

**Butterfly
Conservation**

Saving butterflies, moths and our environment



E-moth

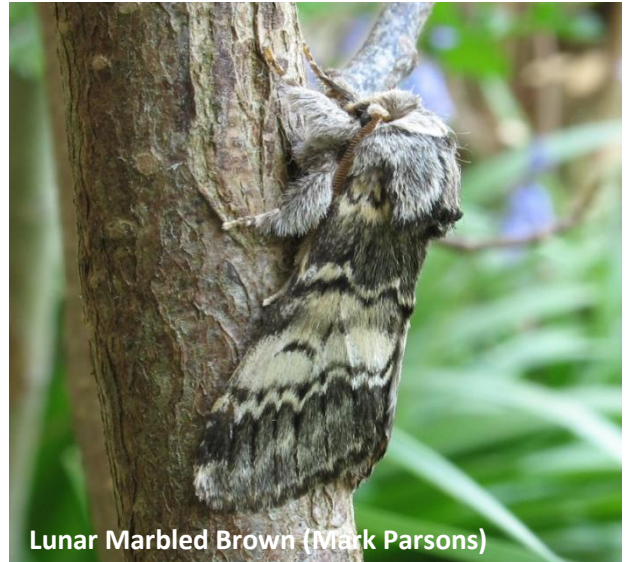
Moths Count Update April 2015

Spring has arrived, moths are coming to our traps at night and sightings of day-flying Emperor moths are numerous particularly in southern England. So far this year we have recorded 197 individuals of 29 species in the trap at Butterfly Conservation's Head Office in Dorset, admittedly it has only been operated on nine occasions.

Common Quaker, Hebrew Character and Early Grey have been the most abundant moths with 33, 33 and 27 individuals recorded respectively. Lunar Marbled Brown are appearing in the Manor Yard trap at the moment along with the other usual suspects, Clouded Drab, Small Quaker and Muslin Moth.

Hopefully you are all aware of the planned Macro-moth Atlas for Britain and Ireland which we will be publishing in 2018. The atlas will include records to the end of 2016.

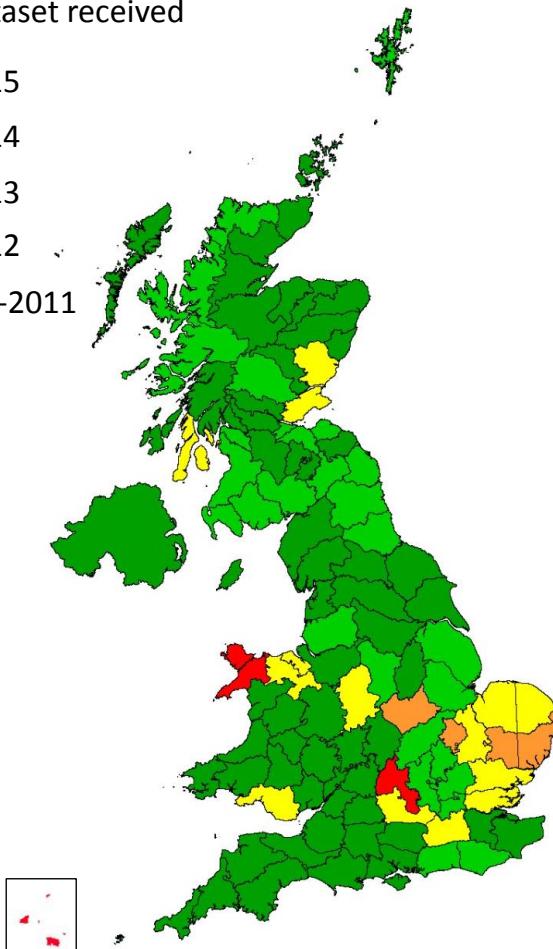
We only have two more field seasons to target 'white-holes' and under-recorded areas so it is really important that we increase our recording effort this year. Your County Moth Recorder will be able to let you know where in your area extra effort is required. If you are planning some moth-ing holidays further afield, please contact the relevant CMR to find out where you can focus your effort to help with under-recording.



Lunar Marbled Brown (Mark Parsons)

Year dataset received

- 2015
- 2014
- 2013
- 2012
- Pre-2011



National Moth Recording Scheme Update

The NMRS currently holds 18.7 million macro-moth records, this figure is set to rise as we have received 67 refreshed vice-county (VC) datasets so far this year (see map left). These are all fantastic and much appreciated, but we were particularly pleased to have received datasets recently from Northern Ireland and Carmarthenshire. The Northern Ireland dataset consists of over a quarter of a million moth records; this dataset has undergone a thorough 'clean-up' and is 30% larger than the previous Northern Irish dataset, which we received in December 2011.

The dataset from Carmarthen was welcomed as the last time we received a refresh from this VC was back in September 2009! Over 150,000 records have been added including the important historical Rothamsted Insect Survey records. There are quite a few other vice-county datasets we are keen to see refreshed in the NMRS, the relevant County Moth Recorders will be contacted in the near future.

Many thanks to the moth recording community, County Moth Recorder network and all the other

data collators and contributors for your continued support of the NMRS.

The past 15 months have seen several new County Moth Recorder appointments including Iain Outlaw, VC10 Isle of Wight; Sam Bosanquet, VC44 Carmarthenshire; Robin Taylor, VC45 Pembrokeshire; Tony Allenby, VC46 Cardiganshire; Richard Walker, VC59 South Lancashire; Martin Gray, VC53 South Lincolnshire; Steve Holmes, VC58 Cheshire; Ian Marshall, VC61 South-east Yorkshire and Alison Robertson, VC72, VC73 & VC74 Dumfries-shire, Kirkcudbrightshire & Wigtownshire. Many thanks to all of you for taking on the roles of County Moth Recorder; the NMRS team look forward to continuing to work with you.

Kent is a key moth recording county and is currently without a County Moth Recorder, we're hoping that this situation is remedied as soon as possible, particularly with the moth-ing season due to hot-up over the coming months. If anyone is interested in taking on this role or collating the data for Kent, please contact us and we will put you in touch with the relevant person.

National Moth Recorders' Meeting

We held our fifth National Moth Recorders' meeting on 31st January this year. It was our biggest meeting to-date with over 200 people attending. The event was fully booked in advance and a waiting list was in operation! We had a range of talks covering the usual update on the National Moth Recording Scheme (NMRS) along with findings from the first major analyses of the NMRS database; northern range expansion of Swedish moths; range expansion of Cinnabar moth in Scotland; moth recording in Cumbria; the use of moth pheromones for conservation monitoring; the possibility of a national micro-moth recording scheme; the latest findings from the Garden Moth Scheme and 'extreme' mothing in Wales were also on the agenda. It was a great day, certainly one of our highlights of the year, from the positive feedback it seems it's one of yours too. Many thanks to all of the speakers and moth recorders who attended and contributed to another great meeting.



National Meeting (Jim Asher)

Please make a note in your diaries for next year's meeting which will be held on **30th January 2016** at the Birmingham and Midland Institute, Central Birmingham. **As always, advanced booking is essential to secure your place.** Further details and how to book will be provided in due course.

European Interests Group

Butterfly Conservation's European Interests Group (EIG) promotes the enjoyment, conservation and study of butterflies, moths and their habitats in Europe. The EIG has a network of contacts across Europe; Claire Mouquet the director of Groupe d'Etude des Invertébrés Armoriciens (GRETIA) in Basse Normandy is appealing for digitised moth records from Normandy to contribute to an Atlas of the Noctuidae of Lower Normandy, to be published in 2016 and for an inventory of moths of other families. Further details (in French) and an example recording form can be found [here](#). GRETIA are keen to receive any invertebrate records you may have for their region.



Please send your records with the subject marked "Transmission de données" to Claire via direction@gretia.org with a copy to Nicole Lepertel, nicole.lepertel@orange.fr, who is responsible for coordinating the atlas. If any of you need any help, such as writing a covering e-mail in French please contact Jude Lock, jude.lock@orange.fr, the EIG representative for France.

University Moth Challenge

Just a reminder that the University Moth Challenge (UMC), organised by A Focus on Nature (AFON), the network for young conservationists, started at the beginning of April. UMC involves recording as many moths as possible on university land between



A Focus On Nature

April and December 2015. The Challenge aims to encourage students to take an active interest in moths and contribute to national recording schemes. It's not too late to get involved, if you are at university or know someone who is, and would like to take part, please get in touch with the AFON co-ordinator Simon Phelps at simonphelps310787@yahoo.com. Further details can be found on the [website](#).

Mothy Mutterings

Mothy Mutterings, the monthly update on the moth-related activities of Butterfly Conservation's Moth Team and other topical subjects, is available on the Moths Count website or by clicking [here](#).

Priority moths newsletters

As well as being circulated to the email group, our [Priority moths newsletters](#) are published on the Moths Count website. Listing the latest sightings, this newsletter enables you to keep your finger on the pulse of our priority species. To contribute please send your sightings to Tony Davis (tdavis@butterfly-conservation.org).

Moth Night 2015

Moth Night 2015, organised by Atropos and Butterfly Conservation, in association with the Centre for Ecology and Hydrology, is running from 10th to 12th September this year.



MothNight 2015
Thursday 10 – Saturday 12 September

Migration

Lure exciting migrant moths to your garden and enjoy colourful autumn species. Take part in Moth Night 2015, the annual celebration of moths and moth recording:

- Record autumn moths at night
- Attract moths using Nicotiana flowers, wine ropes or 'sugar'
- Remember to submit your sightings online
- Organise or attend a public moth event
- Get friends and family involved

www.mothnight.info

The theme is migration; recorders are encouraged to plant seeds of the night scented Nicotiana to entice Convolvulus Hawk-moth. In addition to running a trap, you could use wine-ropes or 'sugar' baits to attract Old Lady, Red Sword-grass and Red Underwing. A marking experiment is being run as part of Moth Night to investigate moth dispersal too, so please keep your eyes peeled for moths marked with coloured paint – if you come across one, please take a photo and contact us via the website (www.mothnight.info).

Moth Night provides the perfect opportunity to spread the word about the magnificence of moths through public moth events. If you are planning to run any events for Moth Night 2015 please promote them [here](#).

For the first time in several years we will be accepting Moth Night records via MapMate sync file. A new MapMate Moth Night 2015 Filter will be made available via a MapMate Patch in due course. Alternatively, if you do not use MapMate please submit your records through the online recording system at www.mothnight.info.

Bird-cherry Ermine larval webs

Lisa Keane of Luton, Bedfordshire is self-studying the ecology of the Bird-cherry Ermine (*Yponomeuta evonymella*), in particular the larval stage and their webs. If anyone is able to assist Lisa in locating larval webs to study please contact her via email lisa.keane@hotmail.com.

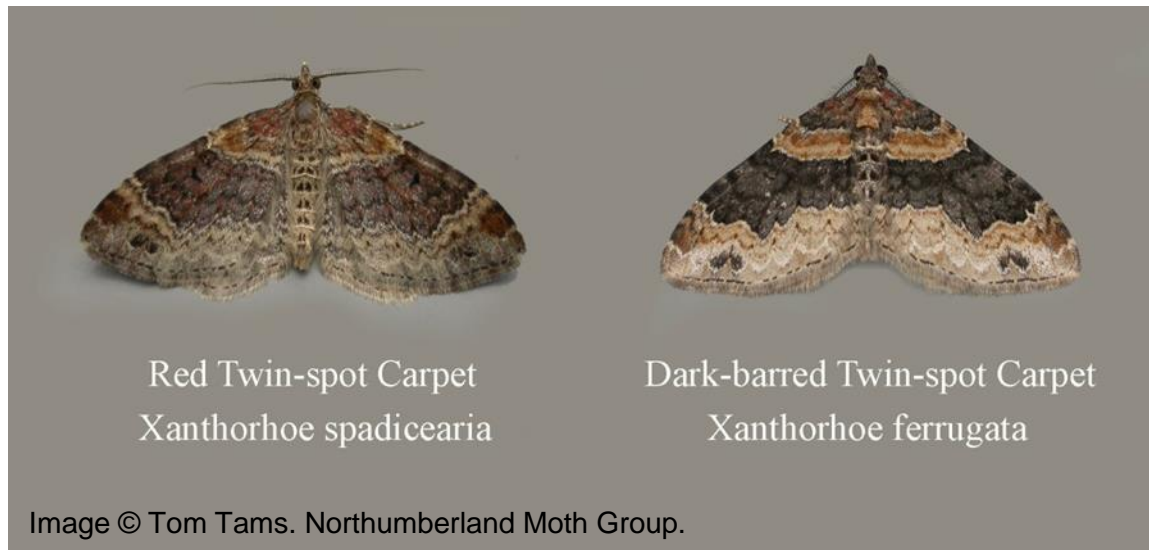
Identification Focus: Distinguishing Red Twin-spot Carpet (*Xanthorhoe spadicearia*) and Dark-barred Twin-spot Carpet (*X. ferrugata*)

To kick off what may become a short series of identification focus articles, I have chosen Red Twin-spot Carpet and Dark-barred Twin-spot Carpet, two species easily confused; however, once you start to take a critical look at some of their features, they should be relatively easy to distinguish when fresh or at least give the recorder good pointers to identification.

Firstly, the 'notch' which may be found on the inner crossline near the leading edge adjacent to the central band is no longer considered reliable and shouldn't be used. It can be seen from the image below that both specimens may be considered to have this notch depending on the observer's point-of-view.

Well-marked *spadicearia* are quite distinctive, but once worn can be difficult to distinguish as features become obscured. Worn, darker-banded examples of *spadicearia* could be confused with the blackish-banded *ferrugata* form *unidentaria*. Conversely, the uncommon, reddish-banded typical form of *ferrugata* may also confuse some recorders believing it to be *spadicearia*. Many requests for determinations from recorders claiming *ferrugata* turn out to be *spadicearia*.

The following image by Tom Tams, Northumberland County Moth Recorder, demonstrates the feature differences in forewing upperside features. The use of a photographer's [18%] grey card help represents the true colours and gives good moth/background contrast. However, these ground colours do vary between individuals.



Here are a few pointers to help you towards distinguishing the two species, but do bear in mind some or all of these can be subjective and may be inconclusive:

- The overall ground colour of *spadicearia* when fresh is generally richer and warmer reddish-brown than in *ferrugata*.
- The overall contrast between the central crossband and the rest of the forewing patterning is generally high in *ferrugata* and low in *spadicearia*.
- The trailing area is lighter and creamier in *ferrugata* and darker and greyer in *spadicearia*.
- The width of the central crossband in Dark-barred Twin-spot Carpet generally steps out more dramatically at one-half than in *spadicearia*.
- The 'twin-spot' is less contrasting with the ground colour in *spadicearia*, while in *ferrugata* it is isolated from any colour and high contrasting.
- The white or whitish crosslines either side of the central crossband are generally wider in *spadicearia* and bordered with a blackish line of similar thickness. The blackish lines are very thin to obscure in *ferrugata*.

Sometimes these species will rest with their wings held high, completely covering up the forewing upperside features. All is not lost, *spadicearia* usually shows some of the reddish-brown ground colour on the undersides; however, *ferrugata* usually show no ground colour, instead it is an almost uniform grey.

Hopefully by using some of these features, recorders will find them useful to help towards distinguishing these two species a little easier. If you do have to aggregate these two species, please don't record them as "Twin-spot Carpet" This is another species altogether and not related.

Further reading:

Townsend, M., Clifton, J. and Goodey, B. (2010) *British and Irish moths: an illustrated guide to selected difficult species* www.mothscount.org/uploads/Difficult_species_guide_page_24.pdf

Townsend, M. 2010. Observations on the use of wing-markings and genitalia to distinguish Dark-barred Twin-spot Carpet *Xanthorhoe ferrugata* (Cl.) and Red Twin-spot Carpet X. *spadicearia* ([D. & S.]). (Lep.: Geometridae) and on the implications of recording these species. *Entomologist's Rec. J. Var.* 122.

By Les Hill, Butterfly Conservation

Research round-up (an interesting snippet of recent scientific research on moths)

Love songs

We all know that birds sing to attract mates, but some moths also sing as part of courtship. Examples have been found in many parts of the world and in several moth families (e.g. Pyralids, Crambids, Noctuids and Erebids), with more undoubtedly waiting to be discovered. In all these musical moths, it is the males that sing, producing ultrasonic calls (think Jimmy Somerville rather than Barry White!) usually after first locating their mates by smell.

However, this is not necessarily the romantic serenade one might imagine. Researchers have shown that the males of the Asian micro-moth *Ostrinia furnacalis* (a close relative of the European Corn-borer *O. nubilalis* that occurs in southern Britain) trick the females, who cannot distinguish the song from the hunting calls of bats. The male's song therefore causes the female to freeze (predator avoidance behaviour), significantly increasing his chance of mating with her. This is not always the case though. In a species of footman moth (*Eilema japonica*), the females can distinguish between the ultrasonic calls of amorous males and hungry bats.

Reference

Nakano *et al.*, 2013. Evolution of deceptive and true courtship songs in moths. *Scientific Reports* **3**: 2003. Open access at <http://www.nature.com/srep/2013/130620/srep02003/full/srep02003.html>

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