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# The discovery of *Haplophthalmus montivagus* Verhoeff, 1941 (Isopoda: Oniscidea) at Treborth Botanic Garden, North Wales

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## Introduction

On 19.x.2019, a woodlouse identification course organized by Cofnod, North Wales Environmental Information Service and conducted by Steve Gregory at Treborth Botanic Garden (TBG) (Bangor, Gwynedd, North Wales) resulted in the discovery of three county first records (for VC49 Caernarvonshire). These included: *Porcellionides pruinosus* (Brandt), which was found in large numbers in the compost heap at TBG (SH 5510 7102); a population of *Porcellio dilatatus* Brandt which was discovered by Susan Andrew in an abandoned cowshed in Bangor (SH 5685 7213) and most surprisingly, a male specimen of *Haplophthalmus montivagus* Verhoeff, identified by David Hill (DGH) from the limestone rockery at TBG (SH 5502 7107).

The discovery of *H. montivagus* is discussed hitherto due to the isolated nature of this record, 168km directly west from the nearest observation at Haddon Hall, Bakewell (Harper, 2004). The inclusion of these three records brings the number of ‘outdoor’ terrestrial isopod species in North Wales to 25, representing c. 60% of the total UK diversity (Gregory, 2009; Hughes, 2019).

## Identification

The genus *Haplophthalmus* is represented by three species in the UK; *H. danicus* (Budde-Lund), *H. mengii* (Zaddach) and *H. montivagus* Verhoeff (Gregory, 2009).

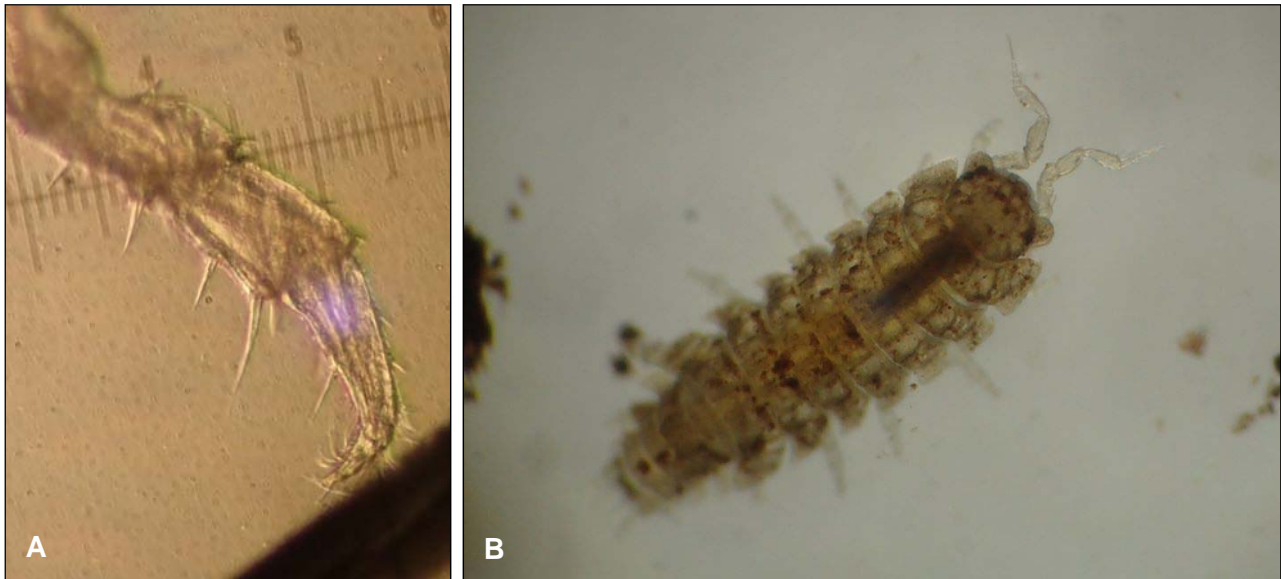
*H. montivagus* is easily separated from *H. danicus* by the presence of a distinct median bi-lobe present on the dorsal surface of the third pleonite (Fig. 1B & 2A); a characteristic also present in *H. mengii*. Separation from *H. mengii* is only possible through the dissection of male specimens. The carpus of pereopod 7 of *H. montivagus* has several prominent spines with a ‘needle-like’ tip (Fig. 1A & 2B), whilst in *H. mengii* this feature is much shorter, thicker and blunt (Hopkin, 1991).

## Discovery and Origin

Examples of *H. montivagus* were collected from a humus rich soil within a 40cm deep gryke in a limestone rockery sat on a matrix of limestone gravel and topsoil, by DGH on 19.x.2019 (Fig. 1). Accompanying vegetation included *Asplenium scolopendrium*, *A. trichomanes*, *Polypodium cambricum* ‘Richard Kayse’, *Iris foetidissima*, *Dryopteris filix-mas* and *Juniperus communis*. To support this identification and to confirm the extensiveness of the population a further study of the rockery was undertaken by Thomas Hughes (TDH) on 1.xi.2019. A further five male specimens were examined which showed characteristics consistent with *H. montivagus* (Fig. 2).

*H. montivagus* is considered rare in the UK and has been recorded sporadically in ancient woodland on limestone or chalk, typically in southern England and Wales (Gregory, 2009). Due to *H. montivagus* also being regarded as a synanthropic species, especially with respect to movement by horticultural practices (Harper, 2004), it is fair to assume a similar origin of the TBG population. To rule out a native population within the surrounding woodland at TBG random sampling was conducted by TDH in November 2019 - no specimens were recorded with the exception of its widespread congeners

*H. danicus* and *H. mengii*. During a discussion with the TBG curator (Natalie Chivers) about this observation, she kindly offered to locate the source of the limestone used in constructing the rockery in hopes it could represent a point of origin. Her correspondence with the former TBG curator (Nigel Brown) revealed “the rocks came from a medium sized working quarry in East Anglesey - Aber Quarry between Moelfre and Traeth Lligwy at SH 5025 8660”. During December 2019, TDH visited several woodlands within close proximity of Aber Quarry on Anglesey in hopes of finding specimens. Despite consistent efforts, no *H. montivagus* examples were located suggesting the population at TBG arrived through soil and plants used during the original planting of the rockery. Therefore, we can be certain of an anthropogenic origin for this outlying population.



**Figure 1: *Haplophthalmus montivagus*, male, from Treborth Botanic Garden**  
A) Pereiopod vii; B) Habitus. (Coll. 19.x.2019 D. Hill).



**Figure 2: *Haplophthalmus montivagus* from Treborth Botanic Garden.**  
A) In-situ Treborth Botanic Garden; B) Pereiopod vii of male (Coll. 1.xi.2019 T. Hughes).

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