CTENOLEPISMA LONGICAUDATA (ZYGENTOMA: LEPISMATIDAE) NEW TO BRITAIN

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ABSTRACT

The silverfish *Ctenolepisma longicaudata* Escherich 1905 is reported for the first time in Britain, from Whitley Wood, Reading, Berkshire (VC22). This addition increases the number of British species of the order Zygentoma from two to three, all in the family Lepismatidae.

INTRODUCTION

Silverfish, firebrats and bristletails were formerly grouped in a single order, the Thysanura (Delany, 1954), but silverfish and firebrats are now recognized as belonging to a separate order, the Zygentoma (Barnard, 2011). On 7 December 2014 one of us (MRG) discovered a large silverfish in her kitchen in Whitley Wood, Reading, Berkshire (SU725718). It quickly became evident that it was not the Common Silverfish, *Lepisma saccharina* (L.) by virtue of its hairiness, long caudal cerci lying at right angles to each other, long active antennae and body length (Delany, 1954), though it was a similar uniformly grey colour. The specimen was just under 40 mm long from antennal tip to the tip of the central caudal cercus with a body length (head to the tip of final abdominal segment) of 11 mm. The length of the specimen effectively eliminated the Firebrat, *Thermobia domestica* (Packard) as a candidate which has a body length of 8–10 mm; in addition *T. domestica* has a generally yellowish ground-colour with darker brown bands and mottled spots on the dorsal surface (Delany, 1954). The insect was identified as *Ctenolepisma longicaudata* Escherich (Lepismatidae) (Fig. 1; Plate 3, Fig. 1) using Wygodzynsky (1972). *Ctenolepisma longicaudata* has a body length of at least 10mm.

RESULTS & DISCUSSION

Following the discovery of the first individual several more specimens of *C. longicaudata* were found in the same building up to 21 December 2014. *Ctenolepisma longicaudata* is associated with and believed to feed on starchy material (Lindsey, 1940). Indeed, all of the specimens found during the current study were attracted to items of breakfast cereal on the floor. The species appears to be well established in this one dwelling. Searches of nearby houses have not yet been undertaken so its exact status in the neighbourhood has yet to be determined.

The genus *Ctenolepisma* Escherich comprises approximately 100 species most of which occur in warm climates. The genus is poorly known, but recent work has resulted in the splitting of *C. lineata* into several distinct species in southern Europe (Molera-Baltanás, Gaju–Ricart & Bach, 2005 & 2012). Through trade *C. longicaudata* is considered cosmopolitan, as are the two other British species of Zygentoma. Its native distribution is recorded by some to be North America and the Caribbean, although Wygodzynski (1972) maintains that *C. longicaudata* is strictly synanthropic and by inference introduced in North America. In Europe, the species is principally known from the Iberian Peninsula, France, Italy, Greece and Cyprus although it has also been recorded more recently in Belgium and the Netherlands

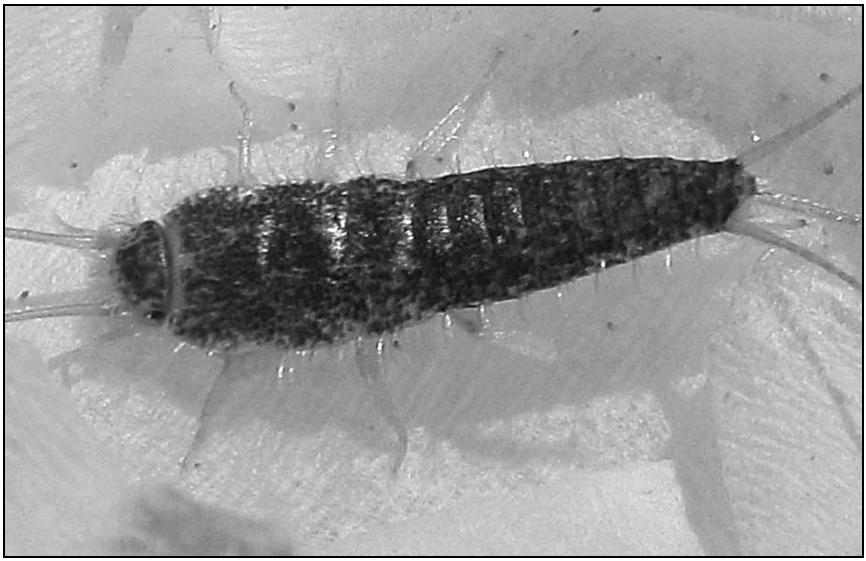

Fig. 1. Close-up of *Ctenolepisma longicaudata* showing body scales. Photo: Chris Foster.

(Lock, 2007). It is likely that the species is under-recorded. Anecdotal evidence from online sources suggests that this is not the first time that *C. longicaudata* has been noted in the UK, often, but not always, associated with imported food products.

The other well-established species of *Ctenolepisma* in Europe are *C. ciliata* (Dufour) and members of the *C. lineata* (F.) complex, both of which are superficially similar to *C. longicaudata*. *Ctenolepisma longicaudata* can be differentiated from the *C. lineata* complex through examination of the structure of the tenth (terminal) abdominal tergite (Wygodzynsky, 1972). The tenth tergite in *C. lineata* and its allies is sub-triangular, whilst that of *C. longicaudata* is truncate or slightly emarginate. The tenth abdominal tergite on the specimen described here was clearly emarginate. Furthermore the two taxa differ in their chaetotaxy. *Ctenolepsma longicaudata* has three bristle combs on each side of the second to the sixth tergite, as on the current specimen, whilst *C. lineata* has three bristle combs on the second through to the seventh tergite. *Ctenolepisma lineata* also has dark brown longitudinal stripes on the body, unlike the more uniformly grey colour of *C. longicaudata* (Fig. 1). *Ctenolepisma ciliata* can also be rejected here because it is less than 10mm long and the antennal filaments do not exceed the body length (Wygodzynsky, 1972). The antennae in the specimen shown in Figure 1 were 18% longer than its body.

Ctenolepisma longicaudata is currently not recognized as an established British species. We propose that, as a result of the individuals reported here, the species is added to the British list. Specimens have been retained by GJH to be subsequently held by the Cole Museum of Zoology, University of Reading.

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SHORT COMMUNICATION

Native shieldbug *Palomena prasina* (L.) (Hemiptera; Pentatomidae) falls prey to introduced spider – The house where I (MTB) live in south-west Maidstone is adorned with several radial tubular webs of the introduced spider *Segestria florentina* (Rossi) (Segestriidae). Adults can often be seen lurking in the entrance to their tubes in cracks in the walls, several close to the front door. I was first introduced to this distinctive, rather large, jet-black, exotic spider by my father (JSB) when he kept a specimen from Sheerness alive in a jar for a few weeks prior to showing it at the annual Kent Field Club exhibition in the mid-1980s. Philp (2005) in his annotated checklist of the spiders of Kent while not specifically referring to the finding in the exhibition report (as there are many records from Sheerness) reports that '*S. florentina* is a very local species in Kent away from ports, but perhaps on the increase'. This is very much the case today with records from walls and buildings in Dover, Canterbury, Ashford, the Medway towns and even Chilham (KMBRC data base).

The spider is occasionally mentioned in the local media, the latest being the sighting of several spiders unusually 'out and about' on a fence in a garden in Whitstable, and not tucked away in their tubes (Canterbury News, 2015). The house owner is quoted as saying 'he is tempted to blow up the fence to protect his 5-year old son'. In addition to an excellent photograph of the spider showing its glistening green, there is a video link at *canterburytimes.co.uk* where you can see the spiders on walkabout.

No firm information has been published on the diet of *S. florentina*. It was therefore interesting to observe one individual grasping an adult Green Shieldbug *Palomena prasina* (L.) with its chelicerae on 21 June 2015 (Plate 3, Fig. 2, front cover, this issue). This appears to be the first time that predation of this pentatomid by a spider has been noted in the UK. Southwood & Leston (1959) record *P. prasina* as being attacked by parasitic tachinids and braconids, but not large predators such as spiders.

Shieldbugs are known to secrete (or eject) defensive compounds from their dorsal abdominal glands (Millar, 2005), hence the alternative name of stink bug for some species. These compounds include aldehydes, carboxylic acids, esters and terpenoids, such as n-undecane, n-dodecane and n-tridecane (Millar, 2005; Eliyahu *et al*., 2012), and a mixture of these would likely have been released by *P. prasina* when attacked by *S. florentina*. *Palomena prasina* has been observed releasing secretions (Remold, 1962) and certainly has a typical shieldbug smell when handled, but whether these proved sufficient for *S. florentina*, possibly a naive individual, to reject and release its prey in this case was not observed. It would seem likely that the shieldbug died even if it was not fed on.

PLATE 3, Fig. 1. The silverfish *Ctenolepisma longicaudata*, Reading, 7 December 2014 (×3). Photo: Graham Holloway. Fig. 2. *Segestria florentina* adult clasping the shieldbug *Palomena prasina*, Maidstone, Kent, 2015 (×1.1). Photo: Michael Badmin.