Anthrenus museorum (Linnaeus) (Dermestidae) new to Wiltshire, and field identification features

G.J. Holloway and C.W. Foster

Centre for Wildlife Assessment and Conservation, School of Biological Sciences, Harborne Building, The University of Reading, Whiteknights, Reading RG6 2AS; g.j.holloway@reading.ac.uk

Anthrenus museorum (Linnaeus) is not commonly encountered in the UK. Only 35 records appear on the NBN Atlas (2018) with just 23 of these records since 1980. It is considered to be a species native to the UK unlike a number of other *Anthrenus* spp. on the British list (Peacock, 1993; Duff, 2012); these species are described as importations or naturalised introductions (Alexander, 2017). However, Alexander (2017) was unable to assess the status of *A. museorum* in the UK, instead describing it as 'data deficient'. Across continental Europe *A. museorum* is encountered more frequently [e.g. in Germany (Benisch, 2018)] but in many other countries it remains scarce as in the UK. For example, it has only been noted from three states in the US (Beal, 2003) and four states in Canada (Bousquet, 1991; Majka, 2007).

In view of the data deficient status of *A. museorum* in the UK (Alexander, 2017) a study was carried out in southern England to assess the occurrence of *A. museorum* under field conditions. In 2017 species of Apiaceae were swept for *Anthrenus* from mid-May until mid-August from around the rural village of Shalbourne, Wiltshire (SU313628). Three *A. museorum* were found (and retained), the first two on 13 June and the third on 15 June. All three were collected from the same small patch of hogweed *Heracleum sphondylium*. *Anthrenus museorum* is not recorded from Wiltshire in Darby (2009) and these individuals represent the first county records for Wiltshire (VC 7).

Most individuals gathered were *A. verbasci* (Linnaeus) along with a smaller number of *A. fuscus* Olivier. It is relatively simple to distinguish *A. museorum* from *A. fuscus* under a microscope by inspecting antennal characters (Peacock, 1993) but there is much scope for confusing the two species under field conditions. The elytra of both species are covered in a mixture of mid-brown and golden coloured scales with small patches of white scales. In addition, the distributions of the golden scales are similar in both species (Fig. 1). During the study it was noted that the distribution and number of white scales on the elytra and pronotum varied between the species. On the midline of the hind margin of the pronotum *A. fuscus* has a single row (occasionally two) of white or pale yellow scales. On *A. museorum* there are four or five rows of white scales which combine to form a white spot. This feature is quite easy to see with a hand lens. In addition, *A. museorum* has three patches of white scales approximately ¼, ½ and ¾ along each elytron close to the inner margin plus another three patches of white scales running along the outer margin. *A. fuscus* also

has patches of white scales but they are rarely as well developed as those on *A. museorum*. In particular the most basal, inner white elytral patch can be used to facilitate identification usually being present (and obvious) in *A. museorum* but absent (or weak) in *A. fuscus*.

Fig. 1 *Anthrenus museorum* (above) and *A. fuscus* collected in June 2017 from SU313628. Note the extent of white scales on *A. museorum* relative to *A. fuscus*, in particular the white spot on the basal midline edge of the pronotum in *A. museorum*.

Finding three individuals of *A. museorum* suggests that the species might be under-recorded in the UK. It is possible that other *Anthrenus* species, indeed Dermestidae in general, are under-recorded. It is hoped that this study will stimulate an increase in Dermestidae recording and that the identification features proposed here can be extensively trialled under field conditions.

We would like to develop a reference collection of Dermestidae for student teaching purposes and to contribute to ongoing studies into colour variation in Dermestidae. We would be most grateful if collectors could send specimens of any Dermestidae species to:

Dr Graham J. Holloway, National Recorder: Dermestidae, School of Biological Sciences, Harborne Building, The University of Reading, Whiteknights, Reading RG6 2AS.
Email: g.j.holloway@reading.ac.uk

References

ALEXANDER, K.N.A. 2017. A Review of the Status of the beetles of Great Britain: the wood-boring beetles, spider beetles, woodworm, false powder-post beetles, hide beetles and their allies – Derodontidoidea (Derodontidae) and Bostrichoidea (Dermestidae, Bostrichidae and Ptinidae). *Natural England Commissioned Report* NECR236.

BEAL, R.S. 2003. Annotated checklist of Nearctic Dermestidae with revised key to the genera. *The Coleopterists Bulletin* **57**: 391-404.

BENISCH, C. 2018. http://www.kerbtier.de/cgi-bin/enFSearch.cgi?Fam=Dermestidae Accessed June 2018.

BOUSQUET, Y. 1991. Family Dermestidae: Dermestid beetles. In: Bousquet, Y. (ed.) *Checklist of Beetles of Canada and Alaska*. Agriculture Canada Publication 1861/E. Ottawa, Ontario, pp 196-199.

DUFF, A.G. (ed.) 2012. *Checklist of Beetles of the British Isles, 2012 edition.* Iver: Pemberley Books.

MAJKA, C.G. 2007. The Derodontidae, Bostrichidae and Anobiidae of the Maritime Provinces of Canada (Coleoptera: Bostrichiformia). *Zootaxa* **1573**: 1-38.

NBN Atlas. 2018. https://species.nbnatlas.org/species/NHMSYS0001716884#/names Accessed 9 February 2018.

PEACOCK, E.R. 1993. Adults and larvae of hide, larder and carpet beetles and their relatives (Coleoptera: Dermestidae) and of derodontid beetles (Coleoptera: Derodontidae). *Handbooks for the Identification of British Insects* **5**(3): 1-144.