GMS News

Late Summer 2022

Weeks 19-27

Contents

Editorial

It does seem that we are seeing the start of climate change with July and August temperatures of over 40C, and Evan's review of the quarter covered this period. It was especially interesting to see that moth numbers were close to the average of the past 11 years but, as always, some species did better than others. Inevitably there were also differences between different parts of the Brutish Isles and this time Evan compares the results from Ireland and Wales. He also takes a closer look at the Lesser Yellow Underwing, a species rather overshadowed by its bigger relative, the ubiquitous Large Yellow Underwing.

The GMS Recording Form is quite a complex affair that can take some time to fill in. As an Area Coordinator I know that errors and omissions can occur and anything that simplifies the process is to be greatly welcomed. I'm therefore especially pleased that Evan has produced an article delving into the technicalities and revealing ways in which the process of filling in the form can be made easier and potentially more accurate.

One of the benefits of the Garden Moth Scheme is that it encourages recorders to set their traps regularly which generates records of non-GMS species. Some of these can be quite surprising and some will be locally or nationally scarce. Robin Griffiths tells us about some of the unexpected visitors to his garden moth trap. He focuses on wetland species, remarking that the nearest wetland is some distance away.

Following my look at lepidoptera illustrations in the previous issue David Baker gives us a peek at the contents of his library, showing how moth and butterfly illustrations have changed with the developments in technology.

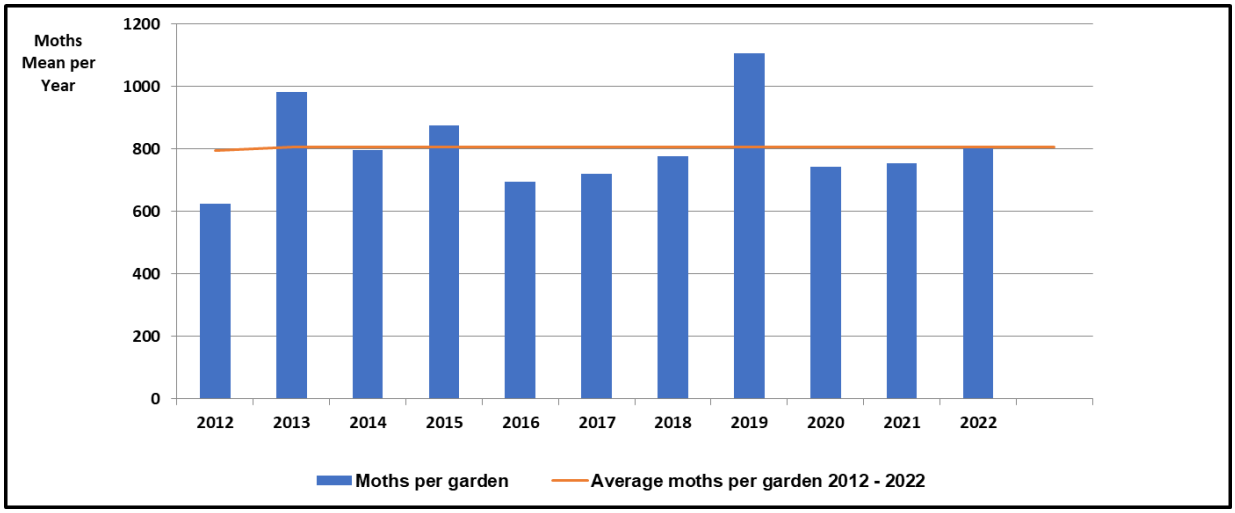
Nonconformist tells me that he has run out of crosswords but is hoping to devise one in time for the Christmas issue. Meanwhile he has contributed a wordsearch for your amusement.

Overview GMS 2022 3rd Quarter

Evan Lynn

This quarter has been one of extremes with both high temperatures and heavy rain showers. This is possibly what we have to get used to with the onset of global warming. The insects will also have to adapt, but so far moth numbers this year are slightly up (fig 1).

Fig 1. GMS 2022 Q3. Mean Quarterly Moth Numbers 2012 to 2022



The weather has been dominated by the extreme heat in both July and August, caused by the influence of the Azores High bringing in hot dry conditions mixed with periods of heavy rain showers.

July began very unsettled with numerous thunderstorms and heavy rain showers resulting in flooding in some areas. These included Northern Ireland, the Glasgow to Edinburgh belt, Manchester and the South West. A few days later a pub in Lincolnshire was hit by lightning.

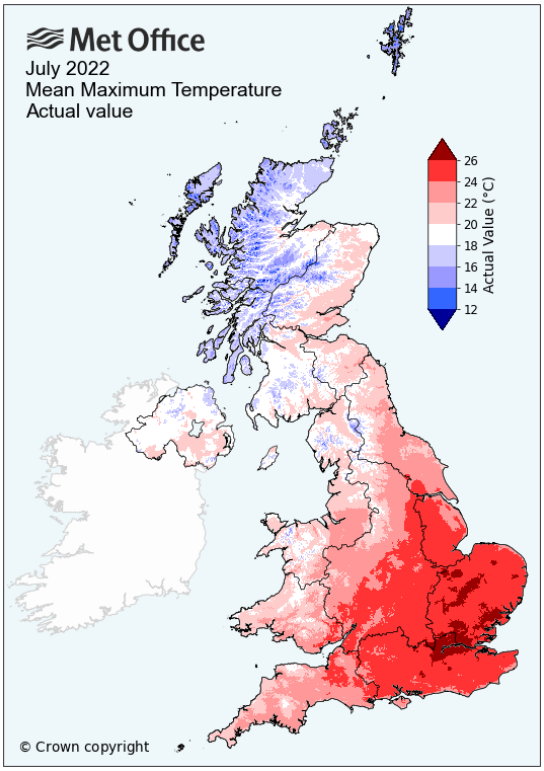
A period of calm weather followed with extremely high temperatures interspersed with unstable weather and flooding in the east with severe hailstorms. Finally, Storm Evert rounded off the month with strong winds and flooding in several parts of the country.

August continued unsettled with some areas experiencing flooding conditions while others had less than half the average total rainfall.

The end of the quarter heralded the return of the Azores High uniting with a Scandinavian high-pressure system bringing in warm dry weather. However, a low pressure fought its way in bringing heavy showers and thunderstorms in many areas. The quarter ended, albeit in September, with some 36,000 lightning bolts recorded in a 12-hour period. One of these hit our grandchildren's school in the Welsh Marches giving them an extra day's holiday.

Some of this extreme weather is shown in the following Met Office charts (figs 2-5). Despite the cloudy conditions in Wales and further north the areas of high temperature expanded in August assisted by the Azores High. In addition, the hours of sunshine chart demonstrates that August has been "the sunshine month" with an overall average of 128% -down south at least. Not everywhere has enjoyed this sunshine as seen in the rainfall chart showing the number of heavy rain showers and thunderstorms.

Fig 2. Mean Maximum Temperature for July & August 2022 (with permission of the Met Office).



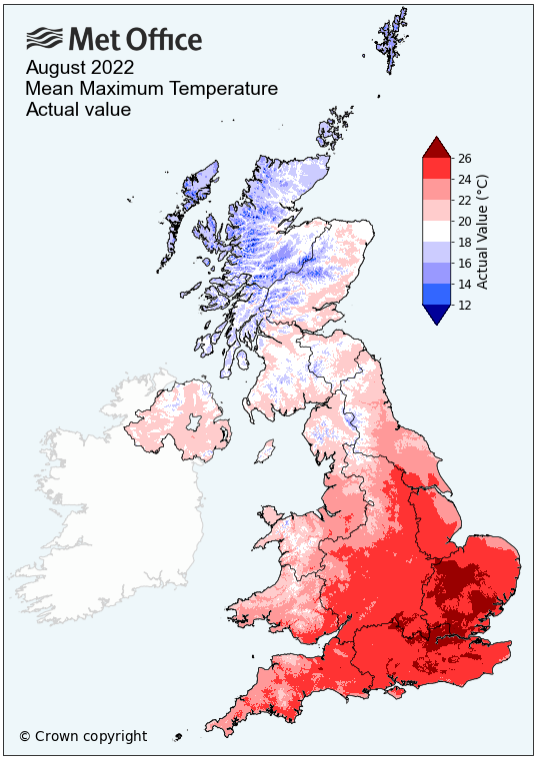
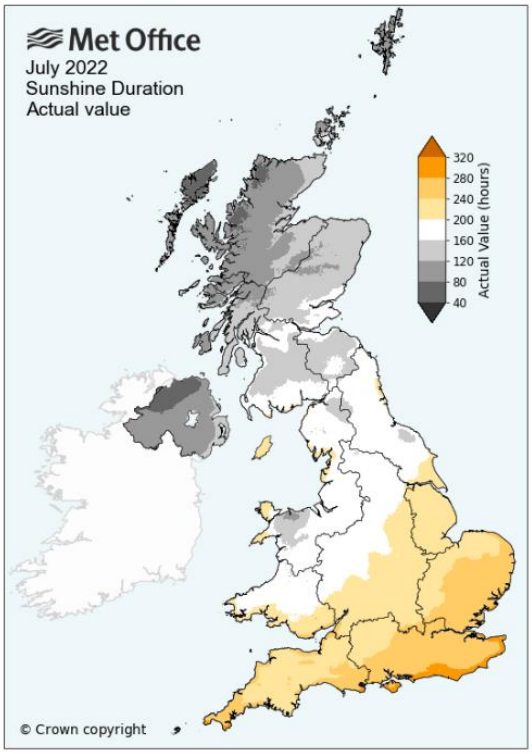


Fig 3. Hours of Sunshine for July & August 2022 (with permission of the Met Office).



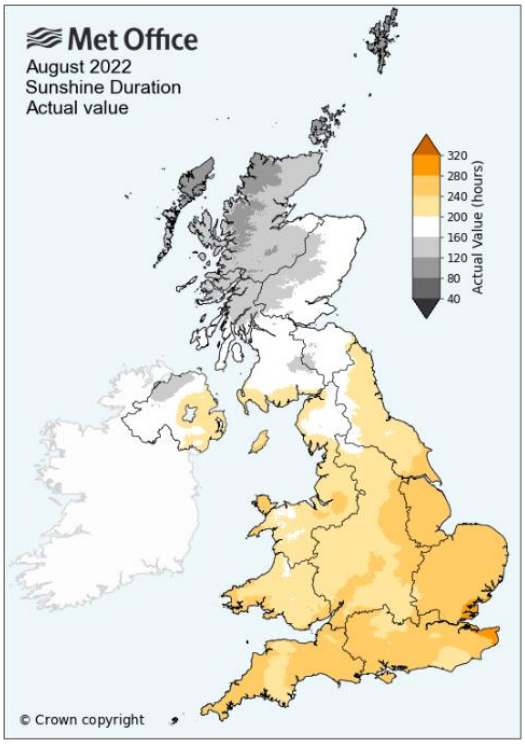


Fig 4. Days of Rainfall >= 10 mm for July & August 2022 (with permission of the Met Office).

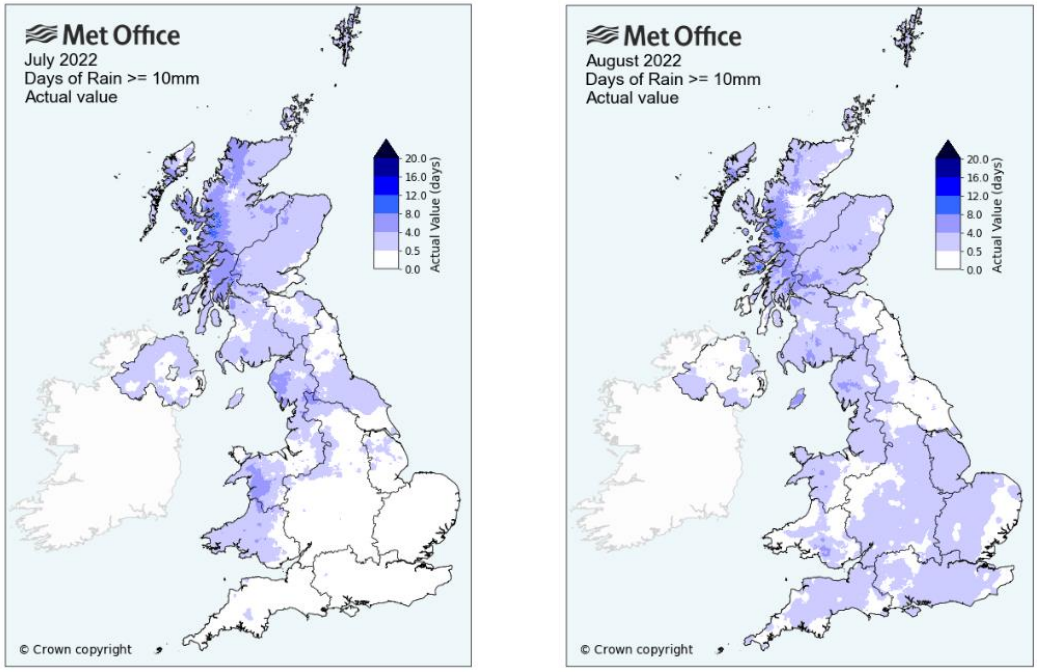
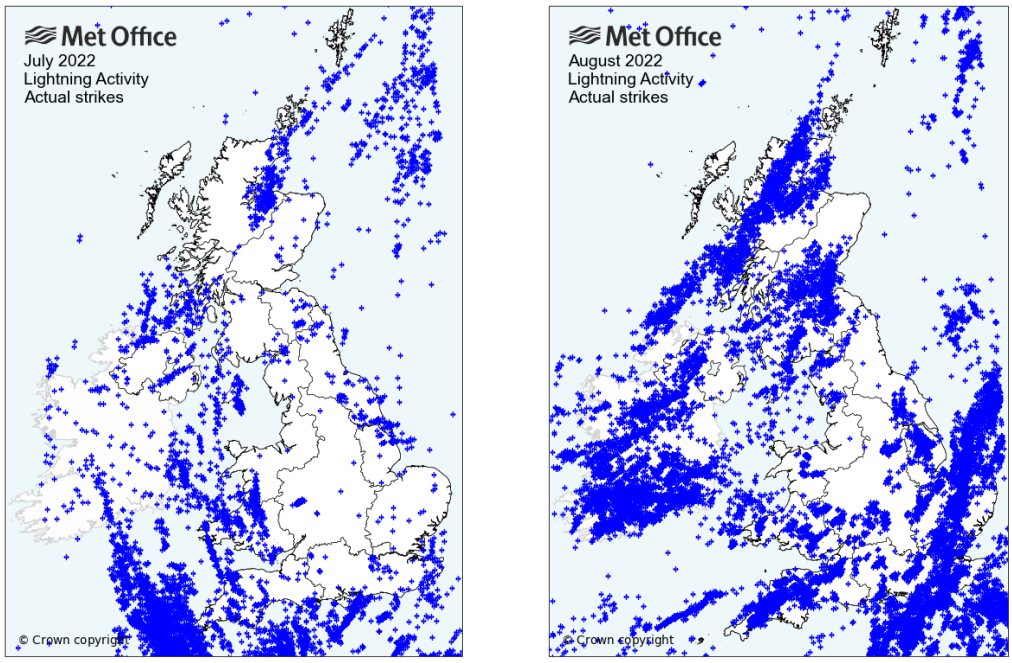


Fig 5. Lightning Activity for July & August 2022 (with permission of the Met Office).

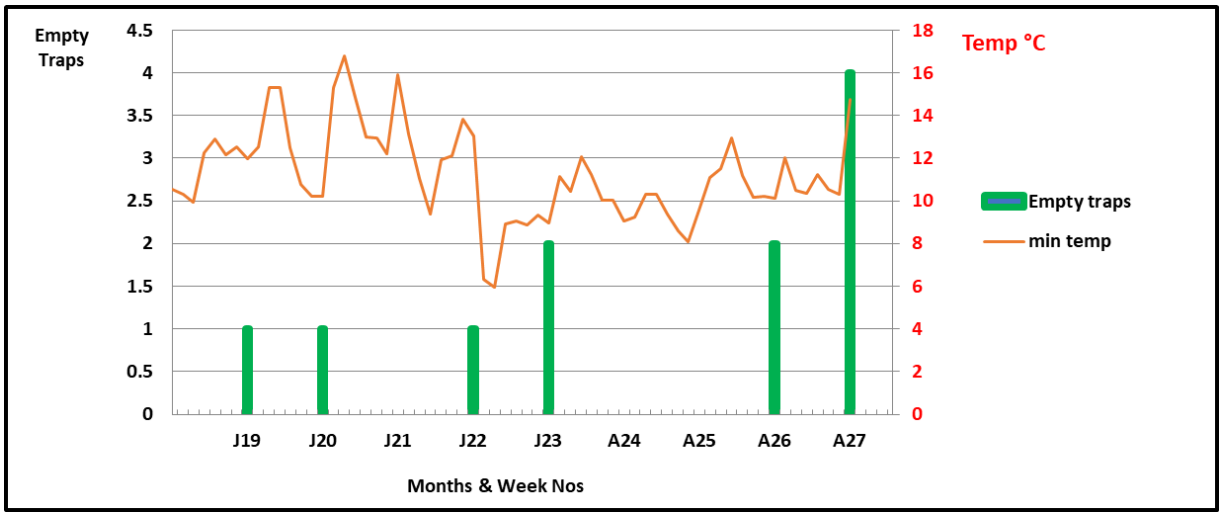


According to an article by Fritha West in the on-line Woodland Trust Nature Calendar, heatwaves play havoc with the already-declining insect numbers. Hot weather scorches the plants that insects feed on and kills young caterpillars.

The lack of rain also affects the amount of nectar flowers can produce reducing the food supply for insects. I am told that honey production in the south has been poor, but around here in coastal Mid Wales it would appear that the honey bees have not received the memo as local production has been excellent. There have been many swarms including one that chose an electricity transformer near Aberdyfi requiring a shutdown to vacuum out the bees and clear out the honeycombs.

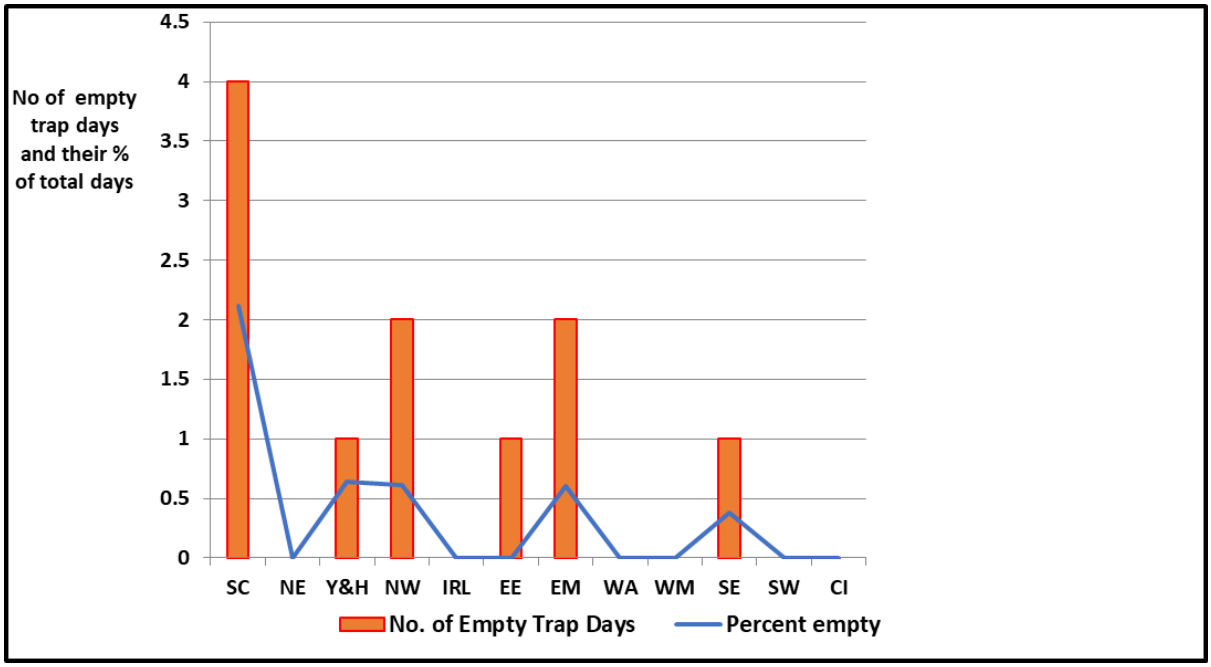
Despite the hot weather and regional rain, the number of empty traps was very low this quarter until the end when it rose steeply from none in week 25 to four in the final week (fig 6).

Fig 6. GMS 2022. Q3 Number of Empty Traps and Minimum Temperature



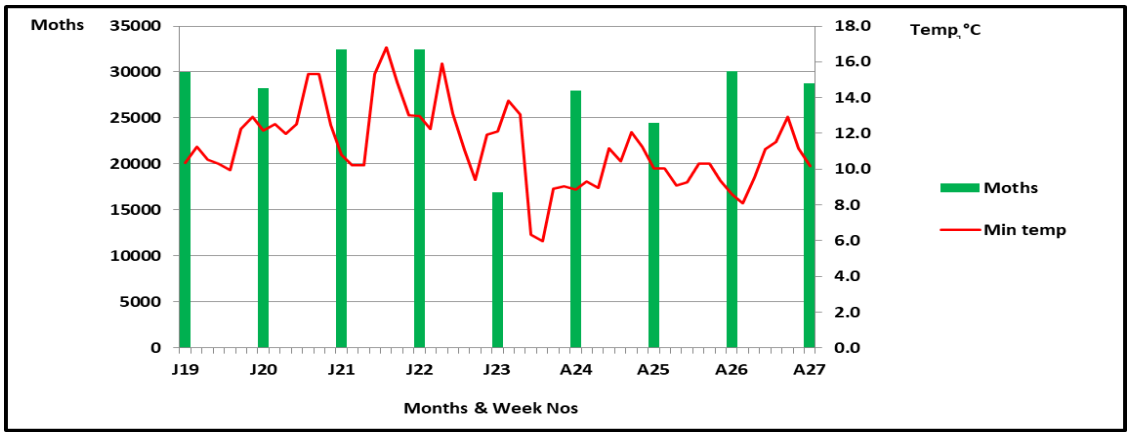
Although it appears that Scotland fared the worst with four of them, appearances can be deceptive as they were actually fairly evenly spread throughout the weeks. The low number is quite surprising considering they received the worst of the weather (fig 7).

Fig 7. GMS 2022. Q3 Number of Regional Empty Traps and Their Percentage



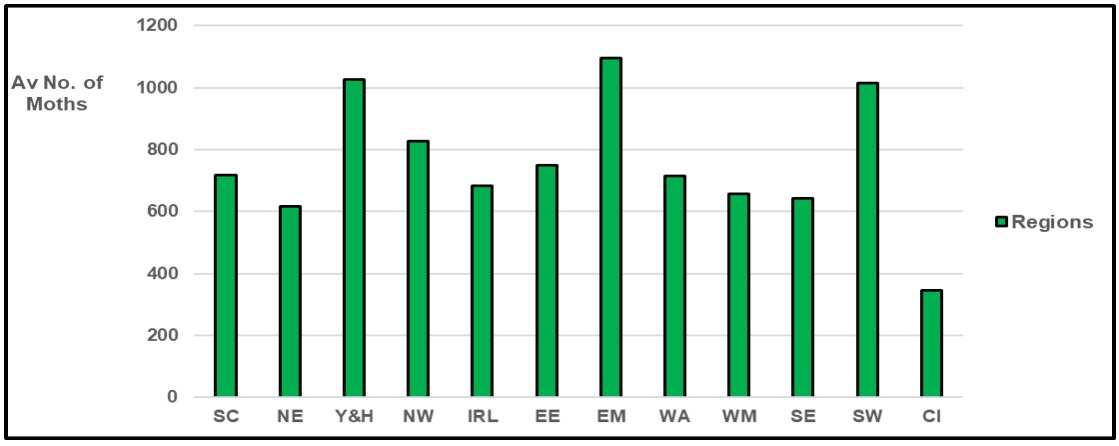
Catches gradually increased until week 23 when they fell in line with a sharp drop in minimum temperature though strangely the next cold spell in week 26 did not have the same effect (fig 8).

Fig 8. GMS 2022 Q3. Number of Moths and Minimum Temperature



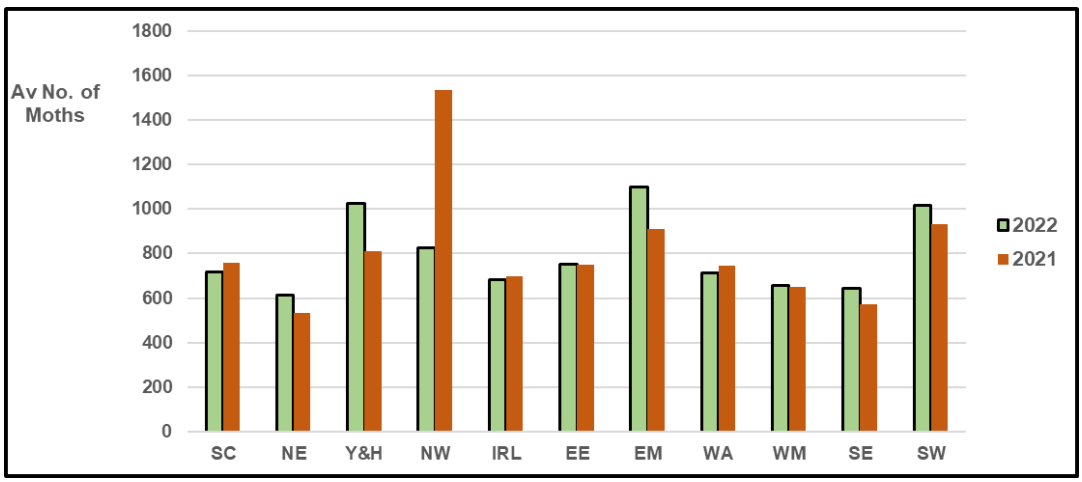
The regional mean number of moths shows a wide variation with no definite indication of preference. One of the coordinators in the South East said that it had been a quiet quarter but he had the highlight of his first Striped Hawk-moth. The lowest number is the Channel Islands where there is only one recorder, but this should not affect the mean (fig 9).

Fig 9. GMS 2022 Q3. Regional Number of Moths



But how does this compare with last year? It would appear that there has been some juggling with the Yorkshire & Humberside, the East Midlands and the South West coming out clear winners this year. Conversely the largest loss has been the North West (fig 10).

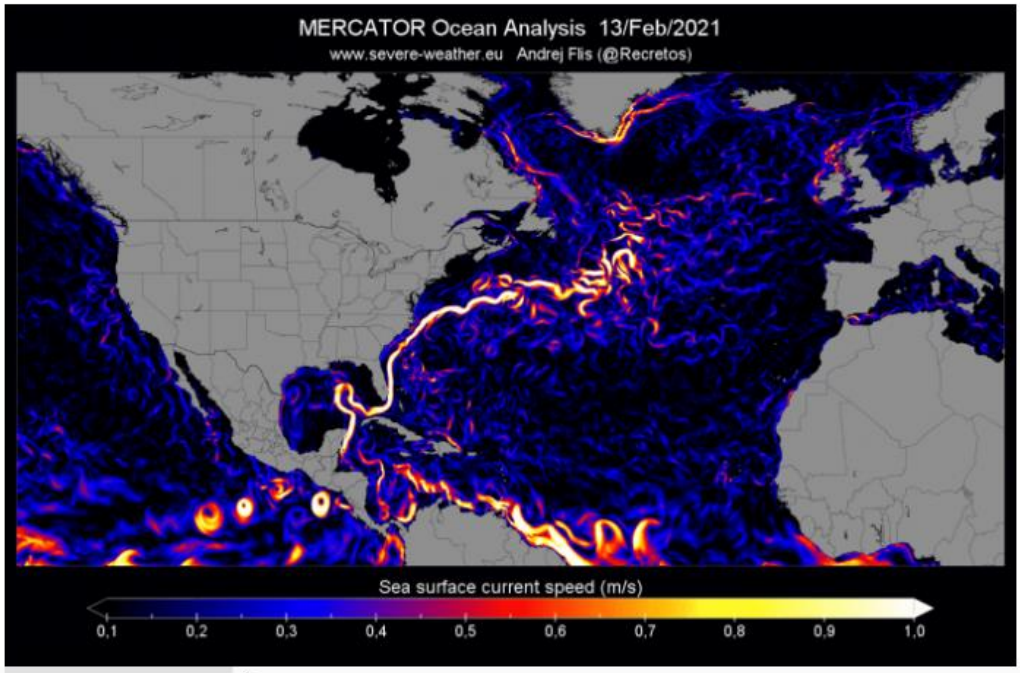
Fig 10. GMS 2022 Q3. Comparison of the Regional Number of Moths 2021 -2022



Ireland vs Wales

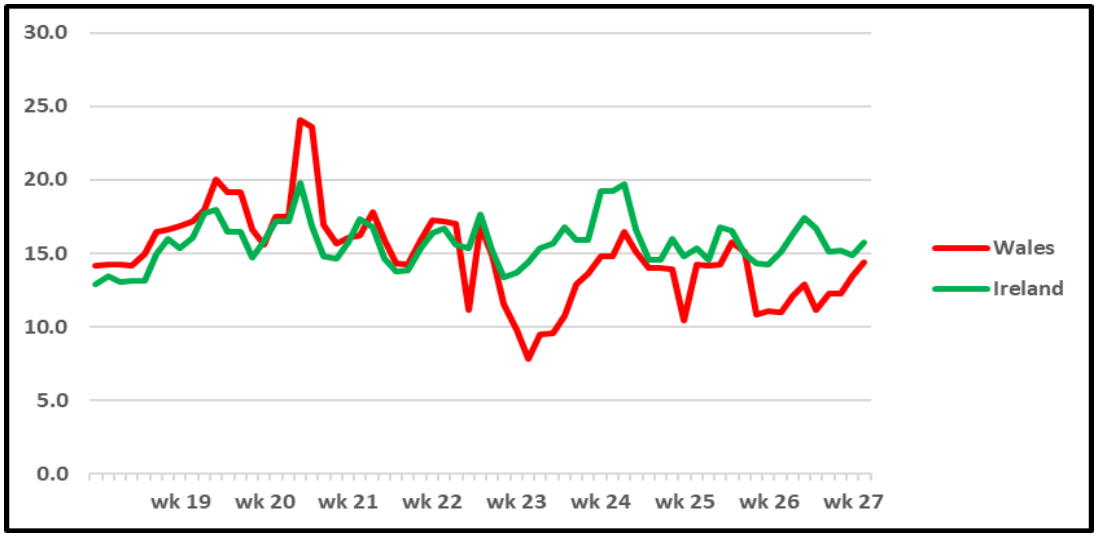
Last quarter I compared the east with the west coast. This time I am doing something similar by looking at Ireland in the extreme west and Wales just over the Irish Sea. Both are on the west coast but Ireland is separated from Wales by the Irish Sea. Although Ireland takes the brunt of the prevailing winds it does have the advantage of the Gulf Stream (North Atlantic Conveyor), which helps to ameliorate the temperatures. Figure 11 shows its position in Feb 2021 and how it flows past Ireland and Scotland. (Andrej Fis -www.Severe-Weather.eu)

Fig 11. Gulf Stream Current Speeds 13 Feb 2021



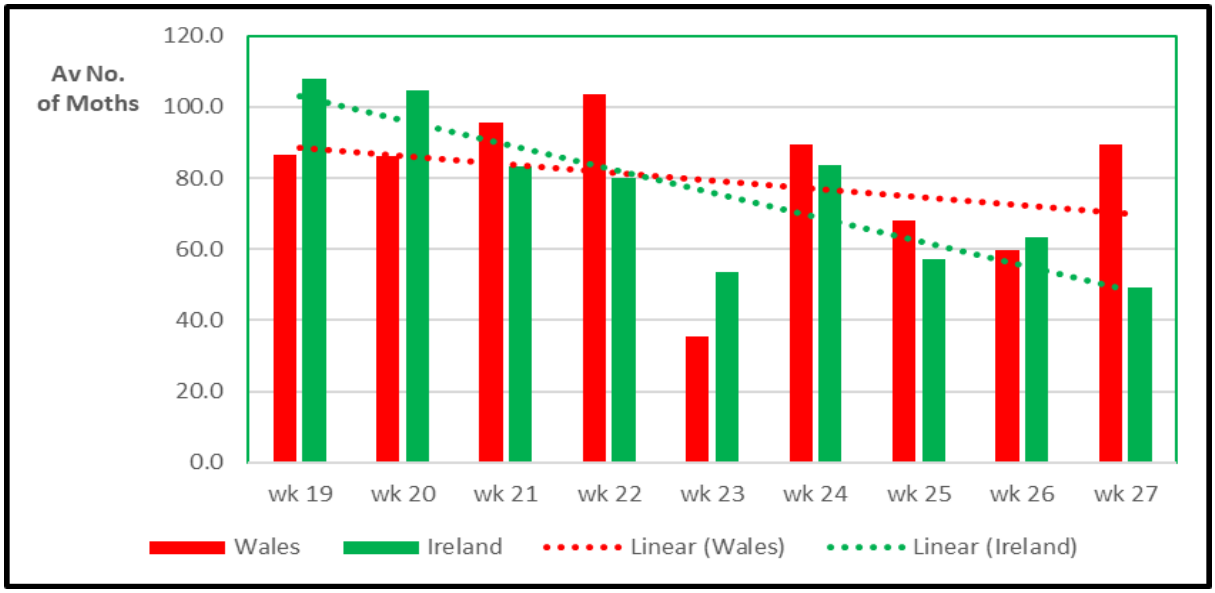
While Wales and the east of Ireland do not have this advantage, coastal temperatures are raised slightly by the warming effect of the adjacent Irish Sea. Looking at the average temperatures for these two regions this quarter they show some similarities until the second half when Wales became cooler while only occasionally returning to parity (fig 12).

Fig 12. GMS 2022 Q3. Average Temperatures for Ireland & Wales in 2022



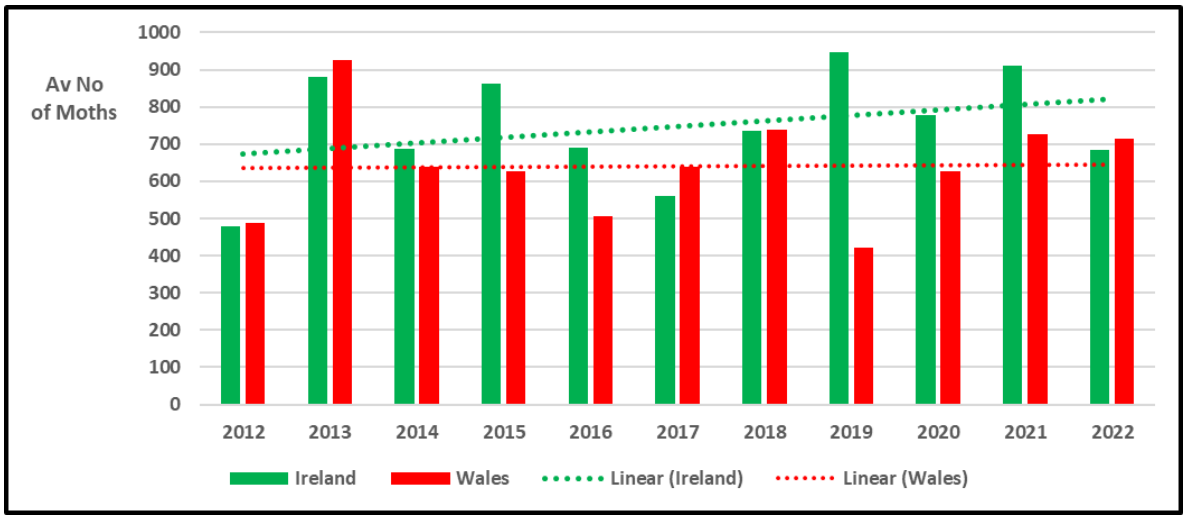
The average moth catches for both regions have been steadily decreasing throughout the quarter. For the first two weeks Ireland significantly surpassed Wales but then gradually lost ground. Week 23 was the worst for both regions but for Wales even more so possibly being linked to the fall in average temperatures. The trendlines for both regions show a major fall for Ireland and a slightly smaller one for Wales (fig 13).

Fig 13. GMS 2022 Q3. Average Moth Catches for Ireland & Wales



Taking the period from 2012 to 2022 the scenario is different with Ireland showing increasing numbers while Wales remains static (fig 14).

Fig 14. Average Moth Catches for the Ireland & Wales Q3 2012 – 2022



Statistics

The top 20 table shows the changes between 2021 and this year and reflects the welcome rise in numbers of moths this quarter (table 1). Although the number of core species caught was steady at 233 there were fewer actual moths visiting each garden as seen by the drop in average numbers for some of these moths including the Common Footman, Large Yellow Underwing and Lesser Yellow Underwing. Conversely the percentage number of gardens visited by these moths has increased but this only shows that the actual number of moths per visit has decreased, which I have commented on in an earlier report.

Table 1. GMS 2022 Q3. Top 20 Core Species

Position		Top 20	Mean Per Trap				Catching Frequency (%. of gardens)		
2021	**2022**	Species	**2021**	**2022**	Change		**2021**	**2022**	Difference
			342 Gardens	317 Gardens					
1	**1**	Large Yellow Underwing	123.5	101.9	-21.5		50	**95**	45
12	**2**	Setaceous Hebrew Character	14.8	32.5	17.7		34	**105**	71
2	**3**	L B-b Yellow Underwing	31.4	30.9	-0.5		46	**93**	47
6	**4**	Common Rustic agg.	26.4	29.3	2.9		45	**88**	43
7	**5**	Dark Arches	24.4	27.7	3.3		49	**90**	41
5	**6**	Uncertain/Rustic agg.	27.4	25.6	-1.9		20	**88**	68
4	**7**	Garden Grass-veneer	29.3	21.4	-7.9		32	**91**	59
10	**8**	Square-spot Rustic	15.7	21.4	5.7		33	**74**	41
20	**9**	Light Brown Apple Moth	9.5	19	9.5		37	**99**	62
3	**10**	Common Footman	29.6	18.4	-11.2		63	**57**	-6
13	**11**	*Agriphila tristella*	14.6	18.3	3.7		50	**92**	43
8	**12**	Riband Wave	21.5	15	-6.5		41	**86**	45
11	**13**	Brimstone Moth	15	12.7	-2.3		48	**99**	51
22	**14**	Vine's Rustic	8.6	12.3	3.7		12	**45**	33
23	**15**	Flounced Rustic	8.5	11.8	3.2		43	**77**	34
27	**16**	Common Wainscot	6.6	11.6	4.99		49	**61**	12
25	**17**	Shuttle-shaped Dart	7	11.6	4.6		49	**71**	22
21	**18**	*Agriphila straminella*	9.3	11.3	2		60	**62**	2
15	**19**	Flame Shoulder	12.2	11.2	-1		40	**77**	37
9	**20**	Lesser Yellow Underwing	16.8	10	-6.7		40	**74**	34

Then table 2 brings this into local context showing the top ten moths for each region. The Large Yellow Underwing is in pole position in eight regions but slips in the more southern ones and disappears in East England and the South East.

Table 2. GMS 2022 Q3. Top 10 Regional Core Species

Scotland (21)	Mean	North East (31)	Mean	North West (39)	Mean
Large Yellow Underwing	199.4	Large Yellow Underwing	207.9	Large Yellow Underwing	177.7
Dark Arches	62.6	Dark Arches	24.5	Dark Arches	52.2
Agriphila tristella	31.6	Garden Grass-veneer	23.4	Bird-cherry Ermine	49.6
Bird-cherry Ermine	27.8	Square-spot Rustic	20.4	Common Rustic agg.	42.9
L B-b Yellow Underwing	27.7	Common Rustic agg.	18.2	L B-b Yellow Underwing	30.1
Common Rustic agg.	26.8	Lesser Yellow Underwing	17.2	Setaceous Hebrew Character	22.7
Lesser Yellow Underwing	21.5	Common Footman	16.7	Garden Grass-veneer	20.2
Garden Grass-veneer	16.7	L B-b Yellow Underwing	14.4	Uncertain/Rustic agg.	18.7
Dotted Clay	15.1	*Agriphila tristella*	11.6	Light Brown Apple Moth	16.6
Square-spot Rustic	10.4	Uncertain/Rustic agg.	10.5	*Agriphila tristella*	15.5
Yorks & Humber (20)	**Mean**	**Ireland (19)**	**Mean**	**East of England (32)**	**Mean**
Large Yellow Underwing	194.3	Large Yellow Underwing	62.5	Water Veneer	39.2
Setaceous Hebrew Character	105.9	Common Rustic agg.	48.9	Setaceous Hebrew Character	35.6
Common Rustic agg.	45.4	L B-b Yellow Underwing	44.3	Shuttle-shaped Dart	30.2
Blastobasis adustella	43.0	Square-spot Rustic	33.5	Common Wainscot	26.2
Dark Arches	40.1	Light Brown Apple Moth	26.5	Uncertain/Rustic agg.	25.9
Agriphila straminella	37.3	Garden Grass-veneer	25.5	Garden Grass-veneer	25.6
L B-b Yellow Underwing	30.4	Dark Arches	21.1	Vine's Rustic	23.6
Agriphila tristella	28.2	Riband Wave	16.1	Square-spot Rustic	22.7
Uncertain/Rustic agg.	25.2	Lesser Yellow Underwing	14.2	Light Brown Apple Moth	22.6
Light Brown Apple Moth	20.9	Uncertain/Rustic agg.	13.7	Flounced Rustic	21.0
East Midlands (38)	**Mean**	**West Midlands (18)**	**Mean**	**Wales (34)**	**Mean**
Large Yellow Underwing	110.3	Large Yellow Underwing	97.0	Large Yellow Underwing	79.1
Setaceous Hebrew Character	67.4	Common Rustic agg.	35.3	L B-b Yellow Underwing	39.6
Common Rustic agg.	49.3	Setaceous Hebrew Character	32.1	Uncertain/Rustic agg.	37.8
L B-b Yellow Underwing	46.8	Light Brown Apple Moth	30.2	Brimstone Moth	29.9
Uncertain/Rustic agg.	46.4	Garden Grass-veneer	29.6	Common Footman	28.5
Square-spot Rustic	42.9	L B-b Yellow Underwing	29.2	Setaceous Hebrew Character	22.3
Common Wainscot	39.4	Uncertain/Rustic agg.	25.3	Common Rustic agg.	21.8
Dark Arches	38.1	Square-spot Rustic	22.1	Dark Arches	21.7
Garden Grass-veneer	35.3	Brimstone Moth	19.7	Flame Shoulder	21.7
Vine's Rustic	34.8	*Agriphila geniculea*	18.8	Flounced Rustic	21.1
South East (31)	**Mean**	**Southwest (33)**	**Mean**	**Channel Islands (1)**	**Mean**
Setaceous Hebrew Character	29.2	L B-b Yellow Underwing	48.8	Buff Ermine	47
Light Brown Apple Moth	23.2	Common Footman	48.4	Marbled Minor agg.	30
Uncertain/Rustic agg.	22.3	Uncertain/Rustic agg.	44.3	White Ermine	23
Shuttle-shaped Dart	21.5	Setaceous Hebrew Character	44.3	Flame	19
L B-b Yellow Underwing	21.0	Large Yellow Underwing	39.5	Willow Beauty	15
Blastobasis adustella	20.5	Common Rustic agg.	32.4	Poplar Hawk-moth	11
Square-spot Rustic	19.2	Dingy Footman	28.7	Bright-line Brown-eye	11
Vine's Rustic	18.8	Flame Shoulder	28.0	Heart and Dart	11
Riband Wave	17.9	Brimstone Moth	26.9	Small Square-spot	11
Agriphila geniculea	16.4	Vine's Rustic	25.4	Large Yellow Underwing	9

Although the number of moths caught has been decreasing overall there are always the exceptional nights when large numbers are caught. Table 3 shows the maximum number of moths caught by any recorder in one night for the last seven species in the top 20 table. It would appear that the Common Wainscot was the most prolific in week 25 of both 2020 in the East of England and in 2022 in the East Midlands Congratulations to each of you.

Table 3. GMS 2022 Q3. Maximum Catches 2018 to 2022

Species	2018	Reg	2019	Reg	2020	Reg	2021	Reg	2022	Reg
Agriphila straminella	0		163	WA	84	EM	120	EM	136	Y&H
Common Wainscot	81	SC	67	SW	199	EE	111	EE	169	EM
Flame Shoulder	82	EE	54	IRL	52	IRL	58	EE	38	EE
Flounced Rustic	85	NW	55	SE	32	EE	24	EM	67	EE
Lesser Yellow Underwing	38	EM	80	IRL	85	SC	49	EM	50	NE
Shuttle-shaped Dart	67	EE	91	EE	67	SW	29	EE	63	EE
Vine's Rustic	99	EE	120	SE	109	EE	77	EE	55	EE

All the trap nights and catches completed by the recorders are summarised in Table 4. The minimum and maximum moth numbers caught in this nine-week period vary considerably, possibly reflecting location, type of trap and/or the individual micro-climates. The minimum catches range from 44 to 337 and the maximum between 1319 and 4167, while the trapping effort (Moth Trap Nights) is very high considering the time of year when holidays are often taken. The third section shows the preferred night for trapping. Although Friday is the official night 3 nights either side are acceptable as everyone hopefully has a life apart from mothing.

Table 4. GMS 2022 Q3. Regional Statistics

Region	Gardens	Moths				Moth Trap Nights		
		Total	Mean	Min	Max	Possible	Actual	Percent
SC	21	15051	717	93	1532	189	167	88
NE	31	19090	616	93	1968	279	261	94
Y&H	20	20523	1026	217	4167	180	157	87
NW	39	32224	826	44	3182	351	329	94
IRL	19	12974	683	97	2519	171	161	94
EE	32	24028	751	166	2306	288	275	95
EM	38	41699	1097	331	2628	342	331	97
WA	34	24277	714	111	2325	306	289	94
WM	18	12474	693	98	1319	162	152	94
SE	31	19896	642	83	1911	279	263	94
SW	33	33522	1016	337	3297	297	287	97
CI	1	346	N/A	n/A	N/A	9	7	78

Weekday Trap Nights							
Night	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
Days	36	61	191	1268	317	134	57
Percent	2	3	9	61	15	6	3

Additional Species

As mentioned in previous reports, one part of the form which is often ignored is the lower section where you are invited to add moths which are not on the core/regional list.

The number of entries this quarter has been very gratifying due in part to the time of the year but also to the number of recorders entering their results. It brings a whole new life into the scheme.

This quarter there were 2472 rows of data coming from all of the regions giving a total of 8423 moths of 573 species. Some of these may be duplicated several times when one recorder identifies it as the species whilst others record it as a sp. or an agg.

It has been a good year for the Ear Moth agg. in Scotland where 321 were recorded. Similarly, Jersey Tiger made a good showing with a total of 83 being recorded, mainly in the South East and one location in Wales (Table 5).

Photo Mike Bailey

Table 5. GMS 2022 Q3 Top 20 Additional Species

Moth	Total
Eudonia lacustrata	447
Ear Moth agg.	380
Orchard Ermine	326
Blastobasis adustella	262
Water Veneer	247
Sandy Long-horn	222
Eudonia mercurella	198
Incurvaria masculella	194
Horse Chestnut Leaf-miner	192
Boxworm Moth	190

Moth	Total
Mint Moth	143
Bird-cherry Ermine	139
Acrobasis advenella	124
Argyresthia goedartella	120
Tinea trinotella	110
Coronet	100
Red Twin-spot Carpet	95
Scoparia ambigualis	87
Blastobasis rebeli	83
Jersey Tiger	83

Lesser Yellow Underwing (*Noctua comes*)

This common moth, one of a group of Yellow Underwings in the Noctuid family, is in the top 20 moths this quarter. Its Latin name implies a companion (*comes*) of the night (*Noctua*), presumably the lady companion of the larger p*ronuba* (Large Yellow Underwing), although Emmet in his book suggests a marital context here as *comes* meaning the common-law wife.

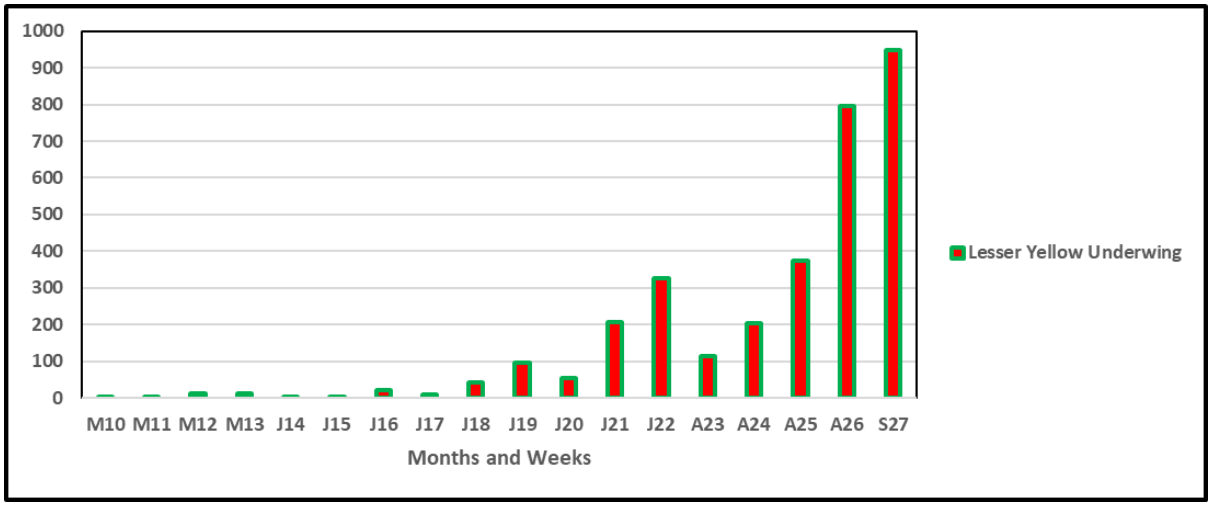
On first glance it has the appearance of a smaller version of the Large Yellow Underwing and is most easily distinguished by the absence of well-defined small black markings near the tip of the forewing and the presence of a dark crescent on the yellow hindwing. Compared to the smaller Least Yellow Underwing it has clearly defined oval and kidney marks and a clear row of triangular dots along the outer edge of the wing. The ground colour of the forewing is overall greyish-brown with variations in both shading and in intensity of black markings with a black form (f. *curtisii*) in Scotland.

photo Norman Lowe

photo Norman Lowe

It has one generation flying from June to September with small numbers sometimes extending into early October in the south (fig 15). Since this chart only covers the 3rd quarter an update in the final quarter newsletter will be required to see if the numbers do indeed extend into October.

Fig 15. GMS 2022 Q3. Flight Period of Lesser Yellow Underwing

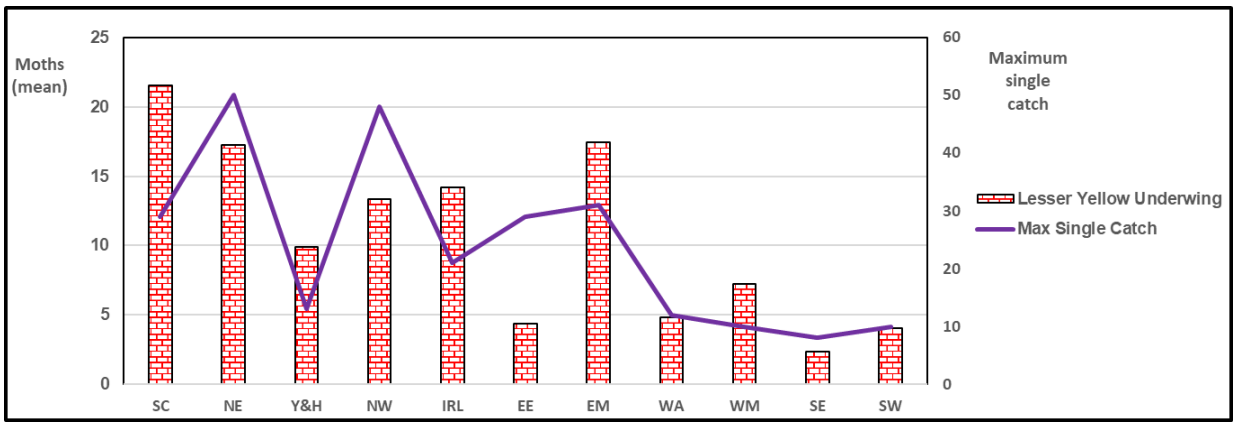


The larvae hatch in September to October and feed on a wide range of herbaceous plants including Common Nettle, Broad-leaved Dock and Foxglove. They overwinter when still small reappearing in the spring when they then also climb into bushes and small trees including Hawthorn, Bramble, Sallow and Broom. They pupate in the ground.

They are ubiquitous occurring in a wide range of habitats including gardens, woodland, moorland and open countryside. It is resident and common throughout the British Isles being almost as widespread as its larger companion.

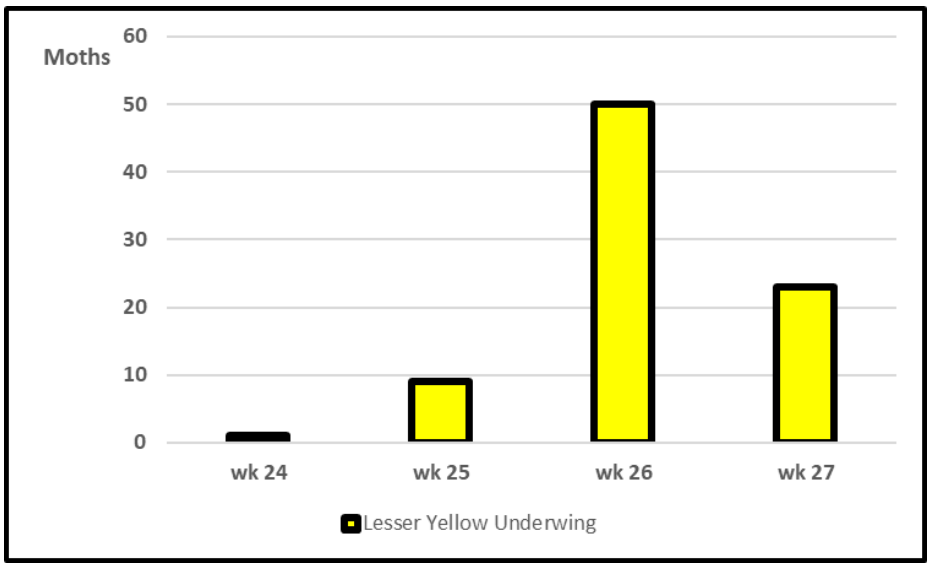
This chart shows both the regional distribution and the maximum number of Lesser Yellow Underwing caught in any one night. One lucky recorder in the North East had a total of 50 (fig 16).

Fig 16. GMS 2022 Q3. Regional Distribution of the Lesser Yellow Underwing.



I was interested to know if this was a one off for this recorder but it seems that reasonable numbers were caught from weeks 25 to 27 (fig (17).

Fig 17. GMS 2022 Flight Period of the Lesser Yellow Underwing for one Recorder in the North East



Why Additional Species?

Evan Lynn

Two questions that some recorders have raised recently are:

1.What use are the additional records at the base of the sheet?

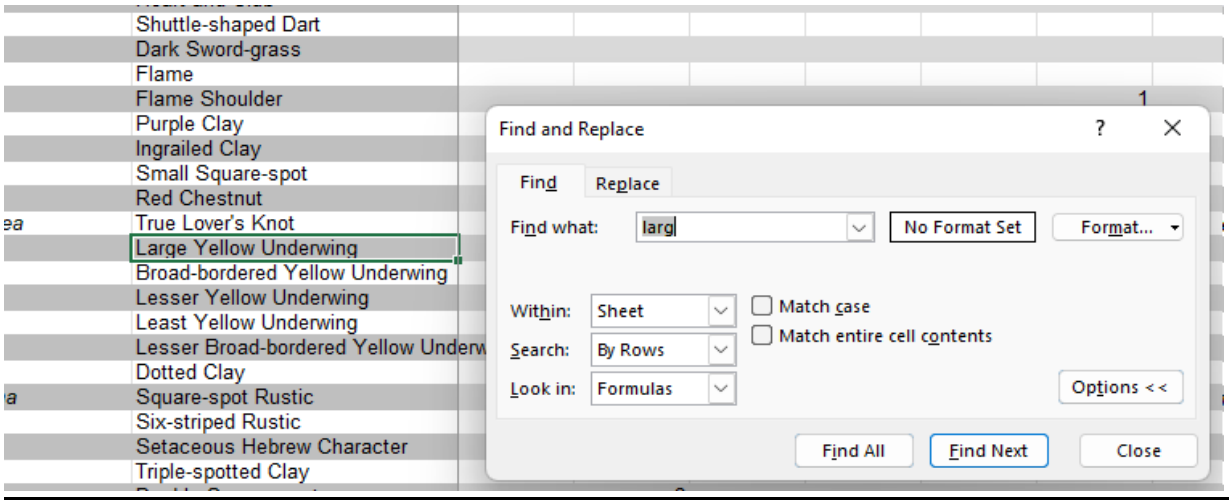
2. Why spend a lot of time completing the records when the main aim of the scheme is to record the most common “Garden Moths”?

On first glance there is little point in this section. However, looking a bit deeper there are some good reasons for its inclusion. Only the common easily identifiable moths are recorded in the main section to avoid instances of misidentification by novice recorders. Therefore, many important moths that could be indicators of positive or negative change are ignored. In addition, for those who only look at the required entries, it can expand your knowledge and interest.

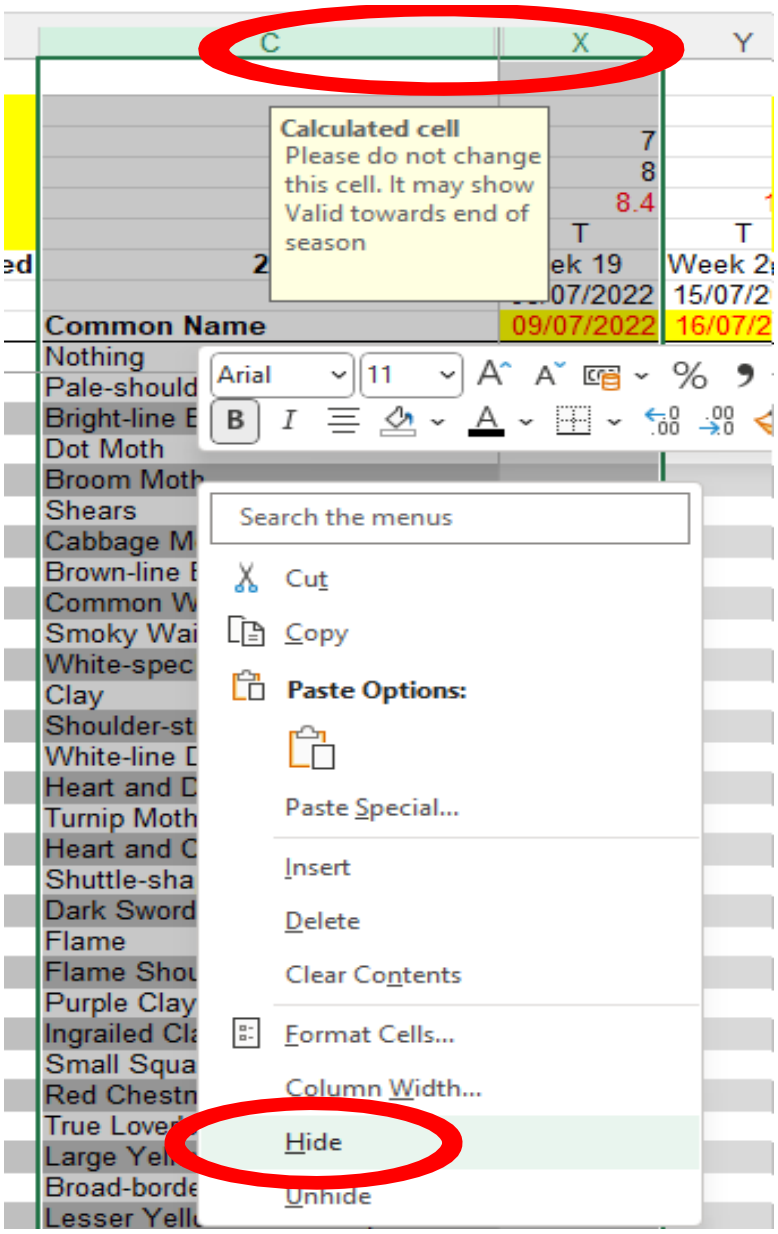
Recording the GMS records and then doing it again for your county recorder is pointless duplication and so this sheet gives you the advantage of being able to do both at the same time.

When entering data into the main form, use whichever of Mike Cook’s templates is easiest for you and “hide” all previous weeks [select these columns and right click to find the hide command]. Then use the Search and Replace function. Enter the first few letters of the name e.g., “larg” will find Large Yellow Underwing, though in some cases you may have to click a few times to get to the right moth. Occasionally the search may stray into other columns. In that case select the column of your choice to make sure the search stays there.

Find 1st few letters



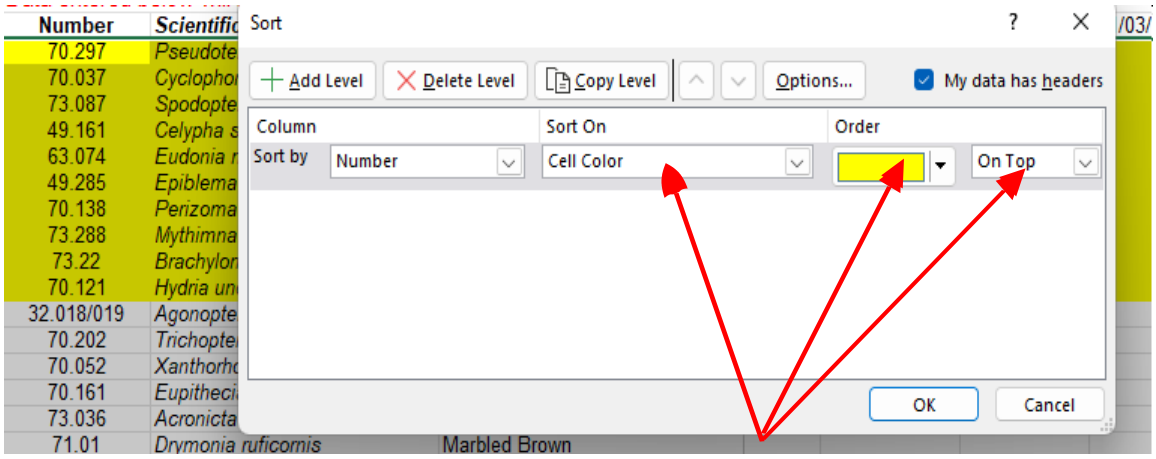
Hide Earlier Week Columns



When entering the additional species, it is time consuming typing out the names so do not re-invent the wheel! Paste in entries from previous years, or I can provide a list of the more numerous ones sent in.

Highlight the rows in some colour and when the session is finished, select all of the additional rows (*Ctrl* + *Shift* + *PgDn*) and sort the coloured ones to the top of the list using the very useful Sort command, e.g. [*Sort, Yellow colour, On Top*] to make it easier for your coordinator to find them. At the end of quarter copy your worksheet to a new folder (I use “attach”) which incidentally simplifies finding attachments for your own emails.

Sort by Row Colour



With this duplicate spreadsheet, clear all non-coloured additional rows making it easier for your co-ordinator to find them and check whether you have inadvertently included a core/regional species down there.

For your next quarter select another colour and repeat the above so by the end of the year you will have four sets of colours which is useful as some coordinators wait until the end of the year to check these rows. It does not matter if some species "change row colour" in the following quarters as your coordinator is only looking for the above-mentioned errors Once finished for the quarter you can convert them into a format suitable for your county recorder using a program developed by Mike Cook which can be provided for you.

Wetland Moths in my Garden

Robin Griffiths

I live in Cricklade, Wilts, a small town on the upper reaches of the River Thames. My garden is about 500 yards from the river at its nearest point. I have no wetland around any closer to here apart from my tiny garden pond (about 2 X 1 yard in size). On the other side of the river the National Nature Reserve of North Meadow is famous for its huge population of Snakeshead Fritillaries.

In the 8 years I have been mothing I have trapped a good variety of wetland moths, so much so that I feel it demonstrates how far they venture away from water. Here are some examples, together with the number trapped since 2014.

Limnaecia phragmitella (Bulrush Cosmet) 16
Eudonia pallida (Marsh Grey) 18
Calamotropha paludella (Bulrush Veneer) 16
Brown China-mark 7
Water Veneer 2,456
Small China-mark 11
Ringed China-mark 61
Beautiful China-mark 17
Donacaula forficella (Pale Water Veneer) 8
Muslin Footman 25
Round-winged Muslin 5

Dotted Fan-foot 2 (the first for Wilts!)
Silky Wainscot 6
Large Wainscot 39
Bulrush Wainscot 1
Twin-spotted Wainscot 4
Brown-veined Wainscot 1
Small Rufous 4
Small Dotted Buff 20
Dingy Shears 14
Cream-bordered Green Pea 3

Of course some of these are commonly trapped away from water but the occurrence of others – perhaps most obviously all four species of China-mark, that have totally aquatic larvae – suggests there is some fairly regular movement between the river and the adjacent damp habitat, and my garden, when the weather conditions suited.

As I think I stated in a previous article, the Dotted Fan-foot in 2021 turned up on two separate sessions a couple of nights apart in July, and it was interesting that on both occasions the Dotted Fan-foot shared an egg box with a Silky Wainscot, suggesting they may have arrived together! Less stunning but similarly, I recently had both Ringed and Brown China-mark in the trap on the same session.

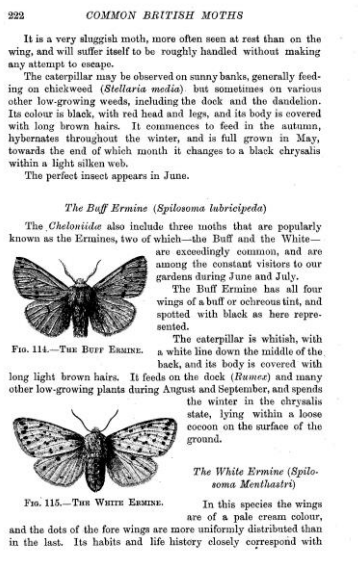
I had a feeling that the wetland moths listed above were occurring here less often than in the past but in fact this is not the case - with one very obvious exception – the Large Wainscot, 37 of which were trapped here between 2014 – 2017, peaking at 17 in the latter year - and then no more appeared at all until two in 2021. There is no significant change since 2014 in the numbers of any of the other wetland moths here.

More Lepidoptera Illustrations Over The Years

David Baker

After reading Norman Lowe's article on moth illustrations I re-visited a selection of the books I have obtained from various new and second-hand bookshops since becoming keenly interested in moths as late as 1999. For my initial identification purposes I used the first edition of Moths of the British Isles by Bernard Skinner which, at the time, seemed an expensive item and was bought for me by my family group at Christmas 1999. As my interest expanded I started picking up books on lepidoptera from local bookshops, mostly second-hand, and gained a good number which I can now refer to.

The earliest actual book is "Butterflies and Moths (British)" by W Furneaux published in 1894. It comprises 360 pages, commencing with general information of life histories etc. and descriptions of many of the common butterflies and macro-moths most with a small black and white illustration plus 12 colour plates at the end.



222 COMMON BRITISH MOTHS

It is a very sluggish moth, more often seen at rest than on the wing, and will suffer itself to be roughly handled without making any attempt to escape.

The caterpillar may be observed on sunny banks, generally feeding on chickweed (*Stellaria media*) but sometimes on various other low-growing weeds, including the dock and the dandelion. Its colour is black, with red head and legs, and its body is covered with long brown hairs. It commences to feed in the autumn, hybernates throughout the winter, and is full grown in May, towards the end of which month it changes to a black chrysalis within a light silken web.

The perfect insect appears in June.

The Buff Ermine (Spilosoma lubricipeda)

The *Chelonïidæ* also include three moths that are popularly known as the Ermines, two of which—the Buff and the White—are exceedingly common, and are among the constant visitors to our gardens during June and July.

The Buff Ermine has all four wings of a buff or ochreous tint, and spotted with black as here represented.

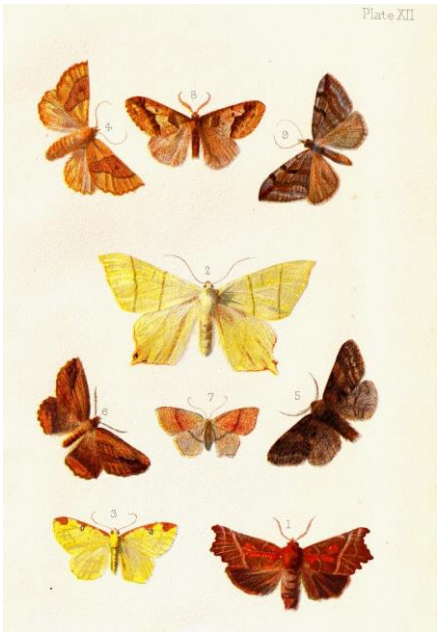
FIG. 114.—THE BUFF ERMINE.

The caterpillar is whitish, with a white line down the middle of the back, and its body is covered with long light brown hairs. It feeds on the dock (*Rumex*) and many other low-growing plants during August and September, and spends the winter in the chrysalis state, lying within a loose cocoon on the surface of the ground.

The White Ermine (Spilosoma Menthastri)

FIG. 115.—THE WHITE ERMINE.

In this species the wings are of a pale cream colour, and the dots of the fore wings are more uniformly distributed than in the last. Its habits and life history closely correspond with



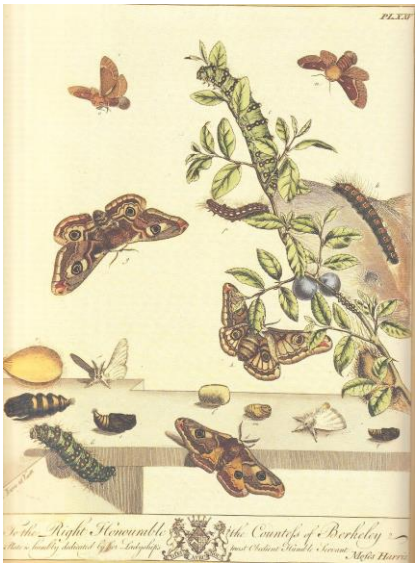
The above show samples of the illustrations .

My second-oldest book is an “Ex Libris” copy from Blackburn Library entitled “Butterflies and Moths of the Country-side” by F.Edward Hulme. It is a 330 page book interspersed with 33 pages of illustrations such as the two which I show on the next page. This book again only covers the butterflies and the commoner, probably the more distinctive, of the macro-moths. Mr Hulme does quote that “ .....illustrating the micro-lepidoptera. With that we cannot deal. Their minute size, and at the same time their exquisite richness of marking, render any attempt to do justice to them, by any method of colour printing as yet known to us, is impossible.”

Is it any wonder that for the first 3 years of my moth recording life I did not get a grasp of the “awkward little beggars” which frequented my trap? Now more than welcome!

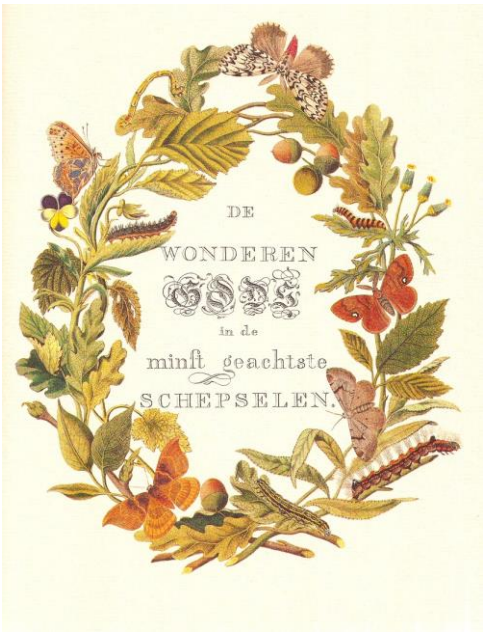
Plates from “Butterflies and Moths of the Country-side” by F.Edward Hulme

Although we have looked at my oldest actual books I have found a couple which look back at the works of much older artists who ought to be noted. The first is Moses Harris (1730-c1788).



Moses Harris dedicated his plates to high ranking patrons as noted at the base of the illustration of Emperor Moths, Small Egger (his spelling) and Yellow Tail.

Around the same time, in the late eighteenth century, two Dutchmen, Christian Sepp and his son Jan Christian Sepp were engraving and printing lepidoptera illustrations in their book entitled “de Wonderen Gods in de minst geachtste Schepselen.” The wonders of God, the least regarded of insects”.



The second illustration shows a Merveille du Jour, a moth which, when starting, I never imagined I would see at home, not realising how widespread it can be.

In 1909 W Egmont Kirby compiled a large book entitled ”Butterflies and Moths of the United Kingdom”. The attached image shows a page of micro-moths with both scientific and common, or vernacular, names in use at the time.


LXVII

1. Scoparia cembræ (Large Grey Moth)
2. Scoparia dubitalis (Hoary Grey Moth)
3. Scoparia crataegella (Whitehorn Grey Moth)
4. Galleria cereana (Honeycomb Moth)
5. Aphomia sociella (Green-shaded Honey Moth)
6. Achroia alvearia (Honey Moth)
7. Homœosoma sinuella (Twin-barred Knot-horn)
8. Euzophera pinguis (Tabby Knot-horn)
9. Salebria carnella (Rosy Veneer)
10. Cryptoblabes bistriga (Double-striped Red Knot-horn)
11. Myelophila cribrum (Thistle Ermine)
12. Nephopteryx spissicella (Dotted Knot-horn)
13. Crambus pinetellus (Pearl Veneer)
14. Crambus latistrius (Broad-streak Veneer)
15. Crambus perlellus (Yellow Satin Veneer)
16. Crambus culmellus (Small Straw-coloured Veneer)
17. Eromene ocellea (Necklace Veneer)
18. Chilo phragmitellus (Wainscot Veneer)
19. Alucita hexadactyla (Twenty Plume Moth)
20. Agdistis bennetii (Plumeless Plume Moth)
21. Aciptilia pentadactyla (Large White Plume Moth)
22. Aciptilia galactodactyla (Spotted White Plume Moth)
23. Aciptilia spilodactyla (Wormwood Plume Moth)
24. Mimæseoptilus pterodactylus (Common Plume Moth)
25. Cnæmidophorus rhododactylus (Rosy Plume Moth)
26. Œdematophorus lithodactylus (Dusky Plume Moth)
27. Amblyptilia acanthodactyla (Beautiful Plume Moth)
28. Amblyptilia cosmodactyla (Dark-brindled Plume Moth)
29. Oxyptilus parvidactylus (Small Plume Moth)

PLATE LXVII

In 2010 a new list of vernacular names was published and some of us, including myself, found it not totally agreeable. However, when we study the vernacular names used by Kirby, and presumably by the then mothing community, we may relent a little. Check, for example, moth No.5, Aphomia sociella, the Green-shaded Honey Moth. Would we swap our present name the Bee Moth for the old one. Maybe we all should relent a little?

Closer to the present time now, let's look at two more recent examples of illustrations from 1913 and 1945. I get the impression that, surely, the paper, inks and printing processes have improved over the years which should aid our identification of the species.

Peeps at Nature A.M Stewart 1913

Butterflies and Moths in Britain
Vere Temple 1945

The foregoing illustrations must have been used to a large extent by moth recorders, and collectors, over the years, presumably, gaining a growing level of understanding.

Norman has mentioned the books by Richard South and Bernard Skinner which were the moth recorders "Bibles" for many years. They were followed by Paul Waring's books, which with the illustrations by Richard Lewington have been my "go to" books from 2003 onwards, plus we now have an excellent photographic guide from Chris Manley to assist us with identification of almost all the British moths, macros and micros. (See next page)

Even the micros which used to give me so much trouble have been brilliantly illustrated in the "Field Guide to the Micro Moths of Great Britain and Ireland", published in 2012 and now well and truly showing evidence of being thumbed through regularly over the last ten years.

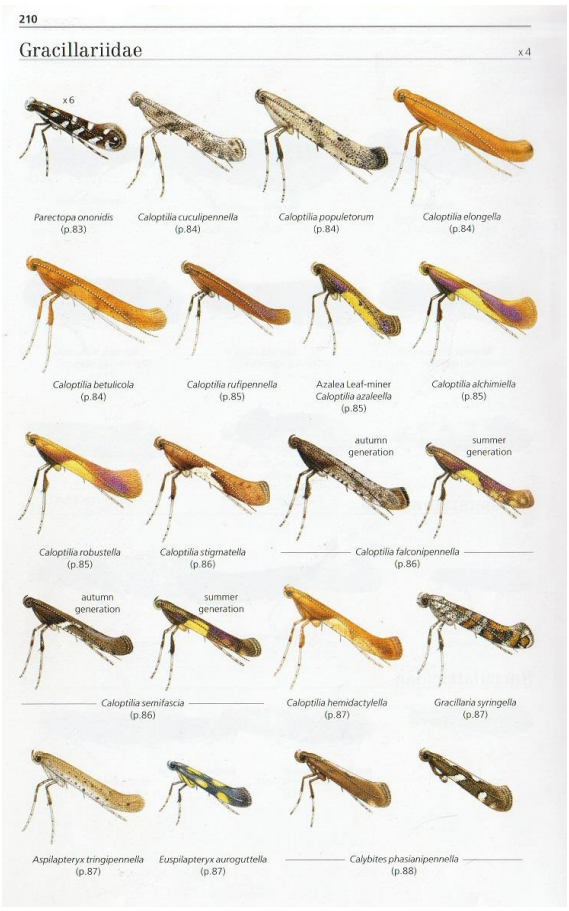


Illustration from Field Guide to MicroMoths, Sterling and Parsons

Photographs from British Moths, Chris Manley

The above show the comparison between the superb paintings and the camera shots. I leave it to you all to decide which you prefer.

Whatever you decide, unfortunately the big downside is that the numbers of moths have been declining as our ability to identify them has been improving.

References (Illustrations)

Butterflies and Moths (British), W Furneaux, Longmans Green & Co. 1894
Butterflies and Moths of the British Countryside, F.E.Hulme, Hutchinson & Co, 1903
The Aurelian, Moses Harris (1766), imprint by Robert Hayes, Newnes, 1986
Butterflies and Moths, Jan Christian Sepp, imprint Stuart McNeill, Michael Joseph, 1978
Butterflies and Moths of the United Kingdom, W.E.Kirby, Routledge, 1909
Peeps at Nature, A.M Stewart, A&C.Black, 1913
Butterflies and Moths in Britain, Vere Temple, B.T.Batsford, 1945
Field Guide to the MicroMoths of Great Britain and Ireland, Sterling & Parsons, British Wildlife Publishing, 2012
British Moths, a photographic guide to the moths of Britain and Ireland, C.Manley, Bloomsbury, 2015

Puzzle Corner

MOTH WORD SEARCH No. 4

T	E	P	P	A	L	L	E	H	S	M	O	K	Y	T
S	E	I	Y	A	K	N	R	B	A	R	D	K	A	O
A	D	N	C	R	R	O	U	N	D	N	S	M	M	P
O	A	K	S	Y	E	R	G	L	A	U	C	O	U	S
C	E	N	T	R	E	I	I	S	D	N	K	C	S	T
Y	L	A	O	B	U	F	F	L	A	M	E	H	L	R
S	S	A	R	G	R	O	U	N	D	S	E	A	I	E
I	L	E	Y	E	D	X	I	T	E	L	U	N	N	A
L	B	P	E	M	E	R	A	L	D	I	H	C	E	M
K	S	C	O	T	C	H	A	N	D	M	A	I	D	E
Y	B	U	R	U	E	R	I	N	G	E	D	H	T	R
T	S	E	R	N	M	R	E	T	N	I	W	T	O	D
E	N	O	C	A	B	B	A	G	E	O	D	O	O	W
T	R	I	P	L	E	U	S	S	I	T	C	G	T	E
F	L	A	Y	O	R	M	A	R	S	H	S	A	H	D

The above square contains words of three letters or more which relate to a recognised vernacular species name of a British moth. For example:- Blue or Bordered or Carpet or even 2 or all 3 together. The words can be horizontal, vertical, diagonal and even reversed. I believe there are at least 64 words.

The challenge is on! See how many you can find, I may have missed some!

Nonconformist

Crossword 20 solution

G	O	L	D	S	P	A	N	G	L	E	■	■	M	A	R	S	H
L	■	A	■	H	■	■	I	■	A	■	R	■	O	■	U	■	E
A	N	T	L	E	R	■	N	■	T	■	E	■	C	■	B	A	R
U	■	I	■	A	■	N	E	T	T	E	D	■	H	■	Y	■	A
C	A	N	A	R	Y	■	■	■	I	■	D	R	A	B	■	■	L
O	■	■	■	S	■	■	B	■	C	H	I	■	■	L	E	A	D
U	■	■	P	■	■	■	I	■	E	■	S	■	■	O	■	■	■
S	H	O	U	L	D	E	R	E	D	■	H	U	M	M	I	N	G
■	E	■	G	■	A	■	D	■	■	G	■	M	■	E	■	■	E
E	A	R	■	■	R	■	■	■	■	R	■	B	E	R	B	E	R
■	T	■	P	■	K	N	O	T	■	A	■	E	■	S	■	■	M
T	H	O	R	N	■	■	L	■	■	S	■	R	■	■	R	■	A
I	■	■	E	■	L	■	D	O	G	S	■	■	U	N	I	O	N
S	P	O	T	T	E	D	■	■	R	■	T	■	■	■	V	■	■
S	■	■	T	■	W	■	■	■	O	■	W	■	■	■	U	■	F
U	■	L	Y	M	E	■	C	O	U	S	I	N	■	B	L	U	E
E	■	■	■	A	S	H	■	■	N	■	N	■	■	■	E	■	N
■	L	A	D	Y	■	■	R	E	D	■	■	T	O	O	T	H	■

The anagram answer is **Tunbridge Wells Gem.**

Communications & Links.

GMS Website - http://www.gardenmoths.org.uk/ - the Communications section gives information on the regional coordinators; the Downloads section provides access to Identification Guides, Annual Reports and Newsletters, as well as all the regional recording forms and instructions.

Facebook Page - https://www.facebook.com/GardenMothScheme - over 2500 'Likes'.

Facebook Group - https://www.facebook.com/groups/438806469608527/ - currently with more than 2700 Members (not all active GMS participants) – open membership – all recording forms, instructions and micro-moth identification guides are available in the Files section.

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