

Short note

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***Marionfyfea adventor* Jones & Sluys (2016), a non-native land planarian new for Belgium (Platyhelminthes: Tricladida: Geoplanidae)**

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Thus far, 25 species of non-native land planarians have been found in Europe [1][2][3]. Eight non-native land planarians have been reported from Belgium. Five of these have only been observed in greenhouses [4], while three others were reported exclusively from outdoor environments, including *Caenoplana variegata* (Fletcher & Hamilton, 1888) [5], *Obama nungara* (Carbayo, Álvarez-Presas, Jones & Riutort, 2016) [6] and most recently *Marionfyfea adventor* Jones & Sluys, 2016. In this note we provide detailed information regarding the first Belgian records of *M. adventor*, a species that can easily be distinguished from any other native and non-native planarian based on its unique colour pattern, consisting of a brown body with randomly scattered pale blue patches [7]. A single specimen of *M. adventor* found in Merendree (51°05'13,9" N, 3°35'08,2" E) on February 20th, 2021 constitutes the first record of the species in Belgium. It was found under dead wood in a wet pasture surrounded by agricultural land, close (approximately 20 m) to a 25-year-old hedgerow, orchard and garden. On October 28th, 2021, two specimens of *M. adventor* (Fig. 1) were found in a garden in Baronville (50°07'38.3" N, 4°56'55.0" E), approximately 215 km southeast of the first locality (Fig. 2). The species was repeatedly observed in Baronville. After the initial find, single specimens were collected on November 5th and November 8th, 2021 and two more were observed on November 17th, 2021. All specimens from Baronville were found after sunset on a limestone wall that was partly covered with *Hedera helix* and *Parthenocissus vitacea*. Since all the Belgian observations occurred in or near private gardens, *M. adventor* may have been introduced with fruit trees or ornamental plants. The first records from both localities and the subsequent observations, including photographic evidence, are stored in Waarnemingen.be [8][9], an online data

platform for citizen scientists that has proven to be a particularly useful tool for monitoring non-native species in Belgium [10].

Marionfyfea adventor was only recently described from European specimens, although its exact origins are unknown. It is considered to be non-native in Europe, since the only other species of the genus – *M. carnleyi* (Fyfe, 1953) – occurs in New Zealand [7]. In Europe, *M. adventor* has thus far been recorded from Ireland, the United Kingdom, France, the Netherlands, Germany and Denmark [1]. The presence of viable populations in NW Europe shows that it is a cold-hardy species, capable of surviving cool temperate winters [1]. Multiple observations of *M. adventor* in Baronville may indicate that the species is already firmly established in Belgium and could be more widespread than the reported finds suggest. *Marionfyfea adventor* can easily be overlooked, because of its small size [7] and because most Geoplanidae live hidden under wood, stones and litter [11].

At least some non-native planarians may have adverse effects on native ecosystems [11], although THUNNISSEN *et al.* [1] consider *Marionfyfea adventor* to be a low-risk species in the Netherlands, mainly because its diet remains unknown [1][12]. Nonetheless, *M. adventor* should be carefully monitored, since non-native planarians are generally known to feed upon native invertebrates [11]. The rapid



Fig. 1 – One of two specimens of *Marionfyfea adventor* found in Baronville on October 28th, 2021. Stretched length of the depicted specimen was approximately 10 mm.

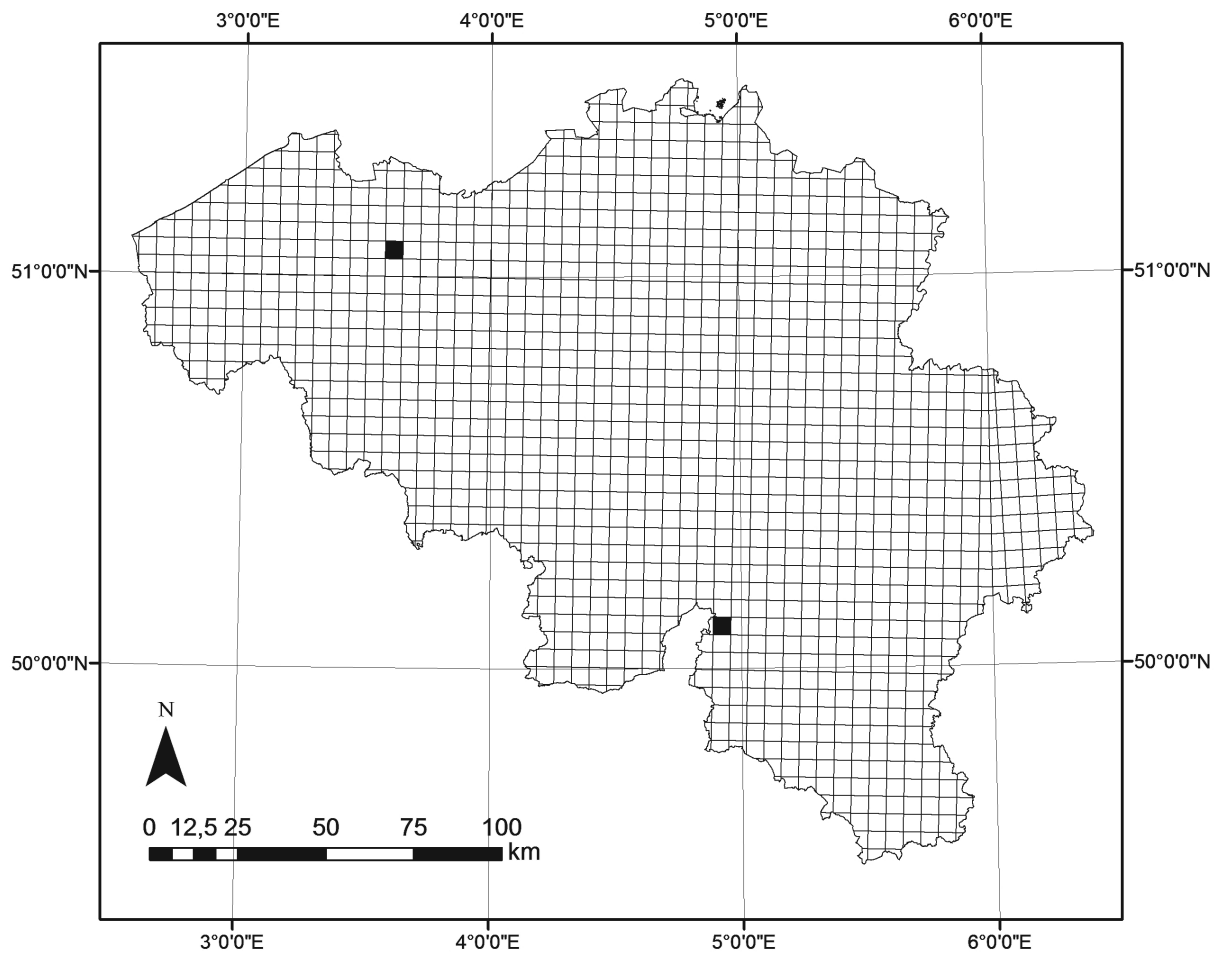


Fig. 2 – Recorded distribution up to November 17th, 2021 of *Marionfyfea adventor* in Belgium on a 5 km UTM grid.

spread of the species in Europe may be facilitated through passive dispersal by horticultural activity [7]. Therefore, phytosanitary measures should be implemented in order to prevent its further spread.

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References

- [1] THUNNISSEN N.W., DE WAART S.A., COLLAS F.P.L., JONGEJANS E., JAN HENDRIKS A., VAN DER VELDE G. & LEUVEN R.S.E.W. (2022). Risk screening and management of alien terrestrial planarians in The Netherlands. *Management of Biological Invasions* 13 (1): 81–100. <https://doi.org/10.3391/mbi.2022.13.1.05>
- [2] MORI E., MAGOGA G., PANELLA M., MONTAGNA M., WINSOR L., JUSTINE J.-L., MENCHETTI M., SCHIFANI E., MELONE B. & MAZZA G. (2022). Discovering the Pandora’s box: the invasion of alien flatworms in Italy. *Biological Invasions* 24: 205–216. <https://doi.org/10.1007/s10530-021-02638-w>

- [3] JUSTINE J.-L., GASTINEAU R., GROS P., GEY D., RUZZIER E., CHARLES L. & WINSOR L. (2022). Hammerhead flatworms (Platyhelminthes, Geoplanidae, Bipaliinae): mitochondrial genomes and description of two new species from France, Italy, and Mayotte. *PeerJ* 10: e12725. <https://doi.org/10.7717/peerj.12725>
- [4] VAN DEN NEUCKER T., SOORS J., SCHEERS K., GROOM Q. & ADRIAENS T. (2020). *Minstens vijf exotische landplatwormen in Vlaamse plantentuinen*. Natuurpunt Nieuwsbericht. Available from <https://www.natuurpunt.be/nieuws/minstens-vijf-exotische-landplatwormen-vlaamse-plantentuinen-20200326> [accessed on 3 January 2022].
- [5] SOORS J., DE WAART S., BACKELJAU T., BREUGELMANS K., PLETINCK R. & SLUYS R. (2017). *Invasie van Down Under: exotische platwormen straks heer en meester?* Natuurpunt Nieuwsbericht. Available from <https://www.natuurpunt.be/nieuws/invasie-van-down-under-exotische-platwormen-straks-heer-en-meester-20170331> [accessed on 3 January 2022].
- [6] SOORS J., VAN DEN NEUCKER T., HALFMAERTEN D., NEYRINCK S. & DE BAERE M. (2019). On the presence of the invasive planarian *Obama nungara* (Carbayo, Álvarez-Presas, Jones & Riutort, 2016) (Platyhelminthes: Geoplanidae) in an urban area in Belgium. *Belgian Journal of Zoology* 149 (1): 43–47. <https://doi.org/10.26496/bjz.2019.29>
- [7] JONES H.D. & SLUYS R. (2016). A new terrestrial planarian species of the genus *Marionfyfea* (Platyhelminthes: Tricladida) found in Europe. *Journal of Natural History* 50 (41–42): 2673–2690. <https://doi.org/10.1080/00222933.2016.1208907>
- [8] MEES J. (2021). *Marionfyfea adventor*. Data via Waarnemingen.be. Available from <https://waarnemingen.be/observation/207491385/> [accessed on 3 January 2022].
- [9] SEVRIN D. (2021). *Marionfyfea adventor*. Data via Waarnemingen.be. Available from <https://waarnemingen.be/observation/228461427/> [accessed on 3 January 2022].
- [10] SWINNEN K.R.R., VERCAYIE D., VANREUSEL W., BARENDSE R., BOERS K., BOGAERT J., DEKEUKELEIRE D., DRIESSENS G., DUPRIEZ P., JOORIS R., STEEMAN R., VAN ASTEN K., VAN DEN NEUCKER T., VAN DORSSELAER P., VAN VOOREN P., WYSMANTEL N., GIELEN K., DESMET P., HERREMANS M., all working groups, species validators and recorders (2018). Waarnemingen.be – Non-native plant and animal occurrences in Flanders and the Brussels Capital Region, Belgium. *BioInvasions Records* 7: 335–342. <https://doi.org/10.3391/bir.2018.7.3.17>
- [11] SLUYS R. (2016). Invasion of the flatworms. *American Scientist* 104: 288–295.
- [12] THUNNISSEN N.W., COLLAS F.P.L., JONGEJANS E., VAN DER VELDE G., DE WAART S. & LEUVEN R.S.E.W. (2020). *Risicobeoordeling van uitheemse landplatwormen*. Rapport Afdeling Dierecologie en Fysiologie 2020-1, Radboud Universiteit, Nijmegen. 121 pp.

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