

# Mass invasion of Elm seed bugs *Arocatus melanocephalus* (Fabricius, 1798) (Hemiptera Lygaeidae) in apartments in the Netherlands

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**ABSTRACT** Mass invasion of the recently recorded, invasive Elm seed bug *Arocatus melanocephalus* (Fabricius, 1798) (Hemiptera Lygaeidae) has been registered for the first time in the Netherlands. Possible causes, experienced inconvenience and prevention measures are discussed.

**KEY WORDS** Invasive species; Elm seed bug; mass occurrence; intrusion of buildings.

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## INTRODUCTION

In the last two decades, several non-indigenous bugs have been known to show invasive behaviour in Europe; the Western conifer seed bug *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera Coreidae) being one of the best-known examples, reaching an almost ubiquitous distribution nowadays.

## DISCUSSION AND CONCLUSIONS

October 2019, a real estate organization reported the mass occurrence of small bugs in their property in the municipality of Apeldoorn, the Netherlands. A report of a pest control company of September 2019 assumed it to be the Plane tree bug *Arocatus longiceps* Stål, 1872 (Heteroptera Lygaeidae) or the morphologically almost similar *Arocatus roeselii* (Schilling, 1829) and could not detect a relationship to or the occurrence on the nearby vegetation. As an ecologist involved in ecological advise for the local government, I was approached and asked to

think about a solution for the inconvenience experienced by the residents.

On October 15 of the same year the situation was observed on location by me. A couple of dozen bugs, both dead and alive, were collected inside the most affected apartment. It was said that the inconvenience was experienced almost year-round and that, occasionally, hundreds of animals would invade the apartments. This all started in 2018. Though not harmful nor dangerous, the residents perceive the presence as quite inconvenient. They get rid of them by using a vacuum cleaner.

Investigation of the collected bugs showed them to be the Elm seed bug *Arocatus melanocephalus* (Fabricius, 1798). This species was recorded for the first time in the Netherlands in the same city of Apeldoorn by J.A.C. Clark in 2013 and this was published by Aukema (2016). Since then, it has been reported regularly from more or less the same spot and some additional locations in the city, but on a small scale of 1–2 specimens at a time. Meanwhile, the species has got a bit more widespread distribution in the Netherlands.

The nuisance is being almost exclusively experienced on one side of the real estate building. The public area on that side is a big street with five parallel rows of elm trees along and between the traffic lanes and cycle paths. They are of the elm species *Ulmus minor* var. *vulgaris* and *Ulmus x hollandica* of the varieties ‘Groeneveld’ and ‘Vegeta’. Obviously the source of the animals has to be searched for there. As these trees are part of the protected green network in the city, removing these trees will be out of the question. The pest, though a real nuisance to a limited amount of people, cannot be considered a public health issue, like the oak processionary caterpillar.

Mass occurrence of the elm seed bug has been reported before in Dortmund, Germany (Hoffmann & Terme, 2012) and in several locations in Italy (Ferracini & Alma, 2008). Both hibernating as well as sheltering for excessive summer heat has been proposed as a reason for invading buildings. Both 2018 and 2019 are typical examples of years with extreme hot summer temperatures.

In Italy, chemical control by fogging with insecticides is used in May. Even if it would be within

legal restrictions, the local government of Apeldoorn has serious reservations on using chemical control. Preventing the animals from entering the houses should be the most important measure to take.

The most recent information from the real estate organization is that a natural oil was used to prevent intrusion of the bugs into the apartments and that, due to this treatment, the inconvenience has been less severe in 2020.

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