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FIRST RECORD OF *CHAETOPHILOSCIA CELLARIA* (DOLLFUS, 1884) FROM THE CHANNEL ISLANDS (ISOPODA: ONISCIDEA: PHILOSCIIDAE)

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ABSTRACT

The woodlouse *Chaetophiloscia cellaria* (Dollfus) is reported for the first time from Guernsey, Channel Islands. A brief description with illustrations is provided to enable identification and information is given about habitats and microsites inhabited and associated species. *C. cellaria* appears to be undergoing an expansion of range into north-west Europe and is probably a recent colonist of the Channel Islands, aided by human activity. It may be just a matter of time before it is found on the south coast of England.

Key words: Isopoda, Oniscidea, *Chaetophiloscia cellaria*, Channel Islands, identification, habitat.

INTRODUCTION

Three species of *Chaetophiloscia* Verhoeff 1908 are known from France (Séchet & Noël, 2015). All three originate for the Mediterranean basin (Vandel, 1962). The ‘expansive’ *C. elongata* (Dollfus) has long been known to occur as far north Brittany (Vandel, 1962), but in recent decades both *C. cellaria* (Dollfus) and *C. sicula* Verhoeff also have expanded their ranges northwards (Noël *et al.*, 2014; Séchet & Noël, 2007; 2015). None of these species have been reported as being naturalised in the UK.

Jones & Pratley (1987) report the collection of two female specimens of a *Chaetophiloscia* species from the outdoor ornamental gardens on Tresco, Isles of Scilly (SV81) in 1985 and 1986. The whereabouts of these specimens is uncertain and no further collections have been made since that date so it has not been possible to name this species. More recently, *C. sicula* has been collected inside the Mediterranean Biome of the Eden Project in Cornwall in 2005 and 2010 (Gregory, 2014), but it has not become naturalised outside.

The Channel Islands are British crown dependencies located about 30 miles (48 km) west of Normandy, France. Traditionally, biological recording schemes for the British Isles have included the Channel Islands which are included within many published distribution atlases, including that for Woodlice and Waterlice (Gregory, 2009).

DISCOVERY

In January 2019, while looking through photographs taken the previous year, AM encountered images of an unfamiliar woodlouse. This specimen was photographed in May 2018 in a domestic garden in St. Sampsons on the Island of Guernsey (49.47978N -2.55769W). The images were posted on the *Isopods and Myriapods of Britain and Ireland* group for identification, where it was provisionally identified as *Chaetophiloscia cellaria* (Dollfus, 1884) on the basis of body pigmentation patterns. This determination was promptly confirmed by Franck Noël (pers. comm. to SJG). On 17th February 2019 a second specimen, a female, was hand sorted by AM from leaf-litter collected from the same garden. Then, on

24th March a male specimen was collected from the upper shoreline at La Croix Bay, Vale (49.50098N - 2.50446W), about 4.5km to the north east. This individual was discovered on the underside of a rock at the top of a shingle and stone beach. It didn't move when disturbed (unlike the associated *Halophiloscia couchii* Kinahan) so it was collected for a closer examination.

These latter two specimens were forwarded to SJG for examination. These are the first recorded occurrences of *C. cellaria* from the Channel Islands, or indeed the British Isles. Details of the records are listed in Table 1.

TABLE 1: Records of *Chaetophiloscia cellaria* from Guernsey

* Material examined in this paper

Locality	Habitat	Lat/Long	Number of specimens	Date of collection
Camp du Roi, St Sampsons	Domestic garden	49.47978N -2.55769W	Image only	May 2018
			1♀*	17.ii.2019
			1♀	18.iv.2019
			1♂	18.v.2019
La Croix Bay, Vale	Shingle beach, upper shore	49.50098N -2.50446W	1♂*	24.iii.2019

IDENTIFICATION

Taxonomy

Section Crinocheta

Family Philosciidae

Chaetophiloscia cellaria (Dollfus, 1884)

= *Philoscia cellaria* Dollfus, 1884

= *Chaetophiloscia italica* (Verhoeff, 1901)

= *Neophiloscia magnopunctata* Strouhal, 1929

= *Chaetophiloscia pallida* Verhoeff, 1928

= *Chaetophiloscia piligera* Verhoeff, 1908

Diagnosis

Chaetophiloscia cellaria is a relatively well pigmented, fast running, woodlouse, with a strongly discontinuous (stepped) pereion-pleon body outline and an antennal flagellum composed of three articles. Thus, it is reminiscent of *Philoscia* sp., and indeed the speckled brown head could cause confusion with *Philoscia affinis* Verhoeff. However, the conspicuous orange corners to the posterior angles of the last pereionite (most obvious in live specimens) are characteristic of *C. cellaria*. The shape of male first pleopod is diagnostic.

Details of how to differentiate the three French species of *Chaetophiloscia* is given by Séchet & Noël (2007) and Noël & Séchet (2007).

Description

This brief description is based on a male and female specimen collected from Guernsey freshly preserved in 95% ethanol (Table 1; Figs. 1A-C; 2A-C).

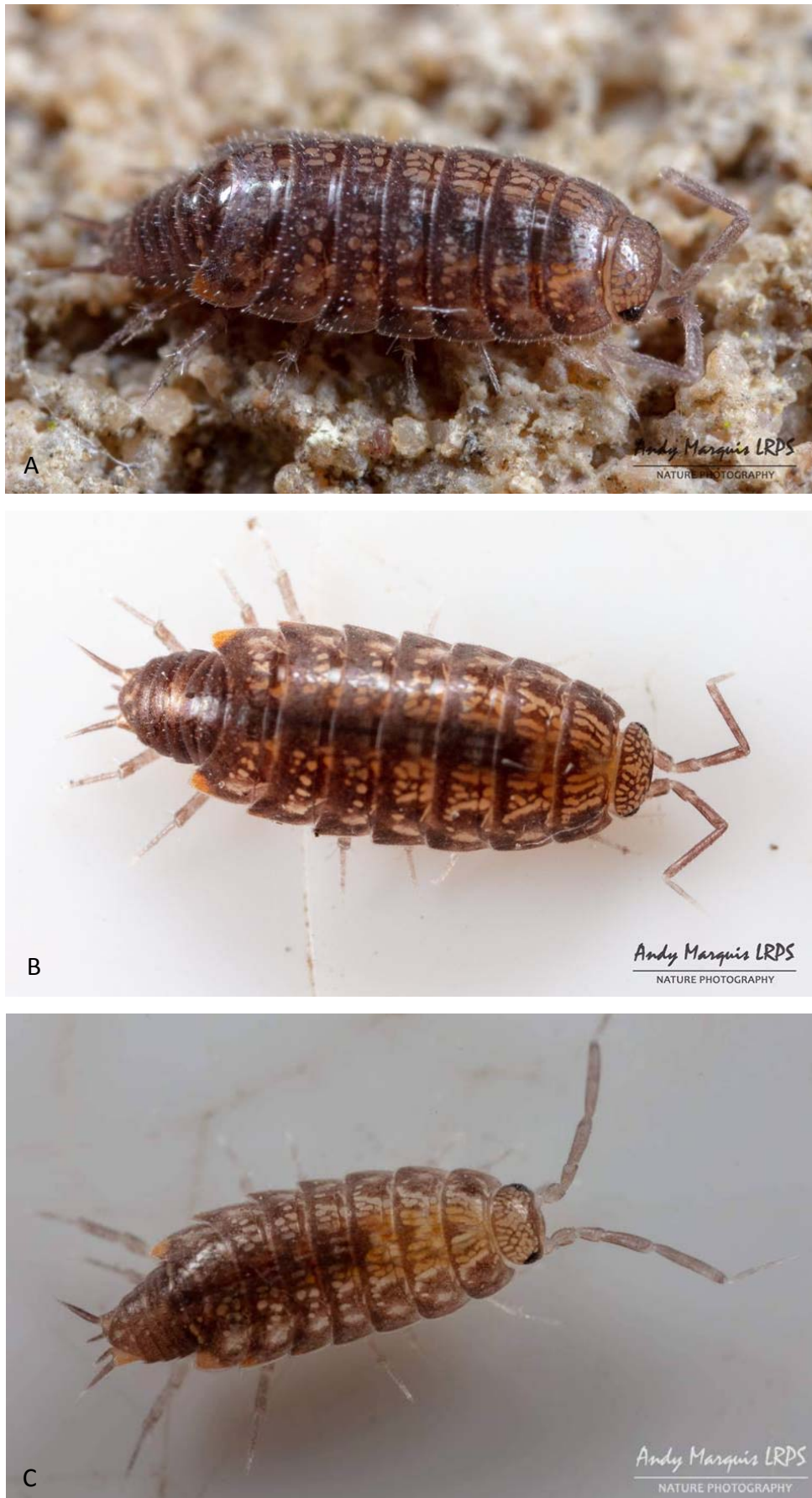


Figure 1: *Chaetophiloscia cellaria*, habitus of three specimens from Guernsey

A) Specimen photographed May 2018; B) Female collected 17.ii.2019; C) Male collected 24.iii.2019.



Figure 2: *Chaetophiloscia cellaria* from Guernsey.

A) Peon and telson (arrowed), and orange 'patch' on 7th pereionite (arrowed); B) Head and ommatidia;
C) Antennal flagellum of three articles; D) Male 1st endopods; E) Male, tip 1st endopod.

The male examined (Fig. 1C) is 4.5 mm in length by 2.1 mm wide; the female (Fig. 1B) is 5.5 mm in length by 2.3 mm wide. Séchet & Noël (2007) give a range 5-8 mm for specimens collected from north-west France and consider *C. cellaria* to be relatively broader than its congeners, notably *C. elongata*. The cephalon bears feebly developed median and lateral lobes. The eye comprises about 15 well pigmented ommatidia (Fig. 2B) (*C. elongata* and *C. sicula* have c. 25) and the antennal flagellum comprises three elongated articles (Fig. 2C).

The dorsal surface is smooth, but bears numerous scattered short 'hairs' (Fig. 1A). The cephalon, pereionites and pleon are brown with conspicuous pale mottling and a hint of a darker central longitudinal stripe where the gut shows through. In the male specimen, which is less well pigmented, this mottling is noticeably orange across the central areas of pereionites 1 to 3. In addition each pereionite bears a distinct oval white spot close to the lateral margin and a conspicuous (in life) orange spot occupies the posterior angle of the last (7th) pereionite (Fig. 2A, arrowed). This latter feature is considered diagnostic of *C. cellaria* (Séchet & Noël, 2007), but in the two specimens examined it appears to fade upon preservation in alcohol. It should also be noted that some populations inhabiting subterranean habitats may exhibit depigmentation, to a greater or lesser extent (*ibid*).

The pleon is much narrower than pereion, producing a strongly stepped body outline, which is typical of Philosciids in general. Each pleonite bears a feeble, barely discernible, backward projecting 'tooth' at its lateral-posterior corner, typical of *Chaetophiloscia* sp. in general. The telson has a characteristically rounded tip (Fig. 2A, arrowed) (other species of *Chaetophiloscia* and *Philoscia* have a more angular, distinctly pointed, tip to the telson).

The male first pleopod (Figs. 2D & 2E) characteristically tapers to a sharp point, which, in the single specimen examined, bears a row prominent denticulations on its inner and outer edges. According to Vandel (1962) these prominent 'teeth' are most prevalent in specimens from the Mediterranean area.

DISTRIBUTION AND HABITATS

Channel Islands

Currently, *Chaetophiloscia cellaria* has been recorded from two sites on Guernsey, albeit in contrasting habitats; a domestic garden at St Sampsons and the upper shore of a shingle beach at La Croix Bay, Vale, some 4.5 km apart.

The domestic garden contains mostly native plant species, with no plants having been imported within the last four years. However, there is evidence of a possible glasshouse on the site perhaps dating to back to before 1970. The first female *C. cellaria* was hand sorted from bag of leaf-litter collected from a dark damp corner behind a garden shed. Subsequently (Table 1), a second female was also found in the same location, but beneath an old refugia, and a male specimen from beneath an old dry log sitting on gravel in a different part of the garden. Other woodlice present in the garden include the ubiquitous species *Trichoniscus pusillus* agg., *Philoscia muscorum* (Scopoli), *Porcellio scaber* Latreille and *Armadillidium vulgare* (Latreille), but also *Haplophthalmus danicus* Budde-Lund, *Platyarthrus hoffmannseggii* Brandt, *Porcellionides pruinosus* (Brandt), *P. cingendus* (Kinahan) and the occasional *Oniscus asellus* (Linné).

The second site, a shingle and stone beach is being surveyed for Scaly Cricket *Pseudomogoplistes vicentae* Gorochov with pitfall traps in the shingle and hand searches under rocks. Above the beach are low mud cliffs (<1m high) with evidence of erosion from storm surges gouging deep holes (<1m) into these. Land above consists of pasture with typical coastal grasses at the edges, currently grazed by horses. The single male *C. cellaria* was found under a stone at the top of the beach at the base of the low

cliffs. Associated woodlice were *Ligia oceanica* (Linné), *Halophiloscia couchii*, *P. muscorum*, *P. scaber*, *A. vulgare* and *P. cingendus*. The centipede *Pachymerium ferrugineum* (C.L.Koch) was also collected.

The pseudoscorpion *Chthonius (Ephippiochthonius) tetrachelatus* (Preysslner) was recorded at both sites.

Elsewhere in Europe

Although once considered a species of the northern Mediterranean basin (e.g. Vandel, 1962), *Chaetophiloscia cellaria* seems to be undergoing a northwards expansion of range within France (Séchet & Noël, 2015) and now occupies many areas in north of the country, both on the coast and inland. The INPN database (Muséum National d'Histoire Naturelle, 2003-2019) includes several records from coastal areas of the départements of Manche (in Normandy) and Finistère and Morbihan (further west in Brittany). There is also a recent record from the département of Ille-et-Vilaine in Brittany (pers. comm., F. Noël).

In the south of France *C. cellaria* is often epigeal occurring under stones or among leaf-litter and detritus, but also inhabiting limestone screes and may be found many tens of metres inside caves (Séchet & Noël, 2015). It is thought to have spread northwards along the coast aided by human activity. In north-west France (Armorican Massif) it is typically found in cellars (under debris or on walls), in the entrances of underground cavities or within dwellings (i.e. relatively dark and damp places), but also among debris in gardens and greenhouses (Séchet & Noël, 2007). In such synanthropic locations it is often associated with *C. elongata* and *C. sicula* (Séchet & Noël, 2015).

These habitats and associated microsites are in keeping with observations of this species on Guernsey.

CONCLUSION

Given the close proximity of recently discovered sites for *Chaetophiloscia cellaria* on the northern coast of France then its occurrence on Guernsey is not unexpected. It also should be expected to occur on other Channel Islands, such as Jersey, both in coastal habitats and synanthropic sites, such as gardens. In light of its documented northward spread, it is perhaps just a matter of time before it is discovered on the south coast of England, and associated islands.

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