

***Euborellia annulipes* (Dohrn, 1864) in Belgium (Dermaptera: Anisolabididae)**

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Abstract

The earwig *Euborellia annulipes* (Dohrn, 1864) was observed for the first time in Belgium. Although the species was so far only observed in a greenhouse, it also might become established in warm micro-habitats outdoors, especially since global warming is making the climate more suitable for this species.

Keywords: alien species, Belgian fauna, Dermaptera, *Euborellia annulipes*, ring-legged earwig.

Samenvatting

De oorworm *Euborellia annulipes* (Dohrn, 1864) werd voor het eerst in België waargenomen. Hoewel de soort tot nu toe enkel in een serre werd waargenomen, zal de soort zich mogelijk ook kunnen vestigen in warme micro-habitats daarbuiten, vooral doordat het broeikas effect het klimaat geschikter maakt voor deze soort.

Résumé

Le perce-oreille *Euborellia annulipes* (Dohrn, 1864) a été observé pour la première fois en Belgique. À ce jour, l'espèce n'a été observée que dans une serre, mais elle pourrait aussi s'établir à l'extérieur, le réchauffement climatique dû à l'effet de serre lui offrant des micro-habitats chauds répondant à ses exigences écologiques.

Introduction

Seven species of earwigs have been observed in Belgium (LOCK, 2007). At least five of these are indigenous: *Apterygida media* (Hagenbach, 1822), *Chelidura guentheri* (Galvagni, 1994), *Forficula auricularia* Linnaeus, 1758, *Labia minor* (Linnaeus, 1758) and *Labidura riparia* (Pallas, 1773). The status of *Forficula decipiens* Gene, 1832 and *Euborellia moesta* (Gene, 1839) in Belgium remains uncertain, since only a few specimens were collected by students of the Gembloux Agricultural Faculty (LOCK, 2007). Here, an additional species is reported for the first time for Belgium: the ring-legged earwig *Euborellia annulipes* (Dohrn, 1864).

Euborellia annulipes is a shiny, blackish brown earwig with yellow legs (Fig. 1). The femora are ringed with dark bands, hence the scientific name. Wings and elytra are absent. The forceps are short and broad, with the right one being slightly more curved in males. The species measures 10-15 mm.

It is a cosmopolitan species that occurs natively throughout the Mediterranean region, where it is found in damp places in litter, under stones or in crevices (ALBOUY & CAUSSANEL, 1990). North from the Mediterranean region, the species has been found in Great Britain, the Netherlands,



Fig. 1. *Euborellia annulipes* (Dohrn, 1864) (photo: Koen Lock).

Germany, Sweden, Estonia and Ukraine (www.fauna-eu.org, consulted on 25.II.2016). Recently, populations of the species were also found in three greenhouses in Czech Republic (KOCAREK *et al.*, 2015). This flightless adventive was imported in Britain with ship's ballast in the past and managed to persist for some time in suitable places with an adequately warm micro-habitat (MARSHALL & HAES, 1990). Also in Britain, *E. annulipes* has become established near ports and there are also inland records from refuse-tips (MARSHALL & HAES, 1990). In the Netherlands, the species has been reported from greenhouses (ANONYMOUS, 1989). However, only one population is currently known to occur in the Netherlands at the zoo Diergaard in Blijdorp (Rotterdam) (KLEUKERS, 2016). In Germany, the species has been observed on dumping grounds in Kiel and Leipzig; in the latter place, the species survived more than 50 years, but it has not been observed there since 1997 (MATZKE, 2001). In France, it occurs in the south, mainly near the Mediterranean, although it is also present in the greenhouse of the Museum of Paris (ALBOUY & CAUSSANEL, 1990). Its habitat in France is quite diverse: beaches, grassland, beneath bushes and hedges and on dumping grounds (ALBOUY & CAUSSANEL, 1990).

Material and methods

Euborellia annulipes was found during an inventory of the greenhouses of the botanical garden of Ghent University (UTM: ES5054; 51°2'5.1" N, 3°43'23.7" E).

Results

On 26.I.2016, a population of *Euborellia annulipes* was discovered in the tropical greenhouse of the botanical garden of Ghent University. This is the first record of this species in Belgium. At least five specimens were observed under stones, one of which was collected and deposited in the Royal Belgian Institute of Natural Sciences. The species was probably more abundant, but only a few places could be examined without disturbing the vegetation. The species was not found in the subtropical part of the greenhouse nor outside the greenhouse.

Discussion

So far, *E. annulipes* was only found in a greenhouse in Belgium. However, the species managed to persist in warm micro-habitats around British ports. With the ongoing climate change, it is quite possible that in the future, this species will also be able to survive outside the greenhouse environment in Belgium.

Invertebrates from tropical and subtropical areas are often spread between greenhouses with the exchange of plant material or soil (WEIDNER, 1974), which is probably also the way how *E. annulipes* was introduced in the botanical garden of Ghent University.

E. annulipes is an omnivorous species, which can potentially have negative effects on crops as well as a positive impact as a predator of some pests. An overview of the reported effects is given by KOCAREK *et al.* (2015), who also observed that the gastrointestinal tract content of species captured in greenhouses mainly consisted of plant tissue.

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