

The first record of *Cacopsylla pulchella* (Löw, 1877) (Hemiptera: Psyllidae) in Slovakia

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Abstract: In recent years, several allochthonous species from the order Hemiptera have been detected in Slovakia. Most of them are pests of ornamental plants, reducing their ornamental value. In May 2024, adults of *Cacopsylla pulchella* (Löw, 1877) were recorded at the Arboretum Mlyňany, and the following year this pest was found in 3 additional localities (Nové Zámky, Nitra, Cabaj-Čápor). In addition to adults, eggs and nymphs were also found on *Cercis siliquastrum*, *C. canadensis* and *C. chinensis*. In 2025, a growing population of this insect pest was found, which can cause significant damage to *Cercis* specimens. Further monitoring is required to collect data on this pest's life cycle to ensure optimal control measures in Slovakia.

Keywords: jumping plant lice; pest; *Cercis*; alien species

In recent years, several allochthonous species of the order Hemiptera have been found in Slovakia. These include planthoppers and leafhoppers such as *Acanalonia conica* (Say, 1830), *Graphocephala fennahi* Young, 1977, *Orientus ishidae* (Matsumura, 1902), *Cixidia pilatoi* D'Urso & Guglielmino, 1995, *Agalmatium flavescens* (Olivier, 1791) (Janský & Strmisková 2017; Janský 2018, 2022; Janský et al. 2021). Furthermore, lace bugs, such as *Corythucha arcuata* (Say, 1832), *Stephanitis takeyai* Drake and Maa, 1955, *Stephanitis rhododendri* Horvath, 1905 (Barta & Bibeň 2016; Zúbrik et al. 2019) and stink bugs, for example, *Nezara viridula* (Linnaeus, 1758), *Halyomorpha halys* Stål, 1855 (Vétek & Rédei 2014; Hemala & Kment 2017), have been identified. At lower densities, *Xerophilous* species of the family *Psyllidae* were found in southern Slovakia. Some

contemporary records include *Livilla variegata* (Löw, 1881) and *Acizzia jamatonica* (Kuwayama, 1908) (Malenovský & Kment 2004; Lauterer et al. 2011). The jumping plant lice *Cacopsylla pulchella* (Löw, 1877) (Hemiptera: Psyllidae), which damage representatives of the genus *Cercis*, are native to the East Mediterranean region and Asia Minor (Mifsud et al. 2010). The first record of *C. pulchella* is from 1964 in France (Hodkinson & White 1979). Subsequently, *C. pulchella* has gradually expanded to Austria, Great Britain, Greece, Switzerland, Germany, Ukraine, Italy, Lebanon (Zeidan-Géze & Burkhardt 1998), Hungary (Ripka 2008), Spain, Portugal (García 2011), Serbia (Jerinić-Prodanović 2011), Slovenia (Seljak 2006), Israel (Spodek et al. 2017), Russia (Balakhnina et al. 2015), Croatia and Albania (Çota et al. 2020; Pernek et al. 2020).

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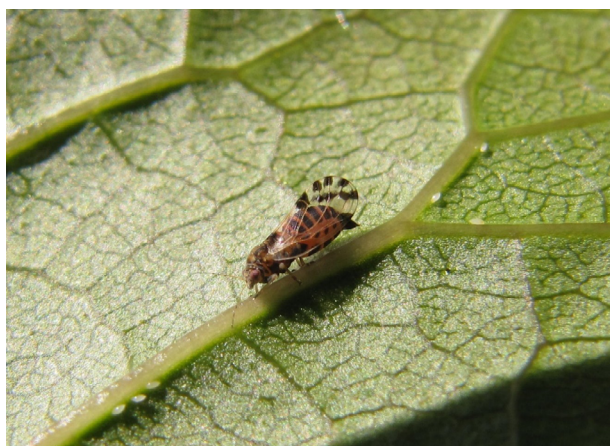


Figure 1. Adult female and eggs of *Cacopsylla pulchella* (Löw, 1877)



Figure 2. Nymphs of *Cacopsylla pulchella* (Löw, 1877) on *Cercis canadensis* in Cabaj-Čápor

Panis and Onillon (2013) describe *C. pulchella* as a monophagous insect pest of *Cercis siliquastrum* L. Balakhnina et al. (2015) note that jumping plant lice can also occur on *C. canadensis* L.

Adults of *C. pulchella* are olive-grey or brownish-green, with characteristic dark brown spots on the forewings (Figure 1). The abdomen is dark brown with vertical orange stripes. Females oviposit along the leaf veins. Nymphs pass through 5 instars (Figure 2). In Europe *C. pulchella* develops 1–3 generations per annum (Jerinić-Prodanović 2011). Nymphs and imago feed on leaves and young shoots. *C. pulchella* overwinters as an imago on conifers (Burckhardt 1999). Sapsucking by this insect pest reduces ornamental value due to chlorotic leaves and deformations (Rapisarda & Belcari 1997). Honeydew from jumping plant lice further pollutes the surroundings (Pernek et al. 2020).

MATERIAL AND METHODS

During 2024 and 2025, imagoes of *C. pulchella* were collected and recorded at four localities in Slovakia (Vieska nad Žitavou, Nitra, Cabaj-Čápor, Nové Zámky) on *Cercis* host plants (Figure 3). Adults of *C. pulchella* were visually identified during phytosanitary inspections on the aforementioned localities. The specimens were collected individually into plastic test tubes and killed with ethyl acetate. Under a stereomicroscope, they were identified using the key of Hodkinson and White (1979). Collected specimens were stored in plastic test tubes. Then, the sex of the collected specimens was determined. All collected specimens are stored in the collection at the Institute of Landscape Architecture of the Faculty of Horticulture and Landscape Engineering in Nitra. Samples obtained from

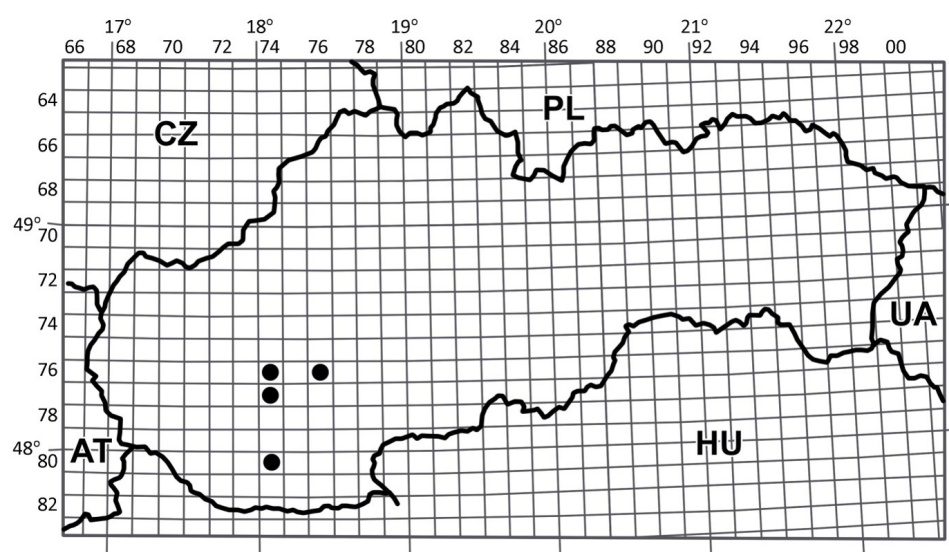


Figure 3. Current distribution of *Cacopsylla pulchella* (Löw, 1877) in Slovakia

individual locations were labelled with the determination and the exact coordinates of the location where they were found. The specimens are also sorted by host tree type. The images used in the article were taken with a Canon PowerShot SX200 IS camera (Canon, Japan).

RESULTS AND DISCUSSION

In May 2024, *C. pulchella* was recorded for the first time in Arboretum Mlyňany in Vieska nad Žitavou (3 adults) on *Cercis chinensis* Bunge and (1 adult) on *Cercis canadensis* L. (DFS 7676c, 198 m a.s.l., GPS 48°19'16.757"N, 18°21'59.961"E, 28.05.2024, 1 ♂, 3 ♀, lgt. Ján Kollár, det. Ján Kollár). Symptoms of damage were not visible on the foliage or on the young shoots. Nymphs were not present during the visual inspection.

In the 2nd half of May 2025, a larger number of specimens were detected in a private garden in Cabaj-Čápor (DFS 7774a, 167 m a.s.l., GPS 48°15'14.483"N, 18°0'55.861"E). Firstly, adults and eggs were found; subsequently, in June 2025, nymphs were also found. A total of 15 adult specimens were collected (24.5.2025, 9 ♂, 6 ♀, lgt. Ján Kollár, det. Ján Kollár). The jumping plant lice were observed on *Cercis siliquastrum* L. and *C. canadensis* L. On the leaves were visible symptoms of damage (leaf blade deformation) and honeydew. Since it was a well-established population, probably, *C. pulchella* was already present at this locality in 2024.

The visual inspection in May 2025 in Nitra confirmed the presence of *C. pulchella*. Imagoes were found in the district of Párovce on newly planted specimens of *Cercis canadensis* L. We collected 3 adult specimens (DFS 7674c, 144 m a.s.l., GPS 48°18'36.183"N, 18°4'51.000"E, 27.05.2025, 3 ♀, lgt. Ján Kollár, det. Ján Kollár). The population was relatively small, with no visible damage to the host plants.

The presence of *Cacopsylla pulchella* was also confirmed in Bernolák Park in Nové Zámky, where adults and nymphs of *Cercis siliquastrum* L. were detected. In total, 8 adult specimens were collected for taxonomic identification and voucher deposition (DFS 8074b, 115 m a.s.l., GPS 47°59'22.388"N, 18°9'32.621"E, 02.06.2025, 2 ♂, 6 ♀). The symptoms of damage were visible on the foliage and accompanied by honeydew.

In the future, pest populations will be monitored with a focus on the number of generations this spe-

cies can produce per year in Slovakia, as findings from different authors in some European countries have varied (Rapisarda & Belcari 1997; Burckhardt 1999; Balakhnina et al. 2015; Jerinić-Prodanović 2011). The harmful impact will also be assessed to determine the extent to which *C. pulchella* will damage host plants in Slovakia, and which taxa will be more sensitive or resistant to damage. Several authors (Rapisarda & Belcari 1997; Čota et al. 2020) report moderate to serious damage, especially by nymphs, which significantly reduces the aesthetic value of *Cercis* specimens by sap-sucking and producing honeydew. In most surveyed locations in Slovakia, significant damage to trees did not occur, and damage symptoms were not yet apparent. Therefore, it will be necessary to monitor the extent of damage and the development of harmful effects caused by this new species and, in the case of higher population density, to regulate its population. It is expected that this new insect species will gradually spread to other locations in Slovakia, especially warmer ones.

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