A Guide to The Devon Moth Lookup Table v6.1

The **Devon Moth Lookup Table** (**Lookup Table** or **DMLT** for short) is to help people record their moth sightings. Its aims are:

- To simplify the process of entering moth record data.
- To provide moth record data in the form needed by the county moth recorder (CMR).
- To check the moth's name and (in many cases) automatically correct it if necessary – for example it may have changed genus or there may be a spelling mistake.
- To allow moth name entry in various forms.
- To show Butterfly Conservation's micromoth gradings which indicate the ease of accurate identification and the proof of identification that may be required.
- To give other relevant information.
- It is available in Microsoft's Excel (xlsx) format and also Open Document Spreadsheet (ods) format used by OpenOffice Calc. The DMLT has been tested successfully on both spreadsheet programs. It may well function well on other software packages and if you try an alternative, I'd be keen to hear about it, whether successfully or otherwise.

The naming and numbering of moths in the **Lookup Table** follows that used in the **'Checklist of the Lepidoptera of the British Isles'** by Agassiz, Beavan and Heckford (2013) together with subsequent addenda, amendments and corrigenda. For brevity this is called the **ABH Checklist** in the text below.

The development of this **Lookup Table** was prompted by Barry Henwood and its genesis is in a similar table created by Les Hill some years ago which I found to be particularly useful. Since the initial version of the **Lookup Table** in 2016 many people have successfully used it while a small number had questions or some difficulties on its use but in general these were easily resolved.

While I have tested the table extensively, I am sure there are still some errors or oddities waiting to be found! If you do come across any, please do let me know at philsue.dean@gmail.com. Also, feel free to contact me if you have any other questions, suggestions, or comments about the **DMLT** or this User Guide.

CHANGES FROM THE VERSION 5.x

- Updated database to reflect the latest taxonomy in the **ABH Checklist** up to and including the 2021 Fourth Update.
- Improved handling of aggregates. Which aggregates are accepted and which names they use has previously caused some confusion. To help clarify this I have listed permitted names in a new tab in the **Lookup Table** called **'AggSynList'** (short for Aggregate Synonym List)
- Various errors have been corrected.
- Additional junior synonyms are included as entry options.
- The option to enter a Bradley Number has been removed.
- The **Lookup Table** now accepts, for example, Elephant Hawk, Elephant Hawk Moth and Elephant Hawkmoth. The **Lookup Table** automatically resolves all three to the correct spelling, Elephant Hawk-moth.
- The **Lookup Table** accepts and corrects common spelling errors. For example Blood Vein or Bloodvein can be entered as a **Name Entry** as well as the correct Blood-vein.
- Rather controversially, I've included vernacular names for most micromoths which I've taken from the **ABH Checklist** and/or the 2017 book **'Micro Moth Vernacular Names'** by Jim Wheeler. The **ABH Checklist** shows a vernacular name for only a small fraction of the total number of micromoths and in several cases Wheeler's name differs (for example Azalea Leaf Miner vs. Azalea Leaf-miner ; Apple Pygmy vs. Apple Pigmy ; Lichen Case-bearer vs. Lichen Bagworm). In these cases both are accepted as Name Entries but the **ABH Checklist** version takes precedence.
- The **Lookup Table** now contains 2,940 species plus 1,729 of their junior synonyms. Additionally there are 21 aggregates.
- The **Lookup Table** now permits 17,993 different **Name Entries** which refer to these species.

BASICS

There are four worksheets in the **Lookup Table** workbook:

1. **'Lookup'** is the worksheet where you enter moth names and other record information. In the text below the term **Name Entry** refers to the name, ABH number or abbreviation entered into the first column of the 'Lookup' worksheet.

2. **'AggSynList'** (short for Aggregates Synonym List) shows which aggregate names which are accepted by the **Lookup Table**. Acceptable aggregate names were rather hidden away in previous versions of the **Lookup Table** which caused some confusion when entering names. The senior synonym (ie accepted name) is in Column A and subsequent columns show variations which are accepted by the **Lookup Table** and are automatically corrected to the accepted name. I hope this worksheet will now help.

3. **'Synonyms'** contains a list of moth names in various forms and is used to populate the '**Lookup**' worksheet. There is generally no need to change or use this sheet. However, Column A (headed Entry) lists which are valid **Name Entries** in Column A of the '**Lookup**' worksheet and so may be a useful reference.

4. **'Mapmate'** organises the data ready for submission to the county recorder and there should be no need to change this sheet. Note that the cells on this worksheet contain formulae. If you do wish to copy data from this worksheet you need to use 'copy' in the normal way but then 'paste values'.

All moth record data is entered into the **'Lookup'** worksheet (click on the tab at the bottom of the spreadsheet to select it). Data needs to be entered in every cell in the columns headed in green, except the Comments column. The columns headed in blue are there to provide information associated with the moth species you have entered. Columns headed in grey are part of the 'inner workings' of the spreadsheet and can be ignored – in fact in this version of the **Lookup Table** these columns are hidden from view.

The sections below describe the data to be entered for each species and the additional information provided.

The **Lookup Table** is currently set to accept up to 10,000 moth record entries for both Excel and OpenOffice users. Each time a new entry is made the spreadsheet goes through an automatic recalculation and 10,000 was chosen as a balance between a good number of entries and the time taken to do a recalculation – well under one second on my PC. If more than 10,000 entry lines are needed you can simply use two copies of the **Lookup Table** or contact me, and I can increase the limit. Likewise, if you have recalculation time problems let me know and I shall investigate it.

I shall continue to maintain the **Lookup Table** as scientific names change, new species are added to the UK list or other taxonomic changes are made and so there will be occasional updates. Equally, I shall also issue updates if there are enhancements which make it easier to use or if any bugs or errors are discovered.

ENTERING YOUR RECORDS INTO THE 'LOOKUP' WORKSHEET

GREEN COLUMNS:

There are 13 green-headed columns where data needs to be entered, although Status (Column R which is hidden) is not currently used and Comments (Column S) are optional. You can only enter data into these 13 columns as all others are write-protected you must enter only one record per line. Each 'green' column is described below and examples of information you may need to enter are highlighted in red. Note that the width of the green columns can be changed if you need more space or want to make them narrower to fit on a small screen.

 'Name Entry' - Column A. Names of moths or aggregates are entered in this column in one of several forms:

- Binomial scientific name. For example, *Colostygia pectinataria*. In many cases formerly used names (junior synonyms) may be used. For example, *Eriocrania subpurpurella* (the junior synonym) has changed to *Dyseriocrania subpurpurella* (the senior synonym). The **Lookup Table** accepts *Eriocrania subpurpurella* but also shows the new, correct name in Column G (Current or New Name).

- Trinomial scientific name. The records in the Devon county moth records are generally in binomial form. When a trinomial scientific name is entered in Column A of the **Lookup Table** the binomial name appears in Column F. Eg *Eupithecia venosata venosata* in Column A is shown as *Eupithecia venosata* in Column F.

- ABH number. This number is taken from the **ABH Checklist**. The 'ABH' species number for each entry is shown in Column C.

- Common name. For example, Green Carpet (or green carpet – it's not case-sensitive).

- Truncated scientific name. The first two letters of the generic name and the first three letters of the specific name can be entered. For example, 'copec' indicates *Colostygia pectinataria*. This can speed things up when there are

many different species to be entered. However, in some cases, the abbreviation is not unique – for example 'diher' can refer to *Diplodoma herminata* or *Dichrorampha herbosana*. In this case a '!!DUPLICATE ENTRIES!!' warning is shown in the Taxon column (Column D) of the table and the user must use one of the other entry methods.

- <u>Truncated common name.</u> The same approach as for the truncated scientific name. For example, 'grcar' indicates Green Carpet. Again, where there are multiple species identified by a single truncated name a '!!DUPLICATE ENTRIES!!' warning appears on the table.
- If your entry in Column A is unrecognised '#N/A' appears in the blue-headed columns. You need to correct the spelling or format of the entry.

'Site' – Column H. Where the moth was recorded. Up to 64 characters.

'Gridref' – Column I. The Ordnance Survey map grid reference for the site where you made your records. Ideally at least a 1km grid square reference should be given (i.e. two letters followed by four digits) but six figures, to give 100m accuracy, is preferable. Grid references can be read from:

- A map, eg Ordnance Survey
- An app on a smartphone – eg Grid Reference Finder from the Android Play Store. Similar apps are on Apple's App Store
- A website, eg http://www.bnhs.co.uk/focuson/grabagridref/html/index.htm

'Vice County' – Column J. For Devon enter 3 or 4 as appropriate.

'Recorder' – Column K. The name of the person who saw the moth.

'Determiner' – Column L. The name of the person who identified the moth. Usually you but it may be someone else.

'Date' – Column M. This must be in the form of dd/mm/yyyy (eg 28/03/2016 for 28th March 2016).

> **Note** that the American date format is mm/dd/yyyy – ie 03/28/2016 is 28th March 2016. This reversal of day and month numbering can cause considerable confusion and problems when a year's records are consolidated by the CMR. For example is 06/07/2020 the 6th of July 2020 or 7th June 2020? Even more confusion can result if a computer and/or its spreadsheet program is set to the American format when it may unilaterally reverse the entered day and month numbers. Please ensure that your computer is set to the European date format and that you enter your dates in the dd/mm/yyyy sequence.

'Quantity' – Column N. Enter a number if you have one, otherwise type present. If you want to say a few, several, abundant etc. then enter present in quantity and enter those other descriptions in the **'Comment'** column.

'Method' – Column O. You can enter what you like e.g. mv light, actinic light, field observation. It is possible to enter 'not recorded', but some reference to use of light or field observation is preferable.

'Sex' – Column P. Male, female, pair. If you don't know enter u.

'Stage' – Column Q. Egg, larval, larval feeding signs, pupal, cocoon, adult, dead. You can enter not recorded but this would be unusual.

'Status'- Column R. This column is not used and is hidden from view.

'Comment' – Column S. If you want to enter a comment you can write what you like. Check the BC Grade for the species in **Columns S to V** to see if specific information is needed to validate the record.

Deleting an entry – you need to delete all the information you've entered *but just for that record*. Ie columns A and H to S.

BLUE COLUMNS:

There are 11 columns headed with blue which provide you with information relevant to a species. They are populated automatically when you enter a **Name Entry**. Information in blue-headed columns can not be changed by a user. This is to prevent accidental changes being made which could corrupt the **Lookup Table**. If you do wish to venture into these columns the password is **DMLT** but be warned – if you do corrupt the data you are on your own, I can't support such changes and you

may need to start anew with a fresh download of the table. However, the column width can be changed to allow you to make them a better fit on your screen.

Column B. Unused

'ABH' – Column C. This shows the 'Species number' associated with the entry you've made in Column A. This is the numbering system for moths and is taken from **ABH Checklist**.

'Taxon' – Column D. This shows the scientific name equivalent of the entry you've made in column A. For example, Green Carpet (common name), 'copec' (truncated scientific name) and 70.1 (ABH Species number) in column A all show *Colostygia pectinataria* in Column D.

'Vernacular' – Column E. This shows the common name for the entry made in Column A. For example, 'copec' (ie *Colostygia pectinataria*) in Column A results in Green Carpet in Column G. Note that most micromoths do not have common names.

'BC Flag' – Column F. This indicates that the county recorder may need additional proof of identification as defined in the Butterfly Conservation (BC) micromoth grading scheme. The format of indormation in this column is in the form Adult Number/Larval Mine Letter/Larval Case Number. BC introduced grading of micromoths to indicate the difficulty of achieving a correct id and the proof needed for that id. The full details can be found at https://butterfly-conservation.org/moths/recording-moths/guidance-notes but here's a summary:

a. **Adult moths:**
   – Category 1: Generally distinctive species unlikely to be confused with another species.
   – Category 2: Can be confused with another species. Good quality photographs or possibly a specimen will be required if the recorder is not familiar with the species.
   – Category 3: Very scarce species (includes very scarce adventives/immigrants). A voucher specimen may be required by your County Recorder (seek advice before releasing the moth).
   – Category 4: Dissection required.

b. **Leaf-miners:**
   – Category A: Accept record without the need to see the actual leaf or a good photo.
   – Category L: Either the leaf or a good photograph required.
   – Category R: Moth needs to be reared and, in some cases, possibly dissected.

c. **Larval cases:** For many larval case records (and particularly for the *Coleophoridae*), great care should be taken to ensure the foodplant is correctly named.
   – Category 1: Same as Adult Category 1.
   – Category 2: A good quality photo or specimen of the case and plant/pabulum is required.
   – Category 3: A good quality photo or specimen of the case and plant/pabulum and the bred moth is required.
   – Category 4: As in C3 and the moth requires dissection. The case must be well developed and, with the *Coleophoridae*, feeding should be observed (larvae can fix their cases away from the host plant).

   Further information in the BC Comments in Column W.

'Current or New Name – Column G. This shows the currently accepted binomial scientific name for the entry you've made in Column A. For example, *Eriocrania subpurpurella* has changed to *Dyseriocrania subpurpurella*. The Lookup Table accepts *Eriocrania subpurpurella* in Column A but displays the new, correct, name in Column F. If the entered name has been changed to a newer one this is indicated by the new name being displayed in red.

'Status' – Column V. Displays the status and conservation category of the moth species entered in Column A. Possibilities include:

RDB1	Local	Na
RDB2	Common	Nb
RDB3	Extinct	Migrant
RDBK	Presumed Extinct	Vagrant/Accidental
pRDB1	Channel Islands only	Import
pRDB2	Local(alien-foodplant)	Adventive
pRDB3	Unconfirmed	Migrant/Adventive
Nationally Scarce A	Common(alien-foodplant)	Rare migrant
Nationally Scarce B	(No status given)	Ireland only

'BC Comment' – Column W: A comment (if present) associated with the BC grades described above.

GREY COLUMNS:

Grey columns form part of the internal workings of the **Lookup Table.** They are hidden and protected from being changed. For the curious, the number in Column AB simply points to the relevant line in the Synonyms tab.

<u>**MISCELLANEOUS**</u>

THE BRIMSTONE

There is potential confusion between the Brimstone Moth and the Brimstone (butterfly). The risk is that Brimstone could be entered in Column A intending it to be a moth. To get around this, the vernacular name used in the **Lookup Table** for the butterfly is Brimstone Butterfly. This means that:

1. For the moth you can enter any of the following: Brimstone Moth, *Opisthograptis luteolata*, 'oplut', 70.226 (the ABH number). Note that you cannot enter 'brmot' as this could also be the Broom Moth!
2. For the butterfly you can enter any of the following: Brimstone Butterfly, 'brbut', *Gonepteryx rhamni*, 'gorha', 58.013 (the ABH number).

THE PEACOCK

This is treated as for the Brimstone. If you want to use vernacular names you must enter either Peacock Moth or Peacock Butterfly to avoid confusion.

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