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UPDATE ON WHITEFLIES OF ROMANIA, INCLUDING TWO NEW SPECIES FOR THE ROMANIAN FAUNA (HEMIPTERA: ALEYRODIDAE)

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Abstract

This paper presents the results of whitefly findings in parks and urban areas from Bucharest and Ilfov County between 2024 and 2025. Aleuroclava aucubae (Kuwana), native to the East Paleartic is recorded for the first time in Romania. Individuals of the aforementioned species were found on different ornamental plants, including Celtis occidentalis, Cotoneaster spp., Kerria japonica, Morus alba, Morus spp., Pyracantha coccinea, and Syringa vulgaris. The other newly found species is Tetraleurodes hederae Goux, a pest that feeds exclusively on Hedera helix and has been recorded in Europe, in France, Italy, and Malta. Data are also presented on other native whitefly species observed in the same period on different host plants. This communication contributes to Romania's whitefly fauna and insect biodiversity.

Key words: *Aleuroclava aucubae, first record, non-native, Tetraleurodes hederae, whiteflies.*

INTRODUCTION

Whiteflies (Hemiptera: Sternorrhyncha: Aleyrodidae) are a small group of insects related to the scale insects (Coccoidea) and the aphids (Aphidoidea). The group is one of the economically most important groups of insects found on crops and ornamental plants. The purpose of this study was to record further details of the whitefly fauna of Romania. In the past, Dobreanu and Manolache (1969) researched the Aleyrodidae in Romania, resulting in the first inventory of these species, consisting of sixteen species.

MATERIALS AND METHODS

Faunistic investigations on whitefly species were conducted between 20-25 September 2024 and 20-23 October 2055. Samples were collected by both authors from parks and urban areas located in Bucharest municipality and Ilfov County. The specimens were slide-mounted according to published methods and identified using the diagnostic keys provided by Martin, Mifsud, and Rapisarda (2000) and Dobreanu et al. (1969). Morphological descriptions and illustrations of slide-mounted puparia of all the species listed below are provided by Martin et al. (2000). The nomenclature used follows Martin and Mound (2007).

Slide-mounted specimens have been deposited at Fera Science Ltd (UK) and the National Phytosanitary Laboratory (Romania).

RESULTS

***Aleuroclava aucubae* (Kuwana)** (Fig. 1, 2, 3, 4)



Figure 1. *Aleuroclava aucubae* puparia (Malumphy, 2024)



Figure 2. *Aleuroclava aucubae* puparium (Malumphy, 2024)



Figure 3. Microscopic view of *Aleuroclava aucubae* puparium (Cean, 2025)

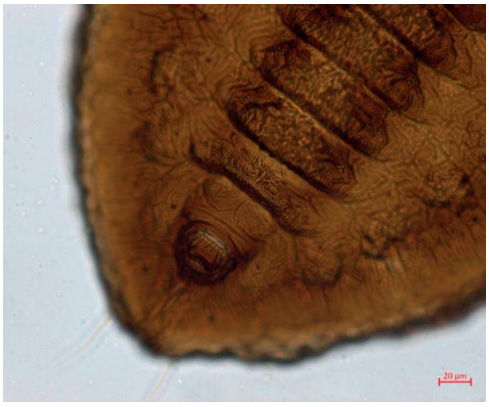

Figure 4. Detail of the posterior part of the abdomen of *Aleuroclava aucubae* (Cean, 2025)

Collection data: Bucharest city centre on *Celtis occidentalis*, *Morus alba*, *Syringa vulgaris,* and unidentified shrubs and trees, 20.IX.2024; Grădina Botanică Dimitrie Brândză, on *Pyracantha coccinea*, 21.IX.2024; Parcul Kiseleff, on *Morus* sp., *Pyracantha coccinea,* and unidentified shrubs, 23.IX.2024; Muzeul Național al Satului "Dimitrie Gusti", on *Morus* sp., 23.IX.2024; Parcul Lumea Copiilor, on *P. coccinea*, 25.IX.2024; and Chitila, path along river, on several *P. coccinea*, 24.IX.2024; Chitila path along river, on *Morus* sp., *Prunus* sp., 20.X.2025; Parcul Operei, on *Morus* sp., *Celtis* sp., *Kerria japonica*, 23.X.2025; Muzeul Național al Satului Dimitrie Gusti, on *Morus* sp., 20.X.2025; Parcul Kiseleff, on *Cotoneaster* sp. and *Syringa vulgaris*, 20.X.2025; Parcul Izvor, on *Morus* sp., 21.X.2025.
Adults, early nymphal instars, and puparia were present in 2024; only puparia were present in 2025.

***Aleurochiton acerinus* Haupt** (Figures 5, 6)
Collection data: Grădina Botanică "Dimitrie Brândză", on *Acer campestre*, 21.IX.2024; Mogoșoaia-Chitila, on *Acer campestre*, 21.IX.2024; Parcul Kiseleff, on *Acer* spp., 23.X.2025.



Figure 5. *Aleurochiton acerinus* summer puparium (microscopic view) (Cean, 2025)



Figure 6. Detail of the posterior part of the abdomen of *Aleurochiton acerinus* (Cean, 2025)

***Aleurochiton aceris* (Modeer)** (Figures 7, 8, 9)
Collection data: Grădina Botanică "Dimitrie Brândză", on *Acer platanoides*, 21.IX.2024; Chitila path along river, on *Acer platanoides*, 21.IX.2024; Parcul Izvor, on *Acer platanoides*, 21.X.2025.



Figure 7. *Aleurochiton aceris* winter puparium (microscopic view) (Cean, 2025)

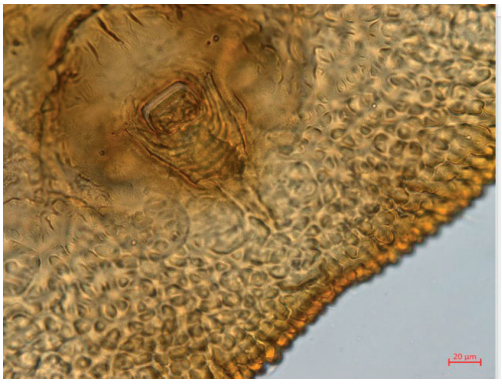

Figure 8. Detail of the posterior part of the abdomen of *Aleurochiton aceris* (Cean, 2025)



Figure 9. *Aleurochiton aceris* winter puparium (Cean, 2025)

***Aleurochiton pseudoplatani,* Visnya**
Collection data: Parcul Operei, on *Acer pseudoplatanus*, 20.IX.2024.

***Aleyrodes proletella* (L.)**
Collection data: Mogoșoaia-Chitila, on *Chelidonium majus*, 24.IX.2024.

***Bemisia tabaci* (Gennadius)** (Fig. 10)
Collection data: Bucharest city centre, on *Ipomea* sp., 22.IX.2024, 25.IX.2024; Parcul Lumea Copiilor, on *Pelargonium* sp., 25.IX.2024; Chitila, on *Vitis* sp., 20.X.2025. Adults and puparia were present in 2024, only puparia in 2025.



Figure 10. Detail of the posterior part of the abdomen of *Bemisia tabaci* (Cean, 2025)

***Siphoninus phillyreae* (Halliday)** (Figures 11, 12)



Figure 11. *Siphoninus phillyreae* puparium (microscopic view) (Cean, 2025)

Collection data: Grădina Botanică Dimitrie Brândză, on *Fraxinus excelsior*, 21.IX.2024;

Mogoșoaia-Chitila forest, on *Crataegus monogyn*a, 24.IX.2024; Parcul Național Văcărești, on *Fraxinus angus*, 25.IX.2024; Mogoșoaia on *Crataegus* sp., 20.X.2025.



Figure 12. Detail of the posterior part of the abdomen of *Siphoninus phillyreae* (Cean, 2025)

***Tetraleurodes hederae* Goux** (Figure 13)
Collection data: Mogoșoaia (near station), on *Hedera helix*, 24.IX.2024.



Figure 13. Empty pupal case of *Tetraleurodes hederae* (Malumphy, 2024)

DISCUSSIONS

Aleuroclava aucubae is native to the East Palearctic, including China, Japan, and Taiwan. It has been introduced to the USA (Evans, 2007) and Europe, including Azerbaijan (Gavrilov-Zimin & Borisov, 2020), Croatia (Šimala et al., 2014), France (Streito et al., 2014), Hungary (Hári et al., 2021), Italy (Pellizzari & Šimala, 2007), Montenegro (Malumphy et al., 2015), Russia (Russian Caucasus) (Gavrilov-Zimin & Borisov, 2020), and Slovenia (Seljak, 2012). It is a polyphagous species, being recorded on host plants in 15 families (Mound & Halsey, 1978). It overwinters in the puparial stage (Seljak, 2012). The puparia usually occur at low densities; they do not egest large quantities of honeydew, and they do not appear to have a limited impact on the host plant.
The species has been recently intercepted in England on many occasions on plants for planting, mostly *Photinia*, imported from Italy. This demonstrates that it is moving in trade, and this is probably how it was introduced to Romania. It is small and occurs on the lower leaf surface; it has a negligible impact and is therefore easily overlooked.

Aleurochiton acerinus
The species is reported by Dobreanu et al. (1969) in the counties of Ilfov, Brăila, Prahova, Caraș-Severin, Brașov. The mentioned host tree is *Acer campestre*. The adults appear in April-May from the overwintered puparia (Dobreanu et al.). There is puparial dimorphism, with puparial characters differing between summer, with a pale derm, and winter, with a sclerotised form (Malumphy). We record here the species in the Bucharest municipality.

Aleurochiton aceris
The species was reported in Romania by Dobreanu et al. (1969) under the name *Aleurochiton complanatus* in the counties of Ilfov, Prahova, Caraș-Severin, Harghita, and Gorj. The mentioned host tree is *Acer platanoides,* and damage is induced more frequently by the autumn generation.
Puparia of the species *A. aceris*, like those of *A. acerinus*, exhibit seasonal dimorphism, with puparial characters differing between summer, with a pale derm, and winter, with a sclerotised form and covered in a dense layer of wax. We record here the species in the Bucharest municipality.
Aleyrodes proletella
The species is native to the Palaearctic and is broadly polyphagous, feeding on herbaceous plants in numerous families, showing a preference for Cruciferae and Compositae (Martin et al., 2000). In Romania, the insect was recorded all over the country, especially on *Chelidonium*, *Brassica* and *Euphorbia* genera (Dobreanu, 1969). It can be a pest of different varieties of cabbage, such as cauliflower,

cabbage, kale and Brussels sprouts, in both private and commercial crops (Jansen, 2011).

Bemisia tabaci

The species is regulated as a quarantine species, and it is mandatory to eradicate populations originating from non-European countries because of the risk of introduction of plant virus diseases, which can be transmitted by the silverleaf whitefly, although the population without a direct link to imports are considered to be native (Jansen, 2011). It is broadly polyphagous, feeding on plants belonging to more than 80 plant families.

Siphoninus phillyreae

This species occurs in the Nearctic, Neotropical, Western Palearctic, Afrotropical, Eastern Palearctic, and Australasian regions. It is polyphagous on woody host plants. It was recorded from Romania by Dobreanu (1969) in Ilfov, Caraș-Severin, Prahova, Brașov, Constanța counties. It is frequently found on *Crataegus* and *Fraxinus,* and it is of minor economic importance.

Tetraleurodes hederae

A rarely recorded European species found in France, Italy, and Malta that feeds exclusively on *Hedera helix*. The finding in Romania is a significant increase in its geographical range. The puparia are highly conspicuous due to the white wax, so it is surprising that there are so few records when the host plant is so common and widespread.

CONCLUSIONS

The investigations carried out only outdoors revealed 8 whitefly species from 6 different genera. Two species are recorded for the first time from Romania, namely *Aleuroclava aucubae* and *Tetraleurodes hederae.* This study contributed to updating the Romanian whitefly fauna and insect biodiversity.

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