

How to take part in the Garden Moth Scheme

Version 1.31

01/03/2024

The purpose of the Garden Moth Scheme (GMS) is to try to find out what's happening to our common garden moths. This is particularly relevant following the publication of the Butterfly Conservation report "The State of Britain's Larger Moths", in which it appears that a lot of apparently common moths are declining in Britain as a whole. Are these national declines of some of our common moths reflected in your area? Many people already trap moths in their gardens across the country on a regular basis, so we can make use of this by collecting standardised quantitative data on common garden moths, to provide a long-term dataset to assist researchers working toward their conservation. The GMS database now contains well over 1 million records of many of our commonest species of moth from all areas of the UK and Ireland, making it a hugely valuable resource.

The main aim of the GMS is to coordinate records to get standardised data from your results, which can be used for future study. The more people that take part - the more useful the data. Of course, all of this data will still belong to you and we will try to get information on the results to you as soon as possible. Scientists at Birmingham University have now published two papers in peer-reviewed journals using the GMS data to analyse the effect of trap and bulb type on moth catches, and effects of urbanisation on our moth populations. More recently, our own John Wilson has published a peer reviewed paper in "The Journal of Insect Conservation" entitled "Climate association with fluctuation in annual abundance of fifty widely distributed moths in England and Wales: a citizen-science study".

We are not attempting to find out who's found the rarest moths, or who's got the best garden - all sites are useful, however many species you record.

Please look at the GMS Recording Form for your region to see the start date of this years GMS.

It is very important that you email your records to your County Moth Recorder (CMR) as well as sending us your GMS form, please ask your GMS Regional Coordinator if you don't know the contact details of your CMR. An Excel spreadsheet that will convert the records on your GMS form into the format preferred by most CMRs is available from Mike Cook, the North East England GMS Coordinator (see the GMS web site for contact details).

We would also like you to fill in a questionnaire about your garden which will help us to make statistical comparisons – if you have previously completed a garden questionnaire, but have made any significant changes to your garden, **please fill in a new one for this year**. Ask for a new blank form, or send an amended version to your coordinator.

New members: please read the whole document carefully, and if anything is unclear, or you need help, please get in touch straight away. It's much easier to sort out problems at the beginning than to try to put them right afterwards.

Please do not alter or edit the form in any way. Some of the form, for example the species list, is write-protected. This is because the data can't easily be loaded into Mapmate if a species name has been accidentally changed.

NB If you use a free spreadsheet program such as Open Office or Libre Office, please save and return your recording forms in the original Excel format, not in one of the Open Document Formats available.

Trapping instructions:

1. Please look at the GMS Recording Form for your region to see the start date of this year's GMS.

2. It is important that we have standard trapping for the whole season, so please use the **same trap in the same location** within the garden all year on recording nights for the GMS. Please let us know what sort of trap you have in the space on the recording form – **choose from the dropdown list** or, if your equipment is not on the list, type over the red writing – type of trap, wattage and type of bulb, e.g. Robinson Trap (125W MV) or Skinner Trap (40W Actinic).

3. If you normally run more than one trap in your garden, on the GMS trapping night please use only one trap and please don't supplement your count by counting moths at sugar, torchlight in garden, house lights or caterpillars etc - we need the results just from one trap (but that includes its immediate surrounds, i.e. moths on nearby vegetation, walls, fences etc., but not the whole garden!)

4. If you run 2 traps, which are separated by 50 or more metres, or by the house (i.e. front and back garden) or other large lightproof barrier, then you can count the two traps as separate locations if you wish. **Please fill in a separate form for each trap.**

5. Trapping should be for all darkness hours (not just until you go to bed) of the Friday evening through to the Saturday morning.

6. Friday night is the preferred night for the GMS, but you may choose to record on a night more convenient to you in the same week. If you can't manage the Friday evening of the week then you can trap up to 3 days early or up to 3 days late to fit into the same week - otherwise leave this week's records as blank. Please try not to record on successive nights – i.e. the last night of week 1 and the first night of week 2.

7. Please don't only trap on the night with the best weather for moths in each week. It is better for this survey if you try to trap on the night closest to the Friday each week, even if that results in no moths being seen! The aim of this survey is to record average nights for moths and not best nights for moths. However, if the weather is likely to be so bad that it might endanger your life or health or cause damage to your trap or moths then please trap on the nearest possible night as above.

8. If you go on holiday / are taken ill then you may need to leave one or two weeks blank with no recording - please keep these to a minimum. If there aren't too many then it should be possible to cope with these statistically. But if you are not able to record for a month or more (or if you're not able to record for a week or more on lots of occasions), then it's probably best you don't take part. We need to try and catch the flight periods of all the commoner species in your garden - which are often for only a couple of weeks. We need to get every garden in the GMS recording on **at least 27**

of the 36 weeks and with no recording gaps larger than 3 weeks. If you have a problem with this then maybe we can help out with a friend that lives nearby recording for you? (Having a moth trap switched on while you are on holiday will help out with house security!)

9. If you record no moths in a particular week then statistically this is still a very important record for us - this helps us to understand why moths are and are not present at a particular site or date. So don't get disillusioned - a few weeks of no moths in spring or autumn are still valuable records. Whenever a valid date is entered in the Actual Date box, a '1' will appear in the corresponding cell in the row marked 'Nothing' (this has to be a '1' and not a '0' or an 'X' for the computer to recognize it from the form). This '1' will disappear when data is entered for any of the moth species, so please do not enter anything in this cell.

10. Please check the trap as early as possible after dawn and include moths on immediately surrounding vegetation, walls, fences etc. If you can't manage to check the trap that morning then cover it and move it to a shady part of the garden to count in the evening (but please try and check the moths on surrounding vegetation in the morning if possible).

Moth welfare

1. If you do not process your catch first thing, block the trap exit and move the trap to a cool shady place.

2. If you retain a moth while trying to identify it, place the pot in the fridge, where it will remain torpid.

3. Release moths into heavy vegetation, where they are less likely to provide breakfast for your local robin. Some moth recorders keep their moths in the fridge and release them at dusk.

4. By all means trap on non-GMS nights, but please try and refrain from trapping on the night after you have caught moths. Moths need a chance to do mothy things like breeding!

Filling in the Recording Form

A recording form for core species only is available to beginners or those who prefer to record fewer species than they have on their full regional list.

1. Please fill in your personal details on the Excel recording form provided. Do not alter the format of this spreadsheet in any way or we will not be able to use it to automatically download the results to Mapmate. Please type answers into all the boxes marked with red typing.

2. Your Vice County is your wildlife recording county - Staffordshire, West Norfolk, East Gloucestershire etc. and some modern counties are divided up between old county names eg. The West Midlands County is divided between Staffordshire, Worcestershire, and Warwickshire Vice Counties! If you know the number of your Vice County then please use this. Do please get in touch if you're not sure which county you live in and we will help out. Please type your Vice County **number only, or number preceded by "H" in the case of Irish Vice Counties**, over the red typing.

3. Grid Reference is taken from Ordnance Survey maps using the information they show on every map (don't forget to put your 'easting' before your 'northing'). **Please use the format of 2 letters in**

capitals (or 1 in the case of Ireland), followed by 6 or 8 numbers with no spaces e.g. NS791985. If this is difficult to understand, don't worry, please just put your full address including house number / name and postcode and we will work the rest out.

4. Name: first initial and surname should be preceded by your site code followed by a space, eg. "NE-16 M. Cook". If you don't know your site code, please ask your Regional Coordinator.
Address: insert your town/city and local area or road e.g. Bridge of Allan – Coxburn Brae.

5. The Trap type should be selected from a drop-down menu (select cell B6 and then click on the down arrow at the right end of the cell).

6. It is important that we have standard trapping for the whole season, so **please use the same trap in the same location within the garden all year on recording nights for the GMS.** If you are unsure of your trap type, please talk to your Regional Coordinator about it.

7. You might notice that Row 3 now contains the week number as calculated by Excel instead of the month number. Flight seasons are now calculated based on this week number, which should give fewer incorrect "Out of normal flight time" warnings.

8. Please use the drop down menu to enter the actual date you trap into the Actual Date field in row 9, even if it is the same date as the Planned Date in row 8. If you make a mistake and you did not trap that week, use the drop down menu to enter "Insert date". **NB. Do not use the drop down arrow at the end Planned date, this starts a filter dialogue, not what you want at this stage.**

The Actual Date to enter is the date of the evening when the trap is put out, NOT the date of the morning when the trap is inspected.

9. When a date is entered in the Actual Date box, a 'T' will appear in the corresponding cell in the row marked 'Trapped?' (A space in this column means no trapping). It is very important for us to know whether you put the trap out and recorded no moths, or whether you just didn't put the trap out at all that week, so this process has now been automated on the form, and **there is no need for you to enter anything in this row.**

10. If you record no moths in a particular week then statistically this is still a very important record for us - this helps us to understand why moths are and are not present at a particular site or date. So don't get disillusioned - a few weeks of no moths in spring or autumn are still valuable records, and empty traps are quite common during the winter season. Whenever a valid date is entered in the Actual Date box, a '1' will appear in the corresponding cell in the row marked 'Nothing'. **This '1' will disappear when data is entered for any of the moth species, so please do not enter anything in this cell.**

11. If you have a thermometer then please record the minimum temperature (degrees Celsius) for the GMS trapping night in your garden as close as possible to the trap. This should be written down in the row marked Minimum Temp. Please over-write where it says 'not taken', and record in centigrade, to one decimal place only, and **enter the number only eg. 4.5, not 4.5°C or 4.5 degrees.** If the temperature is below freezing, enter a hyphen before the number eg. -4.5. If you don't have a thermometer, then don't worry - your moth records will still be just as valuable – you can just leave 'not taken' in the row.

12. If you use Mapmate to record your garden moths, there is a different form that you can request from your coordinator that extracts the GMS data directly from your database.

13. The GMS records around 230 'core' species common to all regions (but they may not all be present in your area), along with a variable number of other species that are not on every regional list. In addition, the Peppered Moth has been split into 3 'forms'. So for this fascinating species please record numbers for the three different colour forms - Light, Intermediate (insularia) or Dark (carbonaria). Some common species have been left off the list because it is felt that they are too difficult to identify in the field including several Pug and micro species. Others have been included as 'aggregate' species, such as Grey and Dark Dagger, Common / Lesser Common Rustic.

14. For all species please put actual numbers counted if possible. However, if you get really large numbers of a single species and accurate counting is impractical then please give your best possible estimate of numbers present. For species numbering 100 to 1000 individuals in one night then please estimate numbers to the nearest 10. For species numbering over 1000 individuals in one night then please estimate to the nearest 100.

NB Even when estimating, please enter just the number. Entries like "100+" or "c150" cause us problems when uploading the data.

15. Please take extra care to check that you have recorded species in their normal flight periods. There is now automatic flight time validation. If a species is recorded outside its normal flight time, a warning will appear. This does not imply the record is incorrect; merely that it is unusual and should be double checked (perhaps a Hebrew Character in July should have been a Setaceous Hebrew Character). If you really have recorded a species outside its normal flight period, such as a Common Quaker in autumn, then please make a point of telling us this in your accompanying letter or email – or the record might be excluded. If possible please take and retain a photograph of the moth.

16. Species to record are all on the attached form. They are mostly common and are mostly macro-moths. Please let us know if you have problems with identification and we will try to help out - with advice or if you send us photos or specimens. If you let us know problem groups of species then we can hopefully design identification guides or / and training courses for these in the future.

17. If you record species that are not on the GMS list, you can use the section below the week totals row at the bottom of the form. These extra species will not be added to the GMS database, but will help us to decide on future amendments to the lists. **New for 2023. If the cell turns yellow when you type in the name of an extra species, that species already exists in the main body of the form where it will be highlighted in the same way, it is not an extra species!**

18. It is possible to select a complete column, and then use Ctrl + f to open a dialogue that lets you search for something in the selected column. For instance, selecting column C and then typing "Gothic" will cycle through "Feathered Gothic" and "Gothic" (unless you live in the Channel Islands, in which case you will find "Beautiful Gothic" as well).

19. You can filter on any column using the filter down arrow at the end of each cell in row 8. For instance, filtering on cell C8, you will get a list of Common Names in alphabetical order. You can then click on "Select all" at the top which actually clears all the ticks, then scroll down and tick "Nut

Tree Tussock” and the only species you will see will be “Nut Tree Tussock”. Please remember to go back into the filter after you’ve entered your count of “Nut Tree Tussocks” and clear the filter by ticking “Select all” which will put all the ticks back and return the form to showing all species.

Other additions to the form, such as totals, total nights trapped and messages like ‘Check date’ that pop up from time to time are designed to make the coordinators’ job of checking the forms easier, and you don’t need to do anything with these.

Identification resources

1. A full species list is available on the GMS website at gardenmothscheme.org.uk under ‘Information – Identifying Moths’. If you click on a species number, a new window will open linking to that species’ description on the UKMoths website. Please let us know if you have problems with identification and we will try to help out with advice. You can send us photos or specimens, or post photos on the GMS Facebook group page (see below).

2. Three GMS ‘Moth Tips’ leaflets are now available to download via a link from the GMS website. If you let us know problem groups of species then we can hopefully design identification guides or / and training courses for these in the future.

3. We have also included a few of the commoner micro-moths, which we hope most of you will be able to identify (please ask for ID help if you need it). An identification guide to the ‘core’ micromoths is available from the GMS web site under “Downloads > ID Guides”. In the same place, you will find an ID Guide for each region covering the extra micro species not on the ‘core’ list.

4. We now have a Facebook Group where you can post messages and photographs (<https://www.facebook.com/groups/438806469608527/>), a Facebook Group specifically for providing help with identifications (<https://www.facebook.com/groups/GMS.Moth.ID.Help>) and a Facebook Page for general information and announcements regarding the GMS (<https://www.facebook.com/GardenMothScheme>).

Recommended books for identifying species in the GMS:

Waring, Townsend and Lewington, Field Guide to the Moths of Great Britain and Ireland – 3rd Edition, British Wildlife Publishing (2017).

Manley, C. British Moths: a photographic guide – Third edition (2021).

Goater, British Pyralid Moths - A Guide to their Identification (1986).

Sterling, Parsons and Lewington. Field Guide to the Micro Moths of Great Britain and Ireland – British Wildlife Publishing – Second edition (2023).

If you don’t want to buy Sterling, Parsons and Lewington for the few micros on the GMS Recording Form, why not ask your Regional Coordinator for the GMS Micro Help Sheets, which only include those species on the GMS forms.

All of the above are available from **Atropos Books** - tel: **01326 290287** or email; books@atropos.info or check their website at www.atropos.info or the titles are obtainable from any other good

bookshop. The above books will cover most species, but exclude a handful of micro-moths. For these species ask us if you require further help or check the excellent website <http://ukmoths.org.uk/>. If you need help with identification then please feel free to send photographs or specimens by post or email and we should be able to help you.

If you need a moth trap, moth trap spare parts, plastic and glass moth pots etc then get in touch with **Anglian Lepidopterist Supplies** on 01263-862068 or jon.clifton@btinternet.com and mention that you are in the GMS or check their website <http://angleps.com/>

We will hold an annual meeting each spring for all recorders and prospective recorders for the GMS. This will be to review the previous season's records and to plan for the coming year.

General Data Protection Regulations (GDPR) Statement

We take data security very seriously and we will always comply with the General Data Protection Regulation (GDPR) and/or subsequent legislation when dealing with your personal data. A full copy of our data policy is available on our website. In submitting records to the GMS you agree to us using your records as described in our data policy.

The GMS currently has limited financial support with most recording, data handling and co-ordination carried out on a voluntary level. Please help us in any way you can.

Mike Cook
GMS Coordinator for North East England

Changes Register

Date	Version	Change
18/03/2021	1.00	Last sentence removed from Trapping Instructions paragraph 10 – “Try to keep the time you check the trap as consistent as possible throughout the year.” – meaningless with length of night changing..
	1.10	Section added on Moth Welfare – follows Trapping Instructions
	1.11	In Identification resources , the GMS Moth ID Help Facebook Group has been added.
16/02/2022	1.20	Paragraphs 17 and 18 added to the “ Filling in the recording form section ”.
20/02/2023	1.30	<p>Section “Filling in the Recording Form”, Paragraph 4 updated asking for the recorder name to be preceded by the Site Code.</p> <p>Section “Filling in the Recording Form”, Paragraph 7 added explaining that “Out of normal flight time” warnings are now based on week, not month.</p> <p>Section “Filling in the Recording Form”, Paragraph 17 updated to mention automatic checking for duplicates when entering the name of an extra species.</p>
01/03/2024	1.31	<p>Section “Identification resources”, Paragraph 1 updated to new website</p> <p>Section “Recommended books for identifying species in the GMS” updated to refer to the 2nd Edition of Sterling, Parsons and Lewington. Field Guide to the Micro Moths of Great Britain and Ireland.</p>