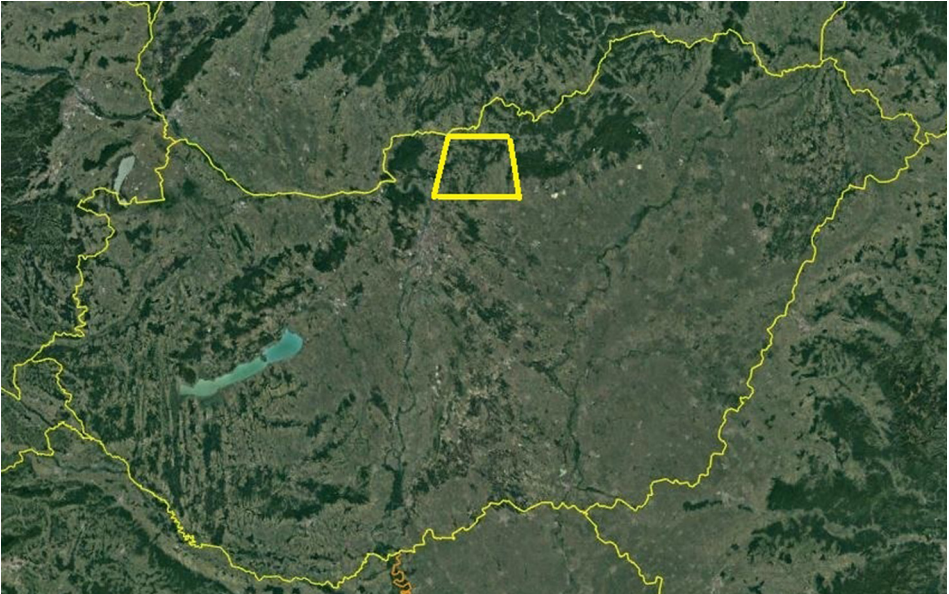


Fig. 1: The Cserhát Mountains in Hungary



Fig. 2: Willow forest around Sinkár lake at Csóvár (photo: A. Haris)



Fig. 3: Cserhát Mountains landscape (photo: A. Haris)



Fig. 4: Ecseg: Kozárdi-tó (Kozárdi lake) (photo: A. Haris)

Results

List of species

Argidae

Aprosthem a austriacum (Konow, 1892): Bánk: Száva-hegy, 26. 04. 2021, 1 female. Rare. Hostplant is unknown.

Arge ciliaris (Linné, 1767): Bánk: Száva-hegy, 26. 04. 2021, 1 male. Sporadic. Hostplants: *Filipendula ulmaria* and *F. vulgaris*.

Arge cyanocrocea (Forster, 1771): Kutasó: Középső-hegy, 08. 05. 2021, 2 females; Bánk: Száva-hegy, 15. 05. 2021, 1 female, 29. 05. 2021, 1 female, 30. 05. 2021, 1 female; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 female, 24. 05. 2021, 1 male, 29. 05. 2021, 1 male; Alsópetény: Cser-tó, 09. 05. 2021, 1 male; Penc: Zsobrák, 15. 05. 2021, 1 male, 17. 07. 2021, 4 females, 1 male. Common species. Known host plants: *Rubus idaeus* and *Sanguisorba officinalis*.

Arge enodis (Linné, 1767): Csövár: Sinkár-tó, 10. 05. 2021, 1 female; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 female, 20. 08. 2021, 1 female; Nagylóc: Alsó-Zsúny, 14. 08. 2021, 1 male. Frequent, locally common. Larvae on smooth leaved willows like *Salix fragilis*, *Salix alba* and *Salix purpurea*.

Arge melanochra (Gmelin, 1790): Csövár: Sinkár-tó, 27. 05. 2021, 1 female; Garáb: Garábi-patak, 12. 06. 2021, 2 females; Penc: Observatory, 27. 05. 2021, 1 male; Penc: Zsobrák, 27. 05. 2021, 1 male, 05. 06. 2021, 1 male. Generally the commonest Argid sawfly, however, not common in this region. Hostplant: *Crataegus oxycantha*.

Arge nigripes (Retzius, 1783): Kutasó: Középső-hegy, 11. 04. 2021, 1 female, 21. 04. 2021, 1 female, 24. 04. 2021, 2 females, 01. 05. 2021, 1 female, 08. 05. 2021, 1 female; Ecseg: Kozárdi-tó, 24. 04. 2021, 2 females. Frequent. Host plants: *Rosa* spp.

Arge ochropus (Gmelin, 1790): Ecseg: Kozárdi-tó, 01. 05. 2021, 1 male; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 female, 1 male, 12. 06. 2021, 1 male; Penc: Zsobrák, 03. 07. 2021, 1 female, 03. 07. 2021, 1 female, 17. 07. 2021, 1 male; Csővár: Sinkár-tó, 07. 08. 2021, 1 male, 07. 08. 2021, 1 female. Pest of *Rosa* spp. Locally frequent.

Arge pleuritica (Klug, 1834): Bánk: Száva-hegy, 26. 04. 2021, 1 male, 09. 05. 2021, 1 male, 22. 05. 2021, 1 female, 30. 05. 2021, 1 female. Rare. Hostplant is unknown.

Sterictiphora angelicae (Panzer, 1799): Penc: Zsobrák, 17. 07. 2021, 1 male, 24. 07. 2021, 1 female, 1 male, 31. 07. 2021, 2 females; Penc: patakpart (Penci ág, Mulató utca), 31. 07. 2021, 1 female; Nagylóc: Alsó-Zsúny, 14. 08. 2021, 1 female. Frequent. Larva on *Prunus spinosa* and *Rubus* spp.

Sterictiphora furcata (Villers, 1789): Penc: Observatory, 09. 05. 2021, 1 female. First verified specimen from Hungary and from the Carpathian Basin. So far, all checked specimen proved to be *S. angelicae*. Hostplant: *Rubus idaeus*.

Sterictiphora geminata (Gmelin, 1790): Penc: Kis-völgy, 22. 04. 2021, 1 female. Larva on *Rosa* spp. and *Sorbus aucuparia*. Sporadic.

Cephididae

Calameuta (Calameuta) haemorrhoidalis (Fabricius, 1781): Bánk: Száva-hegy, 09. 05. 2021, 1 female, 29. 05. 2021, 2 females; Garáb: Garábi-patak, 28. 04. 2021, 1 female. Frequent. Hostplant unknown.

Calameuta (Calameuta) punctata (Klug, 1803): Kutasó: Középső-hegy, 24. 04. 2021, 1 female, 21. 04. 2021, 1 male, 25. 04. 2021, 1 male, 08. 05. 2021, 1 male; Ecseg: Kozárdi-tó, 21. 04. 2021, 3 males, 10. 04. 2021, 1 female, 1 male, 24. 04. 2021, 1 female, 1 male, 25. 04. 2021, 1 female, 28. 04. 2021, 1 female, 01. 05. 2021, 1 female, 28. 04. 2021, 1 male; Garáb: Garábi-patak, 24. 05. 2021, 1 female; Bánk: Száva-hegy, 26. 04. 2021, 1 female, 09. 05. 2021, 1 female, 29. 05. 2021, 1 female, 30. 05. 2021, 1 male; Nagylóc: Alsó-Zsúny, 08. 05. 2021, 1 female, 1 male. In the last years, this species was rare. Here is frequent. Host plant unknown.

Cephus brachycercus C. G. Thomson, 1871: Bánk: Száva-hegy, 30. 04. 2021, 1 female; Ecseg: Kozárdi-tó, 01. 05. 2021, 1 male. Widely distributed, sporadic species. Host plant unknown.

Cephus pygmeus (Linné, 1767): Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Csővár: Sinkár-tó, 15. 05. 2021, 2 females, 05. 06. 2021, 15 females, 6 males. Common. Insect pest of cereals and Gramineae.

Cephus runcator Konow, 1896: Csővár: Sinkár-tó, 27. 05. 2021, 1 female; Bánk: Száva-hegy, 29. 05. 2021, 1 female, 1 male. Sporadic. Host plant unknown.

Cephus spinipes (Panzer, 1800): Ecseg: Kozárdi-tó, 28. 04. 2021, 1 male; Penc: Zsobrák, 15. 05. 2021, 1 female, 27. 05. 2021, 1 male; Kutasó: Középső-hegy, 01. 05. 2021, 1 male, 24. 05. 2021, 1 male. Frequent. Hostplant: *Phleum pratense*.

Tenthredinidae

Dolerinae

Dolerus (Poodolerus) aeneus Hartig, 1837: Garáb: Garábi-patak, 28. 04. 2021, 1 female. Sporadic. Host plants: Gramineae.

Dolerus (Poodolerus) anthracinus (Klug, 1818): Cserhátszentiván: Zsunyi-patak, 27. 03. 2021, 1 female. Host plants: Gramineae.



Fig. 5: *Arge pleuritica* (Klug, 1834)



Fig. 6: *Sterictiphora furcata* (Villers, 1789)

Dolerus (Oncodolerus) eversmanni W.F. Kirby, 1882: Nagylóc: Alsó-Zsúny, 29. 05. 2021, 1 female. Frequent. Larva on *Equisetum arvense* and *E. palustre*.

Dolerus (Dolerus) germanicus ssp. *germanicus* (Fabricius, 1775): Csővár: Sinkár-tó, 22. 05. 2021, 1 female; Penc: Zsobrák, 24. 07. 2021, 1 female; Nagylóc: Alsó-Zsúny, 05. 08. 2021, 1 female; Bokor: Béke út, 14. 08. 2021, 1 female. Common. Larva on *Equisetum arvense* and *E. palustre*.

Dolerus (Poodolerus) gonager (Fabricius, 1781): Nagylóc: Alsó-Zsúny, 10. 04. 2021, 1 female, 1 male; Cserhátszentiván: Zsunyi-patak, 17. 04. 2021, 1 male; Garáb: Garábi-patak, 25. 04. 2021, 1 male. Common. Larva on Gramineae.

Dolerus (Poodolerus) nigratus (O.F. Müller, 1776): Alsótold: Nagy-Mező-hegy, 27. 03. 2021, 2 females, 3 males, 05. 04. 2021, 1 female, 4 males; Galgaguta: Galga-patak, 01. 04. 2021, 1 male; Cserhátszentiván: Zsunyi-patak, 05. 04. 2021, 1 female, 3 males, 21. 04. 2021, 2 females, 28. 04. 2021, 1 male; Nagylóc: Alsó-Zsúny, 10. 04. 2021, 5 females, 1 male, 21. 04. 2021, 1 female, 3 males, 24. 04. 2021, 3 females, 1 male; Garáb: Garábi-patak, 10. 04. 2021, 1 female, 1 male, 25. 04. 2021, 1 male, 28. 04. 2021, 1 female, 01. 05. 2021, 2 females, 1 male; Nagylóc: Zsunypuszta, 10. 04. 2021, 1 female; Penc: Kis-völgy, 23. 04. 2021, 1 female; Penc: Zsobrák, 23. 04. 2021, 1 male; Kutasó: Középső-hegy, 28. 04. 2021, 2 females. Common. Larva on Gramineae including cereals.

Dolerus (Poodolerus) picipes (Klug, 1818): Ecseg: Kozárdi-tó, 24. 04. 2021, 1 female. Frequent. Larva on Gramineae.

Dolerus (Poodolerus) puncticollis Thomson, 1871: Legénd: Hosszú-föld, 01. 04. 2021, 1 male; Alsótold: Nagy-Mező-hegy, 05. 04. 2021, 2 females; Felsőtold: temető, 10. 04. 2021, 2 females; Nagylóc: Alsó-Zsúny, 10. 04. 2021, 1 female, 21. 04. 2021, 1 female, 24. 04. 2021, 1 female, 1 male; Nagylóc: Zsunypuszta, 10. 04. 2021, 1 male; Ecseg: Kozárdi-tó, 10. 04. 2021, 1 female; Cserhátszentiván: Zsunyi-patak, 11. 04. 2021, 2 females, 17. 04. 2021, 1 male; Bokor: falu vége, 21. 04. 2021, 1 male; Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Penc: Observatory, 09. 05. 2021, 1 male, 10. 05. 2021, 1 male. Common. Larva on Gramineae including cereals.

Dolerus (Dicrodolerus) vestigialis (Klug, 1818): Alsópetény: Cser-tó, 30. 04. 2021, 1 female; 09. 05. 2021, 1 male; Galgaguta: Galga-patak, 10. 05. 2021, 1 female. Common. Host plants: *Equisetum palustre*, *E. sylvaticum*, *E. arvense* and *E. pratense*.

Selandrinae

Birka (Birka) cinereipes (Klug, 1816): Garáb: Garábi-patak, 28. 04. 2021, 1 male, 01. 05. 2021, 1 female. Sporadic. Host plants: *Myosotis* spp.

Nesoselandria morio (Fabricius, 1781): Penc: Zsobrák, 27. 05. 2021, 1 female. Frequent. Host plants: *Brachytecium reflexum*, *Ceratodon purpureus*, *Chenopodium album*, *Dicranum scoparium*, *Fragaria vesca*, *Hedwigia ciliata*, *Myosotis arvensis*, *Plagiomnium cuspidatum*, *Plagiothecium denticulatum*, *Polygonum aviculare*, *Polytrichum commune*, *Pseudobryum cinclidiodes*, *Sanionia uncinata*, *Stellaria media*, *Veronica chamaedrys* and *V. officinalis*.

Allantinae

Allantus (Emphytus) calceatus (Klug, 1818): Penc: Zsobrák, 22. 04. 2021, 1 male; Kutasó: Középső-hegy, 01. 05. 2021, 1 female. Sporadic, locally frequent. Host plants: *Rubus*, *Sanguisorba*, *Rosa*, *Filipendula*, *Fragaria* and *Alchemilla* spp.

Allantus (Emphytus) cinctus (Linné, 1758): Ecseg: Kozárdi-tó, 21. 04. 2021, 1 female; Bánk: Száva-hegy, 26. 04. 2021, 1 female; Kutasó: Középső-hegy, 25. 04. 2021, 1 male; Penc: Zsobrák, 15. 05. 2021, 1 male. Frequent. Host plants: *Rosa* spp.

Allantus (Emphytus) cingulatus (Scopoli, 1763): Penc: Zsobrák, 22. 05. 2021, 1 male. Frequent. Larva on *Fragaria* and *Rosa* spp.

Allantus (Emphytus) didymus (Klug, 1818): Bánk: Száva-hegy, 15. 05. 2021, 1 female. Sporadic. Larva on *Sanguisorba minor*; old records from *Rubus* and *Rosa* spp. need checking.

Ametastegia (Protemphytus) pallipes (Spinola, 1808): Penc: Observatory, 22. 04. 2021, 1 female. Frequent. Host plants: *Viola* spp.

Athalia bicolor Serville, 1823: Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Kozárd: Bézma, 08. 05. 2021, 1 female; Penc: Zsobrák, 10. 05. 2021, 1 female, 27. 05. 2021, 1 female, 05. 06. 2021, 1 female. Frequent. Host plant: *Ranunculus* spp.

Athalia cordata Serville, 1823: Penc: Observatory, 22. 04. 2021, 1 male; Bánk: Száva-hegy, 30. 04. 2021, 1 female; Kutasó: Középső-hegy, 01. 05. 2021, 1 male, 08. 05. 2021, 2 males; Garáb: Garábi-patak, 08. 05. 2021, 1 male; Kozárd: Bézma, 08. 05. 2021, 1 male. Common. Larva on *Misopates orontinum*, *Antirrhinum majus*, *Ajuga reptans*, *Teucrium scorodonia* and *Plantago* spp.

Athalia circularis (Klug, 1815): Penc: Zsobrák, 27. 05. 2021, 1 female. Frequent. Host plants: *Arctium lappa*, *Ajuga reptans*, *Veronica beccabunga*, *V. longifolia*, *V. officinalis*, *Alliaria petiolata*, *Glechoma hederacea*, *Melampyrum*, *Capsella* and *Lycopus* spp.

Athalia liberta (Klug, 1815): Penc: Observatory, 09. 05. 2021, 1 female; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 male. Frequent. Feeding on *Alliaria petiolata*, *Arabidopsis thaliana*, *Cardamine hirsuta* and *Sisymbrium officinale*.

Athalia rosae (Linné, 1758): Common pest. Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Csóvár: Sinkár-tó, 22. 05. 2021, 1 female, 29. 05. 2021, 1 female, 1 male, 17. 07. 2021, 3 females, 2 males, 24. 07. 2021, 6 females, 2 males, 31. 07. 2021, 6 females, 3 males, 07. 08. 2021, 1 female, 20. 08. 2021, 1 female; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 15 females, 5 males, 29. 05. 2021, 11 females, 7 males, 03. 06. 2021, 13 females, 8 males, 12. 06. 2021, 2 females, 1 male; Penc: Observatórium, 27. 05. 2021, 3 females; Penc: Zsobrák, 17. 07. 2021, 3 females, 24. 07. 2021, 5 females, 1 male, 31. 07. 2021, 3 females, 2 males; Garáb: Garábi-patak, 10. 07. 2021, 2 females; Bánk: Száva-hegy, 17. 07. 2021, 1 female; Bokor: Béke út, 3 females, 1 male. Host plants: *Raphanus sativus*, *R. raphanistrum*, *Sinapis arvensis*, *Sisymbrium officinale*, *Armoracia rusticana*, *Barbarea* sp., *Brassica napus*, *B. juncea*, *B. rapa*, *B. oleracea*, *Tropaeolum majus*, *Sinapis arvensis*, *Alliaria petiolata* and *Cardamine* spp.

Empria hungarica (Konow, 1895): Bánk: Száva-hegy, 30. 04. 2021, 1 female, 09. 05. 2021, 1 female. Rare. Host plant unknown.

Empria parvula (Konow, 1892): Penc: Observatory, 22. 04. 2021, 1 female. Sporadic. Host plant unknown.

Empria pumila (Konow, 1896): Nagylóc: Alsó-Zsúny, 17. 04. 2021, 1 male, 21. 04. 2021, 1 male. Sporadic. Host plant unknown.

Empria sexpunctata (Serville, 1823): Penc: Observatory, 22. 04. 2021, 1 female. Frequent. Larva on *Geum* spp.

Empria liturata (Gmelin, 1790): Garáb: Garábi-patak, 01. 05. 2021, 1 female, 01. 05. 2021, 1 male; Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Penc: Observatory, 09. 05. 2021, 1 female; Alsópetény: Bánki-völgy, 30. 04. 2021, 1 male; Bánk: Száva-hegy, 09. 05. 2021, 1 male. Frequent. Host plants: *Fragaria* and *Geum* spp.

Empria tridens (Konow, 1896): Penc: Observatory, 22. 04. 2021, 1 female; Kutasó: Középső-hegy, 25. 04. 2021, 1 female; Garáb: Garábi-patak, 28. 04. 2021, 1 female; Alsópetény: Bánki-völgy, 30. 04. 2021, 1 female; Penc: Zsobrák, 22. 05. 2021, 1 female, 30. 05. 2021, 1 female. Frequent. Host plants: *Geum* spp. and *Rubus idaeus*.

Eriocampa ovata ssp. *ovata* (Linné, 1760): Nagylóc: Alsó-Zsúny, 14. 08. 2021, 1 female. Frequent. Larva on *Alnus*.

Monostegia abdominalis (Fabricius, 1798): Penc: Zsobrák, 09. 05. 2021, 1 female, 10. 05. 2021, 1 female, 15. 05. 2021, 2 females, 22. 05. 2021, 3 females, 07. 08. 2021, 1 female, 20. 08. 2021, 1 female. Frequent. Recorded on *Glaux maritima*, *Lysimachia numularia* and *L. vulgaris*.

Taxonus agrorum (Fallén, 1808): Penc: Zsobrák, 15. 05. 2021, 1 female; 10. 05. 2021; Csővár: Sinkár-tó, 22. 05. 2021, 1 female. Frequent. Host plants: *Rubus idaeus* and *R. caesius*.

Heterarthrinae

Endelomyia aethiops (Gmelin, 1790): Penc: Observatory, 09. 05. 2021, 1 female. Sporadic-Larva on *Rosa* spp.

Hinatara nigripes (Konow, 1907): Penc: Observatory, 22. 04. 2021, 1 male, 23. 04. 2021, 5 females, 1 male. Sporadic. Host plant: *Acer campestre*.

Heterarthrus microcephalus (Klug, 1818): Nagylóc: Alsó-Zsúny, 03. 06. 2021, 1 female. Host plants: *Salix caprea* and *Salix starkeana*. Sporadic.

Heterarthrus vagans (Fallén, 1808): Nagylóc: Alsó-Zsúny, 03. 06. 2021, 1 female. Sporadic, larva on *Alnus* spp.

Metallus pumilus (Klug, 1816): Penc: Zsobrák, 30. 05. 2021, 1 female. Frequent. Larva on *Rubus* spp.

Blennocampinae

Cladardis elongatula (Klug, 1817): Rád: Lágycsárd-erdő. 22. 05. 2021, 1 female. Sporadic. Larva bores in shoots of *Rosa* spp.

Claremontia alternipes (Klug, 1816): Cserhátszentiván: Zsunyi-patak, 21. 04. 2021, 1 female. Sporadic. Host plant: *Rubus idaeus*.

Claremontia brevicornis (Brischke, 1883): Penc: Újhrabina, 01. 04. 2021, 1 female; Ecseg: Kozárdi-tó, 10. 04. 2021, 1 female, 10. 04. 2021, 1 female; Nagylóc: Alsó-Zsúny, 21. 04. 2021, 1 female; Penc: Zsobrák, 23. 04. 2021, 1 female; Kétybodony: Rákóczi-emlékmű, 26. 04. 2021, 1 female. Frequent. Host plants: *Fragaria* spp., *Sanguisorba* spp. and *Potentilla reptans*.

Eutomostethus ephippium (Panzer, 1798): Kutasó: Középső-hegy, 28. 04. 2021, 1 female; Penc: Zsobrák, 27. 05. 2021, 1 female, 30. 05. 2021, 1 female, 09. 05. 2021, 1 male, 22. 05. 2021, 1 male. Common, larva on *Poaceae*.

Halidamia affinis (Fallén, 1807): Penc: Zsobrák, 22. 05. 2021, 1 female. Frequent. Host plants: *Galium aparine* and *G. molugo*.

Monardis plana (Klug, 1817): Ecseg: Kozárdi-tó, 21. 04. 2021, 1 female, 01. 05. 2021, 1 female; Kutasó: Középső-hegy, 24. 04. 2021, 1 male; Garáb: Garábi-patak, 28. 04. 2021, 1 male. Rare. Host plants: *roses* (*Rosa* spp.) including cultivars; eggs are laid in buds; initially, larvae are feeding inside the buds than they pass through buds and feeding on freshly developed leaves and shoots.

Monophadnoides rubi (Harris, 1845): Bánk: Száva-hegy, 30. 04. 2021, 1 female. Generally frequent. Host plants: *Filipendula ulmaria*, *Geum* spp. and *Rubus* spp.

Monophadnoides ruficruris (Brullé, 1832): Penc: Zsobrák, 09. 05. 2021, 1 female; Csővár: Sinkár-tó, 10. 05. 2021, 1 male. Frequent. Host plant: *Rubus fruticosus*.

Monophadnus pallescens (Gmelin, 1790): Penc: Zsobrák, 30. 04. 2021, 1 female. Common. Host plants: *Ranunculus acris*, *R. repens*, *R. lanuginosus* and *Anemone nemorosa*.

Monophadnus monticola (Hartig, 1837): Penc: Zsobrák, 30. 04. 2021, 2 females; Garáb: Garábi-patak, 24. 05. 2021, 1 female. Sporadic. Larva on *Helleborus* spp.

Monophadnus spinolae (Klug, 1816): Penc: Zsobrák, 30. 05. 2021, 1 female. Sporadic. Host plants: *Clematis vitalba* and *C. flammula*.

Pareophora pruni (Linné, 1758): Ecseg: Kozárdi-tó, 28. 04. 2021, 1 female, 01. 05. 2021, 1 female; Bánk: Száva-hegy, 30. 04. 2021, 1 female. Frequent. Larva on *Prunus spinosa*.

Periclista (Periclista) albiventris (Klug, 1816): Penc: Observatory, 10. 05. 2021, 1 female. Sporadic. Host plant unknown.

Stethomostus fuliginosus (Schrank, 1781): Nagylóc: Alsó-Zsúny, 08. 05. 2021, 1 female; Penc: Zsobrák, 09. 05. 2021, 1 female; Garáb: Garábi-patak, 24. 05. 2021, 1 male. Frequent. Larva on *Ranunculus acris*, *R. repens* and *R. sceleratus*.

Tenthredininae

Aglaostigma (Astochus) aucupariae (Klug, 1817): Cserhátszentiván: Zsunyi-patak, 21. 04. 2021, 1 male; Bánk: Száva-hegy, 26. 04. 2021, 1 male. Common. Larva on *Galium mollugo* and *G. boreale*.

Aglaostigma (Astochus) fulvipes (Scopoli, 1763): Bánk: Száva-hegy, 26. 04. 2021, 2 males; Nagylóc: Alsó-Zsúny, 08. 05. 2021, 1 male; Penc: Zsobrák, 22. 05. 2021, 1 female. Common. Larva on *Galium mollugo* and *G. verum*.

Macrophya (Macrophya) albicincta (Schrank, 1776): Penc: Observatory, 09. 05. 2021, 1 female, 1 male, 10. 05. 2021, 1 female; Alsópetény: Bánki-völgy, 09. 05. 2021, 1 female, 1 male; Penc: Zsobrák, 10. 05. 2021, 1 female, 15. 05. 2021, 1 female, 1 male, 22. 05. 2021, 1 female, 1 male; Csóvár: Sinkár-tó, 19. 06. 2021, 1 female. Common. Host plants: *Sambucus ebulus*, *S. nigra*, *S. racemosa*, *Valeriana officinalis* and *Viburnum opalus*.

Macrophya (Macrophya) annulata (Geoffroy, 1785): Csóvár: Sinkár-tó, 15. 05. 2021, 1 male, 05. 06. 2021, 1 male; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 male, 03. 06. 2021, 1 male. Frequent. Larva on *Potentilla reptans*, *Origanum vulgare*, *Euphorbia*, *Rosa*, *Rubus* and *Sambucus* spp.

Macrophya (Macrophya) duodecimpunctata (Linné, 1758): Penc: Zsobrák, 15. 05. 2021, 1 male. Frequent. Host plants: *Graminae*, *Cyperaceae* and *Carex* spp.

Macrophya (Macrophya) montana ssp. montana (Scopoli, 1763): Penc: Kis-völgy, 27. 05. 2021, 1 female; Penc: Zsobrák, 30. 05. 2021, 1 female, 05. 06. 2021, 2 females, 4 males; Kutasó: Középső-hegy, 03. 06. 2021, 1 female, 1 male. Common. Host plant: *Rubus caesius*.

Macrophya (Pseudomacrophya) punctumalbum (Linné, 1767): Penc: Observatory, 27. 05. 2021, 1 female; Cserhátszentiván: Zsunyi-patak, 03. 06. 2021, 1 female. Sporadic. Host plants: *Fraxinus* spp. and *Ligustrum* spp.

Macrophya (Macrophya) rufipes (Linné, 1758): Kutasó: Középső-hegy, 08. 05. 2021, 1 female; Bánk: Száva-hegy, 29. 05. 2021, 1 male, 30. 05. 2021, 1 male. Frequent. Larva on *Agrimonia eupatoria*.

Sciapteryx consobrina (Klug, 1816): Alsótold: Nagy-Mező-hegy, 27. 03. 2021, 1 female; Kiséset: Kiliántelep, 26. 04. 2021, 1 male. Frequent. Larval hosts: *Adoxa* spp., *Anemone* spp., *Ranunculus acris* and *Ranunculus ficaria*.

Pachyprotasis rapae (Linné, 1767): Nagylóc: Alsó-Zsúny, 03. 06. 2021, 1 female. Frequent. Host plants: *Solanum tuberosum*, *Pedicularis palustris*, *Angelica sylvestris*, *Veronica beccabunga*, *Betonica officinalis*, *Corylus avellana*, *Salix caprea*, *Fraxinus excelsior*, *Tussilago farfara*, *Symphoricarpos albus*, *Scrophularia*, *Solidago*, *Verbascum*,

Origanum, *Atropa*, *Sarothamnus*, *Senecio*, *Polygonum*, *Aspidium*, *Epilobium*, *Hypericum*, *Galeopsis*, *Mentha*, *Polystichum*, *Plantago*, *Quercus* and *Stachys* spp.

Rhogogaster (Rhogogaster) chlorosoma (Benson, 1943): Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 female; Csövár: Sinkár-tó, 30. 05. 2021, 1 female; Penc: Zsobrák, 30. 05. 2021, 1 female. Frequent. Host plants: *Pteridium aquilinum*, *Alnus glutinosa*, *Circaea* spp., *Prunus* spp., *Ranunculus* spp., *Rosa* spp., *Salix alba*, *S. purpurea*, *Stellaria* spp., *Filipendula ulmaria*, *Populus tremula*, *Padus* spp., *Betula* spp., *Corylus avellana* and *Sorbus* spp.

Tenthredopsis friesei (Konow, 1884): Kutasó: Középső-hegy, 03. 06. 2021, 1 female, 1 male. Frequent. Host plants: *Holcus mollis* and other *Poaceae*.

Tenthredopsis litterata (Geoffroy, 1785): Kutasó: Középső-hegy, 24. 05. 2021, 1 male. Frequent. Larva on *Agrostis*, *Dactylis* and *Calamagrostis* spp.

Tenthredopsis sordida (Klug, 1817): Kutasó: Középső-hegy, 08. 05. 2021, 1 male; Nagylóc: Alsó-Zsúny, 24. 05. 2021, 2 females; Penc: Zsobrák, 30. 05. 2021, 1 female. Frequent. Larva on *Arrhenatherum elatius*, *Lolium perene*, *Carex* spp., *Calamagrostis* spp. and *Dactylis glomerata*.

Tenthredopsis stigma (Fabricius, 1798): Kutasó: Középső-hegy, 08. 05. 2021, 1 male; Bánk: Száva-hegy, 09. 05. 2021, 3 males, 29. 05. 2021, 2 females; Rád: Lágyas-erdő. 29. 05. 2021, 1 female. Frequent. Known host plant: *Triticum intermedium*.

Tenthredopsis tarsata (Fabricius, 1804): Penc: Zsobrák, 10. 05. 2021, 1 male. Frequent. Host plants: *Poaceae* particularly *Brachypodium silvaticum*.

Tenthredopsis tessellata (Klug, 1817): Bánk: Száva-hegy, 30. 04. 2021, 1 male, 29. 05. 2021, 1 female. Sporadic. Larva on *Deschampsia*, *Dactylis*, *Aira* and *Lolium* spp.

Tenthredo (Endotethryx) campestris Linné, 1758: Cserhátszentiván: Zsunyi-patak, 03. 06. 2021, 1 female. Frequent. Host plant: *Aegopodium podagraria*.

Tenthredo (Maculedo) maculata Geoffroy, 1785: Kutasó: Középső-hegy, 24. 04. 2021, 1 female. Sporadic. Host plants: *Brachypodium* spp. and *Dactylis* spp.

Tenthredo (Zonuledo) distinguenda (Stein, 1885): Bánk: Száva-hegy, 29. 05. 2021, 1 female; Nagylóc: Alsó-Zsúny, 12. 06. 2021, 1 male. Frequent. Host plant unknown.

Tenthredo (Zonuledo) zonula Klug, 1817: Bánk: Száva-hegy, 30. 05. 2021, 1 male. Common. Host plant: *Hypericum perforatum*.

Tenthredo (Temuledo) temula Scopoli, 1763: Penc: Observatory, 09. 05. 2021, 1 female. Frequent, locally common. Larva on *Ligustrum* and *Origanum* spp.

Nematinae

Cladius (Priophorus) brullei (Dahlbom, 1835): Penc: Zsobrák, 22. 05. 2021, 1 female. Frequent. Larva on *Rubus* spp.

Cladius (Cladius) pectinicornis (Geoffroy, 1785): Kutasó: Középső-hegy, 28. 04. 2021, 1 female; Garáb: Garábi-patak, 01. 05. 2021, 1 male. Common. Host plant: *Rubus* spp.

Euura atra (Jurine, 1807): Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 male. Frequent. Hostplants: *Salix alba*, *S. fragilis* sometimes *S. viminalis*. Females lay eggs in the meristematic tissues of leaves.

Hoplocampa crataegi (Klug, 1816): Nagylóc: Alsó-Zsúny, 29. 05. 2021, 1 female, 1 male. Frequent. Larva on *Crataegus* spp.

Hoplocampa pectoralis Thomson, 1871: Nagylóc: Alsó-Zsúny, 03. 06. 2021, 1 female. Rare. Larva in immature furits of *Crataegus* spp.

Nematinus bilineatus (Klug, 1819): Nagylóc: Alsó-Zsúny, 29. 05. 2021, 1 female, 03. 06. 2021, 1 female, 1 male. Sporadic. Larva on *Alnus* spp.

Pachynematus clitellatus (Serville, 1823): Nagylóc: Alsó-Zsúny, 21. 04. 2021, 1 male; Kutasó: Középső-hegy, 25. 04. 2021, 1 female. Frequent. Larval hosts: Gramineae, *Carex* and *Juncus* spp.

Pachynematus fallax (Serville, 1823) known as *Pachynematus xanthocarpus* (Hartig, 1840): Penc: Zsobrák, 22. 04. 2021, 1 male. Frequent. Larva on Gramineae.

Pachynematus moerens (Förster, 1854): Kutasó: Középső-hegy, 05. 04. 2021, 1 male; Garáb: Garábi-patak, 28. 04. 2021, 1 male. Rare. Larva on *Calamagrostis arundinacea* and *Festuca* spp.

Pachynematus vagus (Fabricius, 1781): Csővár: Sinkár-tó, 15. 05. 2021, 1 female. Larva on *Carex* spp. Frequent.

Pteronidea bergmanni (Dahlbom, 1835): Csővár: Sinkár-tó, 27. 05. 2021, 1 female, 2 males, 05. 06. 2021, 1 female; Nagylóc: Alsó-Zsúny, 03. 06. 2021, 1 female, 1 male. Frequent. Host plant: *Salix* spp.

Pteronidea oligospila (Förster, 1854): Csővár: Sinkár-tó, 10. 05. 2021, 6 females, 3 males, 15. 05. 2021, 3 females, 5 males, 22. 05. 2021, 11 females, 4 males, 27. 05. 2021, 3 females. Frequent. Hostplants: *Salix* spp. It is also reported from *Populus* spp.

Pteronidea myosotidis (Fabricius, 1804): Kisecset: Kiliántelep, 26. 04. 2021, 1 female; Garáb: Garábi-patak, 28. 04. 2021, 2 males; 01. 05. 2021 1 female, 08. 05. 2021, 1 female, 1 male, 24. 05. 2021, 1 female, 1 male; Alsópetény: Cser-tó, 30. 04. 2021, 1 male; Penc: Zsobrák, 30. 04. 2021, 2 males, 15. 05. 2021, 1 male, 27. 05. 2021, 1 male; Bokor: Belterület, 01. 05. 2021, 1 male; Nagylóc: Alsó-Zsúny, 08. 05. 2021, 1 male; Kutasó: Középső-hegy, 03. 06. 2021, 1 female. Common. Larval hosts: *Onobrychis* and *Trifolium* spp.

Pteronidea tibialis (Newman, 1837): Penc: Observatory, 10. 05. 2021, 1 female. Frequent. Larva on *Robinia pseudacacia* and also on *Robinia viscosa*, *R. hispida* and *Gleditsia triacanthos*.

Pontania proxima (Serville, 1823): Nagylóc: Alsó-Zsúny, 29. 05. 2021, 1 gall, Csővár: Sinkár-tó, 07. 08. 2021, 9 galls. Frequent, larva on *Salix fragilis* and *S. alba*.

Nematus lucidus (Panzer, 1801): Kutasó: Középső-hegy, 05. 04. 2021, 1 female. Frequent. Larva on *Crataegus* and *Prunus spinosa*.

Platycampus luridiventris (Fallén, 1808): Nagylóc: Alsó-Zsúny, 24. 05. 2021, 1 male, 29. 05. 2021, 1 female. Larva on *Alnus glutinosa* and *A. incana*. Sporadic.

Pristiphora abbreviata (Hartig, 1837): Kutasó: Középső-hegy, 24. 04. 2021, 1 male. Rare. Larva on *Pyrus communis*.

Pristiphora armata (Thomson, 1863): Alsópetény: Bánki-völgy, 30. 04. 2021, 1 male. Frequent. Larva on *Crataegus* spp.

Pristiphora insularis Rohwer, 1910: Kozárd: Bézma, 24. 04. 2021, 1 male; Bánk: Száva-hegy, 30. 04. 2021, 1 male. Sporadic. Larva on *Amelanchier asiatica*, *Chaenomeles japonica*, *Rosa* spp., *Rosa majalis*, *Rosa pimpinellifolia* and *Rosa onoei*.

Pristiphora monogyniae (Hartig, 1840): Penc: Observatory, 23. 04. 2021, 1 female; Kutasó: Középső-hegy, 28. 04. 2021, 1 female. Frequent. Larva on *Prunus spinosa*, occasionally on *P. domestica*.

Pseudodineura fuscula (Klug, 1816): Garáb: Garábi-patak, 25. 04. 2021, 1 female. Sporadic. Larva in mines of leaves of *Ranunculus* spp.

Rare and interesting species

Sterictiphora furcata (Villers, 1789): We wrote in ROLLER & HARIS, 2008: "*The presence of this species in the Carpathian Basin needs confirmation following the recent revision of Koch. Till this time, all checked specimens proved to be S. angelicae*". In this book, we were not able to cancel this species from the fauna of the Carpathian Basin, since many old specimen mainly from the 19th century were not available. However, this is the first documented specimen from the Carpathian Basin following the subrecent revision of KOCH (1988).

Sterictiphora furcata (Villers, 1789): is widely distributed rare species in Central, South and Western Europe, out of Europe, it was captured in Jordan (Fig. 6).

Empria hungarica (Konow, 1895): From Hungary, it is recorded from Simontornya, Budapest: Hármashatárhegy, Budakeszi. Ócsa, Jósvalő, Lébény. Köveskál, Ádánd and Magyaralmás. It is known from Central, South and Western Europe and Kazakhstan.

Aprosthemata austriacum (Konow, 1892): From the Carpathian Basin, we have records from Burgenland (Austria), Budapest, Mecsek hills, Simontornya, Szilvásvárad and Hetes (Hungary), Lepsa (from Transylvania) and Zakarpatskaya obl. (from Subcarpathia). It is recently captured in Slovakia either in Čamovce (Csomatelke). It is known from Austria, Croatia, Finland, Germany, Greece, Hungary, Italy, Romania, Spain, Sweden and Ukraine. We have record from Kazakhstan either.

Arge pleuritica (Klug, 1834): From the 19th century till 1918, we have historical records from Budapest, Isaszeg, Visegrád, Simontornya, later it was collected in Budaörs, Sashegy, Mecsek: Tettye, Budafok, Érd, Sukoró, Mecsek: Zobák, and Csepel (part of Budapest). It is known from Armenia, Bulgaria, Croatia, Greece, Hungary, Macedonia, Romania, Russia, Slovakia, Turkey and Ukraine also from Caucasus, Asia Minor and Uzbekistan (Fig. 5).

Monardis plana (Klug, 1817): It is widely distributed rare European species. From Hungary, most of the records are from the 19th century: Forró, Budapest and Kőszeg. From the 20th century, we have records only from Nagykovácsi, Pomáz, Kerecsend and Kalocsa.

Hoplocampa pectoralis C. G. Thomson, 1871: It is also a widely distributed rare European species. From the Carpathian Basin, we have only few records: Devín-NPR Devínska Kobyla (Pozsony: Dévény), Lúka (Vágluka), Červený Kameň: Vršatské bradlá (Vöröskő-Oroszlánkő) and Petrovce (Gömörpéterfala) from Slovakia, Budapest: Csiki hegyek, Nagykovácsi, Simontornya and the Bátorligeti láp from Hungary.

Pachynematus moerens (Förster, 1854): Widely distributed rare European species. Out of Europe, it is collected in Canada and USA. From the Carpathian Basin, it is known from Donau-Auen (Austria), Korytnica (Slovakia), Újszentmargita and Órszentmiklós (Hungary), Hohe Rinne (Szebenjuharos), Prahova and Szeben (Sibiu) (Transylvania).

Pristiphora abbreviata (Hartig, 1837): Holarctic species. Rare in the Carpathian Basin. We have records from Újszentmargita, Nagykovácsi, Kaszó (Hungary) and Brebenyeszkul (Subcarpathia).

Characteristic species and endangering factors on the main sampling sites

Kutasó: Középső-hegy

This hill was covered once by vineyards in the middle of the 19th century. The vineyards were abandoned during the phylloxera disaster and valuable mesophilous grassland took place surrounded by oak forest. The main endangering factors for the pasture are the invasive black locust (*Robinia pseudoacacia* L.). It's typical sawfly is *Arge nigripes* (Retzius, 1783). *Monardis plana* (Klug, 1817), *Tenthredo maculata* Geoffroy, 1785,

Pristiphora abbreviata (Hartig, 1837) and *Pachynematus moerens* (Förster, 1854) were also captured here.

Garáb meadows

Mesophilous grassland in the valley of Garáb Brook (Garábi-patak). *Monardis plana* (Klug, 1817), *Pachynematus moerens* (Förster, 1854) and *Pseudodineura fuscata* (Klug, 1816) are the most interesting sawfly species captured here. At the end of the neighboring village, Felsőtold, pokeweed (*Phytolacca* sp.) vegetation spot was detected, fortunately, in middle of August, this invasive weed was removed. On the meadow common milkweed (*Asclepias syriaca* L.) grows in sporadic spots and daisy fleabane (*Stenactis annua* L.) is also frequent. Around the meadows and on the side of road, black locust is the most frequent invasive plant endangering the local habitats.

Bánk: Száva-Hegy (Száva Hill)

It holds a special habitat: the slope is covered by dry loess meadow and in the bottom of the valley mesophilous grassland takes place with 3 old willow trees. *Aprosthemum austriacum* (Konow, 1892), *Arge ciliaris* (Linné, 1767), *Arge pleuritica* (Klug, 1834), *Cephus runcator* Konow, 1896, *Empria hungarica* (Konow, 1895), *Tenthredopsis tessellata* (Klug, 1817) and *Pristiphora insularis* Rohwer, 1910 captured only here. The condition of the habitat is fine, however, on the roadside is covered by black locust (*Robinia pseudoacacia* L.) and regular control of the Robinia is necessary to maintain the habitat.

Penc: Zsobrák

No rare species was captured here but holds high diversity sawfly fauna: 35 species were captured in this small area. The area is covered by partly mesophilous grassland partly marshy meadow bordered by the Penc branch of the Gombás Brook (Gombás-patak: Penc ág) with poplar gallery mixed with willows. The good condition of the meadow is maintained by regular cutting of grass which prevents the invasive reproduction of goldenrod (*Solidago* spp.), common milkweed (*Asclepias syriaca* L.) which were found in sporadic spots. In summertime, the daisy fleabane (*Stenactis annua* L.) is frequent. Also the black locust (*Robinia pseudoacacia* L.) is aggressively growing on the wet, partly on the mesophilous part of the meadow. Regular cut is very necessary to maintain the habitat.

Csővár: Sinkár-tó, Sinkár fishing pond

Sinkár-tó (Sinkár lake) is an artificial fishing pond widely surrounded by smooth leaved willow forest and next to the willow mesophilous meadow takes place. The sawfly fauna is moderately rich. The typical sawfly is *Pteronidea oligospila* (Förster, 1854). In summer time, the invasive daisy fleabane (*Stenactis annua* L.) is frequent and in smaller spots common milkweed (*Asclepias syriaca* L.) takes place. Invasive plants are successfully controlled by regular cutting of grasses, 2 times per year.

Penc: Observatory

The typical association is the xerotherm oak forests. The habitat is in good condition, although black locust (*Robinia pseudoacacia* L.) was detected in small spots. Along the road, golden rod (*Solidago* spp.), daisy fleabane (*Stenactis annua* L.) frequently occur, common ragweed (*Ambrosia artemisiifolia* L.) is also frequent on the roadsides. Sporadically, Canadian horseweed (*Erigeron canadensis* L.) may also occur. The first voucher specimen of *Sterictiphora furcata* (Villers, 1789) was captured here. Other

interesting sawfly species of the area are *Empria parvula* (Konow, 1892), *Hinatara nigripes* (Konow, 1907) and *Periclista albiventris* (Klug, 1816).

Nagylóc: Alsó-Zsúny

Officially, this area belongs to Nagylóc but it is situated next to Hollókő village. The Zsunyi brook (Zsunyi-patak) flows through this habitat. Alder and willow associations take place along the brook. Due to the regular cut of grasses, the habitat is in good condition. Only the invasive daisy fleabane (*Stenactis annua* L.) is frequent, but relatively well controlled. The following rare and sporadic species captured in this area: *Empria pumila* (Konow, 1896), *Heterarthrus microcephalus* (Klug, 1818), *Heterarthrus vagans* (Fallén, 1808), *Hoplocampa pectoralis* Thomson, 1871 and *Nematinus bilineatus* (Klug, 1819).

Ecseg: Kozárdi-tó (Kozárd lake)

There is mesophilous grassland around the fishing pond. On the lower and steep lake-shore, daisy fleabane (*Stenactis annua* L.) is frequent, since here the grass cutting is difficult. *Monardis plana* (Klug, 1817) is the only rare species captured here.

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References

- ACHTERBERG, C. 2013: Hymenoptera in Fauna Europaea version 2.6.2. - <http://www.faunaeur.org>. last accessed 5th August 2019. Last checked: 24. 08. 2021
- BALÁZS, A. & HARIS, A. 2019a: Sawflies (Hymenoptera: Symphyta) of Cerová vrchovina Upland (South Slovakia). - *Natura Somogyiensis* 33: 61-74. DOI:10.24394/NatSom.2019.33.61
- BALÁZS, A. & HARIS, A. 2019b: Three species of sawflies (Symphyta: Pamphiliidae, Argidae, Tenthredinidae) new for the fauna of Slovakia. - In *MendelNet 2019: Proceedings of 26th International PhD Students Conference*. - 1.vyd. Brno: Mendel University in Brno, 2019, s. 243-247. ISBN 978-80-7509-688-3
- GYURKOVICS, H. & HARIS, A. 2012: Sawflies (Hymenoptera: Symphyta) from Szeged and its surroundings (SE Hungary). - *Natura Somogyiensis* 22: 163-182. DOI:10.24394/NatSom.2012.22.163
- HARIS, A. 2001a: Revisional list of the Hungarian Nematinae with the description of three new species (Hymenoptera: Tenthredinidae). - *Folia Entomologica Hungarica* 62: 95-114.
- HARIS, A. 2001b: Somogy megye levéldarázs-alkatúinak katalógusa (Hymenoptera, Symphyta). - *Natura Somogyiensis* 1: 261-268. DOI:10.24394/NatSom.2001.1.261
- HARIS, A. 2006: Study on the Palaearctic *Pristiphora* species (Hymenoptera: Tenthredinidae). - *Natura Somogyiensis* 9: 201-277. DOI:10.24394/NatSom.2006.9.201
- HARIS, A. 2009: Sawflies of the Zselic Hills, SW Hungary (Hymenoptera: Symphyta). - *Natura Somogyiensis* 15: 127-158. DOI:10.24394/NatSom.2009.15.127
- HARIS, A. 2010: Sawflies of the Vértes Mountains (Hymenoptera: Symphyta). - *Natura Somogyiensis* 17: 221-250. DOI:10.24394/NatSom.2010.17.221
- HARIS, A. 2011: Sawflies of the Börzsöny Mountains (North Hungary) (Hymenoptera: Symphyta). - *Natura Somogyiensis* 19: 149-176. DOI:10.24394/NatSom.2011.19.149
- HARIS, A. 2012: Sawflies of Belső-Somogy (Hymenoptera: Symphyta). - *Natura Somogyiensis* 22: 141-162. DOI:10.24394/NatSom.2012.22.141
- HARIS, A. 2018a: Second contribution to the sawflies of Belső Somogy (Hymenoptera: Symphyta). - *Natura Somogyiensis* 31: 45-62. DOI:10.24394/NatSom.2018.31.45
- HARIS, A. 2018b: Sawflies from Külső-Somogy, South-West Hungary (Hymenoptera: Symphyta). - *Natura Somogyiensis* 32: 147-164. DOI:10.24394/NatSom.2018.32.147
- KOCH, F. 1988: Die Gattung *Sterictiphora* Billberg (Insecta, Hymenoptera, Symphyta: Argidae). - *Entomologische Abhandlungen. Staatliches Museum für Tierkunde in Dresden, Leipzig* 52(2): 29-61.
- LACOURT, J. 2020: Sawflies of Europe: Hymenoptera of Europe 2. N. A. P. Editions. Verrières-le-Buisson 876 pp.
- MACEK, J., ROLLER, L., BENEŠ, K., HOLÝ, K. & HOLUŠA, J. 2020: Blanokřídlí České a Slovenské republiky II. Širopasí. - *Academia Praha*. 669 pp.
- MOCSÁRY, S. 1900: Ordo Hymenoptera. p. 7-113. - In: PASZLAVSKY, J. (ed.): *Fauna Regni Hungariae, Regia Societas Scientiarum Naturalium Hungarica, Budapest*.
- PROUS, M., LISTON, A. & MUTANEN, M. 2021: Revision of the West Palaearctic *Euura bergmanni* and oligopila groups (Hymenoptera, Tenthredinidae). - *Journal of Hymenoptera Research* 84: 187-269. doi: 10.3897/jhr.84.68637
- ROLLER, L. 1993: New records of sawflies (Hymenoptera: Symphyta) from Slovakia. - *Entomological Problems* 24(2): 81-84.
- ROLLER, L. 1994: Faunistic records. Symphyta. - *Entomological Problems* 25(2): 24.
- ROLLER, L. 1996: New records of sawflies (Hymenoptera, Tenthredinidae) in Slovakia. - *Biologia, Bratislava* 51(1): 549-550.
- ROLLER, L. 1998: Sawfly (Hymenoptera, Symphyta) community in the Devínska Kobyla National Nature Reserve. - *Biologia, Bratislava* 53(2): 213-221.
- ROLLER, L. 1999a: Spoločensvá hrubopásých (Hymenoptera: Symphyta) vybraných zoogeografických regiónov Slovenska. PhD thesis. - Ústav zoológie, Slovenská akadémia vied, Bratislava, 180 pp.
- ROLLER, L. 1999b: First records of Nematinae (Hymenoptera, Symphyta, Tenthredinidae) in Slovakia. - *Biologia, Bratislava* 54(5): 599-600.
- ROLLER, L. 1999c: Faunistic records from Slovakia. Hymenoptera: Symphyta: Tenthredinidae: Nematinae. - *Entomological Problems* 30(1): 30.
- ROLLER, L. 1999d: Faunistic records from Slovakia. Hymenoptera: Symphyta: Tenthredinidae: Nematinae. - *Entomological Problems* 30(1): 52.
- ROLLER, L. 1999e: Check list of the sawflies (Hymenoptera: Symphyta) of Slovakia. - *Entomological Problems* 30(2): 37-48.
- ROLLER, L. 2000a: Zubačkovité (Megalodontesidae) - hrubopáse xerotermov. - *Hmyz* 1(1): 17-18.

- ROLLER, L. 2000b First records of Blasticotomidae, Tenthredinidae, Pamphiliidae (Hymenoptera) from Slovakia. - *Biologia, Bratislava* 55(5): 561-562.
- ROLLER, L. 2000c Súčasný stav poznania fauny hrubopásych (Hymenoptera, Symphyta) na Slovensku. - *Správy Slovenskej zoolologickej spoločnosti* 18: 109-114.
- ROLLER, L. 2001: Príspevok k poznaniu hrubopásych (Hymenoptera, Symphyta) a rohačkovitých (Diptera, Sciomyzidae) prírodnej pamiatky Mitická slatina. p. 32-36. - In: MÁJSKY, J. (ed.), Zborník výsledkov inventarizačného výskumu prírodnej pamiatky Mitická slatina. Občianske združenie Pre Prírodu, Trenčín, 99 pp.
- ROLLER, L. 2004. Hrubopáse blanokridlovce (Hymenoptera, Symphyta) Tematínskych kopcov. - *Entomofauna Carpathica* 16: 56-64.
- ROLLER, L. 2005: Blanokridlovce (Hymenoptera): hrubopáse (Symphyta) pp. 117-123. - In: Fauna Devínskej Kobyly. APOP, Bratislava, 181 pp.
- ROLLER, L. 2006a: Seasonal flight activity of sawflies (Hymenoptera, Symphyta) in submontane region of the West Carpathians, Central Slovakia. - *Biologia, Bratislava* 61(2): 193-205.
- ROLLER, L. 2006b: Hrubopáse blanokridlovce (Hymenoptera, Symphyta) Tematínskych vrchov – zhrnutie faunistického výskumu. p. 53-55. In: K. RAJCOVÁ (ed.): Najvzácnejšie prírodné hodnoty Tematínskych vrchov. - Zborník výsledkov inventarizačného výskumu územia európskeho významu Tematínske vrchy. KOZA, Trenčín a Pre Prírodu, Trenčín, 101 pp.
- ROLLER, L. 2010. Hrubopáse blanokridlovce (Hymenoptera: Symphyta) PR Šúr, pp. 215-235. - In: MAJZLAN, O. & VIDLIČKA, L. (eds). *Príroda rezervácie Šúr. Ústav zoológie SAV, Bratislava*, 410 pp.
- ROLLER, L. & HARIŠ, A. 2008: Sawflies of the Carpathian Basin, History and Current Research. - *Natura Somogyiensis* 11: 1-261.
- ROLLER, L. & LUKÁŠ, J. 1999: New records of sawflies (Hymenoptera, Symphyta) in Slovakia. - *Biologia, Bratislava* 54(2): 225-228.
- ROLLER L., BENEŠ K., BLANK S. M., HOLUŠA J., JANSEN E., JÄNICKE M., KALUZA S., KEHL A., KEHR I., KRAUS M., LISTON A. D., NYMAN T., NIE H., SAVINA H., TAEGER A. & WEI M., 2006: -Contribution to the knowledge of sawfly fauna (Hymenoptera, Symphyta) of the Low Tatras National Park in Central Slovakia. - *Naturae Tutela* 10: 57-72.
- ROLLER, L. & MACEK, J. 2017: Provnález Hrubopásych Blanokridlovcov (Hymenoptera, Symphyta) na Slovensku - *Entomofauna carpathica*, 29(1): 53-63.
- ROLLER, L. & OLŠOVSKÝ, T. 2012: Prvónálezy hrubopásych blanokridlovcov (Hymenoptera, Symphyta) v slatiných lesoch s tavorníkom vírbolistým (*Spiraea salicifolia*) v Borskej nížine. - *Entomofauna Carpathica* 24(1): 15-20.
- SUNDUKOV, Y. N. 2017: Suborder Symphyta – Sawflies and wood wasps. In: LELEJ A.S. (ed.). *Annotated catalogue of the Hymenoptera of Russia. Volume I. Symphyta and Aculeata*. - *Proceedings of the Zoological Institute RAS. Supplement* 6: 20-117.
- TAEGER, A., BLANK, S. M. & LISTON, A. 2006: European Sawflies (Hymenoptera: Symphyta) - A Species Checklist for the Countries. 399-504. - In: BLANK, S. M., SCHMIFT, S. & TAEGER, A. (eds) *Recent Sawfly Research: Synthesis and Prospects*, Goecke & Evers, Kelter. 701 pp.
- ZHELOCHOVTSSEV, A. N. 1988: Otryad Hymenoptera – Pereonchatokrylye, Podotryad Symphyta. - *Sidyachebryukhie*, 7-234. - In: MEDVEDEV, K.H. (ed.) *Opredelitel nasekomykh evropeiskoi chasti SSSR*, Vol. 3 Hymenoptera, Part 6, Nauka, Leningrad. <https://doi.org/10.5962/bhl.title.46334>