

## New record of an alien species *Graphocephala fennahi* YOUNG, 1977 (Hemiptera: Cicadomorpha) in Poland

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**ABSTRACT.** New record of an alien species *Graphocephala fennahi* YOUNG, 1977 (Hemiptera: Cicadomorpha) in Poland.

This paper provides a third record of *Graphocephala fennahi* YOUNG, 1977 in Poland. This species is associated with *Rhododendron* spp. and commonly mentioned as pest, due to its connection with rhododendron bud blast disease. Data about biology and distribution of this species are also provided.

**KEY WORDS:** *Graphocephala*, Cicadomorpha, new records, alien species, faunistis.

### INTRODUCTION

The genus *Graphocephala* VAN DUZEE, 1916 contains 63 species of medium to large sharpshooter leafhoppers, native to Nearctic and Neotropical region. *G. fennahi* YOUNG, 1977 is widely distributed in south-western North America and is the only one species occurring also in Palaearctic region, where it was accidentally introduced (WILSON et al. 2009, GODOY & VILLALOBOS 2006).

For the first time in Palaearctic it was reported from England in 1935 (CHINA 1935). This large cicadellid, which was introduced probably with a nursery stock of *Rhododendron* sp., at first was identified as *G. coccinea* (FORSTER, 1771) (ŠPRYŇAR 2005). Young in 1977 revealed that it was a new species – *G. fennahi*, differing by colour, male genitalia and host preferences. Afterwards it was reported from Switzerland, Germany, Denmark, Austria, The Netherlands, Ireland, France, Belgium, Italy and Czech Republic (VIDANO et al. 1986, SERGEL 1987, ŠPRYŇAR 2005).

### BIOLOGY AND DISTRIBUTION OF *G. fennahi*

In Polish fauna there are 3 representatives of Cicadellini tribe: *Cicadella lasiocarpae* OSSIANNILSSON, 1981, *C. viridis* (LINNAEUS, 1758) and *G. fennahi*, which is an unmistakable species. It is a large, green leafhopper reaching 8-9.5 mm of body length, with distinctive colour pattern. Fore wings have yellow fore margin and two red longitudinal stripes on corium and clavus. Vertex is yellowish and has black fore margin, pronotum is yellowish green and scutellum orange-red. Underside of the body and legs are yellow (BIEDERMANN & NIEDRINGHAUS 2009).

Main host plant of *G. fennahi* are *Rhododendron* spp. (NICKEL 2003). According to MORCOS 1953, OLTHOFF 1986 AND SERGEL 1987 this species has been also collected from: *Acer platanoides*, *Platanus x hybrida*, *Tilia* sp., *Tilia x europaea*, *Ilex aquifolium*, *Hedera helix*, *Callistephus chinensis*, *Viburnum tinus*, *V. rhytidophyllus*, *Azalea* sp., *Pieris japonica*, *Forsythia* sp., *Castanea sativa*, *Robinia pseudoacacia*, *Rumex acetosa* and *Pteridium aquilinum*.

This species inhabits mainly ornamental shrubs nurseries, parks, gardens and cemeteries. In England it lives also in open forests (NICKEL 2003).

Nymphs emerge just before the flowering of rhododendrons at the beginning of May (ULENBERG & VAN FRANKENHUYZEN 1986). They are xylem sucking insects and feed on tender shoots and leaves. Adults prefer upper side of leaves where they puncture the middle vein to feed. Feeding does not cause any necrosis on the plant (ARZONE et al. 1986). Adults can be found from June to November and sometimes even to December. Oviposition takes place from September till the end of October. Egg is the overwintering stage (NICKEL 2003, ŠPRYŇAR 2005). In North America *G. fennahi* has two generations per year, but in Europe it is an univoltine species (SERGEL 1987, HOFFMANN 1990).

*G. fennahi* is also often mentioned as pest, due to its connection with phytopathogenic fungus *Seifertia azalea* (PECK) causing rhododendron bud blast disease (NICKEL 2003, ŠPRYŇAR 2005). This disease was supposed to be transmitted or facilitated mainly by oviposition wounds to the bud epidermis. Laboratory studies didn't provide enough evidence, that the fungus enters bud tissue through the wounds caused by *G. fennahi* (HOWELL & WOOD 1962). According to recent studies, fungal infestation depends on many other factors, e.g. waterlogged soil (HOMMES et al. 2003). Also sharpshooter excrements (honey dew), rich in carbohydrates, may serve as good nutriment for fungi (SERGEL 1987). Occurrence *G. fennahi* can be controlled and eliminated by appropriate insecticide (SOIKA & ŁABANOWSKI 2000, ŠPRYŇAR 2005).

In Poland, the first record of *G. fennahi* was published by ŁABANOWSKI & SOIKA in 1997. According to those information, nymphs were observed in June (21.06.1996) and adults in August (20.08.1996) on flowering *Rhododendron* sp. growing in ornamental shrubs nursery, Kórnik ad. Poznań, leg. E. Chudzicka. Three years later in another nursery in Koronowo ad. Bydgoszcz, 06.07.1999 this species was also recorded (ŁABANOWSKI & SOIKA, 1997, SOIKA & ŁABANOWSKI 2000, 2004).

## MATERIAL AND METHODS

New species for Upper Silesia.

**Upper Silesia:** Katowice - Ligota [UTM CA56], 28.06.2011, *Rhododendron* sp., 4 exx (1♂, 3♀), leg. et det. K. Musik.

Four individuals were collected by an aspirator from *Rhododendron* sp. growing in garden in Katowice - Ligota. Earlier few nymphs were observed on this locality. This is the third locality of *G. fennahi* in Poland and the first not in ornamental shrub nursery. Probably this species is widely spread in our country, but rarely collected and its distribution requires further studies.

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## STRESZCZENIE

### Nowe stanowisko gatunku obcego pochodzenia *Graphocephala fennahi* YOUNG, 1977 (Hemiptera: Cicadomorpha) w Polsce

*Graphocephala fennahi* YOUNG, 1977 jest jednym z trzech przedstawicieli plemienia Cicadellini w Polsce. Jest to gatunek pochodzący z Ameryki Północnej, przypadkowo introdukowany do Europy, prawdopodobnie z sadzonkami *Rhododendron* sp.. *G. fennahi* jest często określana mianem szkodnika, w związku z jej powiązaniem z grzybem *Seifertia azalea* (PECK), powodującym zamieranie pąków rododendronów.

Po raz pierwszy *G. fennahi* odnotowana była w 1996 w okolicach Poznania. Następne stanowisko pochodzi z okolic Bydgoszczy, gdzie gatunek ten był obserwowany w 1999 roku.

W 2011 roku odłowiono pierwsze osobniki na Górnym Śląsku, w Katowicach Ligocie. Gatunek ten prawdopodobnie jest szeroko rozprzestrzeniony w Polsce, jednak jest rzadko odławiany i jego rozmieszczenie wymaga dalszych badań.