

The House Centipede *Scutigera coleoptrata* (Linnaeus, 1758) (Chilopoda: Scutigeromorpha) in mainland Britain: it's here to stay

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Abstract

The House Centipede *Scutigera coleoptrata* is a large and distinctive centipede typically found inside buildings including domestic houses. It was once considered very rare in Britain with just a handful of records made from 1883 until the 1990s. Subsequent decades, however, have seen a steady increase in sightings culminating in a sharp rise in 2024. The species is currently recorded from widely scattered locations across England and Wales north to Lancashire and Yorkshire. There are a few outdoor observations, including a vegetated sea cliff in Cornwall. The available data suggest peaks in abundance in early summer and later in the autumn. It is suggested that the major contributing factor to the recent increase in observations is climate change which has facilitated the establishment of this southern Europe species in the UK.

Introduction

The House Centipede *Scutigera coleoptrata* (Linnaeus, 1758) (Chilopoda: Scutigeromorpha) is a large (to 30 mm body length) and distinctive species, with ridiculously elongated legs, large compound eyes and three 'go faster stripes' running the full length of its body. Although considered to be native to the Mediterranean region, it has been widely spread by human activity throughout much of Europe, Asia and North America (Barber, 2009; 2022). In France *S. coleoptrata* is widely distributed, albeit favouring rather thermophilic locations (Iorio, 2014). Even in northern France it is relatively common, where it favours synanthropic habitats (Iorio & Labroche, 2015) including gardens and ornamental parks. It has been well established on the Channel Islands (about 30 km off the French coast) since at least the late-1800s (Barber 1990; 2022) and there it is widely observed outdoors in the summer months.

In stark contrast, in mainland Britain *S. coleoptrata* has always been considered to be a rarity and is typically found indoors. Currently there are no verified records from Ireland (Barber, 2022). In the review of species conservation status Lee (2015) lists *S. coleoptrata* as a non-native vagrant species: i.e. long term breeding populations are not established.

This paper highlights the substantial increase in reported sightings of this species across mainland Britain in recent years.

Sources of records

Records of *Scutigera coleoptrata* up to the end of 2024 are included in this update. This includes all records submitted and accepted by the Centipede Recording Scheme up to the end of 2020, which are plotted in the updated Centipede Atlas (Barber, 2022). Additional records from 2021 to 2024 have been verified on *iRecord* (<https://irecord.org.uk/>) which includes additional verified records derived from *iNaturalist* (<https://www.inaturalist.org/>). These comprise the vast majority, if not all, of the British and Irish records for this species submitted to the centipede recording scheme for those years. Also included are three additional records from 2020 that are not plotted in Barber (2022).

Historic sightings

The earliest records of *S. coleoptrata* from mainland Britain are detailed by Barber (2022). It was first noted from a paper mill near Aberdeen in 1883 where it was thought to have been introduced in bundles

of rags from Southern Europe. Here it was present and successfully breeding for about 25 years. Early in the 20th Century it was recorded from a wine cellar (where it was also thought to be breeding) and a paper mill near Edinburgh. These three locations all suggest initial introductions of this species via accidental importation of goods from abroad.

The first English records were not made until the mid-20th Century: Norwich, Norfolk in 1949 and Colchester, Essex in 1955. Single additional sightings made in the in 1960s and 1980s meant that by the time of publication of the Provisional Centipede Atlas (Barber & Keay, 1988) there were seven known locations from mainland Britain over the 100 years spanning the 1880s to the 1980s (Fig. 1). Barber & Keay (1988) go on to comment that *S. coleoptrata* “might be expected to turn up occasionally in Britain as an introduction”. If only they were to know...

Post 2000 records: the colonisation begins

Some two decades later Barber (2009) notes the occurrence of *S. coleoptrata* in eight additional counties across mainland Britain which equates to about 15 records (Figs. 1 & 2); mainly across southern England, but as far north as Lancashire. However, up to the mid-2010s the number of records barely averaged one per year.

Since 2018 (when four records were made in a single year) there has been a steady increase in the number of sightings of this species submitted to the centipede recording scheme (Barber, 2022; Gregory 2023). In 2020 there were seven records, six in 2021 and five in 2022, but then in 2023 an unprecedented 19 records in a single year! However, this was easily surpassed in 2024 when 99 records were verified by the recording scheme (Fig. 2). This single annual total is considerably more than all of the previous sightings of *S. coleoptrata* from 1883 to 2023 (141 years) added together!

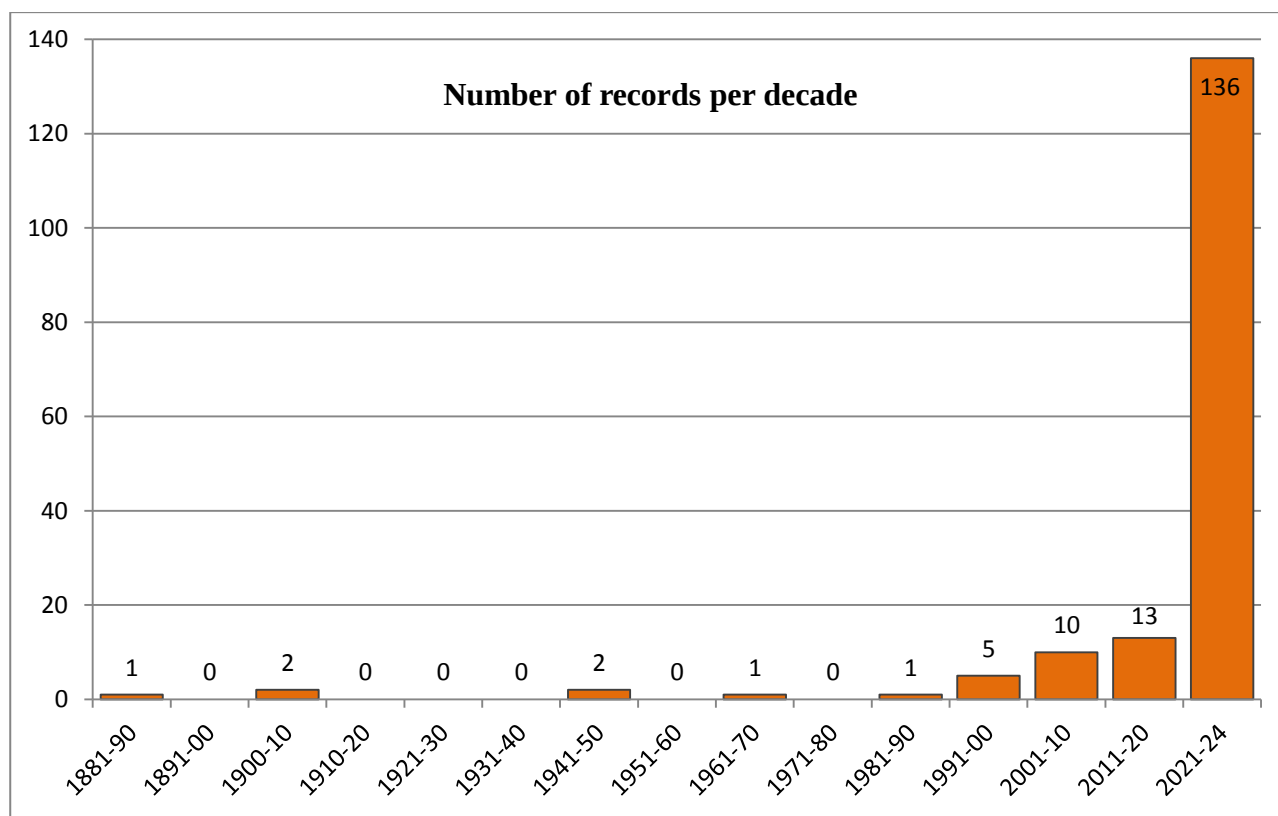


Figure 1: Number of records of *Scutigera coleoptrata* per decade from 1881 to 2024
Data from Barber (2022) and subsequent records (mainly 2020 to 2024) verified via *iRecord*.

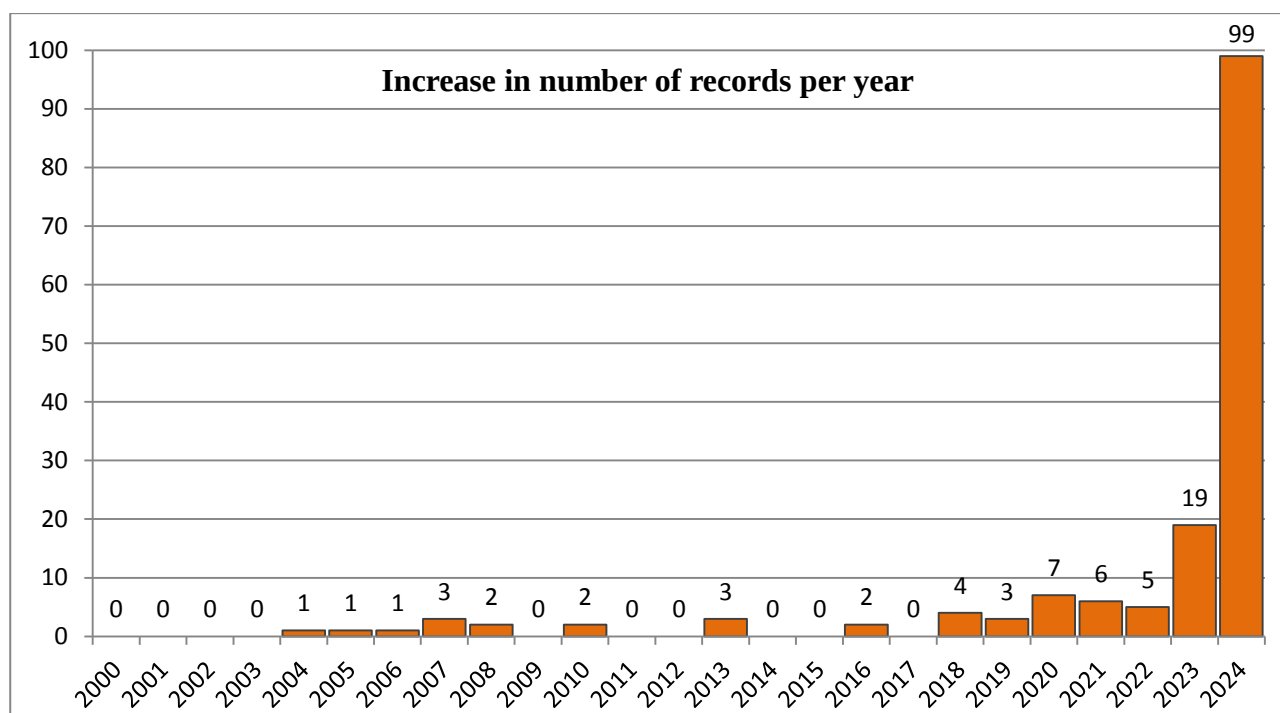


Figure 2: Increase in number of *Scutigera coleoptrata* records per year from 2000 to 2024.
Data from Barber (2022) and subsequent records (mainly 2020 to 2024) verified via *iRecord*.

Habitat and microsites

The earliest known records for *S. coleoptrata* are from inside paper mills and wine cellars, and thus linked with the importation of goods from abroad. The vast majority of modern (post 1990) records have also been from inside buildings. Although these are primarily domestic dwellings (so the vernacular name “House Centipede” would seem appropriate), they also include hospitals, warehouses and a golf course clubhouse. Of those sightings from inside houses the majority are reported from bathrooms and kitchens (perhaps the warmer and more humid rooms?), but bedrooms, living rooms, utility room and inside a garage are also noted. Interestingly, there have been no reported sightings from large Mediterranean glasshouses (such as those found at RBG Kew or Eden Project, for example).

Typically *S. coleoptrata* is observed running up a wall or along a ceiling or floor, usually at night. Several have been found in the kitchen sink, presumably having become trapped after falling in and unable to climb out. However a wide array of additional indoor ‘microsites’ have been given, including “found when taking off skirting board in house”, “found in my son’s toy box“, “found dead on daughter’s bed”, “found under the stairs” and “found in the shower”.

Outdoor occurrences

Although *S. coleoptrata* is widely recorded outdoors in the summer months on the Channel Islands (Barber, 2009; 2022), there were no known outdoor sightings from mainland Britain known to Barber (2018) who speculates “If, maybe because of climate change, it [*S. coleoptrata*] is increasing, one wonders when the first “outdoor” specimens will be reported”. The wait was not long!

Later that same year the first outdoor occurrence was made in October 2018 when a specimen was observed at night in a garden on a wall close to a compost heap at Loosley Row, Buckinghamshire (SP8100) (Partridge, 2019). In 2020 there was a second outdoor garden sighting in Liverpool (SJ3587) “in the back yard at around 10:30pm crawling on the wall”. Then in 2021 a third outdoor sighting “in

my compost bin” was reported at Hedge End, Hampshire (SU4812). (These latter two records verified via *iRecord*). However, these three observations remain closely tied to domestic dwellings. In the USA it has been reported that *S. coleoptrata* may be found outdoors in summer, but needs to retreat indoors to survive the winter (e.g. Kaestner, 1968). It is likely that such a pattern may also be seen in the UK, at least in in southern England, perhaps with increasing numbers of outdoor observations in summer.

In August 2023 an entirely unexpected ‘outdoor’ discovery was made. Whilst surveying maritime grassland slopes for specialist clifftop assemblage of spiders at the Lizard Peninsula, Cornwall (SW6813) two specimens of *S. coleoptrata* were found under a rock by Tylan Berry & Cerin Poland (2023). Two additional specimens were found during a targeted survey by Paul Gainey at the same location later that same month. One was found under a stone and another under heather abutting a large boulder. Subsequently, an additional specimen was observed under large rocks in a pile of scree on vegetated cliffs nearby (SW6913) by Finley Hutchinson in June 2024. Thus the population here does seem to be well established and therefore can be considered the first naturalised outdoor population of *S. coleoptrata* in mainland Britain. The Lizard Peninsula constitutes the southern-most point in mainland Britain and the south facing vegetated cliffs here provide a distinct thermophilic environment. However, there may be additional coastal grassland sites for *S. coleoptrata* awaiting discovery along the English southern coastline?

Phenology

Plotting the number of British records against month of observation shows that *S. coleoptrata* may be found throughout the year. However, the data from both Barber (2022) and from verified records imported via *iRecord* suggest two peaks of observations; the first in spring to early summer (March to June) and the second in autumn (August and September) (Fig. 3). There seems to be a pronounced dip in observations in July and records are sparse throughout the winter months (November to February).

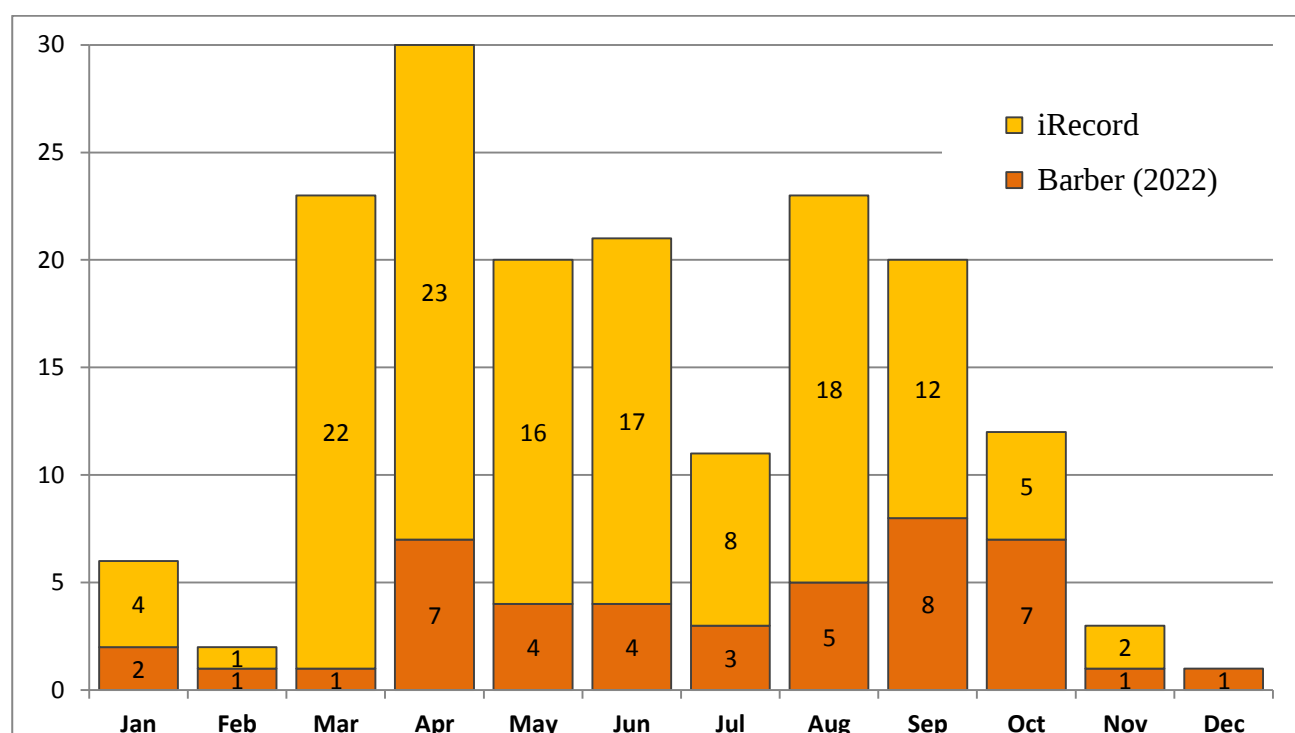


Figure 3. Number of records of *Scutigera coleoptrata* per month.

Records from Barber (2022) from 1881 to 2020 (below) with additional verified records submitted to the recording scheme via *iRecord* (mainly 2020 to 2024) (above).

Distribution

Records for *S. coleoptrata* are now widely scattered across England from Cornwall in the south-west to Kent in the south-east and northwards to a line from Blackpool, South Lancashire to Hull, South East Yorkshire (Fig. 4). There are an additional handful of records from Wales, where the species was first recorded in Glamorganshire, south Wales in 2020 (with several additional sightings) and subsequently in Pembrokeshire and in north Wales (Flintshire and Denbighshire). However, there are no modern sightings for Scotland where this species was last seen inside a paper mill in 1907 (Barber, 2022) and there remain no confirmed records from Ireland.

Most of these records are for isolated observations of a solitary specimen, perhaps representing ephemeral populations as a result of a chance accidental introduction. However, there is evidence that populations of *S. coleoptrata* may have become established in some areas. The most striking example is the town of Weston-super-Mare, located on the north Somerset coast (hectad ST36), where there have been 22 sightings from 10 locations since 2022, including several repeated observations at a few of these locations. On one occasion the recorder notes that there were “11 separate centipedes” and another recorder comments that the species has been “frequently sighted over a decade”. The species has also been repeatedly recorded from Liverpool, an historic port, with seven records from across the city since 2020 (hectads SJ38 & SJ39), which includes an outdoor record from a back yard.

Discussion

There seem to be several factors that may have contributed to the apparent increase in sightings of *Scutigera coleoptrata* across Britain. There is little doubt that ready access to the internet and social media in recent decades has facilitated the recognition and identification of this distinctive species. In addition, the establishment of wildlife recording sites, such as *iRecord* and *iNaturalist*, has allowed observations to be readily filtered into, and verified by, the national recording schemes. In addition, the number of sightings of *S. coleoptrata* appears to have been slightly enhanced by the publication in January 2024 of a BBC news report regarding the discovery of the House Centipede in Nottinghamshire, which requested that sightings should be reported (BBC, 2024; Gregory, 2024). Several recorders upon submitting records for this species commented that they had seen this BBC article.

However, there is no doubt that this upward trend is real and the major contributing factor is most likely to be climate change resulting in an overall slight increase in average temperature across the UK. Across northern France *S. coleoptrata* is widely dispersed albeit typically associated with synanthropic and/or thermophilic locations (Iorio, 2014; Iorio & Labroche, 2015). Also it has been well established on the Channel Islands since at least the mid-1800s where it is regularly reported outdoors (Barber 1990; 2022). A slightly warmer climate across Britain should improve the chances of survival of this centipede following a chance introduction and may result in populations, at least across southern England and Wales, becoming permanently established (as has been long observed on the Channel Islands), rather than ephemeral. Indeed *S. coleoptrata* already seems to be well established and successfully breeding around Weston-super-Mare in Somerset and there does seem to be an established outdoor population on a south facing vegetated sea cliff in Cornwall.

The real puzzle is how does *S. coleoptrata* disperse into new areas where previously it has not been found? Many unintentionally introduced centipedes, millipedes and woodlice are soil or litter dwelling species, such as pill-woodlouse *Armadillidium arcangelii* Strouhal (Hughes *et al*, 2024), that are able to survive inside transported potted or bare rooted plants and thus easily (albeit accidentally) dispersed via the horticultural trade. Unfortunately, this is not a feasible route of introduction for *S. coleoptrata*; a species typically inhabiting walls and ceilings. Perhaps this is the main reason why this species has yet to be recorded from inside a large Mediterranean style glasshouses, such as those found at RBG Kew, Eden Project, etc.

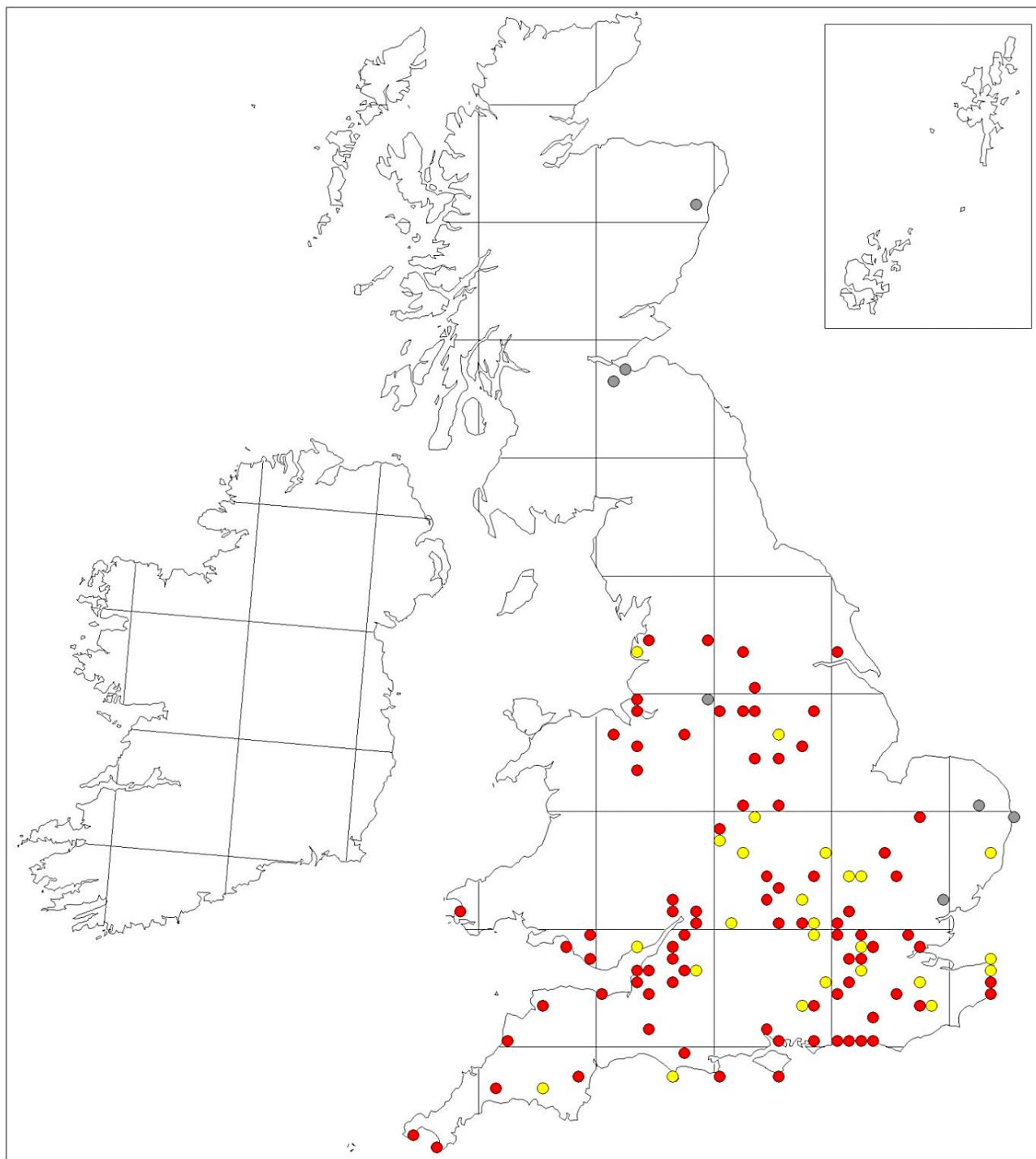


Figure 4: Current distribution map (to end of 2024) for *Scutigera coleoptrata* in Britain.

Map plotted at 10km (hectad) resolution using records from Barber (2022) and verified records submitted to the centipede recording scheme via *iRecord*.

● records made 1883 to 1989: ● records 1990 to 2019: ● records 2020 to 2024

There are no modern records for Scotland and it is not yet recorded from Ireland.

Historically it seems that the species was unintentionally introduced with imported products into paper mills and wine cellars in Scotland. Perhaps this is also the case for Liverpool, an historic port which has been redeveloped in recent decades and where the species now seems to be well established (but perhaps previously persisting un-noticed in old warehouses). However, in recent decades almost all records are from inside domestic dwellings with no obvious link to the large scale importation of products from abroad. Perhaps in this modern era of online shopping specimens are being carried around in the back of delivery vans? Another potential means of introduction could be inside luggage following a holiday on the European continent? Whatever the mechanism of arrival, once an initial population has established under favourable conditions it is very likely that specimens are able to disperse into adjacent properties through small crevices in walls, around windows and pipes, etc, thus facilitating the spread of this species across a wider area. This may be the case at Weston-super-Mare (with 22 sightings from 10 locations since 2022), but it is not easy to explain how the species got there in the first place. Historically this was a small fishing village until its rapid development as a holiday resort in the 19th Century following the arrival of the railway in 1841 which encouraged mass tourism (Wikipedia website). But these Victorian tourists were from the UK, not southern Europe! Maybe *S. coleoptrata* arrived on Victorian trains, or maybe they are a more recent addition to the town's fauna? We may never know.

To conclude, it is expected that observations of *S. coleoptrata* will become more frequent in coming decades, particularly across southern England, with more populations becoming permanently established and therefore it is very likely that there will be an increase in the number of reported outdoor occurrences.

It seems that *S. coleoptrata* is no longer “a fabulous beast... on a par with the unicorn and the mermaid” (to quote Barber, 2018). It's real and it seems it's here to stay and it'll be interesting to see what happens in 2025.

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