

## Notes on the Scottish Macro-moth List, 2015

This list aims to include every species of macro-moth reliably recorded in Scotland, with an assessment of its Scottish status, as guidance for observers contributing to the National Moth Recording Scheme (NMRS). It updates and amends the previous lists of 2009, 2011, 2012 & 2014.

The requirement for inclusion on this checklist is a minimum of one record that is beyond reasonable doubt. Plausible but unproven species are relegated to an appendix, awaiting confirmation or further records. Unlikely species and known errors are omitted altogether, even if published records exist. Note that inclusion in the *Scottish Invertebrate Records Index (SIRI)* does not imply credibility. At one time or another, virtually every macro-moth on the British list has been reported from Scotland. Many of these claims are almost certainly misidentifications or other errors, including name confusion. However, because the County Moth Recorder (CMR) has the final say, dubious Scottish records for some unlikely species appear in the NMRS dataset.

A modern complication involves the unwitting transportation of moths inside the traps of visiting lepidopterists. Then on the first night of their stay they record a species never seen before or afterwards by the local observers. Various such instances are known or suspected, including three for my own vice-county of Banffshire. Surprising species found in visitors' traps the first time they are used here should always be regarded with caution.

Clerical slips – the wrong scientific name scribbled in a notebook – have long caused confusion. An even greater modern problem involves errors when computerising the data. Such errors are beginning to outweigh misidentifications as the cause of false records, a tribute to the advances that have been made in recent years with the help of modern field guides and internet forums. Computer input errors are particularly prevalent when species are entered by a code number - transposed digits are inevitable sooner or later. Since there is no logic or pattern about such errors, they can be particularly dangerous. The 'experienced observer, unmistakable species' argument is of no use here. Thus a Scarce Burnished Brass claimed for Aberdeenshire in 2013 turned out to be a misentered code for Small Autumnal Moth when queried. There have been many similar instances, particularly affecting the large Rothamsted Insect Survey (RIS) dataset.

Assessments of Scottish status have been reviewed where necessary to take account of range expansions or declines, plus increased knowledge. These assessments are necessarily brief and subjective. They also assume that suitable habitat for the species is present in an area. Note that UK designations such as RBD apply in Scotland too. The geographical terms used are broad: S means south of the River Tay, while W and E divide the country roughly in two. For greater detail of distributions, consult the latest NMRS maps online, particularly those prepared by Mark Cubitt on the Butterfly Conservation East Scotland Branch website. On the same website, the flight time histograms give a good indication of regional abundance too.

The Scottish Macros List follows the revised British checklist of Agassiz *et. al*, (2013). Note that this omits a Scottish designation for 29 of the species on the main Scottish list, yet includes as Scottish nine species for which I have no confirmed record.

### Species added to the Scottish Macro-moths List since the previous version (January 2014)

Large Twin-spot Carpet *Xanthorhoe quadrifasiata*, 28 July 2014, Aberlady, VC84, John Harrison.

A female in fair condition, at mv (photo). Totally unexpected: 200km north of its British range.

Pimpinel Pug *Eupithecia pimpinellata*, 2 July and 17 July 2014 (three), St. Abbs, VC81, Barry Prater.

Photos. Previous old Scottish records may have been correct.

Beaded Chestnut *Agrochola lychnidis*, VC86: 1937, 1947, 1953, 1959, 1960, 1976, Cedric Holmes.

Six specimens in Falkirk Museum (photos per David Bryant). Upgraded from Appendix.

This suggests that at least some of the other old records may well have been correct.

Thus the main Scottish Macro-moth List now comprises 563 species, including adventives. The Appendix contains a further 21 plausible but unconfirmed species. If anyone can provide convincing evidence for these, or for any other additions, I would be very pleased to hear from them.

### Some significant recent Scottish records

Chinese Character *Cilix glaucata*, 12 June 2014, Flanders Moss VC87, David Bryant. Photo.

At northern edge of range – spreading?

Oleander Hawk-moth, *Dapnis nerii*, 19 Nov 2014, Stirling, VC86, per Heather Young. Photo.

Others reported further south, so most likely a genuine immigrant. Wow!

Blomer's Rivulet *Venusia blomeri*, 21 June 2014, Invermoriston VC96, Julie Stoneman. Photo.

This follows the 2013 discovery of this species in VC97, where more were found in 2014.

Sloe Pug *Pasiphila chloerata*, 4 July 2014, Auchendinny, Edinburgh, VC83, Peter Keightley. Photo.

Previously only in Dumfries & Galloway.

Bilberry Pug *Pasiphila debiliata*, two, 29 June 2014, Glen Moriston VC96, Julie Stoneman. Photos.

Surprisingly local in Scotland despite huge areas of apparently ideal habitat.

Plain Pug *Eupithecia simplicata*, 6 July 2014, Prestongrange, VC82, Colin Davison. Photo.

Only the third Scottish locality.

Thyme Pug *Eupithecia distinctaria*, 30 June 2014, Cramalt Burn, VC78, Teyl de Bordes. Photo.

Scarce, local and mainly western coasts; on limestone here.

Peacock Moth *Macaria notata*, 13 June 2014, St. Ola, Orkney VC111, N. Charlton. Photo.

Furthest north; still expanding range.

Lilac Beauty *Apeira syringaria*, 19 June 2014, Glasdrum, Argyll VC98, Andrew Masterman. Photo.

Still expanding northwards, both in west and east.

White-pinion Spotted *Lomographa bimaculata*, 2 June 2014, Mugdock, VC86, John Knowler. Photo.

Still expanding northwards since first Scottish record in VC73, 1997.

Straw Dot *Rivula sericealis*, 11 July 2014, Starhill nr. Keith, VC94, Barry Foster. Photo.

Recent arrival in NE Scotland after easterly range expansion; formerly mainly western.

Dewick's Plusia *Macdunnoughia confusa*, 17 Sept. 2014, Kirkwall, Orkney VC111, A. Stanger. Photo.

Fourth Scottish record of this rare migrant, all in the Northern Isles.

Chamomile Shark *Cucullia chamomillae*, larvae 13 July 2014, Nigg Bay, VC106, Nigel Richards. Photo.

Three larvae, deliberately sought and found, the most northerly record.

Obscure Wainscot *Leucania obsoleta*, 23 June 2014, Humbie, VC82. Jeremy Wilson. Photo.

Previously only in Dumfries & Galloway, the first Scottish record being in 2002.

Northern Dart *Xestia alpicola*, 65 on 12 July 2014, site withheld, VC78, Teyl de Bordes & M. Lindsay.

Amazing numbers and a remarkable record, the first for the Borders. Photos.

Note that all these records were backed up by photographs. In some cases the moth was only identified from the photo, while other records would doubtless have been regarded as unproven without this evidence. The digital camera has certainly revolutionised moth recording in recent years. But there are worrying dangers. Three instances of attempted fraud were brought to my attention in 2014, with wholly improbable claims supported by a photograph of the species in question. However, in two cases we

found that very same image on the internet – one on a website based in Australia and the other in Florida. Presumably the claims were meant as a spoof or joke.

### **Acknowledgements**

I am grateful to all the observers and CMRs who responded so willingly to my endless queries or requests for information, then gave permission to use it. The task of producing this list was made very much easier by the flight histograms and up-to-date distribution and abundance maps for Scottish species created by Mark Cubitt, using the latest NMRS data. The Scottish vice-county digital vault for voucher photos, also set up by Mark, helped to confirm identifications were correct. Both facilities are available on the Butterfly Conservation East Scotland Branch website. The Dumfries & Galloway Moths website was again invaluable for information on those species that only just reach Scotland, and for tracking the progress of recent colonisers. Compiling the first Scottish macro-moths list in 2008 involved a fair amount of guesswork. Today, we have increasingly solid data, thanks to the efforts of all involved in moth recording.

*Roy Leverton, 28 January 2015*

### **Reference**

Agassiz, J.L., Beavan, S. D. & Heckford, R. J., 2013. *A checklist of the Lepidoptera of the British Isles*. Royal Entomological Society, London.