

## E-moth Update November 2023

Welcome to the November edition of E-moth. The winter nights are drawing in and the mothing season is slowing up. Reports from the County Recorder network about the 2023 season are mixed with some areas reporting average years and some reporting below average years. Some County Recorders have had fewer species but similar numbers. One County Recorder has said that overall, he had more moths in his garden than any year since 2011! Indeed, in one County Recorders garden some species were recorded in the greatest numbers since 2005. These included; Light Brown Apple Moth, Garden Rose Tortrix, Garden Grass-veneer, Beaded Chestnut, Common Wainscot, Smoky Wainscot, Heart and Dart and Common Rustic egg. In Wiltshire there have been extraordinary numbers of Box-tree moth recorded.

This species was first recorded in the British Isles from Kent in 2007, having been accidentally introduced to the UK, and by 2011 larvae had been found in private gardens. The moth arrived in Caernarvonshire in Wales in July 2015; the first record for the Republic of Ireland was in 2017 from County Waterford and in 2018 the species was found in County Down, Northern Ireland. The first record for Scotland was in 2018 from Fife. It is safe to say that the moth is well established across much of the UK, particularly in the south and is continuing to expand its distribution.



Box-tree moth *Cydalima perspectalis* (Mark Parsons)

Further information about the Box-tree moth can be found in an article published in the Entomologists Gazette by Colin Plant *et al.*, which is available online via: <https://www.ebts.org/wp-content/uploads/2019/05/Box-Tree-Moth-Ent-Rec-1313-122-147.pdf>

## UK Moth Recorders' Meeting 2024

For the first time since 2020, the UK Moth Recorders' Meeting will be held in person on Saturday 27<sup>th</sup> January 2024 at the Birmingham and Midland Institute, central Birmingham. The programme for the day is now finalised and the draft can be found [here](#).

As with previous in-person meetings we will have some stall holders in attendance, confirmed to date are [Hachiware Art](#), [Atropos Books](#) and [Watkins and Doncaster](#). Please do bring your purses and wallets to stock up on moth related art, books and equipment.



UK Moth Recorders' Meeting (Jim Asher)

The meeting is free to attend, a buffet lunch will be provided, and **advanced booking is essential**. To book your place please follow this [link](#). We're looking forward to seeing you all and feeling that buzz in the air again!

## National Moth Recording Scheme update

Data import into the National Moth Recording Scheme (NMRS) database has recommenced following a hiatus caused by the migration of some 17 million butterfly records in the Butterflies for the New Millennium (BNM) dataset to a new home in Recorder 6. With this now completed, data processing and data management will be more streamlined with all data from our two major recording schemes; NMRS and BNM, being held in the same type of database.



The NMRS currently consists of 33.7 million macro-moth records and 6 million micro-moth records. The macro-moth with the greatest numbers of records in the NMRS is Large Yellow Underwing, with 876,406 records and the micro with the greatest numbers of records is Light Brown Apple moth, with 263,784 records. Many thanks to the County Moth Recorder network and their Verification Assistants for their efforts in collating and verifying local datasets for submission to the NMRS, it is much appreciated. We will be undertaking a data submission audit in the coming months and chasing up any outstanding datasets.

We're really excited to announce that we have recently shared a derived NMRS dataset, comprising 31 million macro-moth records, with the NBN Atlas. These records are publicly available at tetrad resolution (apart from sensitive species/sites). For reasons of privacy and other sensitivities, names of recorders and determiners, site names and comments are not included in the data. For further information about this exciting development, see article on page 4.

As we have re-invigorated annual data refreshes to the NBN Atlas we would like to receive annual updates of vice-county datasets to the NMRS by 31 March each year. This will ensure that our conservation staff and volunteers, partner organisations, and scientific researchers have access to use the most recent data to inform their work to help understand the changing fortunes of our moth fauna.

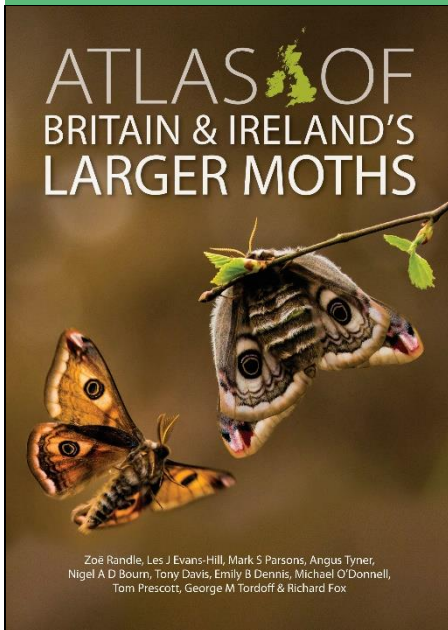


Large Yellow Underwing (Megan Lowe)



Light Brown Apple Moth (Mark Parsons)

# Atlas of Britain and Ireland's Larger Moths: On offer



NatureBureau have a seasonal offer on the [Atlas of Britain and Ireland's Larger Moths](#). It can be purchased for £30, (plus postage and packaging), a saving of 22%.

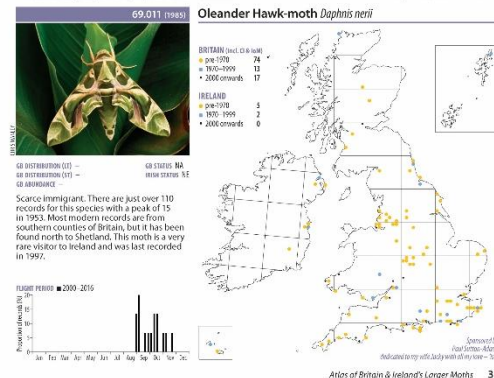
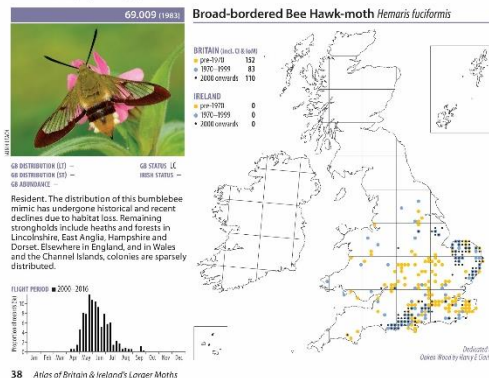
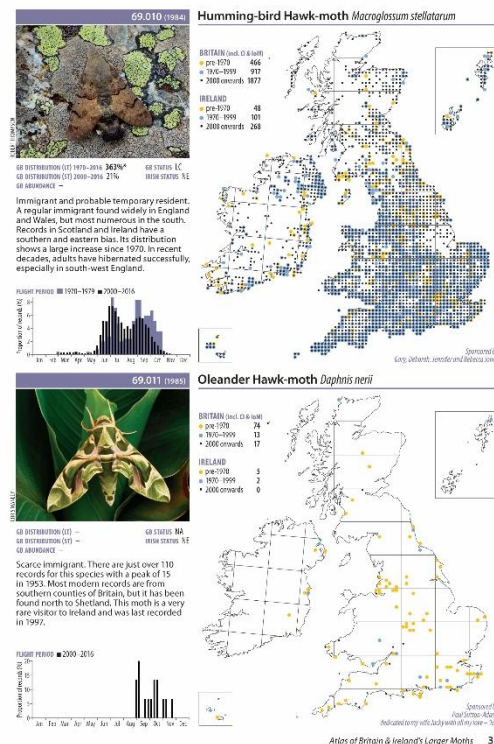
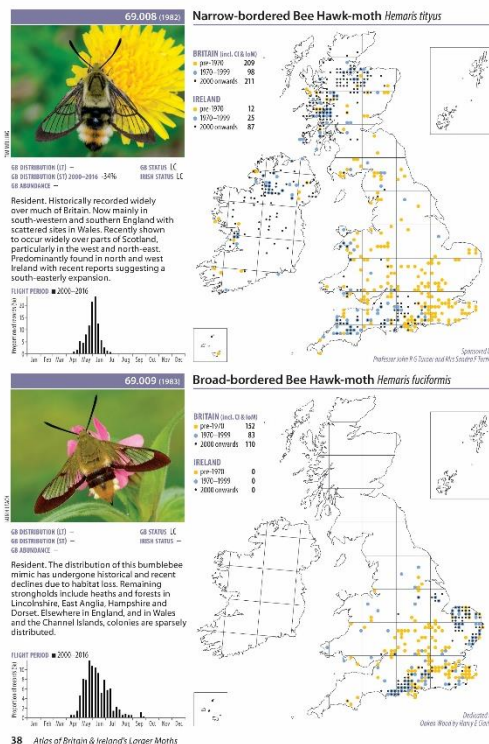
Over 25 million macro-moth records from the National Moth Recording Scheme and MothsIreland were combined to produce the Atlas. It is the first-ever Atlas covering all of the macro-moths in Britain, Ireland, the Isle of Man and the Channel Islands.

This book features species accounts, distribution maps, distribution and abundance trends, along with phenology charts and images for 866 species. It provides a great assessment of the changing fortunes of our moth fauna.

Norman Lowe, County Recorder for Breconshire says "I find the Moth Atlas really useful. I refer to it all the time especially the maps and the flight info. I have told many of my recorders to get this book"

In my view the things that the authors got especially right are; The information on each species – all useful stuff. The clarity of the text – so important for the more senior reader whose eyesight may be less keen than it used to be. I especially appreciate the white on dark colour of the code numbers. The index. A joy to use – all in one."

Peter Marren says "The atlas is a magnificent piece of work. For moth fans, it is the book we have been waiting for all our lives."



Full page spread of the Atlas of Britain and Ireland's Larger Moths

## NMRS data on the NBN Atlas

Last month Butterfly Conservation publicly shared almost 31 million macro-moth records from the National Moth Recording Scheme (NMRS) via the National Biodiversity Network's online data portal – the [NBN Atlas](#).

The NBN Atlas is the UK's largest repository of publicly available biodiversity data. The hosted datasets are available for anyone to view on interactive maps and download, according to the permissions of the providers.

The [derived NMRS dataset](#), which includes all macro-moth records up to the end of 2019, is available on the NBN Atlas at tetrad resolution, although sensitive records, such as those on sensitive sites, or of sensitive species are blurred further to 10km resolution or excluded completely.

Making our datasets publicly available on the NBN Atlas provides conservation organisations and researchers with data, helping to accelerate understanding of, and solutions to, the nature crisis. Policymakers can access the latest information they need to take action for moths. It will help to raise awareness of what's happening to our moths in the UK, alert landowners and land managers to the presence of scarce species near them and empower members of the public to take action in their local area.

We believe in the motto record once, use many times. Every time someone sees a moth this has potential to become a biological record. After being checked, the observation can join the millions of other records in the UK evidence base we manage.

The size of this new NBN Atlas dataset alone is testament to the collective passion and drive the UK's recorders and verifiers have for studying and saving moths. We couldn't gather and use these data for Butterfly Conservation's work without the incredible support of our recorders, and now their dedication will have an even bigger impact for nature across the UK. Thank you all!



## Supporting Science

Our Supporting Science project has now been completed. This two-and-a-half-year Lottery Funded project, was extremely ambitious, and at times was challenging to deliver. However, in collaboration with the County Recorder network, in partnership with the Field Studies Council and working with TechWorksForUs, UK Centre for Ecology & Hydrology, Biodiverse IT and others, we have achieved a great deal to improve data flow and better support the recording community.

Major outputs include the re-vamped [Garden Butterfly Survey](#) website, enhancements to iRecord to improve the verification process for County Recorders and Verification Assistants, the development of a [tool-kit](#) for County Recorders, online moth and butterfly identification training, a series of iRecord training courses, including verification in iRecord. A highlight has been the enthusiastic update of the Identifying Distinctive Moths online training courses aimed at beginners. Over 980 people have completed the course to learn about distinguishing a set of widespread moth species. Scores for enjoyment have been fantastic, with 98% and 99% of participants in each of the course rating this 4 or 5 out of 5.

As a result of the pathway of training courses we have recruited 20 Verification Assistants, all of whom were completely new to the network and recording community. The sharing of some 46 million Lepidoptera records with the NBN Atlas has also been achieved.

We'd like to thank the network of County Recorders and their Verification Assistants for their input to the project and their wider efforts.

The Supporting Science project received DCMS and National Lottery funding, distributed by The Heritage Fund as part of their Digital Skills for Heritage initiative. We are also grateful to Henry C. Hoare Charitable Trust, Sophia Webster Ltd. and The Lochlands Trust for their support.



## PhD opportunity: Why are moorland moths declining?

Our State of Britain's Larger Moths 2021 report highlighted worrying distribution declines in some of our moth species, including moths that live in moorland habitat. The decline of moorland moths will have an impact on ecosystem function and ecosystem services, such as the provision of food for threatened species and economically important game birds. Through its Heather Corrie Research Fund, Butterfly Conservation plans to part-fund a PhD to identify the causes of decline in moorland moths and determine what management interventions might help to prevent further declines.



Grey Mountain Carpet (Tim Melling)

The PhD will be based at Scotland's Rural Collage (SRUC) in Aberdeen, supervised by Dr Nick Littlewood (SRUC), and co-supervised by Dr Lisbeth Hordley (Butterfly Conservation) and academics from the James Hutton Institute and Aberdeen University. The PhD will involve analysis of long-term datasets to understand the drivers of moorland moth decline, alongside field and lab work to look at these drivers in more detail and test management interventions. In addition, the PhD researcher will benefit from opportunities to learn from Butterfly Conservation work on species and habitat conservation, policy, citizen science and engagement. In order to increase our chances of being successful in the SRUC competitive funding process, we are looking for an excellent student with relevant fieldwork experience, a passion for working in remote landscapes and data analysis skills.

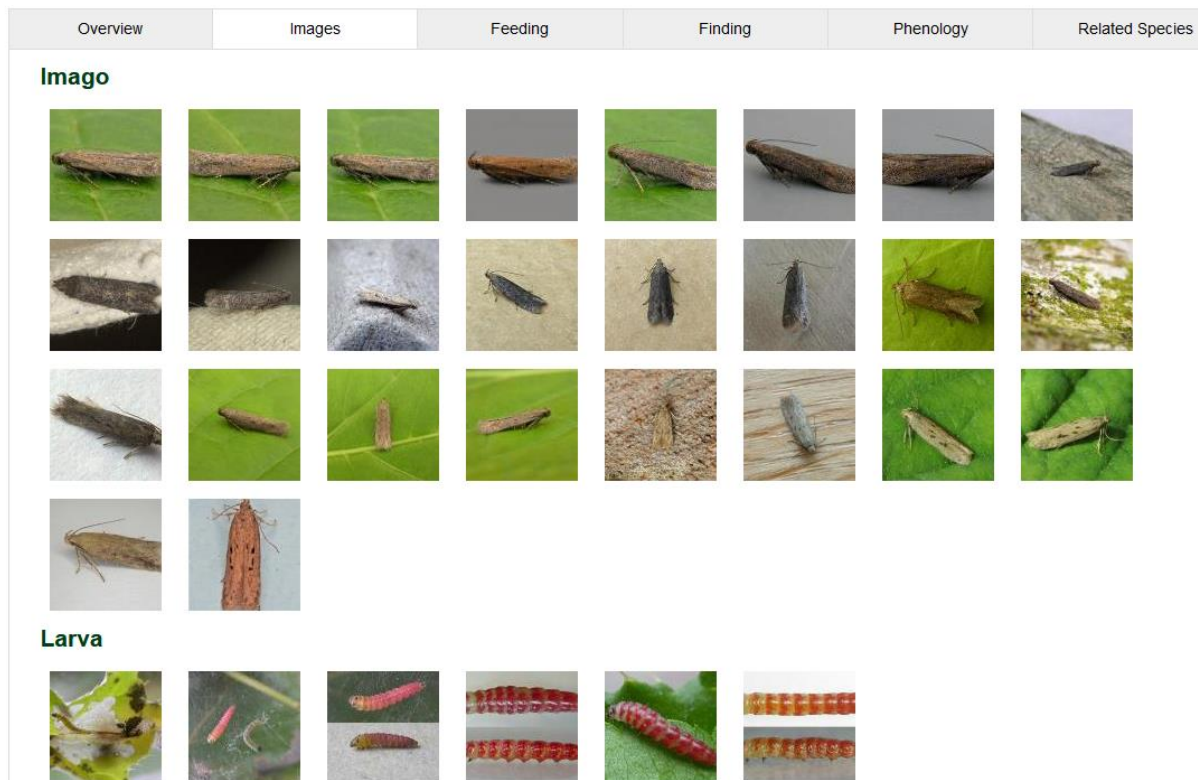
More information and how to apply (deadline 14 January 2024) can be found here: <https://www.findaphd.com/phds/project/understanding-and-reversing-the-decline-of-moorland-moths-in-the-uk/?p164190>

If you have any questions, please contact either Dr Nick Littlewood ([nick.Littlewood@sruc.ac.uk](mailto:nick.Littlewood@sruc.ac.uk)) or Dr Lisbeth Hordley ([lhordley@butterfly-conservation.org](mailto:lhordley@butterfly-conservation.org)).

## Gelechiid Recording Scheme

The national [Gelechiid Recording Scheme](#) (GRS) covers all 167 micro-moth species within the family Gelechiidae that have been recorded in the British Isles and Channel Islands. Soon after the scheme was launched in 2011, we were approached by the Centre for Ecology and Hydrology (CEH), Wallingford, who kindly offered to host a website on behalf of the scheme - we jumped at this fantastic opportunity and have not looked back.

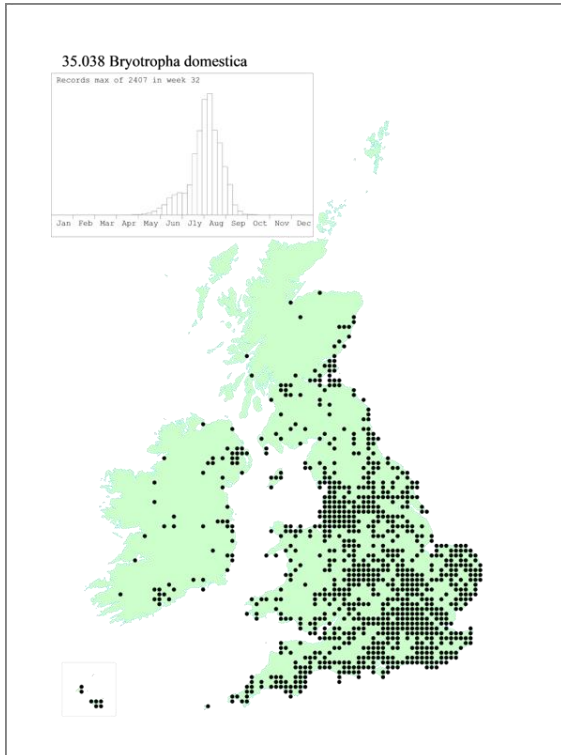
Since then, the website has been expanded and contains detailed text covering all species, as well as many hundreds of photographs of adults, larvae, larval feeding signs and habitats. The main aim of the scheme and website is to promote the study of these moths; assist those who want to learn more about and identify members of this complex and large family of micro-moths; to provide information to aid the conservation of these species and, present all this information in a widely accessible format. See example page of *Scrobipalpa acuminatella* below, showing the range of adult and larval thumbnail photos, with photo details and photographer listed when the thumbnail is opened.



Example page of *Scrobipalpa acuminatella* on the GRS website

As part of its continuing development, the GRS website has recently undergone a major software upgrade and we thank UKCEH, particularly Biren Rathod and Richard Burkmar, for their time and considerable help in guiding us through this tricky period. Nearly all of the changes required as part of the new software upgrade are complete. Plans are now in place for a full text update to be commenced during 2024. As part of this process, the distribution maps will also be given their biannual update in Spring 2024.

To achieve all these aims, we rely on a regular, often annual, flow of records from the nationwide team of County Moth Recorders (CMRs). To facilitate the planned map updates in 2024, we would welcome updates from as many Vice County datasets as possible by the end of 2023. See distribution map, below, for *Bryotropha domestica* produced from the GRS database on MapMate.



**Distribution map and flight chart of *Bryotropha domestica***

of papers and books, including European publications, access to detailed and accurate distribution and life history information, which would otherwise not be widely or easily available.

During the twelve years since the scheme started, over 234,000 records have been collected, from every Vice County in the British Isles and Channel Islands. These are evaluated on receipt and, following discussions with the appropriate CMRs, are entered onto the Scheme database. These records enable flight periods to be updated, foodplant use to be documented and, of course, the production of a full set of distribution maps. An example of a species home page is shown below, covering one of the most widespread Gelechiid species, *Bryotropha terrella*.

National Recording Schemes of this type are an invaluable asset when it comes to detailed coverage of less well recorded and sometimes difficult to find or identify species. The GRS, together with the British Leaf Miners, Pyralid/Crambid, and Plume Schemes amongst others, have all contributed to raising the profile of micro-moths generally and their respective families in particular. This teamwork has allowed researchers, conservation bodies (including Butterfly Conservation) and authors

### 35.040 *Bryotropha terrella* ([Denis & Schiffermüller], 1775)

Home / *Bryotropha terrella*


Overview	Images	Feeding	Finding	Phenology	Related Species
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**Status and Distribution**

Locally common to common and sometimes locally abundant throughout much of the British Isles and Channel Islands.

**National Status:** Common

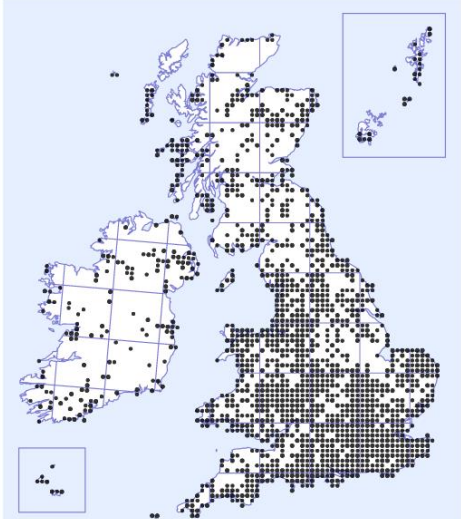
**Bradley & Fletcher no:** 787



Photographer: ©P Clement

**Provisional map**

Maps updated with all data received by January 2022.



**Overview of *Bryotropha terrella* on the GRS website**

The amazing aspect about all these Schemes is that they run by volunteers. Enthusiasts who wished to find out more about these fascinating insects and with a desire to help others get to know them. And it gets even better - now we are finding that recent work has shown that these Recording Schemes are a considerable asset when it comes to data evaluation and conservation research.

With many micro-moth families (big and small) present in the British Isles, there is always plenty of scope for development for further specific Recording Schemes. We can thoroughly recommend it as a way of learning more about the moths, identifying areas where species require further research (such as into their life histories), assist in assessing national status, identify under-recorded regions while hopefully promoting a wider interest in, and recording of, particular groups of micro-moths.

We wish to extend our considerable thanks for the support and cooperation given to us by many County Moth Recorders, Biological Record Centres and many other organisations, Museums and individual moth recorders. The ongoing support and assistance given by CEH and Butterfly Conservation has been invaluable, and we look forward to the continuing this partnership for years to come.

Contributed by Stephen and Carolyn Palmer [www.gelechiid.co.uk/](http://www.gelechiid.co.uk/)

## Sign up to Science News

Butterfly Conservation publishes a twice-yearly email newsletter that explores the wide range of science that we are involved in and explains how we are applying this to our conservation projects. The valuable data that you collect is our evidence base and is used to inform our conservation action. We work in collaboration with universities and other organisations around the world to produce scientific research to undertake conservation action. You can find out more or subscribe to Science News [here](#).



Rosy Footman (Patrick Clement)

## National Moth Recording Scheme contacts

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