

15 years on: An update to Woodlice and Waterlice in Britain and Ireland, part 1 ~ Native and Naturalised Species

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Abstract

In 2009 the ‘Woodlouse Atlas’, *Woodlice and Waterlice of Britain and Ireland*, was published. Since that date three native or naturalised species of terrestrial woodlice (Isopoda: Oniscidea), *Philoscia affinis* Verhoeff, *Chaetophiloscia cellaria* (Dollfus) and *Hyloniscus riparius* (C. Koch), have been added to the British and Irish checklist. In addition our understanding of the distribution and habitat requirements of other woodlouse species has improved significantly, of which eleven species are highlighted in this paper. These are: *Buddelundiella cataractae* Verhoeff, *Metatrichoniscoides celticus* Oliver & Trew, *M. leydigii* (Weber), *Oritoniscus flavus* (Budde-Lund), *Trichoniscoides sarsi* Patience, *Stenophiloscia glarearum* Verhoeff, *Porcellio laevis* Latreille, *Acaeroplastes melanurus* (Budde-Lund), *Trachelipus rathkii* (Brandt), *Armadillidium depressum* Brandt and *Armadillidium nasatum* Budde-Lund. Changes in species conservation status are highlighted and an updated checklist of the waterlice and woodlice (Isopoda; Asellota & Oniscidea) occurring in Britain and Ireland is given.

Introduction

Fifteen years ago *Woodlice and Waterlice in Britain and Ireland* (Gregory, 2009) (hereafter referred to as WWIBI) was published. This was compiled from 85,950 records of terrestrial woodlice (Isopoda: Oniscidea) and 69,633 records of aquatic waterlice (water slaters or hoglice) (Isopoda: Asellota) that had been submitted to the Non-marine Isopod Recording Scheme. At the time WWIBI provided up-to-date distribution maps and notes on habitat preference, species biology and conservation and collecting methods for four species of waterlouse and 40 species of native or naturalised woodlouse then known from Britain and Ireland (an additional 12 species, restricted to heated glasshouses, such as those of botanic gardens, are briefly mentioned).

The Non-marine Isopod Recording Scheme remains active (<https://bmig.org.uk/page/woodlice-waterlice-recording-scheme>) and as predicted by Harding (2018) the distribution maps are gradually becoming ‘out-of-date’ (as was hoped!). Such publications not only provide a snap-shot of current knowledge, but inevitably encourage further species recording. In the 15 years since publication of WWIBI that has certainly been the case. Thus, this would seem to be an opportune moment to highlight some of the more significant discoveries in the distribution and habitat preferences of the British and Irish non-marine Isopods. The current British and Irish checklist remains at four species of waterlouse, but there are now 43 known species of native or naturalised woodlouse (see Appendix I).

The species accounts

For many woodlouse species we now have a much better understanding of their distribution and habitat requirements across Britain and Ireland. Since the publication of WWIBI, three species capable of maintaining viable breeding populations outdoors have been discovered for the first time in Britain and Ireland: *Philoscia affinis* Verhoeff, *Chaetophiloscia cellaria* (Dollfus) and *Hyloniscus riparius* (C. Koch). An additional eleven native or naturalised species have shown a significant change in distribution, either due to previous under-recording or due to natural or human assisted dispersal to new areas, and are highlighted in the species accounts below. These are: *Buddelundiella cataractae* Verhoeff, *Metatrichoniscoides celticus* Oliver & Trew, *M. leydigii* (Weber), *Oritoniscus flavus* (Budde-

Lund), *Trichoniscoides sarsi* Patience, *Stenophiloscia glarearum* Verhoeff, *Porcellio laevis* Latreille, *Acaeroplastes melanurus* (Budde-Lund), *Trachelipus rathkii* (Brandt), *Armadillidium depressum* Brandt and *Armadillidium nasatum* Budde-Lund.

The species accounts summarise the known information of species distribution, species biology, field techniques, etc, which has been compiled from as many sources as possible. This includes published articles, including those in the *Bulletin of the British Myriapod & Isopod Group*, and more informal accounts, such as found in the *BMIG Newsletter*. The original sources, which are cited, will provide much more detailed information. The species distribution maps show the hectads (10km squares) of the British and Irish National Grids in which a given species has been recorded. These are shown in two date classes: Post 2008 records (made since the publication of WWIBI) are shown as solid red dots. Pre 2008 records (which are plotted in WWIBI) are shown as solid yellow dots. In the case of ‘uncommon’ species with very few records if it has been recorded from the same hectad in both date classes (i.e. both pre and post 2008) this is indicated by a red circle with a yellow centre.

Sources of records

All woodlouse and waterlouse records included in this updated account have been submitted to the BMIG Non-marine Recording Scheme via a number of sources. Records up until the end on March 2024 (unless noted in the species accounts) are included. By far the greatest majority, 24,2116 records, have been submitted and verified by the recording scheme via Biological Records Centre’s iRecord website (<https://irecord.org.uk>). This includes a number of records that have been extracted from publications, for example from the *Bulletin of the British Myriapod and Isopod Group*. An additional 11,981 records have been submitted via the iNaturalist platform (<https://www.inaturalist.org>), which independently filter into iRecord to be verified by the recording scheme. A few additional (verified) records from Ireland have been gleaned from the National Biodiversity Data Centre (NBDC) (<https://biodiversityireland.ie>). In addition a small quantity of records have been submitted directly to the author via email, for example as a spreadsheet.

Records have not been taken from the National Biodiversity Network (NBN; <https://nbnatlas.org>) since this includes a large proportion of records (from many datasets) that have not been verified by the recording scheme. Some of these records are clearly erroneous. For example records of *Ligidium hypnorum* from north-east England (hectads NZ18, NZ26, NZ29, NZ41, NZ51, NZ61) and Fife, south-east Scotland (NO10, NO3, NO60) are almost certainly based on misidentifications. That from Orkney (HY30) refers to *Ligia oceanica* (Gordon Corbet, pers.comm.). Records of *Trachelipus rathkii* from West Lancashire (hectads, SD21, SD31, SD30) were shown by Harding (1977) to be based on misidentifications. Also doubtful is the 1968 record of *Trachelipus ratzeburgi* (Brandt) from Cambridgeshire, a central European species that has been frequently misidentified in Britain (ibid).

Introduced non-naturalised ‘glasshouse’ species

This update only includes native or naturalised woodlice that have proved capable of establishing long-term populations outdoors under natural British and Irish climatic conditions. Additional unintentionally introduced species have been recorded from inside heated glasshouses, such as those found at botanic gardens or horticultural plant nurseries. Although such species are dependent upon artificially maintained conditions some may establish ephemeral ‘outdoor’ populations, for example at garden centres. However, they may not be able to survive outdoors through the relatively cold British and Irish winters. These introduced species were only given cursory coverage in WWIBI, and are not included within current identification guides, i.e. the AIDGAP key (Hopkin, 1991) nor the Linnean Synopsis (Oliver & Meechan, 1993), which only include native or naturalised species. Our knowledge of these introduced woodlice has also substantially improved since the publication of WWIBI, with 20 species now recorded (Appendix I). These will be the subject of a second paper (Gregory, in prep.).

Native or Naturalised Woodlice new to Britain and Ireland

Since the publication of WWIBI three species of woodlouse have been discovered living and successfully breeding outdoors in the British Isles. These are listed chronologically below.

Family Philosciidae

Philoscia affinis Verhoeff, 1908

The discovery of the woodlouse *Philoscia affinis* in the UK in 2017, in West Sussex, is reported by Segers, Boeraeve & De Smedt (2018). On current evidence this seems to be a long overlooked native species, or possibly an ancient introduction and therefore the first native or naturalised woodlouse to be discovered in Britain or Ireland since the discovery of *Trichoniscoides helveticus* (Carl) almost three decades earlier (Hopkin, 1990).

Identification

Philoscia affinis is similar in size and appearance to *P. muscorum* (Scopoli), hence the past confusion. In current identification guides (Hopkin, 1991; Oliver & Meechan, 1993) it will readily key to *P. muscorum*. Although typical examples of either species differ subtly in head and body pigmentation patterns this does not work for all specimens and the only reliably way to separate the two species is by microscopic examination of male pereopod 7. Brief descriptions with figures to enable identification are provided by Segers *et al.* (2018), Hughes (2019) and Gregory (2020a).

Distribution

Philoscia affinis appears to have a predominantly western distribution across Britain from south Devon northwards to the Isle of Skye, western Scotland. Interestingly this is a considerable 700 km north of the former ‘northern-most’ observations in Belgium (Boeraeve *et al.*, 2017). Although a large proportion of the British records are from western coastal areas, there are also widely scattered, possibly relict, populations discovered far inland. This includes Wyre Forest, Worcestershire (Farmer, 2019), Wenlock Edge, Shropshire (Gregory, 2024), Sherwood Forest, Nottinghamshire (Pendleton & Pendleton, 2023), Derbyshire and Yorkshire (e.g. Gregory, 2021). In Northern Ireland *P. affinis* has proved widespread (e.g. Anderson, 2019) and it may prove to be widely dispersed across Ireland.

A previously overlooked species

Examination of reference collections of ‘*P. muscorum*’ has revealed misidentified *P. affinis* from Wales and south west Scotland dating back to 2004 (Gregory, 2020a). During BMIG’s 2019 field meeting held in south west Scotland, targeted surveys found *P. affinis* to be numerous at several rural coastal and woodland sites, but *P. muscorum* was only found in one ornamental garden (Gregory *et al.*, 2023). Unfortunately, during BMIG’s previous field meetings to this area (Ayrshire in 2006 and 2007; Kintyre in 2010) the two species were not differentiated and one voucher specimen has been shown subsequently to be *P. affinis*. Also of note is that *P. affinis* has been recorded recently from the well-worked Isles of Scilly (in December 2023) and on Lundy (in April 2024) where numerous previous surveys had only noted *P. muscorum*. Thus, it seems highly likely that many records from rural habitats in western Britain and across Ireland that are mapped in WWIBI may actually refer to *P. affinis*.

Habitat and microsities

Primarily *P. affinis* is a woodlouse of rural sites with records from semi-natural habitats such as open deciduous woodland, unmanaged coastal grassland, calcareous fen, heathland and even limestone pavement. It occurs on both acidic and calcareous substrates and up to an altitude of 240 m asl in north Wales and 370 m asl in Northern Ireland (Hughes, 2019; Anderson, 2019). It inhabits the ‘usual’

woodlouse places, under stones and dead wood, among accumulations of leaf litter, among carpets of moss or within grass tussocks.

Although the evidence suggest that *P. affinis* does not favour synanthropic sites (in which its congener *P. muscorum* thrives), specimens have been found in garden centres in South Northumberland and Edinburgh (Maguire, 2023). And, interestingly, the distinctively marked form *P. affinis trifasciata* (typically found in Italy) has been recorded from a street-side planter in Birmingham city and a domestic garden in Swindon (both det. Frank Noël) (Gregory, 2023).

Associated species

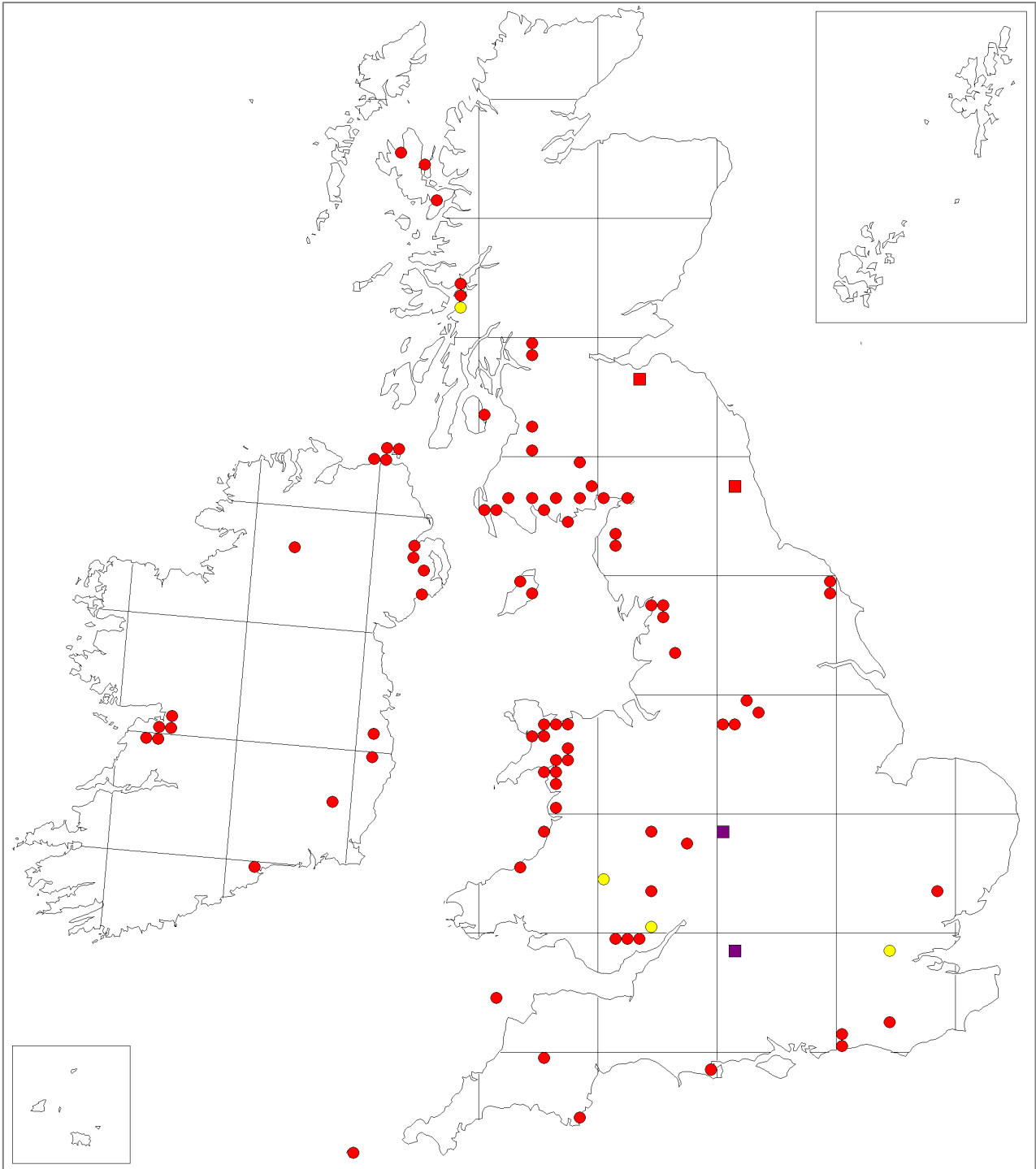
In woodlands *P. affinis* is typically associated with the ubiquitous *Oniscus asellus* Linnaeus, *Porcellio scaber* Latreille and *Trichoniscus pusillus* agg. Brandt. In coastal habitats it has been found with *Porcellionides cingendus* (Kinahan) and *Armadillidium pulchellum* (Zencker). On several occasions *P. affinis* has been found with its congener *P. muscorum* (e.g. Hughes, 2019; Nicola Garnham, pers. comm.).

Worldwide distribution

Philoscia affinis has a widespread European distribution from northern Spain, France, Germany, Italy to Croatia and also known from Northern Algeria (Schmalfuss, 2003). Relatively recently *P. affinis* has proved to be locally distributed in countries adjacent to the UK such as northern France (Séchet & Noël, 2015) and Belgium (Boeraeve *et al.*, 2017). In these countries it is thought that *P. affinis* has been long present, but overlooked. This also appears to be true in Britain and Ireland.



Philoscia affinis female from Lancashire, north-west England © Nicola Garnham



Distribution map of *Philoscia affinis*

- hectad records 2008 to March 2024; ■ garden centre records; ■ *P. affinis* form *trifasciata*;
- records made before 2008 (erroneously mapped as *P. muscorum* in WWIBI).

Family Philosciidae

Chaetophiloscia cellaria (Dollfus, 1884)

The discovery of the woodlouse *Chaetophiloscia cellaria* on Guernsey, Channel Islands by Andy Marquis is reported by Gregory & Marquis (2019). This is an extension of known range from north-west France either by natural dispersal or by accidental introduction.

Identification

Chaetophiloscia cellaria is a small darkly pigmented species, with specimens from Guernsey up to 6mm in length. It is reminiscent of *Philoscia* sp., and the speckled brown head could cause confusion with *Philoscia affinis* Verhoeff. However, the conspicuous orange corners to the posterior angles of the last pereonite (most obvious in live specimens) are characteristic of *C. cellaria*. In current identification guides (Hopkin, 1991; Oliver & Meechan, 1993) it is likely key to *Philoscia muscorum* (Scopoli). A brief description with figures to enable identification is provided by Gregory & Marquis (2019).

Distribution

Currently, *C. cellaria* is known from four widely separated sites on Guernsey, Channel Islands. The original discovery was from a domestic garden in May 2018, with repeated sightings documented there including 2024. During 2019 it was also found at three coastal sites. In recent years it has undergone a north-west expansion of range within France (Séchet & Noël, 2015), where its colonisation is thought to have been aided by human activity (Séchet & Noël, 2007). Thus, it is probably a relatively recent colonist of the Channel Islands and it is possible that it may soon reach the south coast of England.

WWIBI noted the occurrence of an unidentified *Chaetophiloscia* sp. on the Isles of Scilly in the 1980s. Although these could be *C. cellaria*, two other likely species, *C. elongata* (Dollfus) and *C. sicula* Verhoeff, also occur widely in north-west France (MNHN, 2024).

Habitat and microsites

At the garden site specimens of *C. cellaria* were found among leaf-litter in a dark damp corner, under dead wood and under stones. Of the coastal sites, two are shingle/pebble beaches, with specimens found under stones above the high water mark; the third is sand dunes (Andy Marquis, pers. comm.).



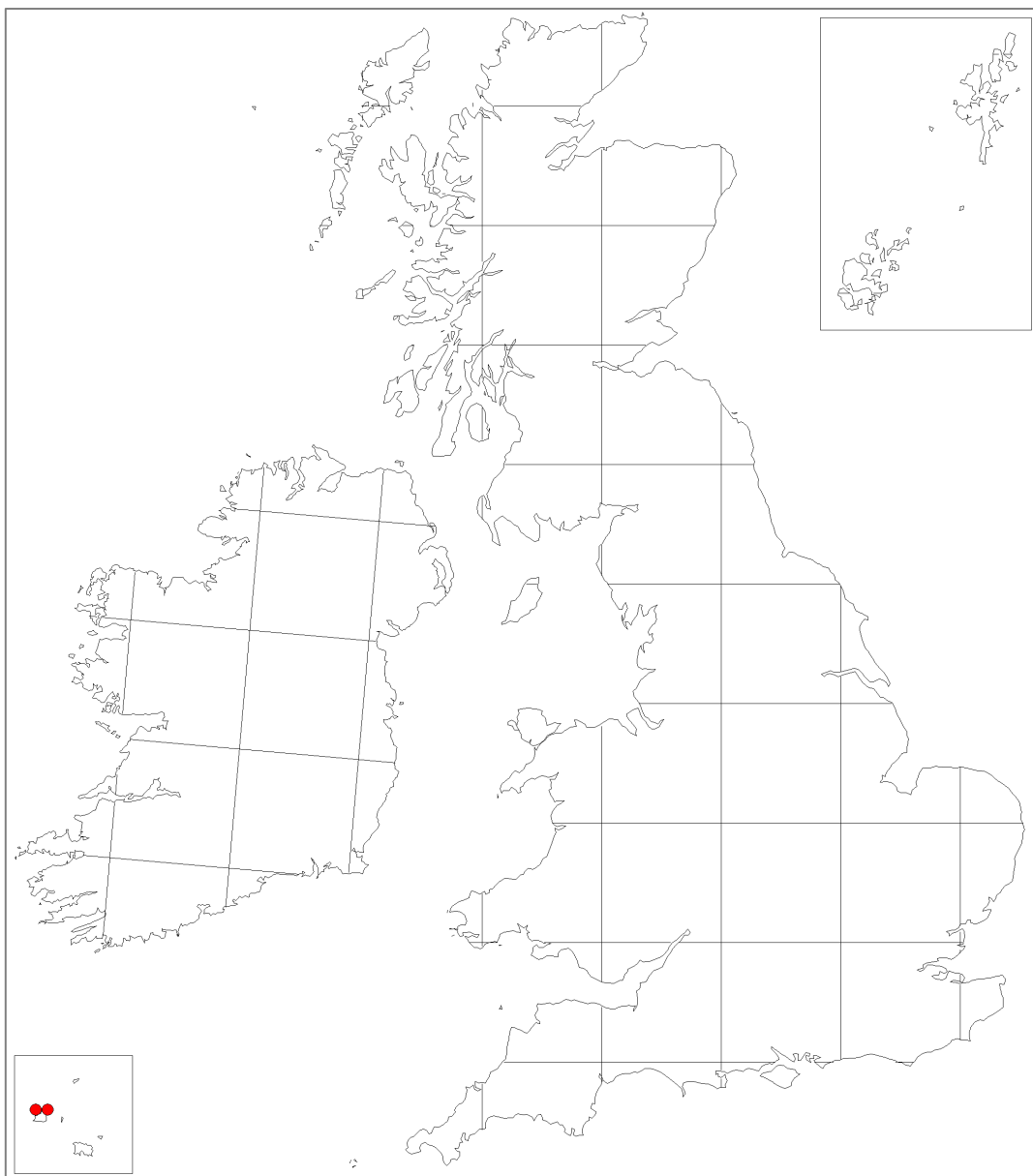
Chaetophiloscia cellaria from Guernsey © Andy Marquis

Associated species

Associated woodlice simply reflect the broad habitats in which *C. cellaria* has been found. At the domestic garden site ubiquitous woodlouse species predominated, but also *Haplophthalmus danicus* Budde-Lund, *Platyarthrus hoffmannseggii* Brandt, *Porcellionides pruinosus* Brandt and *P. cingendus* Kinahan. On the shingle beach the sea-shore specialists *Ligia oceanica* Linnaeus and *Halophiloscia couchii* Kinahan were recorded, along with *P. cingendus*.

Worldwide distribution

Chaetophiloscia cellaria is widespread across the northern Mediterranean region from Spain to Greece (Schmalfuss, 2003). However, in recent years it has undertaken a marked northwards expansion of range within France and now occupies many areas in north of the country, both on the coast and inland (Séchet & Noël, 2015; MNHN, 2024).



Distribution of *Chaetophiloscia cellaria*

● hectad records 2018 to March 2024

Family Trichoniscidae

Hyloniscus riparius (C. Koch, 1838)

The discovery of the woodlouse *Hyloniscus riparius* from the Vale of Evesham, Worcestershire, is reported by Farmer (2023). Following its discovery in The Netherlands in 1991 Bilton (1993) suggested “a strong possibility that the species may be ‘hiding’ in the UK”. After three decades it was finally discovered. This is almost certainly a non-native unintentional introduction.

Identification

Hyloniscus riparius looks very similar to, and easily overlooked as, *Trichoniscus pusillus* agg. Brandt. It is slightly larger and darker in colour, and has the eye comprising a single ommatidium (as seen in *Oritoniscus flavus* (Budde-Lund)). In *Trichoniscus* spp. there are 3 ommatidia. In the current identification guides (Hopkin, 1991; Oliver & Meehan, 1993) it will erroneously key to *O. flavus*. A brief description with figures to enable identification is given by Gregory & Farmer (2023).

Distribution

Currently *H. riparius* is known from an 8km stretch of the river Avon in the Vale of Evesham, Worcestershire. It was first recorded in April 2022 near Wick, with additional sites discovered nearby. In April 2023 a second population, in an adjacent hectad, was discovered at Evesham Country Park about 8km upstream. It may be just a matter of time before it is found in the catchments of other lowland rivers such as the Severn (of which the Avon is a tributary) or the Thames.

Habitat and microsites

Specimens of *H. riparius* have been found, often in large numbers, under riverside flood debris, mainly comprising dead wood. It is tolerant of seasonal inundation and in the Netherlands and Belgium, where it is a relatively recent colonist, it is a characteristic woodlouse of riverine flood plains (Berg *et al.*, 2008; Smedt *et al.*, 2020). However, it is apparent that in both countries *H. riparius* is also readily spread by human activity, such as the horticultural trade.



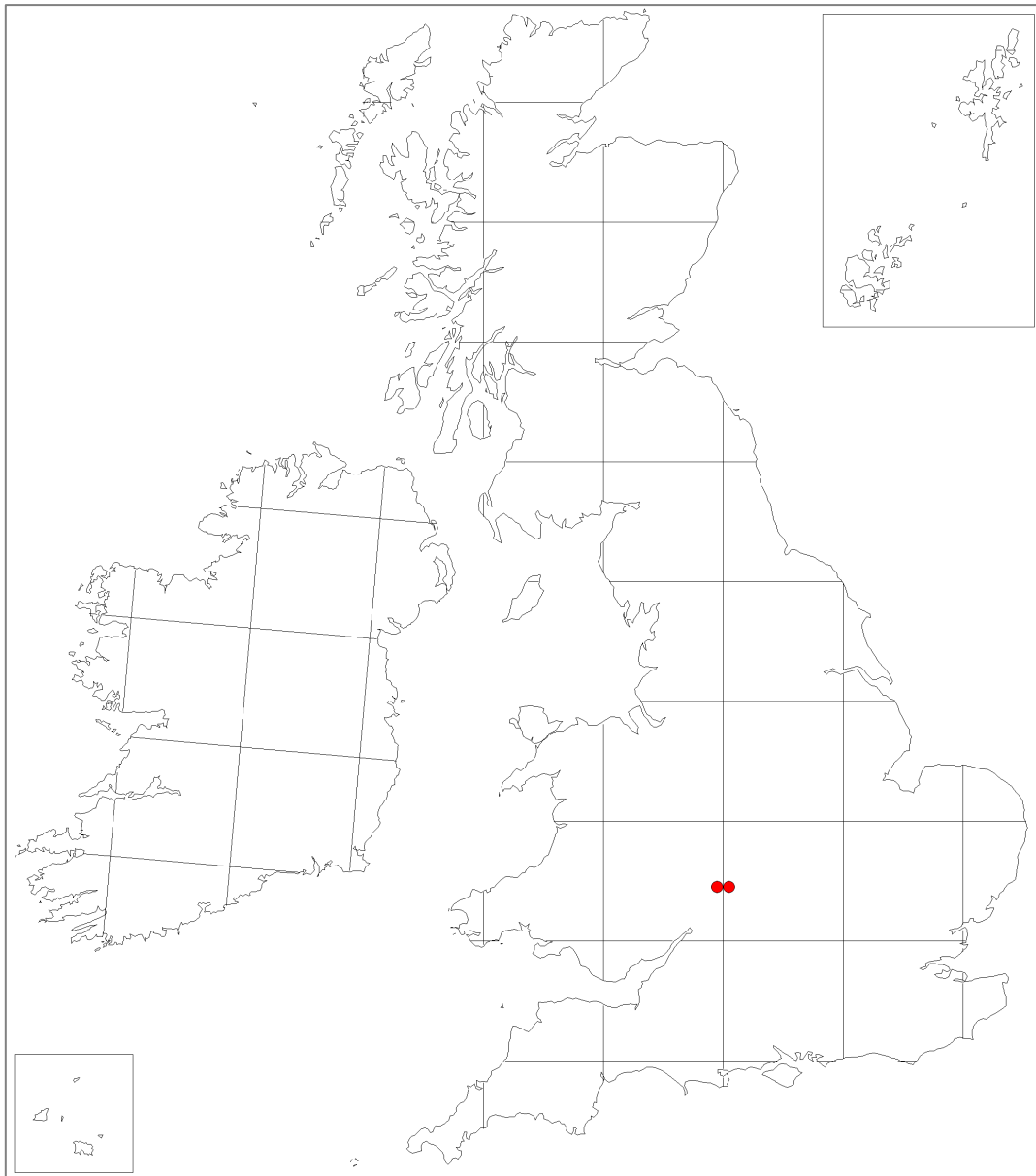
Hyloniscus riparius from the Vale of Evesham © Gary Farmer

Associated species

At all known sites *H. riparius* is associated with *Trachelipus rathkii* (Brandt), another species tolerant of seasonal inundation and characteristic of riverside flood plains (as noted in WWIBI). Other woodlice present were *Trichoniscus pusillus* agg. Brandt, *Philoscia muscorum* (Scopoli), *Oniscus asellus* Linnaeus and *Porcellio scaber* Latreille.

Worldwide distribution

Hyloniscus riparius has a very widespread distribution across central and eastern Europe and has been introduced into North America (Schmalfuss, 2003). In recent decades *H. riparius* has expanded its range into north-west Europe, notably rapidly colonising the Netherlands and Belgium (Berg *et al.*, 2008; De Smedt *et al.*, 2020) and now it has arrived in England.



Distribution map of *Hyloniscus riparius*

● hectad records 2022 to March 2024

Native and naturalised woodlice showing significant changes in distribution

Family Trichoniscidae

Buddelundiella cataractae Verhoeff, 1930

WWIBI plots records from just eight widely scattered hectads, from the English south coast northwards as far as south Wales and Norfolk. Several of the known sites are designated SACs, NNRs and/or SSSIs and due to its restricted area of occupancy *B. cataractae* is listed as Nationally Rare (Lee, 2015).

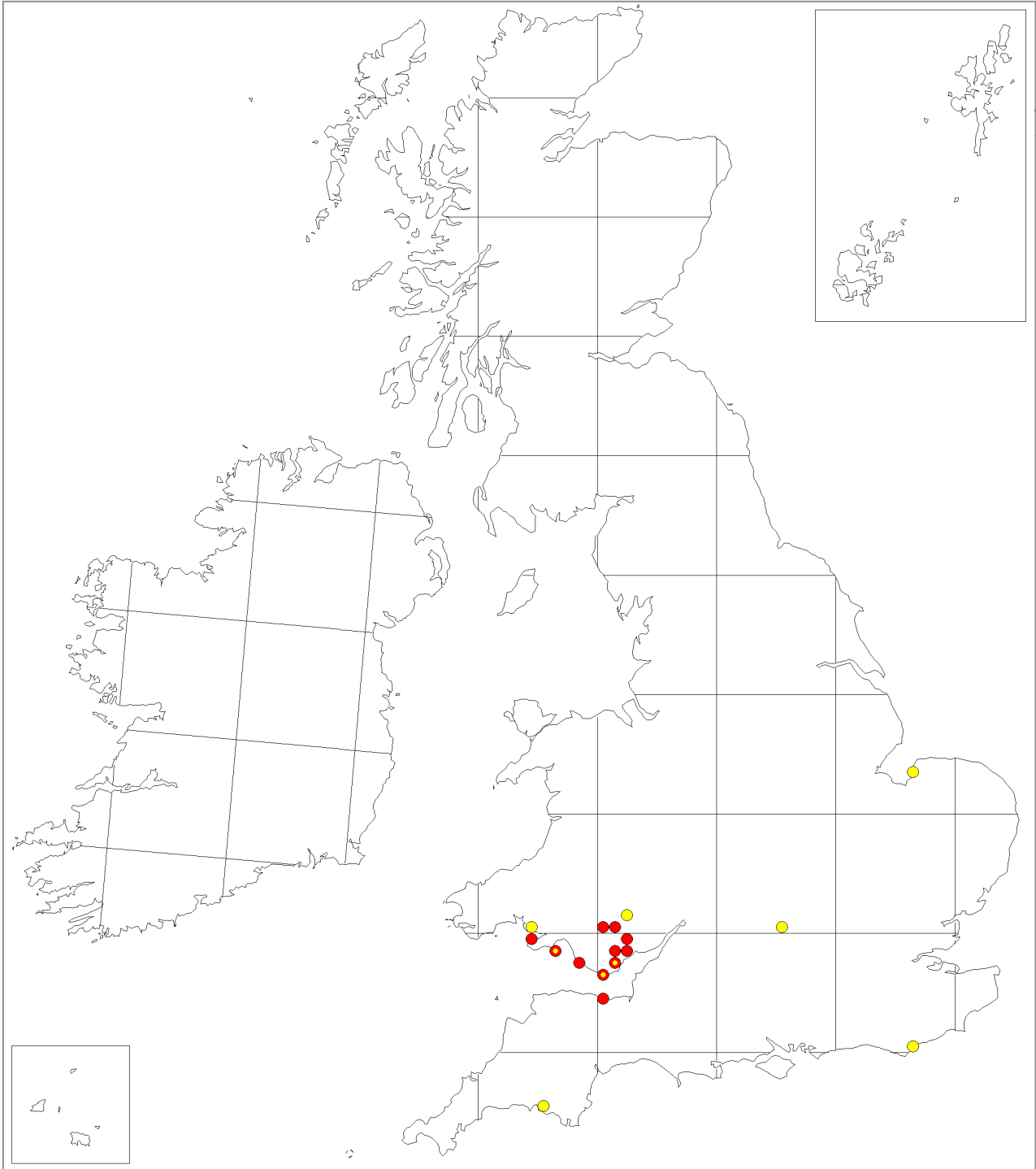
Recent field work has shown *B. cataractae* to be relatively widespread in south Wales (e.g. Harper, 2010; Morgan, 2011, Christian Owen, pers. comm.) where it has been recorded from seven new hectads and refound within three hectads from which it was previously recorded (though some are new sites). In May 2023, during BMIG's annual field meeting, several specimens of *B. cataractae* were collected from inside a tropical glasshouse in Somerset on the opposite side of Bristol Channel. Here it was associated with typical tropical glasshouse species, including *Trichorhina tomentosa* (Budde-Lund) and a single specimen of *Reductoniscus costulatus* Kesselyák. The latter species is of very similar appearance to *B. cataractae* and highlights potential confusion between the two species in the field.

Although favouring coastal habitats, it is apparent that *B. cataractae* also inhabits a wide range of inland synanthropic sites, including domestic gardens, an ornamental garden and disused quarries. As reported in WWIBI, many of the records are from beneath stones, especially larger ones that are partly embedded in friable and/or peaty soil. At Ogmores-by-Sea a specimen was collected along with a specimen of *Metratrichoniscoides celticus* Oliver & Trew (pers. obsv.).

On several occasions specimens have been collected in association with *Haplophthalmus* species (which share a similar 'haplophthalmoid' sculpturing) and its true identity only discovered upon microscopic examination. This is another example where *B. cataractae* may be easily overlooked in the field and combined with its subterranean habits and small size means it undoubtedly remains under recorded.



Buddelundiella cataractae from South Wales © Christian Owen



Distribution of *Buddelundiella cataractae*

- new hectad records, 2008 to March 2024; ● records both post 2008 and pre 2008;
- records made before 2008 (mapped in WWIBI).

***Metatrichoniscoides celticus* Oliver & Trew, 1981**

In WWIBI this species was known from several sites falling within just four hectads along a 63km stretch of south Wales. Several sites are designated SACs, NNRs and/or SSSIs and all are underlain by limestone. Due to its restricted area of occupancy and due to the potential threat of stochastic events, such as pollution or storm damage, *M. celticus* is listed as Nationally Rare and Vulnerable by Lee (2015). In light of post 2015 records (highlighted below) it has been downgraded to Near Threatened by Macadam (2022).

Although this has proved to be a notoriously elusive species, targeted surveys undertaken between 2003 and 2007 refound the species at many of its known coastal sites (this data included within WWIBI). More recently, targeted surveys at Ogmore-by-Sea has repeatedly refound *M. celticus* with relative ease in 2016 (Gregory, 2017), 2017 (pers. obsv.) and 2018 (Christian Owen, pers. comm.). However, no additional localities in south Wales have been discovered since 1986.

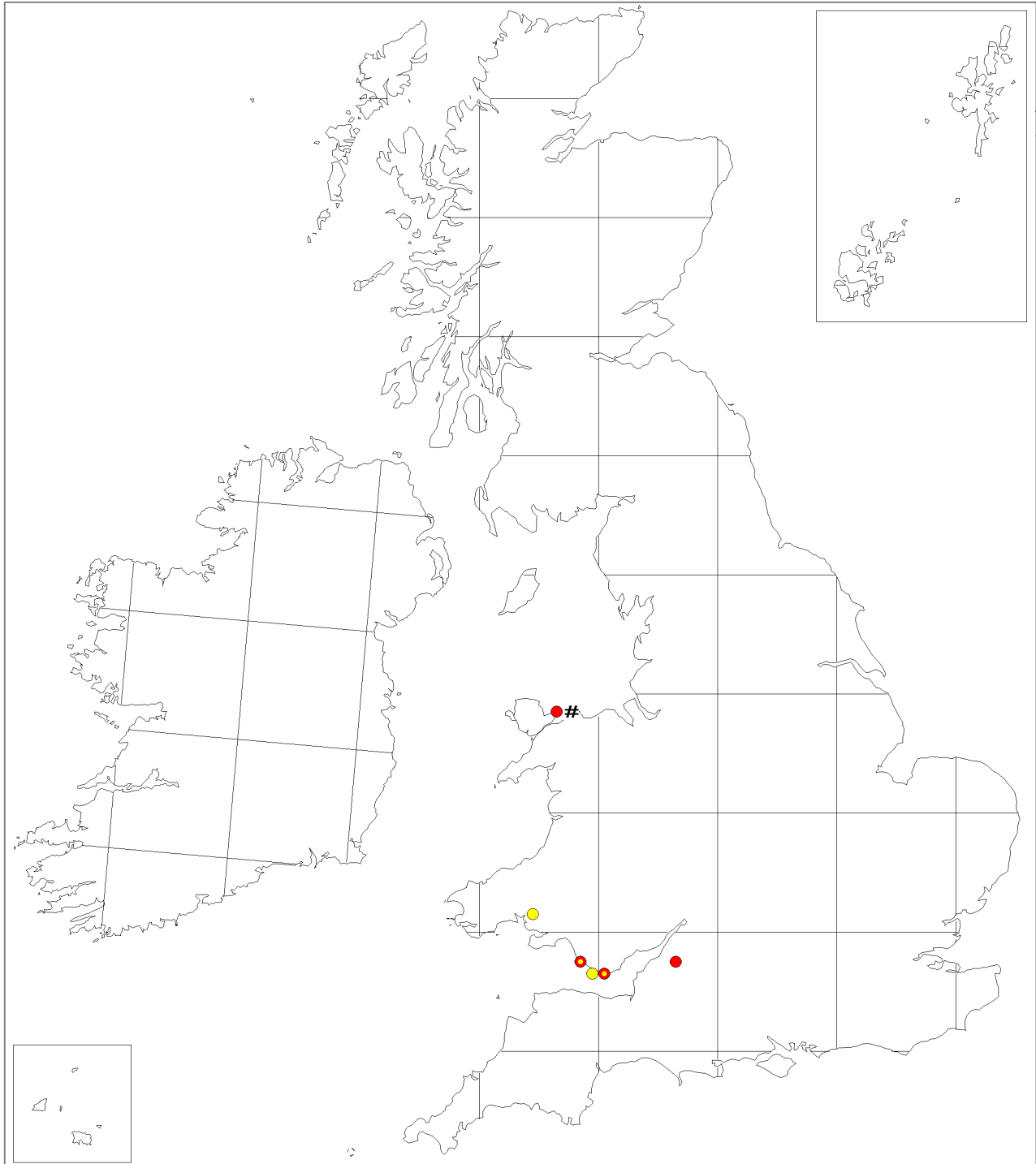
In February 2019 a new site was discovered on Anglesey, north Wales (Hughes, 2019) when specimens were found under embedded limestone blocks, alongside *Haplophthalmus mengii* (Zaddach) and *Trichoniscus pygmaeus* G.O. Sars. This extends the known range by a further 170km north. Hughes (2019) also reports the collection of a female *Metatrichoniscoides* sp. from limestone on Great Orme, Llandudno some 16 km north east of the Anglesey site (plotted as ‘#’ on the map).

Most recently, *M. celticus* was unexpectedly found in an allotment in Bristol in December 2020 (Ashwood & Gregory, 2021a), the first English record. Several specimens, including males, were collected by breaking open clods of organic-rich clayey top soil. In keeping with other known sites, the underlying geology is also limestone. Interestingly *Trichoniscoides sarsi* (Patience) was also recorded at his site (another elusive soil dwelling woodlouse).



***Metatrichoniscoides celticus* from Ogmore-by-Sea © Steve Gregory**

On current evidence *M. celticus* has a preference for humus rich soil overlying calcareous geology on or near the coast. However, WWIBI reports the collection of female *Metatrichoniscoides* sp. from St Bees Head, Cumberland and Giant's Causeway, Co. Antrim, Ireland, both on non-calcareous geology. These may prove to be a different species and are not mapped.



Distribution of *Metatrichoniscoides celticus*

- new hectad records, 2008 to March 2024; # female only recorded
● records both post 2008 and pre 2008; ● records made before 2008 (mapped in WWIBI).

***Metatrichoniscoides leydigii* (Weber, 1880)**

In WWIBI *M. leydigii* was known from just one site, a garden centre in Oxford, where it was almost certainly an accidental introduction. However, in 2011 a single male specimen was collected from semi-natural habitat bordering the lower tidal reaches of the River Medway in Kent (Gregory, 2012). This specimen was found on the underside of a large partly embedded stone in peaty soil on the edge of a *Phragmites* reedbed, with *Trichoniscoides albidus* (Budde-Lund) and *T. sarsi* Patience found in adjacent areas. In light of this discovery, it was designated Nationally Rare but Data Deficient by Lee (2015).

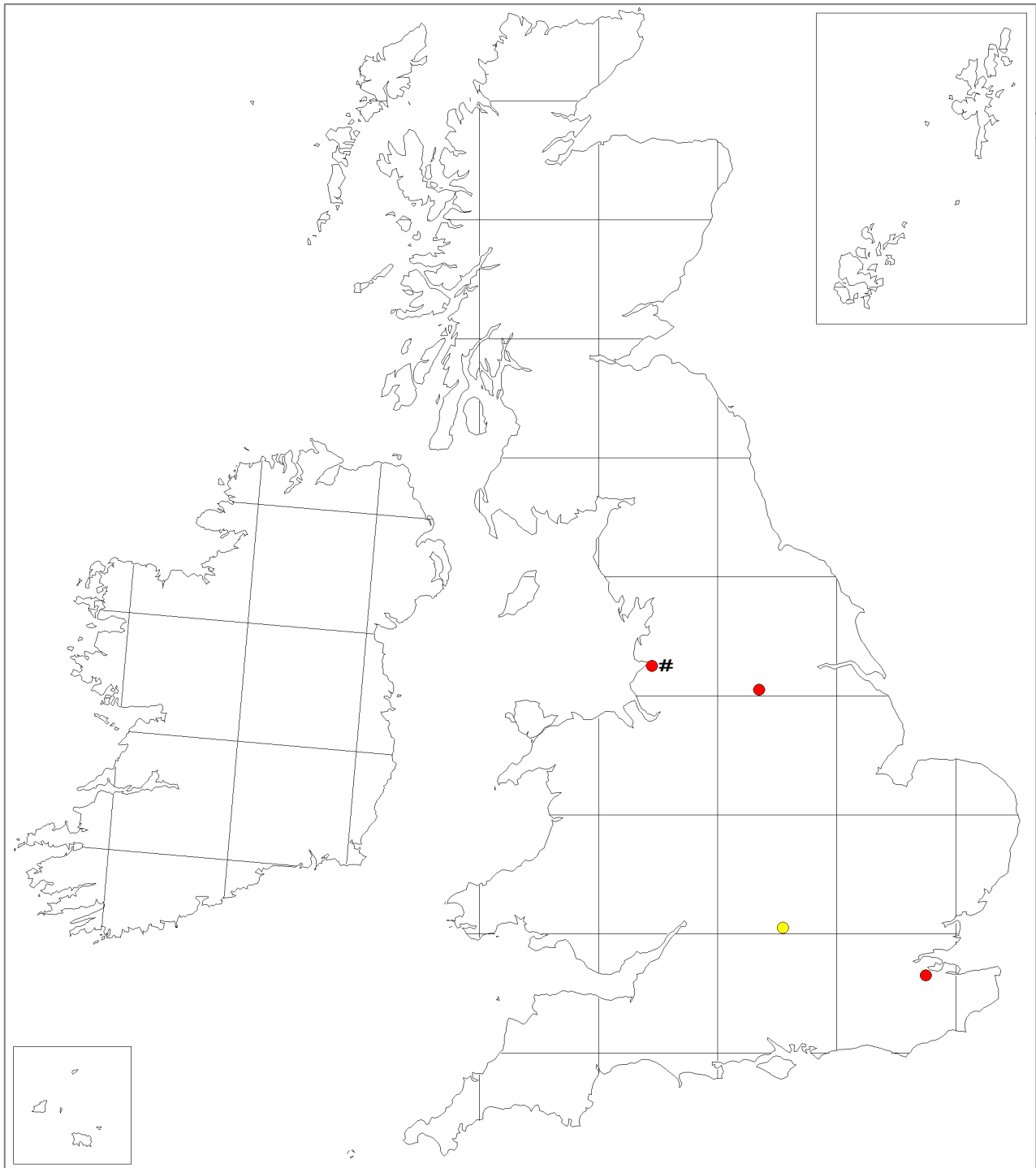
Subsequently, there have been two additional sightings of *M. leydigii*. In 2016 a single male specimen was collected from an ornamental garden (Wentworth Castle Gardens) in Derbyshire (Richards, 2016a). This specimen was found under large, embedded 'paving' slab near a plant nursery potting area, a habitat reminiscent of the original 1989 'non-native' Oxford city site. Then in 2019 several specimens (including males) were collected from under embedded rocks on the storm strand line beside the Ribble Estuary in Lancashire (Hughes, 2020). Here *Trichoniscus pygmaeus* G.O. Sars, *Philoscia muscorum* (Scopoli) and *Porcellio scaber* Latreille were also present. This habitat is reminiscent of the 2011 River Medway site.

In terms of both habitat and associated species, the 2011 Kent site (a designated SSSI) is strikingly similar to that described for the native populations of *M. leydigii* in the Netherlands on the opposite side of the North Sea, where both this species and *T. sarsi* are widespread and frequent (Berg *et al*, 2008). Thus, Gregory (2012) suggested that *M. leydigii* may be an overlooked native species in at least south-eastern England. However, both the River Medway and the Ribble Estuary have an extensive industrial history (Gregory, 2012; Hughes 2020), so a synanthropic introduction cannot be completely ruled out.

Addition populations of this elusive species must await discovery in semi-natural estuarine habitats along the eastern coasts of Kent and East Anglia and perhaps more widely around the British, and possibly also the Irish, coastlines. In addition it should be expected in synanthropic sites inland.



***Metatrichoniscoides leydigii* from Ribble Estuary © Thomas Hughes**



Distribution of *Metatrichoniscoides leydigii*

- new hectad records, 2008 to March 2024; # female only recorded;
- records made before 2008 (mapped in WWIBI).

***Oritoniscus flavus* (Budde-Lund, 1906)**

WWIBI shows this species to occur widely across southern Ireland where its distribution is centred on an area known to support thermophilous species (Doogue & Harding, 1982), suggesting it favours the moist climate and mild winters found in southern Ireland. In 1994 a population of *O. flavus*, presumed to be introduced, was discovered in south Wales (Morgan, 1994), but otherwise it was unknown from the British mainland.

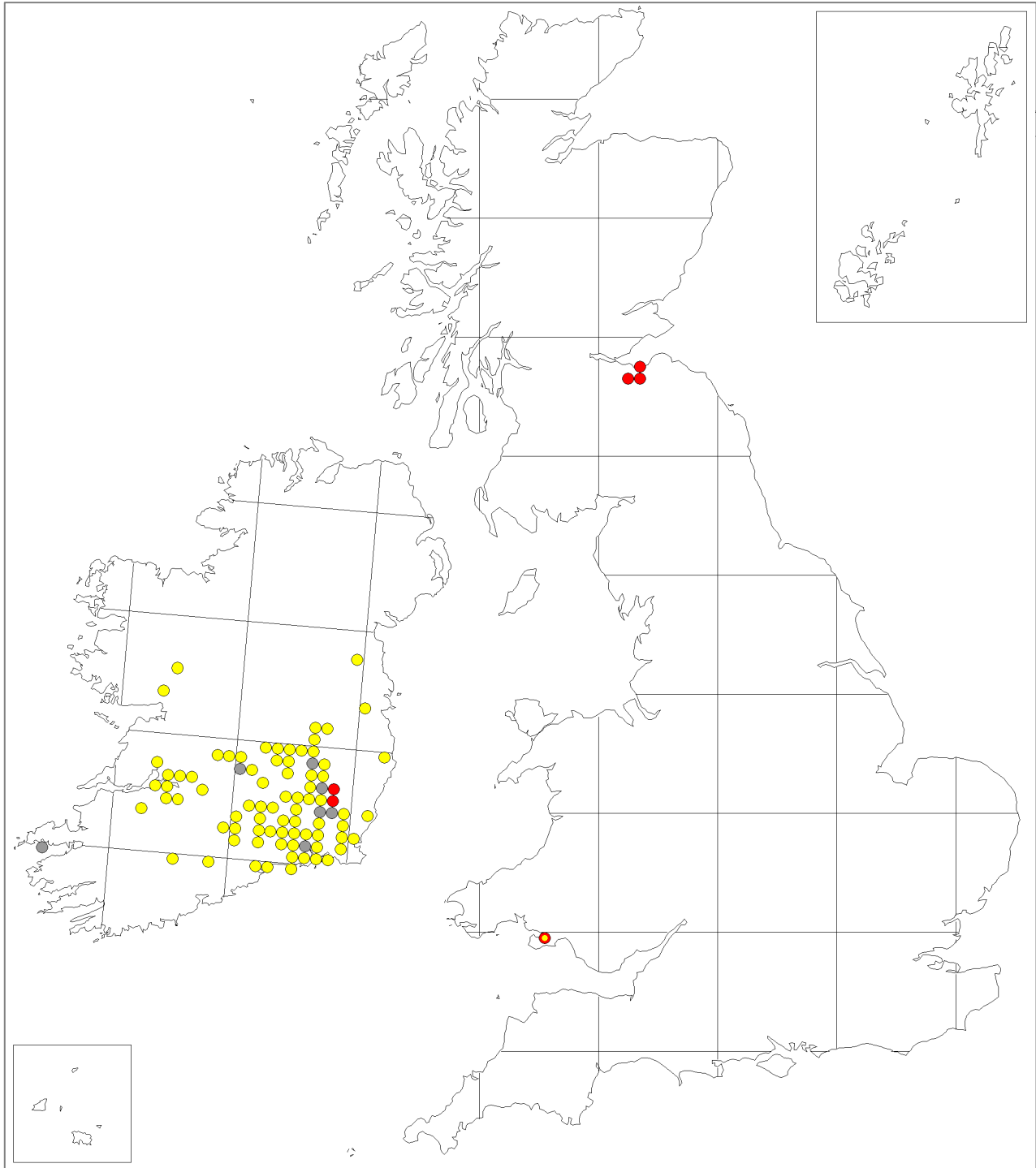
In September 2010 Duncan Sivell recorded *O. flavus* in Scotland from Melville Castle, near Edinburgh. Targeted surveys in 2011 showed the species to be well established in three widely separated sites along an 8km stretch of the River North Esk (Sivell & Gregory, 2015). In July 2017 an additional population was discovered by Warren Maguire close to the River Esk at Inveresk, extending the known range several kilometres north and close to the Scottish coastline (Maguire, 2020). Subsequently, this species has been shown to be well established along the valley of the River North Esk (Maguire, 2020), with known sites falling within 3 contiguous hectads. Here it is typically found close to the river among damp leaf litter or under stones and dead wood. This species may have been present along the North Esk, unnoticed, for many decades.

Given the isolated nature of the Scottish populations, some 500 km north of the other known British site in south Wales, it also seems highly probable that *O. flavus* has been unintentionally introduced. Considering the wide difference in latitude, and climate, between south Wales and eastern Scotland there is no obvious reason why *O. flavus* should not occur at other sites throughout Britain.

Interestingly there appear to have been very few post 2009 records of *O. flavus* in Ireland. The two records shown on the map were obtained from the National Biodiversity Data Centre (NBDC) (<https://maps.biodiversityireland.ie>) and were made by Ciarán Byrne in 2023. Although the lack recent records suggest a massive decline of this species across Ireland it is perhaps more plausible that this simply reflects the lack of current recording in Ireland relative to that of Britain.



***Oritoniscus flavus* from the River North Esk, Scotland © Warren Maguire**



Distribution of *Oritoniscus flavus*

- new hectad records, 2008 to March 2024; ● records both post 2008 and pre 2008;
- records made before 2008 (mapped in WWIBI); ● records made before 1968 (in WWIBI).

***Trichoniscoides sarsi* Patience, 1908**

In WWIBI the distribution map for this elusive woodlouse shows a distinct band of records stretching across eastern England from Kent to Suffolk and then extending westwards across central England through Leicestershire and into Shropshire, with a cluster of records across the Irish Sea near Dublin, eastern Ireland. Many records are from synanthropic sites, such as old gardens or churchyards in the environs of towns and villages, which was taken as evidence that *T. sarsi* is a well-established introduction in Britain.

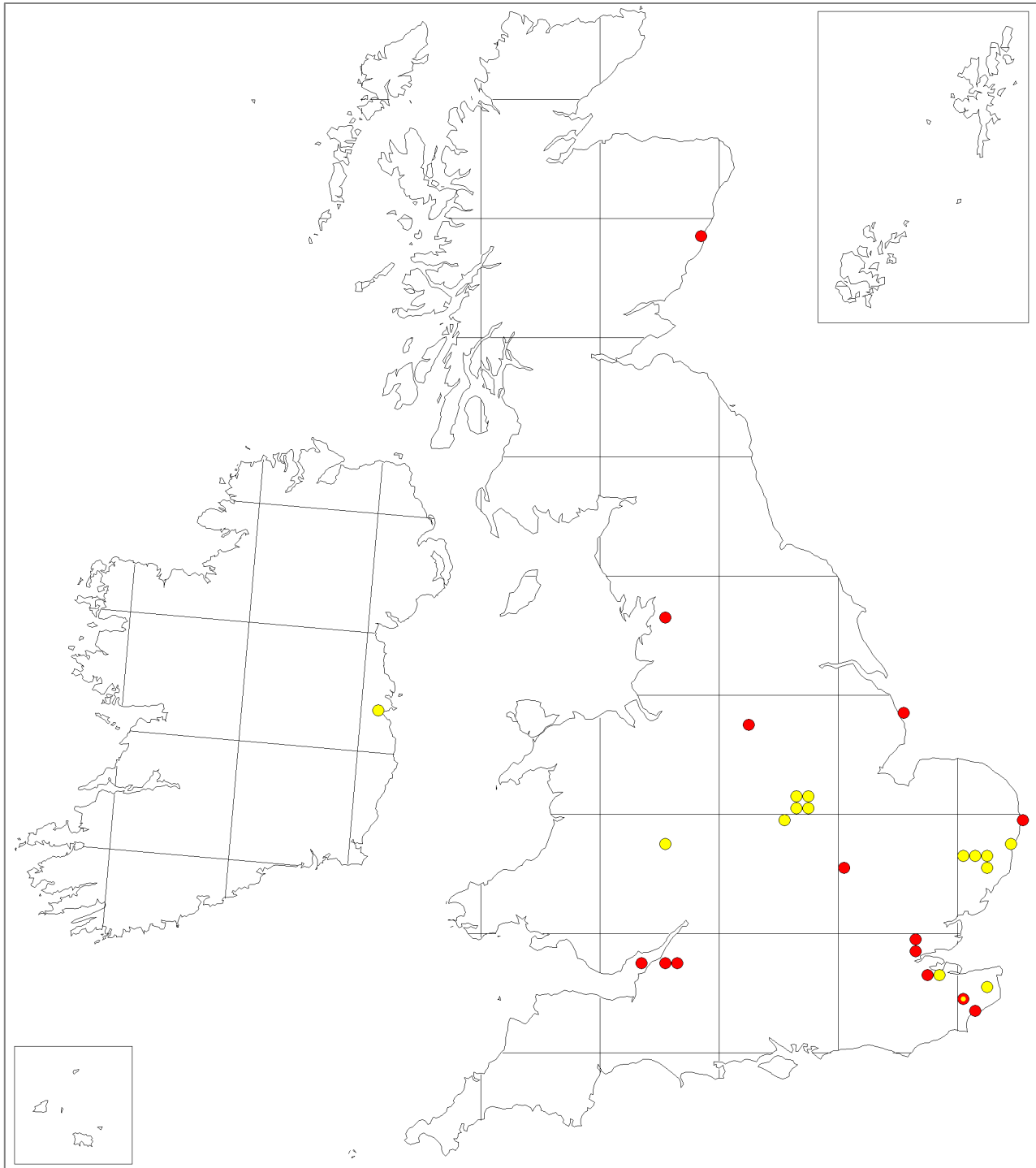
However, in 2011 specimens of *T. sarsi* were collected from beside the tidal estuary of the River Medway in Kent, (Gregory, 2012), beneath stones embedded in clayey soil covered with strandline debris. This is similar to the coastal habitats in the Netherlands where it occurs as a native species (Berg *et al.*, 2008). This raises the possibility that *T. sarsi* may be a post-glacial native species that first colonised semi-natural coastal habitats in eastern Britain and has subsequently colonised synanthropic habitats inland. Due to its restricted area of occupancy it is designated Nationally Scarce by Lee (2015).

Its distribution pattern and synanthropic habitat preferences have been reinforced by the recent discovery of *T. sarsi* in gardens and churchyards by Paul Richards in Bedfordshire and Derbyshire (Richards, 2016b); in North Lincolnshire (by Jon Daws; in Gregory, 2018), Essex (Christian Gaster, in Gregory, 2019b) and in East Suffolk (Stephen Youell). However, it has become apparent that this elusive species has a much wider distribution than previously thought. In 2010 specimens were collected from two contrasting sites on the eastern coast of Kincardineshire, Scotland; a cliff top cemetery and at the base of the sea cliff below (Davidson, 2011). This is some 400 km north of previously known records. In 2019 specimens were found by Nicola Garnham in a domestic garden in West Lancashire (Gregory, 2019a). Then in December 2020 *T. sarsi* was recorded from two contrasting sites in Gloucestershire by Frank Ashwood; a synanthropic allotment in Bristol city and a semi-natural coastal habitat on limestone at Clevedon (Ashwood & Gregory, 2021b), and subsequently found beside a railway line in Bristol (by Maico Weites).



***Trichoniscoides sarsi* from Lancashire © Nicola Garnham**

This species is clearly elusive by nature and consequently remains very under-recorded. The discovery of *T. sarsi* at widely separated coastal sites in Scotland and western England (in addition to those in south-east England) indicates that it cannot be assumed that all small white ‘red-eyed’ woodlice found around the coast of Britain are its typically coastal congener *T. saeroeensis* Lohmander. They could be *T. sarsi*. Interestingly, there are still no records of *T. sarsi* from central southern England where its congener *T. helveticus* (Carl), which favours rural habitats, has been recorded.



Distribution of *Trichoniscoides sarsi*

- new hectad records, 2008 to March 2024; ● records both post 2008 and pre 2008;
- records made before 2008 (mapped in WWIBI).

Family Halophilosciidae

Stenophiloscia glarearum Verhoeff, 1908

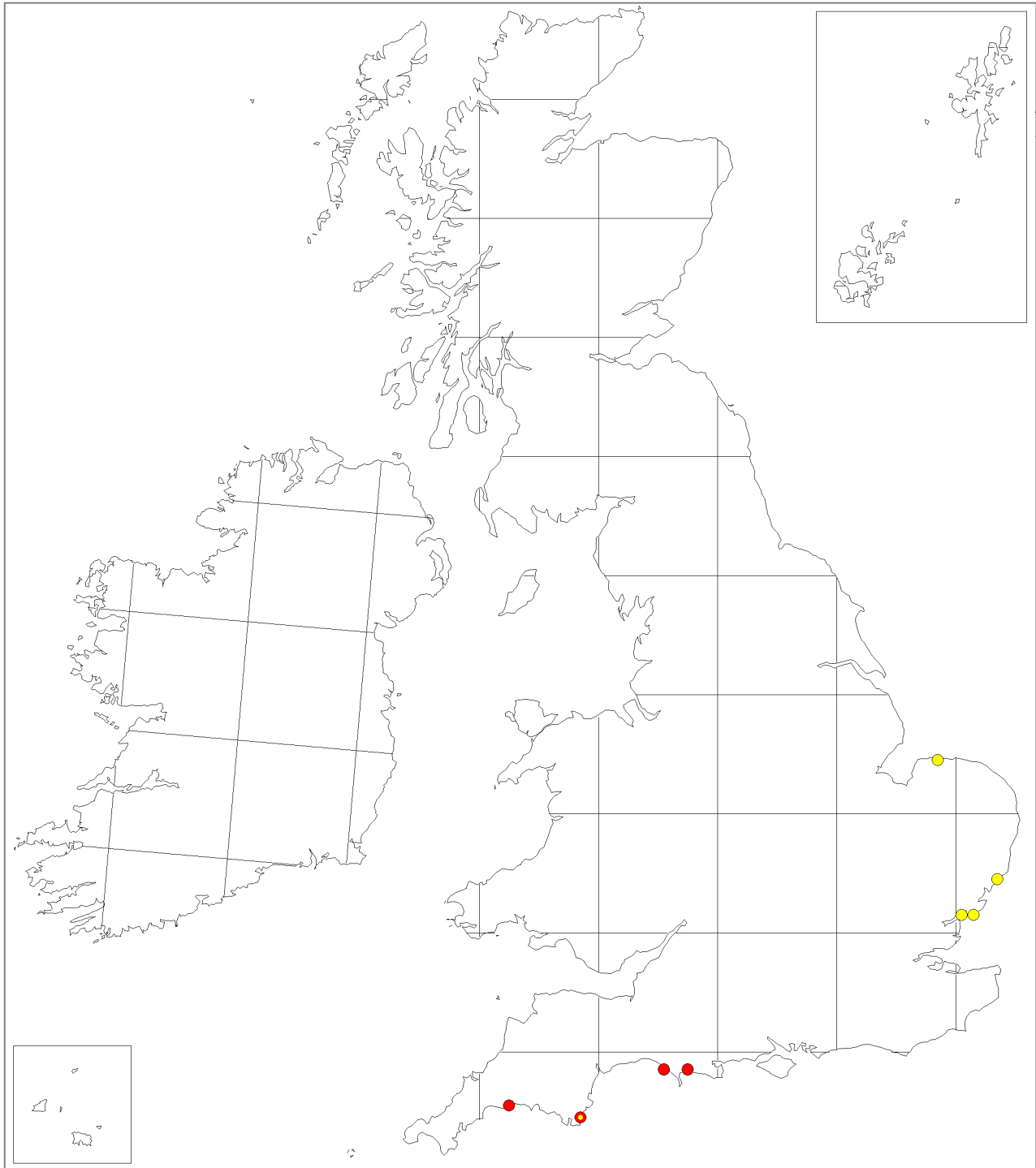
This small woodlouse is a notoriously elusive specialist of coastal shingle with just five sites reported in WWIBI. Although originally discovered at Slapton Ley, Devon in 1974, the other four then known sites lie along the East Anglian coast (Essex, Suffolk and Norfolk). Despite intensive repeat surveys at Slapton Ley in the late 1970s *S. glarearum* was not refound. Similarly repeated targeted surveys at Colne Point, Essex, where the species was found in 2000, failed to refind it (Keith Lugg, pers. comm.). Due to its restricted area of occupancy and due to the potential threat of stochastic events such as pollution or storm damage, *S. glarearum* is listed as Nationally Rare and Vulnerable by Lee (2015).

It was some four decades later before *S. glarearum* was refound at Slapton Ley in December 2015 (and additional dates into 2016) by John Walters and Mark Telfer who repeatedly found specimens by hand-sorting shingle well above the high water mark. Also in 2016 two new sites were discovered in Dorset by Steve Trewella using baited pitfall traps, sited among sparse vegetation also well above the high water mark. At Ringstead Bay several specimens were trapped on several occasions during repeated sampling. In 2019 a single specimen was found at Looe Beach, Cornwall by Thomas Hughes, beneath a large flat rock lying on shingle on the upper shore below steep laminated cliffs (Gregory, 2019c).

These recent Dorset and Cornish records extend the known range of this elusive woodlouse further eastwards and westwards along the south English coast and reinforces the suspicion that it is likely to prove more widespread in appropriate coastal shingle habitat along the coastline of at least in southern Britain. These recent observations suggest that *S. glarearum* favours sparsely vegetated shingle typically well above the strandline. It is, however, clearly a genuinely elusive species with repeated surveys at known sites failing to find it. It is also of note that two sites for this notoriously elusive woodlouse have been found on the Atlantic coast of north-west France (Noël *et al.*, 2014).



Stenophiloscia glarearum from Dorset © Keith Lugg



Distribution of *Stenophiloscia glarearum*

- new hectad records, 2008 to March 2024; ● records both post 2008 and pre 2008;
- records made before 2008 (mapped in WWIBI).

Family Porcellionidae

Porcellio laevis (Latreille, 1804)

Although never common, in WWIBI *Porcellio laevis* was widely recorded throughout the 20th Century across Britain and Ireland with about 50 hectad records. However, there were relatively few modern records: dairy farms in the Wirral in 1995; Glasgow in 1996; Margate, Kent in 2007; and no post 1982 sites for Ireland. It is designated Nationally Scarce by Lee (2015), but Harding (2016) highlights that *P. laevis* appears to have undergone a dramatic decline throughout the 20th century.

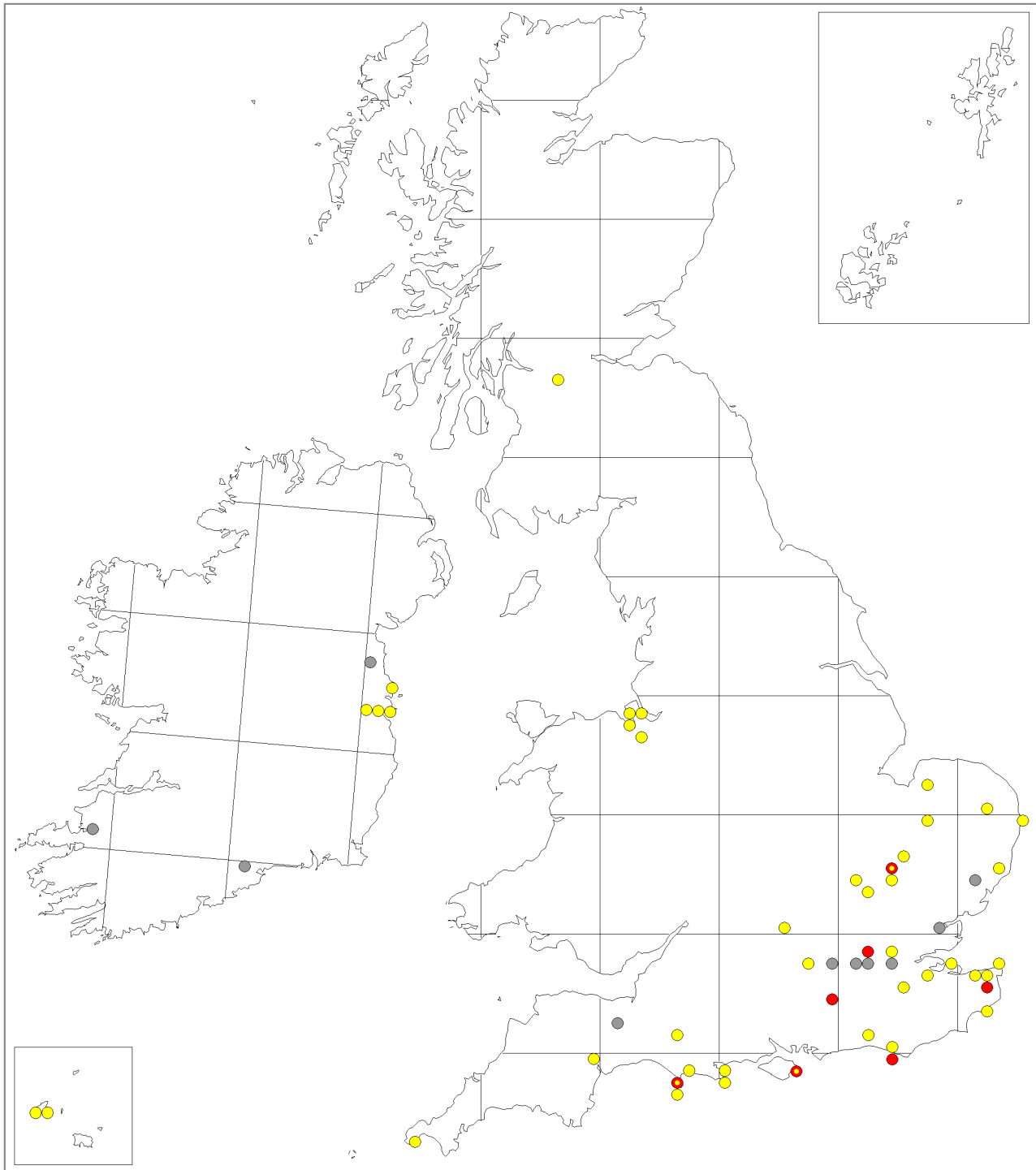
This observation is supported by the fact that there are just seven post 2008 records submitted to the recording scheme and none from Ireland. Three are from hectads where it has been recorded previously; Portland Bill, Dorset; Isle of Wight; and Cambridge city (where it was found in two college compost heaps about 0.5 km apart in 2021 and 2022). In 2016 a population was discovered in a public park in Guildford, Surrey (Flanagan, 2016). In 2023 specimens were found in an ornamental garden in East Kent by Stephanie Skipp. In the same year the ‘orange’ morph was photographed in a domestic garden in East Sussex. Most recently in May 2024 numerous specimens were found by Max Barclay in a series of compost heaps in Greater London. All these known extant sites lie in south east England.

This is a woodlouse primarily associated with synanthropic habitats, such as stables and dairy farms and also in compost heaps of old mature gardens. Harding (2016) suggests its decline may reflect that in the use of horses (which have now been replaced by cars and tractors) and the modernisation of livestock husbandry (with increased use of ‘worming drugs’, etc.). Today, old, traditionally-managed gardens with established compost heaps may be an important habitat for this declining species. Also it seems that *P. laevis*, especially in various colour morphs, is very popular with ‘hobbyists’ who keep woodlice in culture and it is possible that on occasions these may be released ‘into the wild’.

Whilst reviewing records submitted to the BMIG woodlouse recording scheme it is apparent that *Cylsticus convexus* (De Geer) (Cylisticidae) is frequently mis-identified as *P. laevis* (pers. obsv.).



Porcellio laevis male from Guildford © Jim Flanagan



Distribution of *Porcellio laevis*

- new hectad records, 2008 to May 2024; ● records both post 2008 and pre 2008;
- records made before 2008 (mapped in WWIBI); ● records made before 1968 (in WWIBI).

***Acaeroplastes melanurus* (Budde-Lund, 1885)**

In WWIBI *Acaeroplastes melanurus* was only known from a single locality in Ireland, Howth Head near Dublin, where it was first discovered in 1909. Following its rediscovery there in 2002 it was subsequently found in good numbers under lichen covered rocks on steep sparsely vegetated slopes near the cliff tops, but its long term future was thought uncertain due to scrub encroachment (Anderson, 2007). Indeed, a search there by Thomas Hughes in 2023 failed to re-find the species (pers. comm.).

In October 2019 *A. melanurus* was discovered on the Isles of Scilly (Telfer, 2024), the first British record. Several specimens collected from coastal sandy dune grassland with granite boulders. Subsequently, in April 2023 *A. melanurus* was found by Lloyd Davies on the English south coast, a shingle beach at West Bexington, Dorset, with additional specimens observed in October the same year. These were found at several locations, under drift wood and stones, along the landward side of a sparsely vegetated shingle bank (with Sea Kale *Crambe maritima*, Sea Campion *Silene uniflora*, etc). A return visit to look for the species in April 2024 proved unsuccessful.

This species was not included in the species status review undertaken by Lee (2015), which only considers native species occurring in Britain (not Ireland). Although it is possible that the two recently discovered English populations of *A. melanurus* may be the result of unintentional introductions, there is a possibility that they (and indeed the Irish site) may represent relict native populations (Telfer, 2024); a natural extension of those seen in north-west France (Noël *et al.*, 2009). This species is in urgent need of a review of its conservation status and until evidence is provided to the contrary then Nationally Rare; Data Deficient would seem appropriate.

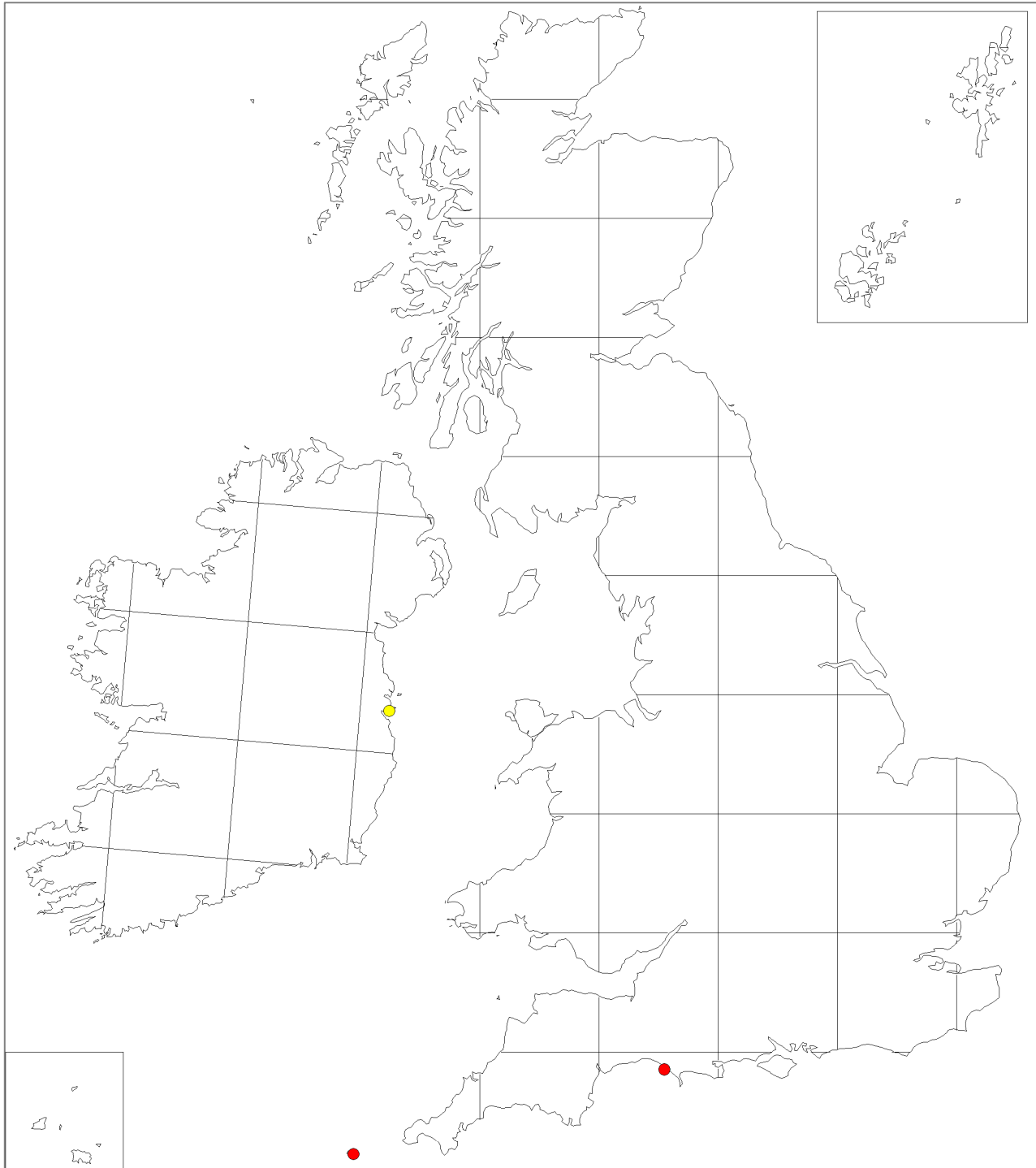


***Acaeroplastes melanurus* from Dorset © Lloyd Davies**

This is primarily a species of the western Mediterranean from Spain, across southern France and into Italy (Schmalfuss, 2003). However, it has been known from a discrete area along the Atlantic coast of north-west France (départements Loire-Atlantique and Maine-et-Loire) since at least the 1950s, which

may represent a relict population (Noël *et al.*, 2009). Here it occurs in coastal habitats (as seen in England and Ireland), but in recent decades has penetrated far inland often associated with stands of Plane *Platanus x hispanica* trees in town centres (beneath loose bark). Although not so widely planted in England, it is perhaps worth examining plantings of Plane trees in coastal areas of southern England.

Acaeroplastes melanurus is a morphologically variable species, with the north-western populations referable to subspecies *melanurus*. The subspecies *Acaeroplastes melanurus sardous* Verhoeff 1918 occurs in the south-east of the species range (e.g. on Corsica; Taiti & Ferrara, 1996).



Distribution of *Acaeroplastes melanurus*

● new hectad records, 2008 to March 2024; ● records made before 2008 (as mapped in WWIBI).

Family Trachelipodidae

Trachelipus rathkii (Brandt, 1833)

The distribution map in WWIBI showed a distinct block of records across south east England north as far as The Wash and as far west as the catchment of the river Severn, with a single outlying record from south Wales. Many of these records are associated with river valleys, notably the Thames and the Great Ouse (and their tributaries), and also the Severn. This 'block' of records remains apparent, but there are now additional records further north and west, including several isolated outlying records.

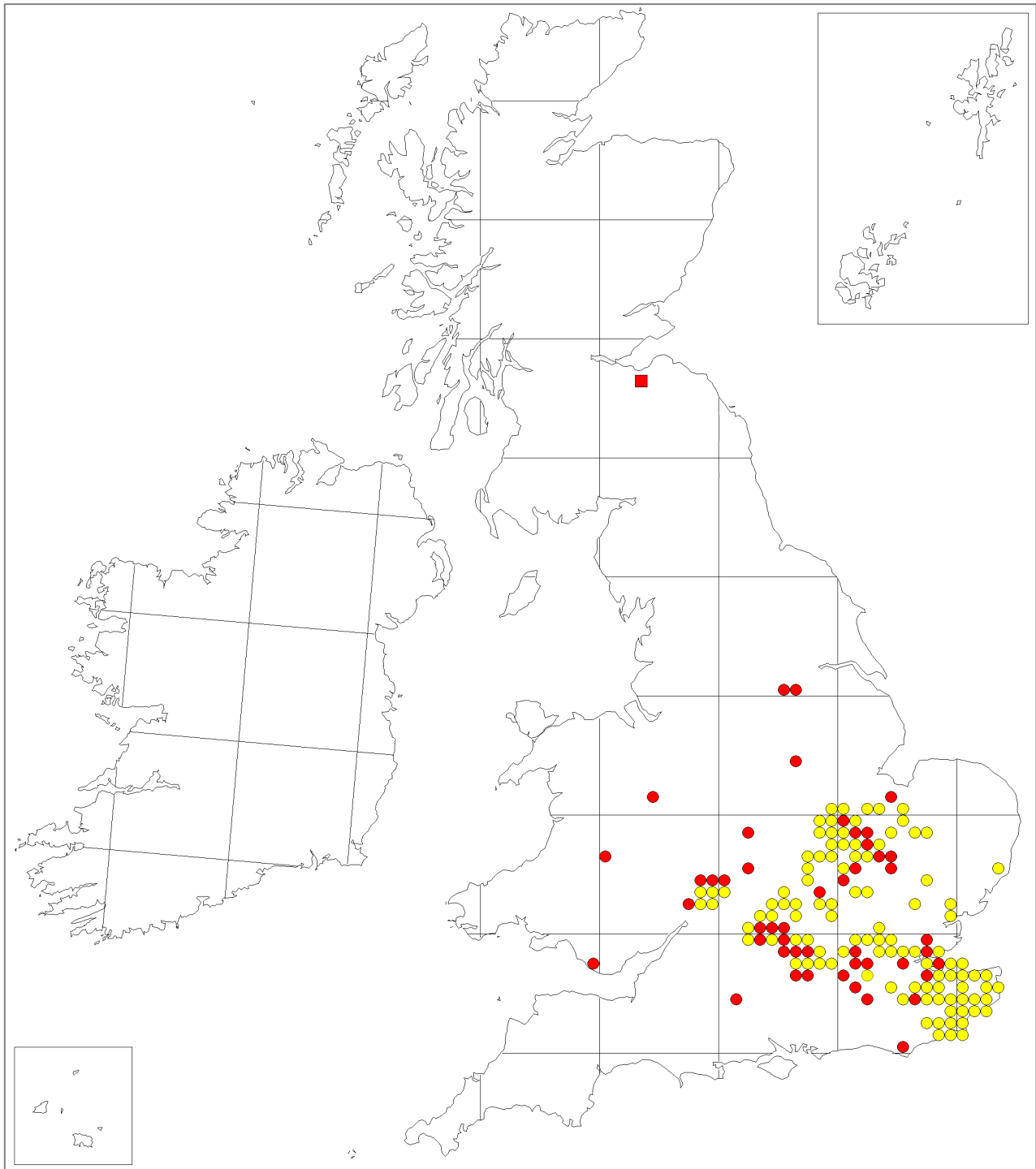
As early as 2012 *T. rathkii* was discovered as far north as Yorkshire, with specimens found at two sites (in two hectads) beside the River Don, north of Doncaster, South Yorkshire (Daws, 2014). Despite additional searches in the area no further localities were found. A second northern English record is from Stoke Bardolph, Nottinghamshire where the species was first recorded in 2021 from under flood debris beside the River Trent (Pendleton & Pendleton, 2023). Also in 2021 *T. rathkii* was found at several sites along a 10km stretch of River Avon (a tributary of the Severn) in the Vale of Evesham, Worcestershire (Farmer, 2021) and subsequently some 20 km upstream at several sites at Stratford upon Avon (records via iNaturalist). Another isolated record, from beside the River Severn at Shrewsbury, Shropshire lies some 50km upstream of the well-defined southern block of Severn Valley records. In 2015 an outlying southern population was found on Salisbury Plain, Wiltshire (pers. obsv.) with many specimens seen beneath dried cowpats and dead wood beside the (Wiltshire) River Avon.

A second Welsh locality, Llandrindod, Radnorshire, was added in 2013 by Joe Botting, with specimens collected from a churchyard and a nearby Oak *Quercus* woodland, close to the River Ithon. Meanwhile *T. rathkii* was refound in 2018 by Christian Owen at its original south Wales site at Bridgend, Glamorganshire, where it was first recorded in 2007. Despite south Wales being a well-worked area for woodlice it is of note that no further localities for this species have been found there.



Trachelipus rathkii male from a garden centre in Edinburgh © Warren Maguire

The first Scottish record for *T. rathkii* was made in 2023, when a single male specimen was collected from a garden centre in Edinburgh, Midlothian (Maguire, 2023). This is a central European species, where the winters are cold, so it will be interesting to see if this species can survive outdoors through the Scottish winters.



Distribution of *Trachelipus rathkii*

- new hectad records, 2008 to March 2024; ■ record from garden centre;
- records made before 2008 (mapped in WWIBI).

Family Armadillidiidae

Armadillidium depressum Brandt, 1833

In WWIBI *Armadillidium depressum*, the then aptly named Southern Pill Woodlouse, was known to be locally frequent in parts of south west England, south Wales and along parts of the south coast, albeit with isolated sites as far north as Yorkshire and as far east as Norfolk. There were also a few known localities from south eastern Ireland.

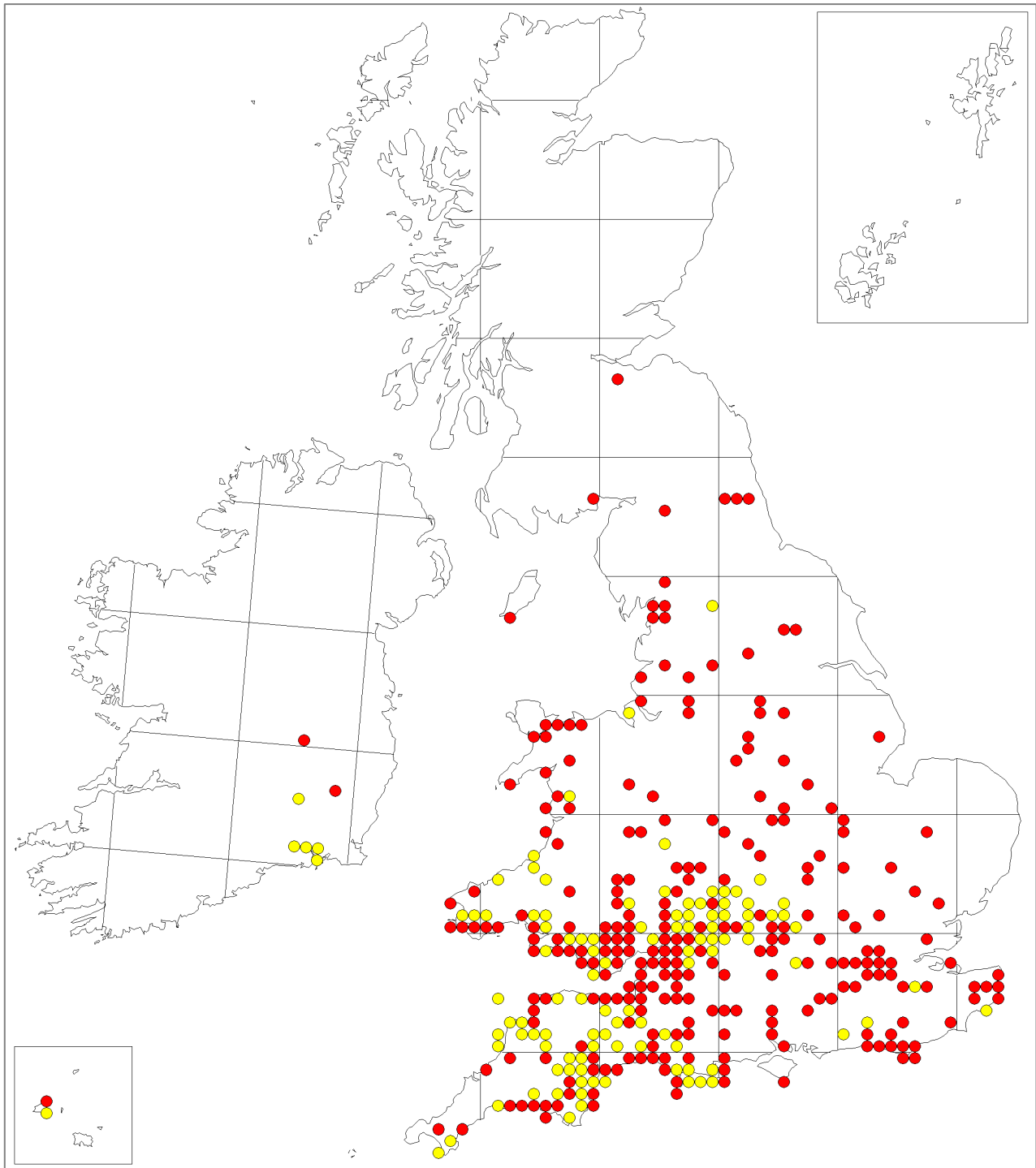
In the last decade it has become apparent that the distribution of this species has expanded considerably north and east with a wide scattering of records across much of England and Wales. This includes numerous new county records; including Hertfordshire, Cambridgeshire and Essex in the south-east; Caernarvonshire and Flintshire (Barber & Gregory, 2011) in North Wales; and Nottinghamshire (Pendleton & Pendleton, 2023) and West Lancashire in northern England. In 2023 *A. depressum* was also recorded from two new sites in Ireland in Co. Laois (in a house) and Co. Carlow (on a wall) by Ciarán Byrne.

In 2020 *A. depressum* was recorded from Scotland for the first time, inside a house “walking across the living room carpet” in Glencaple, south-west Scotland (Gregory, 2020b). At that date this was about 75km north of previous English records. Then, in 2023 and 2024 it was recorded from three sites in the Newcastle area in north-east England; a garden and two graveyards. Then in May 2024 *A. depressum* was recorded from a graveyard on the outskirts of Edinburgh, a jump of another 100km further north.

Although there remains a vague southern and western bias to the distribution map, on current evidence *A. depressum* could be expected to occur anywhere throughout England and Wales and it will be interesting to see how far it penetrates into Scotland. Many of these more recent records are from synanthropic habitats (gardens, inside houses, graveyards, etc.) suggesting that it has been primarily spread by human activity, possibly via the horticultural trade and/or by the movement of stone for construction. Interestingly, this species is rarely recorded from garden centres (where its congener *A. nasatum* thrives).



Armadillidium depressum, including an immature, from Lancashire © Nicola Garnham



Distribution of *Armadillidium depressum*

● new hectad records, 2008 to May 2024; ● records made before 2008 (mapped in WWIBI).

***Armadillidium nasatum* Budde-Lund, 1885**

In WWIBI the distribution map shows concentrations of records across south Wales, south-west England and south-east England, with a thin scattering of modern (post 1968) records north to southern Yorkshire. There is an historical (1917) glasshouse record from Fife, south-east Scotland, the northern-most known locality. There were also a few known localities from eastern Ireland.

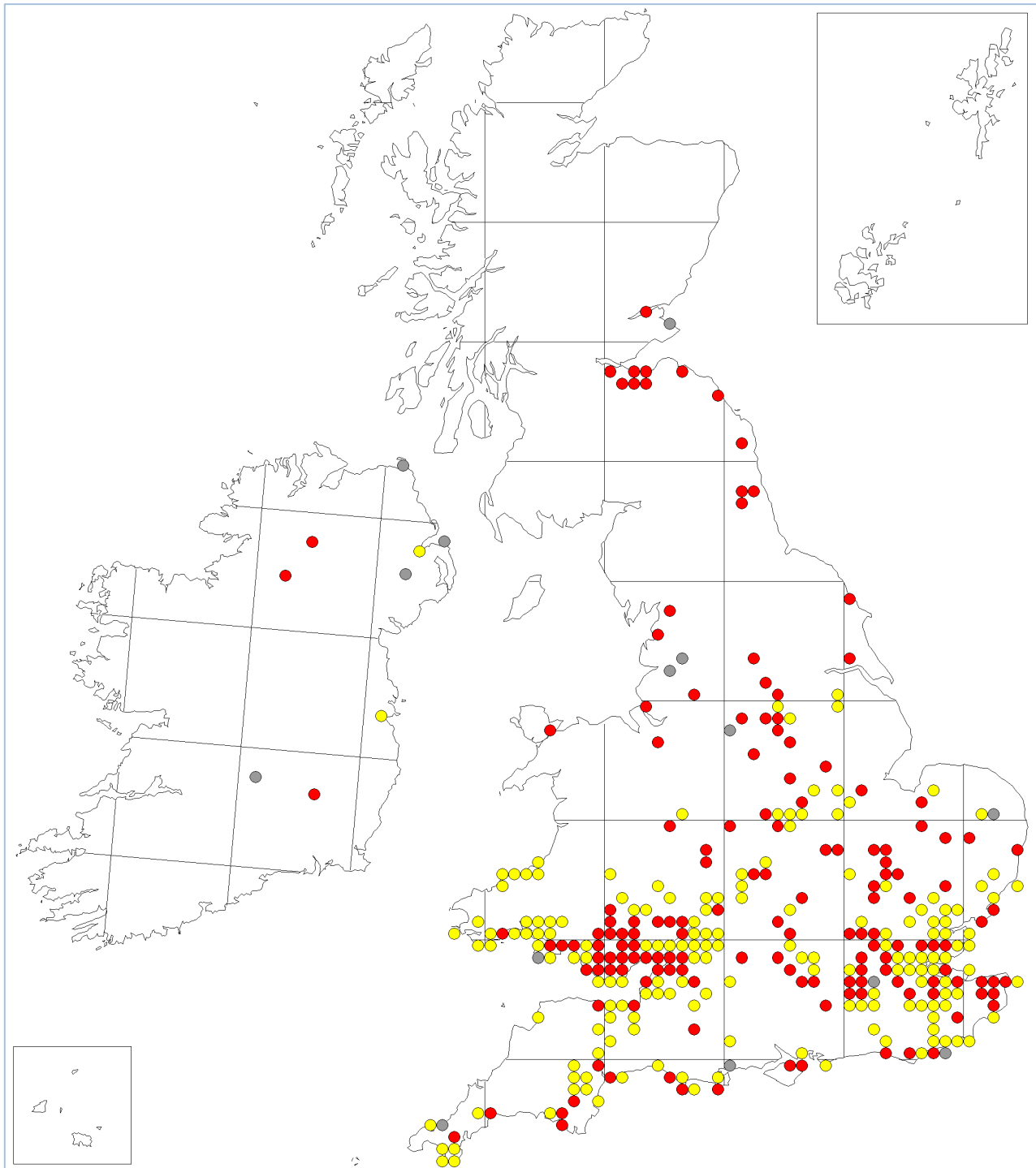
Although this basic distribution pattern remains, it is apparent that in the last decade its distribution has drifted further north, with scattered ‘outdoor’ records north to West Lancashire (first recorded in 2019) and north-east Yorkshire (in 2023), with an outlying record from ‘waste ground’ near a garden centre in Northumberland (in 2024). These northern outdoor records are typically from synanthropic sites such as gardens or reclaimed industrial sites, with additional ‘indoor’ records from inside glasshouses.

In 2021 *A. nasatum* was refound in Scotland by Helen Bell inside a glasshouse at Dundee Botanic Gardens, Angus, about 10km north of the 1917 Fife record. Seven additional Scottish sites were added in 2023 by Warren Maguire, whilst undertaking casual surveys of garden centres across the Lothians of south-east Scotland. It was also found at five garden centres in Northumberland and Tyneside, north-east England; and two in Cos. Tyrone and Fermanagh, Northern Ireland (Maguire, 2023). It is of note that *A. nasatum* was found with relative ease in ‘outdoor’ displays at every garden centre visited, with specimens typically found beneath potted plants either on the ground or situated on damp absorbent mesh on trestles. Inspired by the two Irish observations a third garden centre site was found by Ciarán Byrne in Co. Carlow. These are the first modern records of *A. nasatum* in Scotland, the first ever for north-east England, and all would appear to be new vice-county records (in Britain and Ireland).

It is of note that almost all of the northern-most records are from garden centres, suggesting that *A. nasatum* is readily dispersed via the horticultural trade and therefore likely to be found across the entire length and breadth of Britain and Ireland. However, in more northern locations it is unlikely that populations will be able to survive ‘outdoors’ through the cold winter months and in these areas established breeding populations may prove to be confined within heated glasshouses.



***Armadillidium nasatum* from Co. Tyrone, Ireland © Warren Maguire**



Distribution of *Armadillidium nasatum*

● new hectad records, 2008 to June 2024; ● records made before 2008, but after 1968 (mapped in WWIBI); ● records made before 1968 (mapped in WWIBI).

Changes in species conservation status

Decisions about the priority to be attached to the conservation of species should be based upon objective assessments of the degree of threat to native species. Since the publication of WWIBI a review of the national threat status of native British woodlice has been undertaken by Lee (2015) using up-to-date information on species distribution and population trends. This identifies those species that are rare and/or under threat, those typically more widespread species that are not threatened and those that are non-native ‘introduced’ species. Only species considered to be native are assessed (see Table below).

Four species are designated as Nationally Rare (i.e. known or likely to occur in 15 or fewer hectads). *Metatrichoniscoides celticus* Oliver & Trew and *Stenophiloscia glarearum* Verhoeff are considered Vulnerable due to the potential threat of stochastic events at coastal sites such as pollution or storm damage. Due to its broad habitat preferences *Buddelundiella cataractae* is considered Least Concern. These have been upgraded from RDDK (Insufficiently Known) for *M. celticus* and Scarce/Nb for the latter two. Due to lack of knowledge about its requirements, *M. leydigii* is considered Data Deficient.

Ten species are designated as Nationally Scarce (i.e. known or likely to occur in 100 or fewer hectads). All except one are considered of Least Concern. The exception, *Oniscus asellus occidentalis* Bilton, is considered Near Threatened due to its remaining populations being severely fragmented and showing continuing declines in the extent of its occurrence due to hybridisation with the common *Oniscus asellus asellus* Linnaeus.

Two uncommon species, *Oritoniscus flavus* (Budde-Lund) and *Eluma caelatum* (Miers), are excluded as the evidence (as assessed by Lee, 2015) suggests they are introduced non-natives. *Trichoniscoides albidus* (Budde-Lund) is omitted since recent field work has shown this elusive species to be more widespread than previously thought.

National threat status of native British woodlice

Species	Status cited in WWIBI	GB Rarity Status after Lee 2015	GB IUNC Status after Lee 2015
<i>Buddelundiella cataractae</i>	Scarce/Nb	Nationally Rare	Least Concern
<i>Metatrichoniscoides celticus</i>	RDBK	Nationally Rare	Vulnerable
<i>Metatrichoniscoides leydigi</i>	needs revision	Nationally Rare	Data Deficient
<i>Stenophiloscia glarearum</i>	Scarce/Nb	Nationally Rare	Vulnerable
<i>Proasellus cavaticus</i>	Scarce/Nb	Nationally Scarce	Least Concern
<i>Haplophthalmus montivagus</i>	needs revision	Nationally Scarce	Least Concern
<i>Miktoniscus patiencei</i>	Scarce/Nb	Nationally Scarce	Least Concern
<i>Trichoniscoides helveticus</i>	Scarce/Nb	Nationally Scarce	Least Concern
<i>Trichoniscoides sarsi</i>	none	Nationally Scarce	Least Concern
<i>Halophiloscia couchii</i>	Scarce/Nb	Nationally Scarce	Least Concern
<i>Oniscus asellus occidentalis</i>	needs revision	Nationally Scarce	Near Threatened
<i>Porcellio laevis</i>	needs revision	Nationally Scarce	Least Concern
<i>Armadillidium pictum</i>	RDB3	Nationally Scarce	Least Concern
<i>Armadillidium album</i>	Scarce/Nb	Nationally Scarce	Least Concern
<i>Oritoniscus flavus</i>	needs revision	Naturalised	n/a
<i>Eluma caelatum</i>	Scarce/Nb	Naturalised	n/a
<i>Trichoniscoides albidus</i>	Scarce/Nb	none	Least Concern
<i>Trichoniscoides saeroeensis</i>	Scarce/Nb	none	Least Concern
<i>Armadillidium pulchellum</i>	Scarce/Nb	none	Least Concern

Acknowledgements

A large number of individuals over the past 15 years have freely committed their time to contribute their records to the woodlouse and waterlouse recording scheme. Some have submitted just a few records, some numerous records, and some seem to have a knack for finding unusual species. However, all records help build the bigger picture of what species occur where and in what habitats, and whether populations are stable, increasing or under decline. The role of all persons that have contributed to this process is gratefully acknowledged.

Key active recorders with numerous observations include many familiar names, but also, encouragingly, many new people since the publication of WWIBI. I thank the following for keeping me updated, either directly or via 'social media', of their (often) unexpected discoveries: Frank Ashwood, Joe Botting, Ciarán Byrne, Joss Carr, Richard Comont, Duerden Cormack, Mike Davidson, Lloyd Davies, Jon Daws, Kay Dinsdale, Gary Farmer, Jim Flanagan, Nicola Garnham, Seth Gibson, Malcolm Haddow, James Harding-Morris, Sue Harvey, Finley Hutchinson, Thomas Hughes, Angela Lidgett, Keith Lugg, Garret Maguire, Warren Maguire, Andy Marquis, Liam Olds, Jane Orgee, Christian Owen, Trevor Pendleton, Sam Rice, Paul Richards, Duncan Sivell, Stephanie Skipp, Per Smiseth, Mark Telfer, Jane Thomas, Steve Trewella, John Walters, Maico Weites, Derek Whiteley and many more who, over the years, have contributed records to the recording scheme.

I thank Frank Noël (France) for patiently dealing with my many queries regarding various 'non-British' woodlouse species.

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Appendix I: Updated systematic check list of Woodlice and Waterlice in Britain and Ireland

Nomenclature follows the World List of Marine, Freshwater and Terrestrial Isopod Crustaceans (<https://www.marinespecies.org/isopoda>).

Synonyms that can be found in some earlier publications are included.

* Indicates introduced non-naturalised ‘glasshouse/garden centre’ species not yet established outdoors. [these will be included within Gregory (in prep.)].

Subphylum CRUSTACEA

Class MALACOSTRACA

Superorder PERACARIDA

Order ISOPODA

Suborder ASELLOTA – Aquatic Waterlice

Superfamily Aselloidea

Family Asellidae

Asellus aquaticus (Linnaeus, 1758)

Proasellus cavaticus (Leydig, 1871)

=*Asellus cavaticus* Leydig, 1871

Proasellus meridianus (Racovitza, 1919)

=*Asellus meridianus* Racovitza, 1919

Caecidotea communis (Say, 1818)

=*Asellus communis* (Say, 1818)

Suborder ONISCIDEA – Terrestrial Woodlice

Section Diplocheta

Family Ligiidae

Ligia oceanica (Linnaeus, 1767)

Ligidium hypnorum (Cuvier, 1792)

Section Synocheta

Family Trichoniscidae

Androniscus dentiger Verhoeff, 1908

Buddelundiella cataractae Verhoeff, 1930

Haplophthalmus danicus Budde-Lund in Meinert, 1880

Haplophthalmus mengii (Zaddach, 1844)

=*Haplophthalmus perezii* Legrand, 1943

Haplophthalmus montivagus Verhoeff, 1941

Hyloniscus riparius (C. Koch, 1838)

Metatriconiscoides celticus Oliver & Trew, 1981

Metatriconiscoides leydigii (Weber, 1880)

**Miktoniscus linearis* (Patience, 1908)

Miktoniscus patiencei Vandel, 1946

Oritoniscus flavus (Budde-Lund, 1906)

Trichoniscoides albidus (Budde-Lund in Meinert, 1880)

Trichoniscoides helveticus (Carl, 1908)

Trichoniscoides saeroeensis Lohmander, 1924

Trichoniscoides sarsi Patience, 1908

Trichoniscus provisorius* Racovitza, 1908**= *Trichoniscus pusillus provisorius* Racovitza, 1908Trichoniscus pusillus* Brandt, 1833**= *Trichoniscus pusillus pusillus* Brandt, 1833***Trichoniscus pygmaeus* G.O. Sars, 1898**

Family Styloniscidae

****Cordioniscus stebbingi* (Patience, 1907)******Styloniscus mauritiensis* (Barnard 1936)******Styloniscus spinosus* (Patience, 1907)**

Section Crinocheta

Family Halophilosciidae

Halophiloscia couchii* (Kinahan, 1858)**Stenophiloscia glarearum* Verhoeff, 1908**= *Stenophiloscia zosterae* Verhoeff, 1928

Family Philosciidae

****Anchiphiloscia pilosa* (Budde-Lund, 1912)******Burmoniscus meeusei* (Holthuis, 1947)**= *Chaetophiloscia meeusei* Holthuis, 1947***Chaetophiloscia cellaria* (Dollfus, 1884)******Chaetophiloscia sicula* Verhoeff, 1908******Ctenoscia minima* (Dollfus, 1892)**= *Ctenoscia dorsalis* Verhoeff, 1928***Philoscia affinis* Verhoeff, 1908*****Philoscia muscorum* (Scopoli, 1763)******Pseudotyphloscia cf alba* (Dollfus, 1898)**= *Pseudotyphloscia* sp. Eden A****Setaphora patiencei* (Bagnall, 1908) [uncertain status]**

Family Platyarthridae

Platyarthrus hoffmannseggii* Brandt, 1833***Trichorhina tomentosa* (Budde-Lund, 1893)**

Family Oniscidae

Oniscus asellus* ssp. *asellus* Linnaeus, 1758**Oniscus asellus* ssp. *occidentalis* Bilton, 1994**

Family Porcellionidae

****Agabiformius lentus* (Budde-Lund, 1885)******Lucasius pallidus* (Budde-Lund, 1885)*****Porcellio dilatatus* Brandt in Brandt & Ratzeburg, 1831*****Porcellio laevis* Latreille, 1804*****Porcellio scaber* Latreille, 1804*****Porcellio spinicornis* Say, 1818**= *Porcellio pictus* Brandt in Brandt & Ratzeburg, 1831***Acaeroplastes melanurus* (Budde-Lund, 1885)**= *Metoponorthus melanurus* Budde-Lund, 1885***Porcellionides cingendus* (Kinahan, 1857)**= *Metoponorthus cingendus* (Kinahan, 1857)***Porcellionides pruinosus* (Brandt, 1833)**= *Metoponorthus pruinosus* (Brandt, 1833)****Porcellionides sexfasciatus* (Budde-Lund, 1885)**

Family Trachelipodidae

**Nagurus cristatus* (Dollfus, 1889)

**Nagurus nanus* (Budde-Lund, 1908)

Trachelipus rathkii (Brandt, 1833)

Family Cylisticidae

Cylisticus convexus (De Geer, 1778)

Family Armadillidiidae

Armadillidium album Dollfus, 1887

**Armadillidium arcangelii* Strouhal, 1929

Armadillidium depressum Brandt in Brandt & Ratzeburg, 1831

Armadillidium nasatum Budde-Lund, 1885

=*Armadillidium speyeri* Jackson, 1923

Armadillidium pictum Brandt, 1833

Armadillidium pulchellum (Zenker in Panzer, 1799)

Armadillidium vulgare (Latreille, 1804)

Eluma caelatum (Miers, 1878)

=*Eluma purpurascens* Budde-Lund, 1885

Family Armadillidae

**Gabunillo* Schmalzfuss & Ferrara, 1983 sp.

=*Gabunillo* sp. Eden A

**Reductoniscus costulatus* Kesselyák, 1930

**Venezillo parvus* (Budde-Lund, 1885)