

Supplementary data on the Auchenorrhyncha fauna of Szársomlyó Hill, Hungary (Hemiptera: Auchenorrhyncha)

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SCHLITT, B. P., KISS, B., KOCZOR, S. & OROSZ, A. 2025: *Supplementary data on the Auchenorrhyncha fauna of Szársomlyó Hill, Hungary (Hemiptera: Auchenorrhyncha)*. – *Natura Somogyiensis* 46: 117-126.

Abstract: An occasional collecting trip was carried out in Nagyharsány, Szársomlyó Nature Reserve Area (Szársomlyó Hill) at the end of October 2024. Several valuable faunistic records were made. Until this paper, faunistic information on the Auchenorrhyncha fauna of Szársomlyó has not been published. Altogether 55 species from 36 genera and five families were documented. Among them, *Arborella* (*Arborella*) *simillima* (Wagner, 1939) (Cicadomorpha: Membracidae: Cicadellidae: Typhlocybinae) is a new record for the Hungarian fauna.

Keywords: faunistics, distribution, Cicadomorpha, Fulgoromorpha, Villányi Hills, new records

Introduction

The first comprehensive faunistic investigation of the Hungarian Auchenorrhyncha fauna was conducted by HORVÁTH (1895) and published in the book series “*Fauna Regni Hungariae*”, a notable initiative to document the Hungarian fauna. In this enumeration, 322 species were reported from the present-day Hungary (GYÖRFFY et al. 2009). The recent checklist of Hungarian Auchenorrhyncha species was published by GYÖRFFY et al. (2009), listing 540 species within the current borders of Hungary. As a result of targeted research on the Hungarian fauna, the known auchenorrhynchan fauna increased further in the past decade (SCHLITT et al. 2024b). Nevertheless, the ongoing "mediterraneanization" and the increased intensity of faunistic investigations are expected to result in the discovery of additional new species.

Material and methods

The survey was made in Nagyharsány, Szársomlyó Nature Conservation Area (collecting permit file number PE–KTFO/329-16/2019) between 26th and 29th of October, 2024. The insect fauna of Szársomlyó Hill was extensively studied across various orders; however, faunistic survey of the Auchenorrhyncha fauna was not published before (UHERKOVICH 2000). The specimens were collected using a sweeping net and a mouth aspirator. Several specimens were collected from sweeping the canopy or collecting them with entomological light traps, which were used by lepidopterists.

The specimens were examined using a VEVOR 30x–90x stereomicroscope. Photographs were taken with a Canon EOS 6D M2 digital camera attached with Canon 100 mm EOS EF f/2.8 objective in the Rippl-Rónai Museum (RRM), Kaposvár. Several voucher specimens from every listed species were deposited in the Natural History Department of the RRM. Some voucher specimens of *Arboridia simillima* (Wagner, 1939), *Philaia jassargiforma* Dlabola, 1952, *Balclutha frontalis* (Ferrari, 1882), *Chiasmus conspurcatus* (Perris, 1857), and *Ficocyba ficaria* (Horváth, 1897) were deposited in the Hemiptera Collection of the Hungarian Natural History Museum Public Collection Centre – Hungarian Natural History Museum (HNHM).

Results and discussion

A total of 55 species from 36 genera and five families were collected during the designated collecting period. The identification of certain species proved unfeasible at the species level, primarily due to the absence of male specimens. Further taxonomic investigations are required for the identification of certain species. Consequently, in these cases, we provided the generic names. The list of the collected species is given in this section. The sequence of the list is in accordance with GYÖRFFY et al. (2009).

FULGOROMORPHA Evans, 1946

Cixiidae Spinola, 1839

Cixiinae Spinola, 1839

– *Cixius wagneri* China, 1942

Delphacidae Leach, 1815

Asiracinae Motschulsky, 1863

– *Asiraca clavicornis* (Fabricius, 1794)

Stenocraninae Wagner, 1963

– *Stenocranus* sp.

Delphacinae Leach, 1815

– *Jassidaeus lugubris* (Signoret, 1865)

– *Delphacodes mulsanti* (Fieber, 1866)

Tettigometridae Germar, 1821

Tettigometrinae Germar, 1821

– *Tettigometra sulphurea* Mulsant et Rey, 1855

CICADOMORPHA Evans, 1946**Aphrophoridae** Amyot & Audinet-Serville, 1843**Aphrophorinae** Amyot & Audinet-Serville, 1843

- *Neophilaenus campestris* (Fallén, 1805)
- *Neophilaenus lineatus* (Linnaeus, 1758)
- *Neophilaenus modestus* (Haupt, 1922)
- *Philaenus spumarius* (Linnaeus, 1758)

Cicadellidae Latreille, 1825**Typhlocybinae** Kirschbaum, 1868

- *Hebata affinis* (Nast, 1937)
- *Hebata decipiens* (Paoli, 1930)
- *Hebata vitis* (Göthe, 1875)
- *Chlorita* sp.
- *Zyginella pulchra* Löw, 1885
- *Zyginidia pullula* (Boheman, 1845)
- *Zygina angusta* Lethierry, 1874
- *Zygina tithide* Ferrari, 1882
- *Zygina* sp.
- *Arboridia parvula* (Boheman, 1845)
- *Arboridia pusilla* (Ribaut, 1936)
- *Arboridia ribauti* (Ossiannilsson, 1937)
- *Arboridia simillima* (Wagner, 1939)
- *Arboridia velata* (Ribaut, 1952)
- *Frutiodidia bisignata* (Mulsant et Rey, 1855)
- *Linnavuoriana* cf. *sexmaculata* (Fallén, 1806)
- *Erasmoneura vulnerata* (Fitch, 1851)
- *Ficocyba ficaria* (Horváth, 1897)

Megophthalminae Kirkaldy, 1906

- *Megophthalmus scabripennis* Edwards, 1915
- *Anaceratagallia ribauti* (Ossiannilsson, 1938)
- *Anaceratagallia venosa* (Fourcroy, 1785)
- *Anaceratagallia glabra* Dmitriev, 2020
- *Anaceratagallia* sp.
- *Austroagallia sinuata* (Mulsant & Rey, 1855)

Deltocephalinae Fieber, 1869

- *Fieberiella florii* (Stål, 1864)
- *Neoliturus fenestratus* complex
- *Neoliturus inscriptus* (Haupt, 1927)
- *Balclutha frontalis* (Ferrari, 1882)
- *Cicadula frontalis* (Herrich-Schäffer, 1835)
- *Doratura heterophyla* Horváth, 1903
- *Chiasmus conspurcatus* (Perris, 1857)
- *Aconurella proluxa* (Lethierry, 1885)
- *Platymetopius undatus* (De Geer, 1773)
- *Platymetopius* sp.
- *Allygidius atomarius* (Fabricius, 1794)
- *Phlepsius intricatus* (Herrich-Schäffer, 1838)
- *Eohardya fraudulenta* (Horváth, 1903)

- *Rhopalopyx vitripennis* (Flor, 1861)
- *Psammotettix agrestis* Logvinenko, 1966
- *Psammotettix alienus* (Dahlbom, 1850)
- *Psammotettix confinis* (Dahlbom, 1851)
- *Psammotettix nodosus* (Ribaut, 1925)
- *Psammotettix notatus* (Melichar, 1896)
- *Philaia jassargiforma* Dlabola, 1952
- *Hishimonus hamatus* Kuoh, 1976

The list of the new and remarkable species:

Arboridia (Arboridia) simillima (Wagner, 1939)
(Fig. 1)

Material examined. Hungary: Heves county, Ecséd, 6.VII.2011. leg. Kiss B., two male [sweep netting]; Heves county, Ecséd, 15.IX.2011. leg. Kiss B., one male [sweep-netting]; Baranya county, Pécs, 18.X.2012 leg. Koczor S., one male [sweep netting]; Baranya county, Nagyarsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., one male [collected on light]

Diagnosis. The species belongs to the subgenus *Arboridia* Zakhvatkin, 1946 based on the well-developed preatrium of the aedeagus (DLABOLA 1958, DWORAKOWSKA 1970, HAN et al. 2024). The species is closely related to *Arboridia (Arboridia) parvula* (Boheman, 1845), but it can be distinguished by the shape of aedeagus and style. The aedeagus is similar to that of *A. parvula*, but the appendages arise from the basal part, distinctly separated from the main shaft. The distance between the base of the shaft and the origin of the appendages is approximately equal to the length of the appendages themselves. The main shaft is more strongly curved than in *A. parvula* (WAGNER 1939: fig. 369). The terminal process of the style is longer than in *A. parvula* (cf. WAGNER 1939: fig. 366 and 368), and the apex of the outer horn is closer to the apex of the inner horn than to that of the terminal horn (cf. WAGNER 1939: fig. 368). A detailed description of related *Arboridia* species is given by WAGNER (1939) and DWORAKOWSKA (1970).



Fig. 1: Male specimen of *Arboridia (Arboridia) simillima* (Wagner, 1939) in dorsal view

Distribution. Austria, Germany, Switzerland (MÜHLETHALER et al. 2018), Transcaucasia (DWORAKOWSKA 1970)

Remarks. It is a new record for the Hungarian fauna. The species occurs in colline to montane regions, where it feeds on *Rosa* spp. (Rosaceae), monophagously on a generic level (MÜHLETHALER et al. 2018). In the description, the species was collected from *Rosa spinosissima* L. (Rosaceae) (syn. *Rosa pimpinellifolia* L.) in Höllberg, Austria (WAGNER 1939).

Philaia jassargiforma Dlabola, 1952

(Figs 2–5)

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., two females, two males [collected by sweeping on herbaceous vegetation]



Figs. 2-4: Habitus of *Philaia jassargiforma* Dlabola, 1952, 2 – male (dorsal view), 3 – female (dorsal view), 4 – male (lateral view)

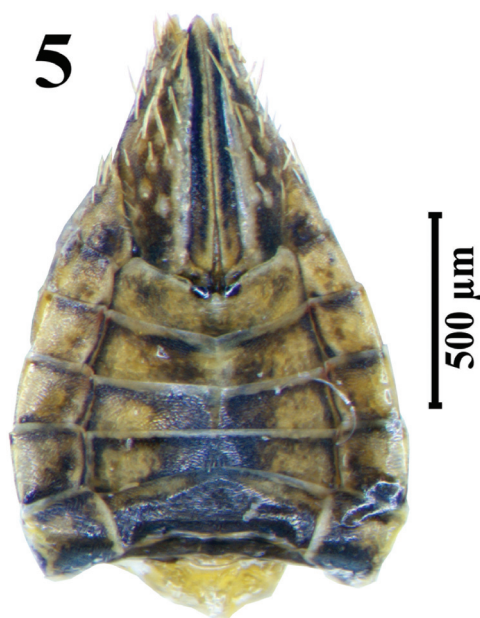


Fig. 5: Female abdomen of *Philaia jassargiforma* Dlabola, 1952 in ventral view

Distribution. Slovakia, Mongolia, USSR, Hungary, Bulgaria, Central Asia (DLABOLA 1952, DLABOLA 1965, DLABOLA 1974)

Remarks. The species is not listed in the latest checklist of the Hungarian Auchenorrhyncha fauna published by GYÖRFFY et al. (2009). However, DLABOLA (1974) has already reported the species from Hungary, Máriagyűd, near Siklós, in a forest-steppe habitat on limestone bedrock, close to the location of our collecting sites. This may indicate that the species has a stable population in this region. Here we represented the first specimens collected from Hungary and deposited in the Hemiptera Collection of the HNHM.

***Erasmoneura vulnerata* (Fitch, 1851)**

(Fig. 6)

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., 15 males, 10 females [collected by sweeping on evergreen shrubs]

Remarks. The species was first documented in Hungary by SCHLITT et al. (2024). The species appears to be distributed extensively throughout the country. In the case of Szársomlyó Hills, overwintering specimens of *E. vulnerata* were collected in high numbers from *Ruscus aculeatus* L. (Asparagaceae). This species poses a considerable threat to viticulture, a subject that is thoroughly explored in Szársomlyó. It is recommended that further investigations be conducted into plant protection interactions.

***Chiasmus conspurcatus* (Perris, 1857)**

(Fig. 7)

Material examined. Hungary: Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., one male, one female [collected by sweeping between grapevine lines]

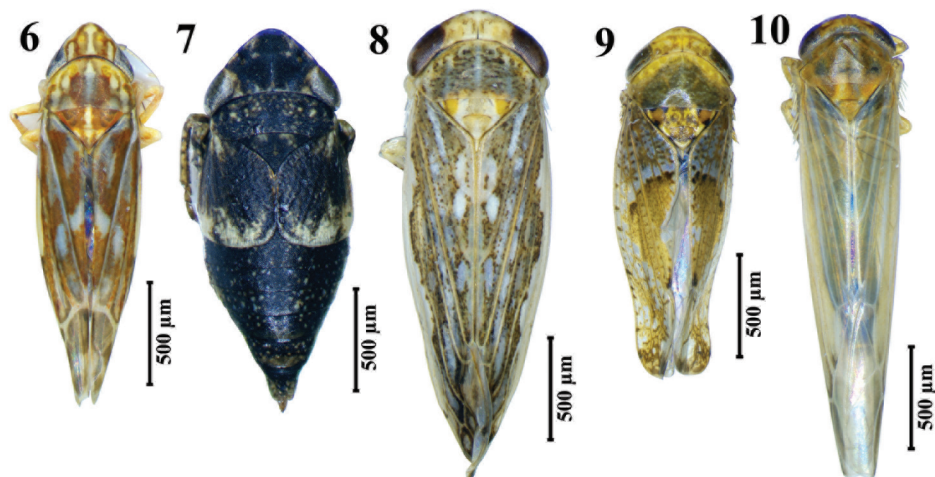
Remarks. Rarely collected in Hungary. The species was first reported from Hungary by GYÖRFFY et al. (2009) based on specimens from Bugac, Bács-Kiskun county. However, voucher specimens were not presented in the HNHM until SCHLITT (2025) collected specimens from Fenyőfő. Other unpublished records of the species are known from Hungary by the authors.

***Neoliturus inscriptus* (Haupt, 1927)**

(Fig. 8)

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., two females [collected by sweeping on *Lycium barbarum* L. (Solanaceae)]

Remarks. The species was first reported from the Carpathian Basin by SCHLITT et al. (2024), based on specimens collected during this fieldwork. Some voucher specimens are deposited in the entomological collection of the Rippl-Rónai Museum.



Figs. 6-10: Habitus photos of some interesting faunistic records in dorsal view, 6 – *Erasmoneura vulnerata* (Fitch, 1851), female, 7 – *Chiasmus conspurcatus* Perris, 1857, female, 8 – *Neoliturus inscriptus* (Haupt, 1927), female, 9 – *Hishimonus hamatus* Kuoh, 1976, male, 10 – *Balclutha frontalis* (Ferrari, 1882), female

***Hishimonus hamatus* Kuoh, 1976**

(Fig. 9)

Material examined. Hungary: Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., one male [collected on light]

Remarks. The species was first recorded by OROSZ et al. (2024) as a potential invasive species collected in high numbers and at several locations in Hungary. The species seems to be widely distributed in the country and has stable populations; therefore, it can usually be collected in large quantities.

***Balclutha frontalis* (Ferrari, 1882)**

(Fig. 10)

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., two males, one female [collected by light]

Remarks. The species was first reported from Hungary by OROSZ (2009) from Gyűrűfű as *Balclutha rosea*. Before this study, a new locality of this species from Hungary was not published. However, the species could have stable populations in the country and could be more widely distributed.

***Ficocyba ficaria* (Horváth, 1897)**

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., one male [collected on light]

Remarks. The species was first reported from Hungary by KOCZOR et al. (2025), which also comes from Szársomlyó Hill.

***Frutoidia bisignata* (Mulsant & Rey, 1855)**

Material examined. Baranya county, Nagyharsány, Szársomlyó, 26-29.X.2024 leg. Schlitt B. P., two females [collected on light]

Remarks. Rarely collected in Hungary. The species was first reported from Hungary by OROSZ (2009) based on specimens from Gyűrűfű, Baranya county. After that, only SCHLITT (2024) reported the species from Vinye, Veszprém county.

Acknowledgements

Thanks to all of my colleagues from the YEC (Young Entomologists' Club), namely Ádám Mészáros, Nimród Varga, Áron Horváth, Miklós Cserepes, Gergő Tamási, Napsugár Szász, Emese Kollár, and Alexa Péter for their contributions during the field work. We want to emphasize the lepidopterists' colleagues, Dr. Balázs Tóth (HNHM, Lepidoptera Collection, Budapest) and Áron Horváth (Mezőkövesd) for providing collected material using light traps. Thanks to Anna Ágnes Somogyi (HNHM, Hemiptera Collection, Budapest) for her help with the scientific literature. Special thanks to György Dudás and Dénes Laczik (Duna-Dráva National Park Directorate) for their contributions to the fieldwork. Special thanks to Péter Schmidt (Rippl-Rónai Museum, Kaposvár) for taking photographs of the specimens. Thanks to Dr. Levente Ábrahám (Rippl-Rónai Museum, Kaposvár) for his support during the preparation of the manuscript.

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