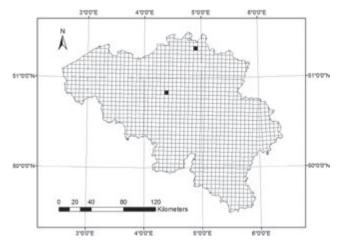
## THE GLOBALLY INVASIVE *PARALAOMA SERVILIS* (GASTROPODA: PUNCTIDAE) REPORTED FOR THE FIRST TIME IN BELGIUM

*Paralaoma servilis* (Shuttleworth, 1852) is believed to originate from New Zealand. It is considered a tramp species and is now widespread in Oceania, South America, North America, Africa and Europe (Wronski & Hausdorf, 2010; Christensen *et al.*, 2011; Welter-Schultes, 2012).

In Belgium, *P. servilis* was found for the first time on October 19<sup>th</sup> 2014 in Turnhout (51°19'36"N; 4°55'44"E). A second population was found on November 10<sup>th</sup> 2014 in Brussels (50°50'36"N; 4°21'41"E), approximately 67km southwest of the first locality (Fig. 1). All ten specimens collected in Turnhout were found on an iron fence between a lawn and a road near the town centre. In Brussels, twelve *P. servilis* were collected from a strip of bark in the Warandepark (Parc de Bruxelles), a city park in a highly urbanised area.

Although Welter-Schultes (2012) included Belgium in his distribution maps, earlier Belgian finds of *P. servilis* than those reported here could not be traced. However, the species may have been overlooked for a long time, since it has firmly established populations in the neighbouring countries and it is known to occur at several localities close to the Belgian border (Neckheim & Majoor, 2013). Indeed, P. servilis could easily be missed during visual surveys due to its small size (max. 2mm). Also, it may have been confused with small native species that have a similar ribbed shell sculpture, such as Punctum pygmaeum and juvenile Vallonia costata (Welter-Schultes, 2012). Consequently, P. servilis may already be more widespread than the reported finds suggest.

Both Belgian localities are situated in urbanized areas with well maintained gardens and parks. Therefore, it is likely that *P. servilis* was unintentionally introduced with garden plants. Introduction by horticultural activity has been suggested by Schmid (2002) and is considered an important introduction pathway of other recent additions to the Belgian molluscan fauna (Van den Neucker & Scheers, 2014). Since *P. servilis* has been reported from a variety of habitats (Neckheim & Majoor, 2013), it can be expected to rapidly expand its range within



**Figure 1** Recorded distribution up to November 10th 2014 of *P. servilis* in Belgium on a 5km UTM grid.

Belgium. So far, there are no reports of adverse effects of *P. servilis* on native fauna and flora in Europe or elsewhere.

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## References

- CHRISTENSEN CC, YEUNG NW & HAYES KA 2012 First Records of *Paralaoma servilis* (Shuttleworth, 1852) (Gastropoda: Pulmonata: Punctidae) in the Hawaiian Islands. *Bishop Museum Occasional Papers* **112**: 3–7.
- NECKHEIM T & MAJOOR G 2013 De verspreiding van het Duintolletje *Paralaoma servilis* (Shuttleworth, 1852) in Nederland. *Spirula* **390**: 11–12.

- 96 T VAN DEN NEUCKER & J RONSMANS
- SCHMID G 2002 Der Bambus-Tick oder Paralaoma servilis, die Gerippte Punktschnecke, in SW-Deutschland. In Falkner M, Groh K & Speight MCD (eds) Collectanea Malacologica. Festschrift für Gerhard Falkner. ConchBooks, Hackenheim/München: 377–403.
- VAN DEN NEUCKER T & SCHEERS K 2014 The recent colonisation and rapid spread in Belgium of the alien girdled snail *Hygromia cinctella* (Gastropoda: Hygromiidae). *Journal of Conchology* **41**(6): 1–2.
- WELTER-SCHULTES F 2012 European non-marine molluscs, a guide for species identification. Planet Poster Editions, Göttingen. 679 pp.
- WRONSKI T & HAUSDORF B 2010 Diversity and bodysize patterns of land snails in rain forests in Uganda. *Journal of Molluscan Studies* **76**(1): 87–100.

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