РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre

Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 21. Вып. 1
Vol. 21. Iss. 1

Ростов-на-Дону
2025

The first record of *Ficocyba ficaria* (Horváth, 1897) (Hemiptera: Cicadellidae) in Russia

© A.I. Gubin, V.V. Martynov, T.V. Nikulina

Donetsk Botanical Garden, Il'ich Avenue, 110, Donetsk, Donetsk People's Republic 83059 Russia. E-mail: nikulinatanya@mail.ru

Abstract. *Ficocyba ficaria* (Horváth, 1897) (Hemiptera: Cicadellidae) is recorded for Russia for the first time. The material was collected in 2023–2024 on the Southern Coast of Crimea. This species has Mediterranean origin and is currently widespread in the south of Western Europe. *Ficocyba ficaria* exhibits a trophic association with honeysuckles (Lonicera spp.) and fig tree Ficus carica with obligatorily change of food plants throughout the year. The current distribution of the species and its harmfulness are discussed.

Key words: Hemiptera, Cicadellidae, *Ficocyba ficaria*, first record, Lonicera, Ficus, Crimea, Russia.

Первая находка цикадки *Ficocyba ficaria* (Horváth, 1897) (Hemiptera: Cicadellidae) в России

© А.И. Губин, В.В. Мартынов, Т.В. Никулина

Донецкий ботанический сад, пр. Ильича, 110, Донецк, Донецкая Народная Республика 83059 Россия. E-mail: nikulinatanya@mail.ru

Резюме. Приведены сведения о первой находке в России вида цикадок *Ficocyba ficaria* (Horváth, 1897) (Hemiptera: Cicadellidae). Материал собран в 2023 и 2024 годах на Южном берегу Крыма. Вид имеет средиземноморское происхождение и в настоящее время широко распространен на юге Западной Европы. Трофически *F. ficaria* связан с жимолостями (Lonicera spp.) и инжиром Ficus carica, при этом для вида характерна обязательная смена кормовых растений в течение года. Обсуждается современный ареал цикадки и степень ее вредоносности.

Ключевые слова: Hemiptera, Cicadellidae, *Ficocyba ficaria*, первая находка, Lonicera, Ficus, Крым, Россия.

Ficocyba ficaria (Horváth, 1897) (Hemiptera: Cicadellidae: Typhlocybinae) is a Mediterranean leafhopper species, a representative of the monotypic genus *Ficocyba* Vidano, 1960. The species is trophically associated with honeysuckles (Lonicera spp. (Caprifoliaceae)) and fig tree Ficus carica (Moraceae) [Vidano, 1960; Quartau et al., 1995]. In 2023, *F. ficaria* was found on the Southern Coast of Crimea, which is the first record in Russia.

Leafhoppers were collected manually and preserved in 96% ethanol. Photographs *in situ* were taken using a Nikon D7200 camera equipped with a Nikon 105mm f/2.8G IF-ED AF-S VR Micro-Nikkor lens and a Raynox DCR-250 converter. Photographs of preserved specimens were taken using an AxioCam ERc5s camera mounted on a Carl Zeiss Stemi 2000-C stereomicroscope, while images of genital structures were taken using a Canon PowerShot A640 camera mounted on a Carl Zeiss Primo Star microscope. Image stacking and post-processing were performed using ZEN 2012 (Blue Edition), Adobe Photoshop CS5, and Adobe Photoshop Lightroom Classic 2020 (v9.2.1.10). Species identification was based on an examination of the male genital structures and a comparison with morphological description provided by Ribaut [1936]. The studied specimens are deposited in the authors' collection.

Family Cicadellidae Latreille, 1802
Subfamily Typhlocybinae Kirschbaum, 1868
Genus *Ficocyba* Vidano, 1960

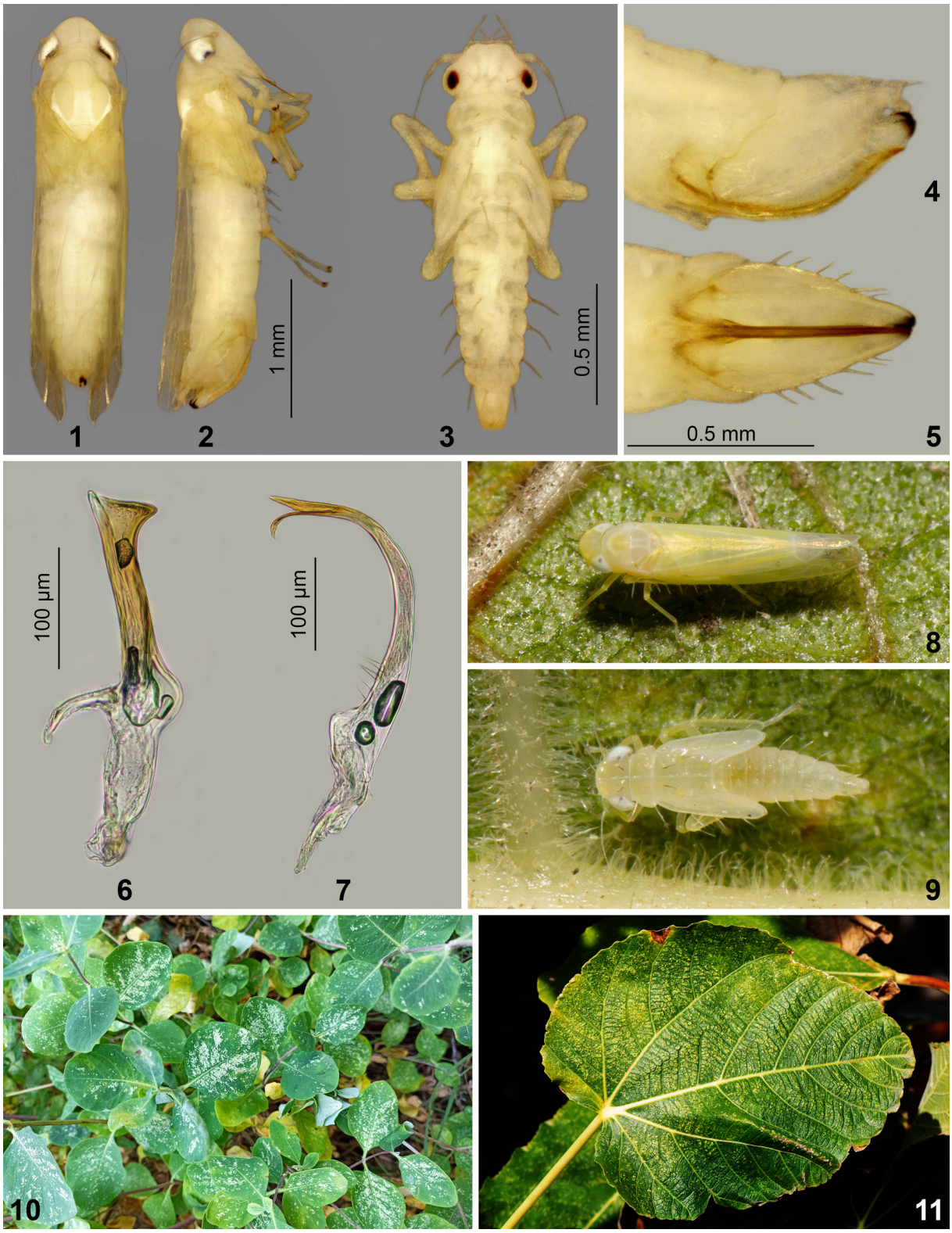
Ficocyba ficaria (Horváth, 1897)
(Figs 1–11)

Material. Russia, Republic of Crimea: Feodosia urban district: 1♂, 4♀, 1 nymph, Kurortnoe, 44°54′45″N / 35°12′04″E, on leaves of Lonicera japonica Thunb., 7.06.2023 (T.V. Nikulina, V.V. Martynov); 20♂, 16♀, 3 nymphs, same place, on leaves of Lonicera caprifolium L., 23.05.2024 (T.V. Nikulina, V.V. Martynov); 1♂, 1♀, Koktebel, 44°57′36″N / 35°14′54″E, on leaves of Ficus carica L., 3.06.2024 (T.V. Nikulina, V.V. Martynov); Yalta urban district: 5♂, 3♀, Nikita Botanical Garden, 44°50′57″N / 34°23′73″E, on leaves of Ficus carica L., 20.10.2024 (A.I. Gubin, T.V. Nikulina).

Biology. *Ficocyba ficaria* is a phytophagous and phyllophagous species, exhibiting an obligatory seasonal shift between host plants throughout the year [Vidano, 1960; Quartau et al., 1995]. The spring generation develops on honeysuckles (Lonicera spp.), with recorded feeding on the European species L. caprifolium (Fig. 10) and L. implexa, as well as on the introduced East Asian species L. japonica [Vidano, 1960; Moro Arzone et al., 2008]. In late spring to early summer, adult specimens migrate to fig trees Ficus carica (Fig. 11), where two generations develop during the summer and autumn. The imagoes of the last generation returns to honeysuckles, where they overwinter in both the egg and adult stages. In Crimea, adult specimens of the spring generation migrate to fig trees in June, with their return to honeysuckles in November. It should be noted that during the autumn migration, adults can also be observed on other plants (Crataegus, Prunus, Rubus, Quercus, Populus, and Ulmus). These plants likely serve as overwintering shelters and may also provide supplementary food sources [Abdul-Nour, 2005; Mazzoni, 2005].

Notes. According to our observations, other widespread fig leaf-eating insects also live in Crimea together with *F. ficaria*: *Homotoma ficus* (Linnaeus, 1758) (Hemiptera: Homotomidae) and *Choreutis nemorana* (Hübner, [1799]) (Lepidoptera: Choreutidae). The feeding of *F. ficaria* leads to the formation of light spots on the leaves, imparting a marbled colour (Figs 10, 11). During the spring feeding period on honeysuckles, the intensity of damage

Short Communication / Краткое сообщение
DOI: https://doi.org/10.5281/zenodo.15642771



Figs 1–11. *Ficocyba ficaria* and leaf damage.

1–2 – female, habitus: 1 – dorsal view, 2 – lateral view; 3 – nymph, habitus, dorsal view; 4–5 – female genital block: 4 – lateral view, 5 – ventral view; 6 – aedeagus, lateral view; 7 – style, lateral view; 8 – male on the leaf of Ficus carica; 9 – nymph on the leaf of F. carica; 10 – damage on leaves of Lonicera caprifolium; 11 – damage on the leaf of F. carica.

Рис. 1–11. *Ficocyba ficaria* и повреждения листьев.

1–2 – самка, внешний вид: 1 – сверху, 2 – сбоку; 3 – нимфа, внешний вид, сверху; 4–5 – генитальный блок самки: 4 – вид сбоку, 5 – вид снизу; 6 – эдеагус, вид сбоку; 7 – стилус, вид сбоку; 8 – самец на листе Ficus carica; 9 – нимфа на листе F. carica; 10 – повреждения на листьях Lonicera caprifolium; 11 – повреждения на листе F. carica.

can be substantial, resulting in a significant reduction in the ornamental value of the host plants. To reduce the species harmfulness, the application of systemic insecticides by spraying is recommended, with treatments administered in spring (after leaf emergence) and late autumn. On fig tree the harmfulness of the species is generally less severe and typically does not necessitate pest control measures.

Distribution. Mediterranean species, expanding its range in Europe following the spread of its host plants. It has been recorded in Morocco, Portugal, Spain, France, Belgium, Italy, Malta, Switzerland, Germany, Slovenia, Croatia, Hungary, Montenegro, Serbia, Greece, Bulgaria, Israel and Lebanon [Ribaut, 1936, 1952; Vidano, 1960; Linnavuori, 1962; Metcalf, 1968; Günthart, 1971; Nast, 1972, 1987; Dworakowska, 1982; Drosopoulos et al., 1983; della Giustina, 1989; Quartau et al., 1995; Holzinger, Seljak, 2001; Abdul-Nour, 2005; Mazzoni, 2005; Moro Arzone et al., 2008; Mifsud et al., 2012; Vujić, Vesović, 2022; Nickel, 2022; Vanreusel et al., 2025]. In Russia, *F. ficaria* is currently recorded only from the Southern Coast of Crimea.

The data on the current distribution of *F. ficaria* remains incomplete and requires updates. It has been suggested that the natural range of the species coincides with the natural range of fig tree [della Giustina, 1989]. However, *F. ficaria* has not yet been recorded in Asia Minor, which is considered the center of origin of the fig tree. The absence of records from much of the Middle East and the Maghreb is likely attributable to the limited faunistic research conducted in these regions. In Western Europe, *F. ficaria* is known primarily from the Mediterranean, but in recent decades, the species has exhibited a northward expansion, as evidenced by its recent records in Germany (2020) [Nickel, 2022] and Belgium (2024) [Vanreusel et al., 2025]. This expansion is directly related to the increasing use of fig trees and honeysuckles in ornamental landscaping across Western Europe. In addition, the northern boundary of fig tree cultivation is shifting due to global climate change. For example, in Germany, in the northern part of the Upper Rhine Lowland, fig trees have become a common ornamental species in urban and garden landscapes [Nickel, 2022]. Establishing the exact time of *F. ficaria* penetration into Crimea remains challenging. On the territory of the peninsula the fig tree is an archaeophyte, presumed to have been introduced in antiquity. At present, fig tree and honeysuckles are widespread in southern Crimea, occurring both as cultivated plants and as naturalized wild populations. Given these factors, there is a high probability that *F. ficaria* may also be present in Ciscaucasia and along the Black Sea coast of the Caucasus.

Acknowledgements

The authors express their sincere gratitude to I.L. Potapenko and V.Yu. Letukhova (T.I. Vyazemsky Karadag Scientific Station – Nature Reserve of the Russian Academy of Sciences – Branch of the A.O. Kovalevsky Institute of Biology of the Southern Seas of the Russian Academy of Sciences, Feodosia, Republic of Crimea, Russia) for their assistance in conducting this research.

The work was conducted within the framework of the state project FREG-2023-0001 "Invasions of alien organisms into anthropogenic and natural ecosystems of Donbass: development trends, environmental consequences, forecast" (registration number 123101300197-6).

References

Abdul-Nour H. 2005. Les Membracoidea du Liban: Inventaire raisonné et description d'espèces nouvelles ou peu connues (Hemiptera, Cicadomorpha, Membracoidea: Membracidae, Ulopidae, Cicadellidae). *Nouvelle Revue d'Entomologie*. 21(3): 239–258.

Drosopoulos S., Asche M., Hoch H. 1983. Contribution to the planthopper fauna of Greece (Homoptera, Auchenorrhyncha, Fulgoromorpha, Delphacidae). *Annales de l'Institut Phytopathologique Benaki*. 14: 19–68.

Dworakowska I. 1982. Typhlocybini of Asia (Homoptera, Auchenorrhyncha, Cicadellidae). *Entomologische Abhandlungen und Berichte aus dem Staatlichen Museum fur Tierkunde in Dresden*. 45(6): 99–181.

Giustina W. della. 1989. Faune de France. 73. Homoptères Cicadellidae. Volume 3. Compléments aux ouvrages d'Henri Ribaut. Paris: INRAE. i–xi + 350 p.

Günthart H. 1971. Beitrag zur Kenntnis der Kleinzikaden (Typhlocybinae, Hom., Auch.) der Schweiz. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*. 43(3–4): 218–224.

Holzinger W.E., Seljak G. 2001. New records of planthoppers and leafhoppers from Slovenia, with a checklist of hitherto recorded species (Hemiptera: Auchenorrhyncha). *Acta Entomologica Slovenica*. 9(1): 39–66.

Linnavuori R. 1962. Hemiptera of Israel. III. *Annales Zoologici Societatis Zoologicae Botanicae Fennicae 'Vanamo'.* 24(3): 1–108.

Mazzoni V. 2005. Contribution to the knowledge of the Auchenorrhyncha (Hemiptera Fulgoromorpha and Cicadomorpha) of Tuscany (Italy). *Redia*. 88: 85–102.

Metcalf Z.P. 1968. General catalogue of the Homoptera. Fascicle VI. Cicadelloidea. Part 17. Cicadellidae. Washington, D.C.: USDA. vii + 1513 p.

Mifsud D., Falzon A., Malumphy Ch., de Lillo E., Vovlas N., Porcelli F. 2012. On some arthropods associated with Ficus species (Moraceae) in the Maltese Islands. *Bulletin of the Entomological Society of Malta*. 5: 5–34.

Moro Arzone A., Alma A., Mazzoglio P.J. 2008. Collections made by Prof. Carlo Vidano. *Memorie della Società Entomologica Italiana*. 86(1): 1–478.

Nast J. 1972. Palaearctic Auchenorrhyncha (Homoptera). An annotated check list. Warsaw: Polish Scientific Publishers. 550 p.

Nast J. 1987. The Auchenorrhyncha (Homoptera) of Europe. *Annales Zoologici*. 40(15): 535–662.

Nickel H. 2022. Second addendum to the Leafhoppers and Planthoppers of Germany (Hemiptera: Auchenorrhyncha). *Cicadina*. 21: 19–54.

Quartau J.A., Ribeiro F., Cachado C. 1995. Monitorizacoa de *Ficocyba ficaria* (Horváth, 1987) (Homoptera, Cicadellidae) uma cigarrinha associada à figueira na Regiao de Alcobaca (Portugal). *Avances en Entomologia Iberica*. 1995: 455–462.

Ribaut H. 1936. Faune de France. 31. Homoptères Auchénorhynques. I (Typhlocybidae). Paris: P. Lechevalier. iii + 231 p.

Ribaut H. 1952. Faune de France. 57. Homoptères Auchénorhynques. II (Jassidae). Paris: P. Lechevalier. 474 p.

Vanreusel W., Swinnen K., Gielen K., Vercayie D., Driessens G., Veraghtert W., Desmet P., Herremans M. 2025. Waarnemingen.be - Non-native animal occurrences in Flanders and the Brussels Capital Region, Belgium. Version 1.150. Available at: https://doi.org/10.15468/k2aiak (accessed 10 March 2025).

Vidano C. 1960. Dioecia obbligata in *Typhlocyba* (*Ficocyba* n. subg.) *ficaria* Horváth (Hemiptera Typhlocybidae). *Bollettino dell'Istituto di Entomologia della Università degli Studi di Bologna*. 24: 121–145.

Vujić M., Vesović N. 2022. The fig bark beetle *Hypoborus ficus* Erichson, 1836 (Coleoptera: Curculionidae: Scolytinae) in Serbia: first records for more than a century. *Acta Entomologica Serbica*. 27(2): 91–96. DOI: 10.5281/zenodo.7447652

Received / Поступила: 22.03.2025
Accepted / Принята: 8.04.2025
Published online / Опубликована онлайн: 11.06.2025