

## Travelling isopods: *Oniscus asellus* (Crustacea, Isopoda) in an anthropogenic habitat from north-western Romania

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**Summary:** *Oniscus asellus* was identified in an anthropogenic habitat from north-western Romania, namely at the entrance of the cellar from an old, ruined castle. The species was most likely introduced by accident, being presently found only within the confines of this habitat. This limited distribution of the species to only one anthropogenic habitat proves that *O. asellus* is not expanding and does not present a threat to the native terrestrial isopod fauna.

**Key words:** introduced species, artificial habitat, anthropogenic activities

### Introduction

*Oniscus asellus* LINNAEUS, 1758, although it is originally from Europe, it is considered alien in most regions of the continent, being introduced in areas where it is not native from (see in: COCHARD *et al.* 2010). *O. asellus* comes from Western Europe, from the Atlantic area (VANDEL 1960). From that region, the species was transported to the eastern and northern parts of the continent, where it is exclusively synanthropic (VANDEL 1960). In Romania, it was mentioned rarely and only around human settlements (RADU 1985, DOLNITCHI-OLARIU & TOMESCU 1997). Thus, to our knowledge, this species was not documented before for north-western Romania, missing also for the adjacent areas from Hungary (e.g. CSORDÁS *et al.* 2005, VILISICS & HORNUNG 2010). This species isn't considered native in Hungary either (VILISICS 2007), a country bordering Romania to the west. For Europe, most alien terrestrial isopod species were recorded in the western part of the continent, while the small number of these indications could be a sign of incomplete knowledge (see in: COCHARD *et al.* 2010). Thus, this note documents *O. asellus*' presence in north-western Romania, where it was probably introduced accidentally following anthropogenic activities.

### Materials and methods

*O. asellus* was found in the spring of 2012 during fieldworks through 177 localities from north-western Romania. The studies were made using the direct method and undertook both natural and anthropogenic

habitats. We allowed about 30 minutes per habitat for collecting isopods, the necessity to standardize time allocation being indicated previously (e.g. VILISICS & HORNUNG 2009). The isopods were collected by hand, conserved in test tubes with alcohol and identified in the laboratory, using the literature (e.g. VANDEL 1960, RADU 1985).

### Results and Discussion

*O. asellus* (Figure 1) was identified in only one location, at Mediesu Aurit (47°47'16,59"N / 23°08'01,07"E), in an artificial habitat. This location is situated in a plain area, at 137 m a.s.l. The *O. asellus* individuals were found on the Lonyai Castle ruins (Figure 2), under the rubble from the cellar entrance. The area is relatively wet, presenting abundant grassy vegetation, numerous bricks and stones. The species was not identified in any other locality from north-western Romania nor from any other habitat.

The distribution range and the insular presence of *O. asellus* in north-western Romania suggest that the species was introduced in the region. Furthermore, the fact that the species is restricted to an artificial habitat shows that *O. asellus* is not adapted to the conditions from the region, being not capable to occupy a wider range. The link with artificial habitats is a characteristic of most alien isopod species (see in: COCHARD *et al.* 2010), or of other arthropods for that matter (e.g. LOPEZ-VAAMONDE *et al.* 2010, NEDVĚD *et al.* 2011). *O. asellus* was most likely introduced passively in north-western Romania, as a consequence to anthropogenic activities linked with the past of the region. Thus, *O. asellus* was probably

Figure. 1. *Oniscus asellus* individual from Mediesu Aurit.



Figure. 2. *Oniscus asellus*' habitat from Mediesu Aurit.



introduced when the park around the Mediesu Aurit Castle was built, brought together with the soil or the foreign plants. As a general rule, many terrestrial isopods were introduced with soil, plants or compost transportations, including in parks (see in: COCHARD *et al.* 2010), ornamental plants being frequently introduced around castles (see in: DEHNEN-SCHMUTZ 2004).

Introduced species usually represent threats for the native fauna from the areas where they are introduced (e.g. KENIS & BRANCO 2010). This fact is not however valid for alien terrestrial isopod species, which have no impact on the native species or on natural habitats (COCHARD *et al.* 2010). The situation is confirmed for *O. asellus* from north-western Romania as well. Thus, the species only appears here, not spreading from the habitat it was introduced in, despite the fact that it was probably introduced here long ago, the castle being built in the XVI-XVII centuries (KOVÁCS 2003). The presence of the species constitutes a mere involuntary experiment on introduction mechanisms of some species and not a danger of the biodiversity and the indigenous isopods. At Medieșu Aurit, *O. asellus* is found together with native terrestrial isopod species (*Hyloniscus riparius*, *Hyloniscus transsilvanicus*, *Porcellium collicola*, *Armadillidium vulgare*, *Armadillidium versicolor*). In north-western Romania, important habitats for native terrestrial isopod assemblages seem to be the vast wetlands or forests (FERENTI *et al.* 2012, 2013). Thus, *O. asellus*' identification pleads more likely for a closer inspection of artificial habitats like castle ruins, which prove to be important also for other invertebrate groups (e.g. JUŘIČKOVÁ & KUČERA 2005).

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