UNIVERSITY OF LIFE SCIENCES ”KING MIHAI I” FROM TIMISOARA
”YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES”

05-06 November 2026



NEW RECORDS OF APHIDS ASSOCIATED WITH *ASCLEPIAS SYRIACA* L. IN ROMANIA

CHERECHEȘ ALICE, VIZITIU RALUCA, PRODAN ALEXANDRA, ȚIU ADRIAN, CĂRĂBEȚ ALIN, ȘTEF RAMONA

University of Life Sciences “King Mihai I” from Timișoara, Faculty of Agriculture
Corresponding authors: ramonastef@usvt.ro; alincarabet@usvt.ro

Abstract. The invasive species *Asclepias syriaca* L. occurs in a variety of habitats in Romania, including agroecosystems. Plants of this species can host different aphids, including polyphagous species also associated with crops. In this context, investigating the aphid fauna on *Asclepias syriaca* is of interest for understanding the possible relationships between the invasive plant, aphids, and neighbouring crops. The aim of this study was to identify the aphids observed on naturally occurring *Asclepias syriaca* plants and to describe the distribution of their colonies on the organs of the host plant. The research was conducted in 2026 in the Pădurea Verde–Dumbrăvița area, Timiș County, Romania. The entomological material was examined under a stereomicroscope, and identification was based on external morphological characters and specialist taxonomic keys. The location and structure of the colonies, as well as the presence of different developmental stages, were recorded. The initial infestation level was assessed on 30 selected plants. Three species belonging to the family Aphididae were identified in the material examined: *Aphis nerii*, *Aphis fabae*, and *Aphis craccivora*. *Aphis nerii* was predominant, forming compact colonies on young shoots, leaves, inflorescences, and follicles. *Aphis fabae* and *Aphis craccivora* were observed sporadically, in smaller colonies located mainly on the lower leaf surfaces, young shoots, and petioles. Of the 30 plants assessed, 20 harboured more than 150 aphids per plant, including 10 with more than 300 individuals per plant. The aphid colonies comprised adults and nymphs.

Keywords: *Asclepias syriaca*, *Aphis nerii*, *Aphis fabae*, *Aphis craccivora*, host plant, infestation.

INTRODUCTION

Common milkweed, *Asclepias syriaca* L., is an invasive plant occurring in spontaneous vegetation and agroecosystems in Romania. Its presence creates opportunities to investigate associations with aphids, including polyphagous species also found on crops.

Aphis nerii was reported on *A. syriaca* in Romania following observations in 2020 (Ștef et al., 2021). Documenting other aphids on milkweed adds to knowledge of the local aphid fauna. Species identification requires examination of diagnostic morphological characters using specialist keys (Blackman and Eastop, 2006).

This study aimed to identify the aphids associated with naturally occurring *A. syriaca* in Pădurea Verde–Dumbrăvița and describe colony distribution on host organs.

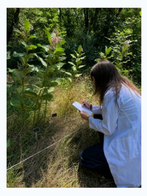
MATERIAL AND METHOD

1. FIELD OBSERVATIONS
Pădurea Verde–Dumbrăvița, Timiș County
2026 • Naturally occurring milkweed

2. MATERIAL EXAMINATION
Stereomicroscope and taxonomic keys
Body, antennae, siphunculi, cauda and legs

3. COLONY ASSESSMENT
Record host organs, adults and nymphs
Document exuviae and viviparous birth

4. INITIAL INFESTATION
30 selected plants • Estimate aphids/plant
Classes: 1–50, 51–150, 151–300 and >300

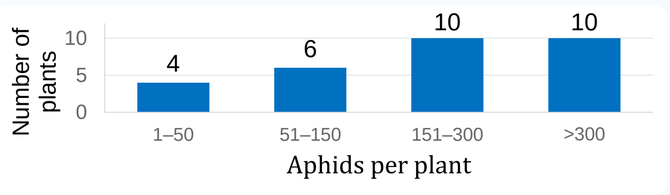


Recording field observations

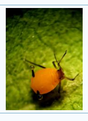


Examining aphid colonies

Initial infestation of the 30 selected plants



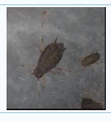
20 of 30 plants harboured >150 aphids, including 10 with >300 individuals per plant.



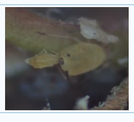
Aphis nerii



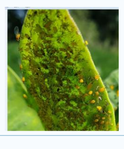
Aphis fabae



Aphis craccivora



Viviparous birth



Adults, nymphs and exuviae



Colonies on follicles

RESULTS AND DISCUSSION

Composition of the aphid fauna associated with *Asclepias syriaca*

Observations on *Asclepias syriaca* plants in the Pădurea Verde–Dumbrăvița area revealed three aphid species belonging to Aphididae: *Aphis nerii*, *Aphis fabae* and *Aphis craccivora*. The species differed in colony abundance and distribution on host organs.

Aphis nerii was dominant in the examined material and occurred on all plants included in the study. It formed compact colonies comprising adults and nymphs on several vegetative and reproductive organs. *Aphis fabae* and *Aphis craccivora* occurred sporadically in small colonies, mainly on young shoots and lower leaf surfaces.

Aphid species identified on *Asclepias syriaca* in the Pădurea Verde–Dumbrăvița area

Species	Family	Level	Colony characteristics
Aphis nerii	Aphididae	High	Compact; on all examined plants
Aphis fabae	Aphididae	Low	Small, sporadic colonies
Aphis craccivora	Aphididae	Low	Small colonies and scattered individuals

This composition demonstrates the predominance of *A. nerii* in the aphid fauna associated with the host in the studied habitat. The other species extend the local inventory of aphids on *A. syriaca*. Their sporadic occurrence does not establish the persistence of these associations throughout the growing season.

Morphological characteristics of the identified species

Examination revealed differences in body colour and shape among the three species. *A. nerii* had a yellow to yellow-orange body contrasting with its dark appendages. Colonies included wingless females, winged forms and nymphs at different developmental stages.

Specimens assigned to *A. fabae* and *A. craccivora* were predominantly dark. In the descriptions of the examined material, *A. fabae* had a broader, more robust body, whereas *A. craccivora* had a narrower, more elongated outline. Stereomicroscope photographs complement observations of general appearance and colony structure. Colour differences facilitated field recognition of the dominant species. For the two dark species, presentation of the diagnostic characters used in identification is necessary to support the taxonomic determinations. The original images provide documentary support for the study.

Colony structure and reproduction of the dominant species

A. nerii colonies contained adult females and nymphs at different developmental stages simultaneously. Exuviae documented moulting, and the birth of a live nymph was captured in the original video material. These observations document viviparous reproduction and the simultaneous presence of several developmental stages. They add information on the biological activity of the dominant species on its host. The available data do not allow estimates of generation time, female fecundity or annual generation number.

Distribution of colonies on host plant organs

Aphid colonies were distributed unevenly on *A. syriaca*. The most abundant *A. nerii* colonies occurred on young shoots, vegetative and flower buds, and lower leaf surfaces. The species also occupied inflorescences, follicles and petioles. Upper leaf surfaces and mature stems were occupied to a lesser extent.

Aphis fabae and *A. craccivora* had a more restricted distribution. Both occurred on lower leaf surfaces, young shoots and petioles. In the observations summarised in the chapter, they were not recorded on buds, inflorescences, follicles or mature stems.

Distribution of aphid colonies on *Asclepias syriaca* organs

Plant organ	*Aphis nerii*	*Aphis fabae*	*Aphis craccivora*
Young shoots	+++	+	+
Vegetative buds	+++	–	–
Flower buds	+++	–	–
Inflorescences	+++	–	–
Follicles	+++	–	–
Lower leaf surface	+++	++	++
Upper leaf surface	+	–	–
Petioles	++	+	+
Mature stems	+	–	–

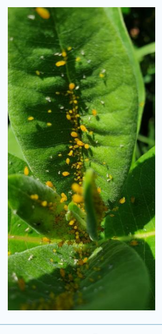
+++ abundant; ++ moderate; + low colonisation; – not observed in this study.

The observed distribution indicates more extensive occupation of the host by *A. nerii* than by the other species. Young organs and lower leaf surfaces were the main sites of colony concentration and are useful inspection points for subsequent monitoring.

Differences among organs were assessed qualitatively. These results describe the observed distribution under the study conditions, without statistically demonstrating a colonisation preference or the separate influence of individual organ characteristics.

Significance for knowledge of the local aphid fauna

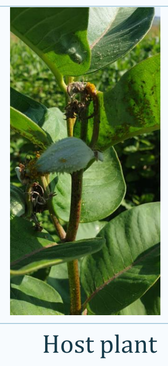
The results document associations between *A. syriaca* and three aphid species in Pădurea Verde–Dumbrăvița. The study inventories the species, establishes *A. nerii* dominance and describes colony distribution on host organs.



Young shoot colonies



Small aphid colonies



Host plant

Conclusions

The sporadic observations of *Aphis fabae* and *Aphis craccivora* provide a starting point for more detailed investigation of these associations. Extending observations to other periods and localities would allow their frequency and stability to be assessed.

Selected references: Ștef R. et al. (2021). First report of the *Aphis nerii* species Boyer of Fonscolombes (Insect: Hemiptera: Aphididae) in Romania. Research Journal of Agricultural Science 53(3): 204–214. rjas.ro/paper_detail/3498
Blackman R.L., Eastop V.F. (2006). Aphids on the World’s Herbaceous Plants and Shrubs. Wiley. Favret C. & Aphid Taxon Community, eds. (2026). Blackman & Eastop’s Aphids on the World’s Plants, v2.0. aphidsonworldsplants.info