GMS News

Autumn 2021

Weeks 28-36

Contents

Editorial

This time last year I, like most other people, looked forward to 2021 hoping that we could all get together again around our moth traps. But it hasn't happened that way and the signs for early 2022 aren't encouraging either. But at least we could all look for moths in our own gardens, and as Evan tells us, while we had, on average, poor catches early on this year, things picked up in the Late Summer and Autumn quarters. The detailed weather maps are always interesting and I often think that they could be a valuable historical resource when future researchers are trying to understand the why and the wherefore of GMS results. Evan's featured moth this time is the Snout but he also covers the Clifden Nonpareil the Flame Shoulder and the Flounced Rustic.

The rest of the articles have a distinctly northern flavour. We start with a successful scheme for encouraging more recorders NE England, followed by an illustrated account of the Carpet Moths (as opposed to magic carpets) to be found in Yorkshire. David Baker tells me that this is an update of an article from 2010 but my records don't go back that far. Then further north to Scotland where Audrey Turner marvels that she is still getting new garden species after 15 years of trapping there. Well, I have trapped in my garden for 37 years and have recorded at least one new species every year. But only just, as Hedge Rustic was the only new species in my worst year, 2019.

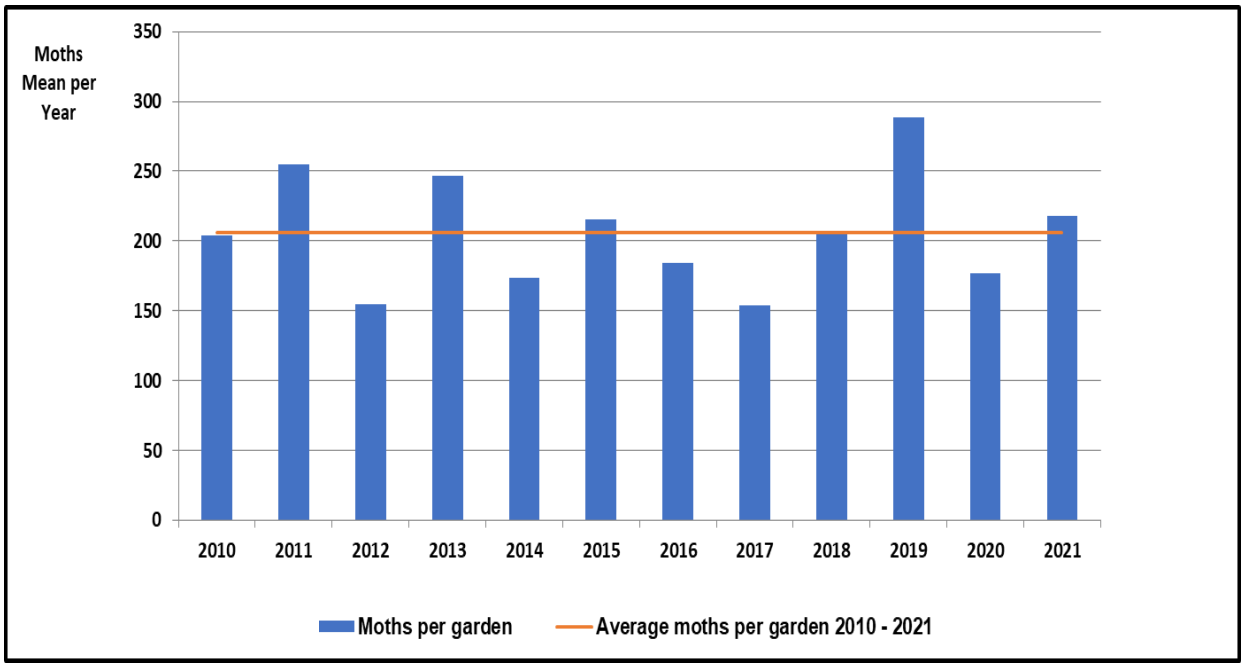
Just starting out, Graham Fairs from North Northumberland tells us about the garden species in his first year of trapping. And he has included White-line Dart, a species I have never seen! Then we finish our northern tour in County Durham where Richard Cowen is amazed by the large numbers of Beaded Chestnuts in his trap. After this there is a treat in store for me as I haven't yet tackled Crossword 18. But I will!

Overview GMS 2021 4th Quarter

Evan Lynn

The slight increase in moth numbers in the third quarter of this year was followed by a larger rise this time making it the best fourth quarter since 2013, barring the bumper year of 2019 (fig 1).

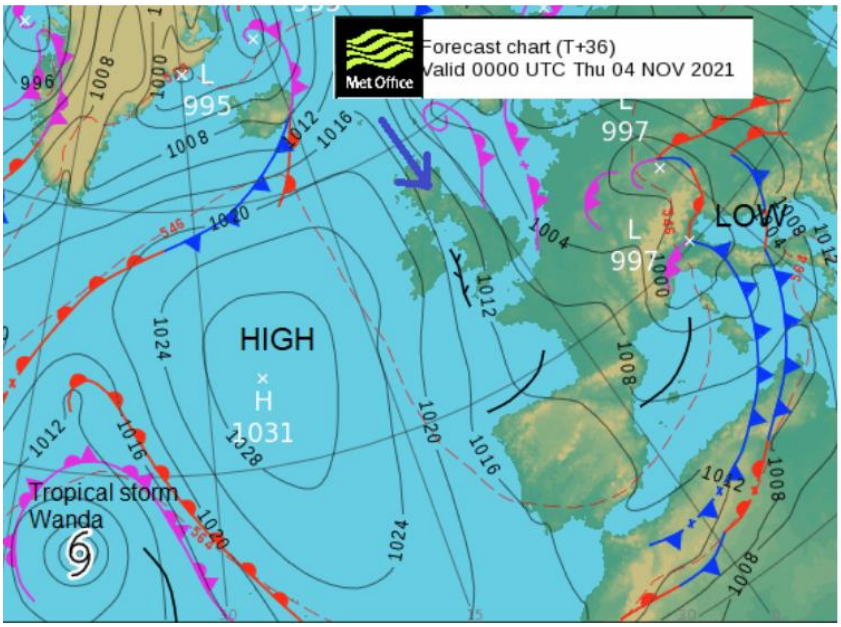
Fig 1. GMS 2010 - 2021 Q4. Mean Quarterly Moth Numbers



This quarter the mild weather continued on into September with calm warm weather in most places, though recorders in West Scotland would not concur, experiencing periods of gale force conditions. It started to deteriorate after the equinox (September 21st) when unsettled weather and gales were expected. And on cue, if a little late, strong winds and rain affected many areas with flooding in South Wales and the London area. Then on the 22nd of October storm Aurore appeared after causing havoc in Europe. The Essex fire services received 120 flooding call-outs and Devon and Somerset had 300 flooding incidents.

Following this, the wind then changed to the north bringing cold air over the whole country. Here in West Wales, we are used to experiencing the northerly winds being the sandwich filling between areas of high and low air pressures, but in the last week of October we had a twist – the Pembrokeshire Dangler. This is when the north wind comes straight down the Irish Sea. When it reaches the Irish and Welsh coastline the air encounters friction and shifts a little to the NNE and the NNW. As it passes over land it rises forming clouds and then over the sea, they converge to form a line bringing heavy showers to North Wales, Pembrokeshire and the West Country. This is represented in synoptic charts with a branch symbol (fig 2)

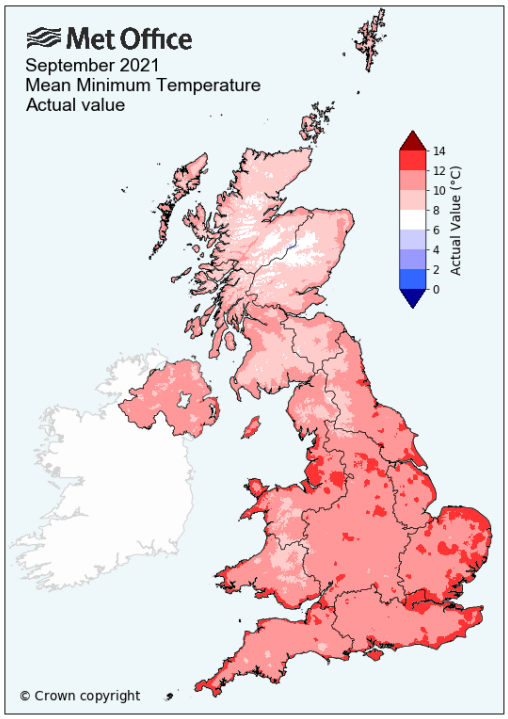
Fig 2. GMS 2021 Q4. Synoptic Chart November 4 2021 (with permission from the Met Office)



Notice here tropical storm Wanda approaching from the southwest and hitting land just as the Winter GMS started; also, low 995, north of Iceland, deepens to form storm Stephane reaching Northern Britain on the last days of this quarter.

Some of this is shown in the following charts produced by the Met Office with much of the adverse weather hitting the west and north east coasts. (figs.3 and 4)

Fig 3. Minimum Temperatures for September & October 2021 (with permission of the Met Office)



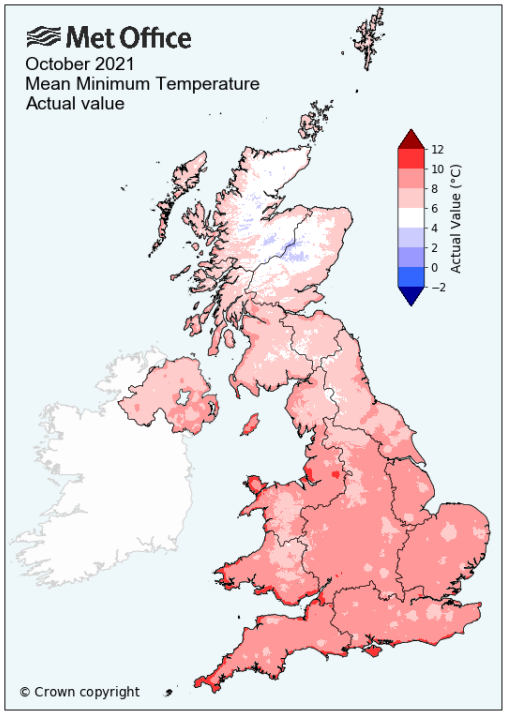
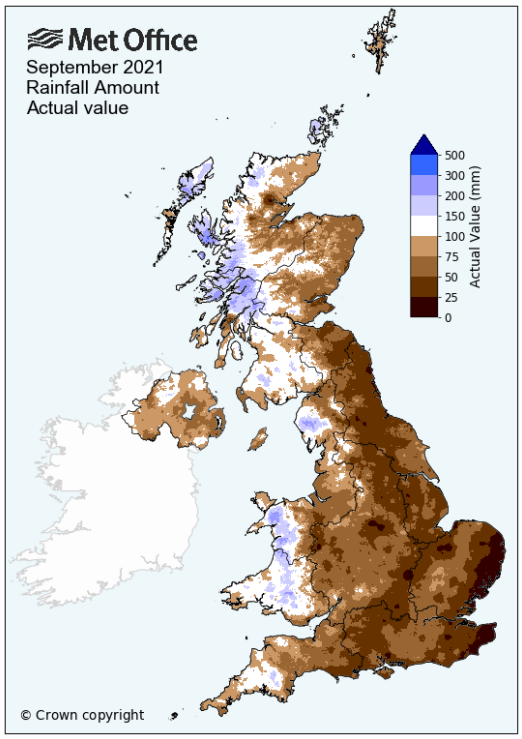
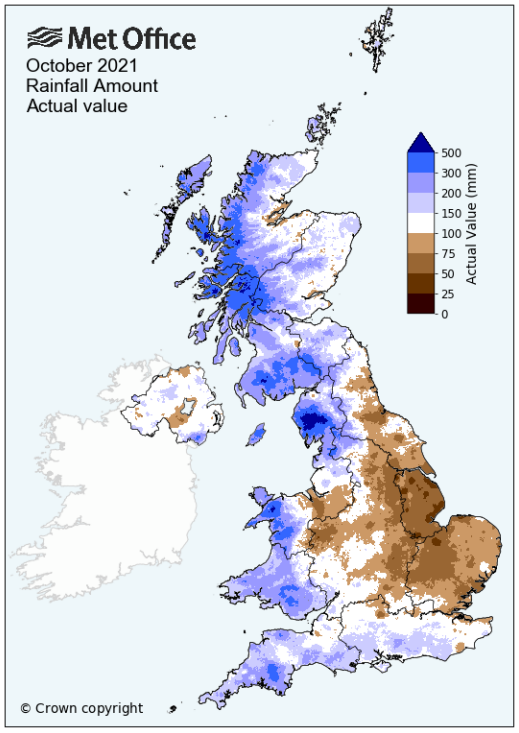


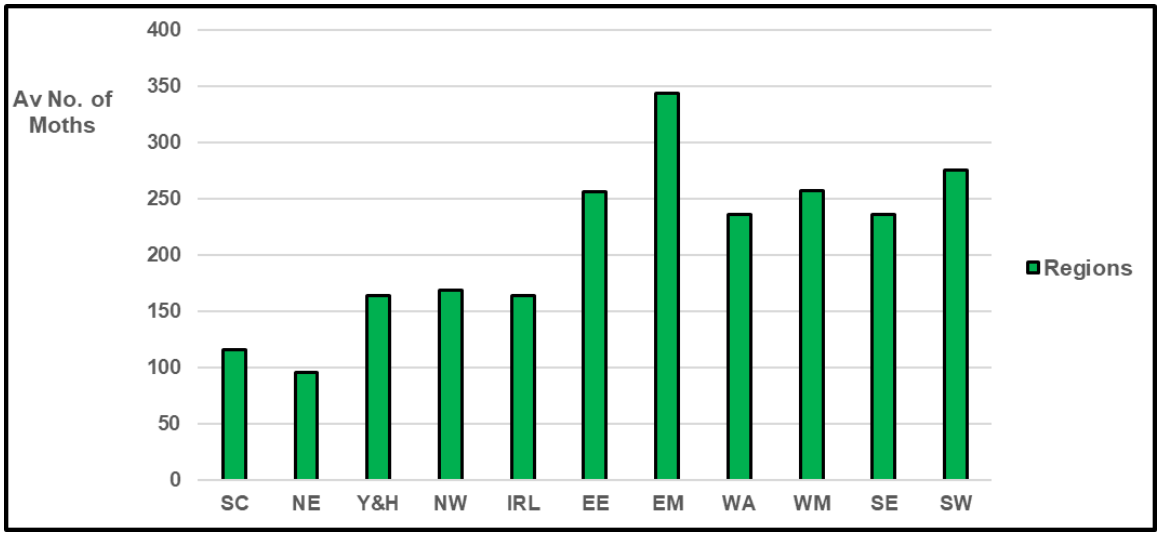
Fig 4. Rainfall in mm for September & October 2021 (with permission of the Met Office)





The weather in these charts is reflected in the regional average number of moths caught with the highest numbers in the warmer southern areas (fig 5).

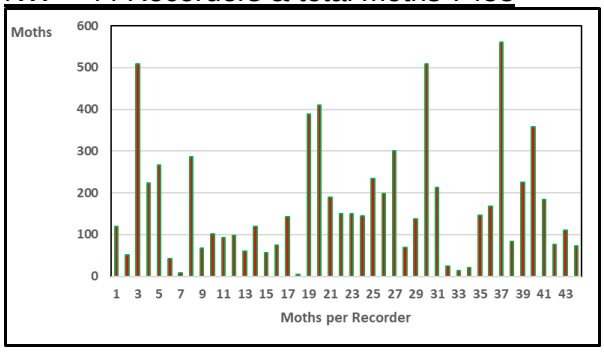
Fig 5. GMS 2021 Q4. Regional Average No. of Moths



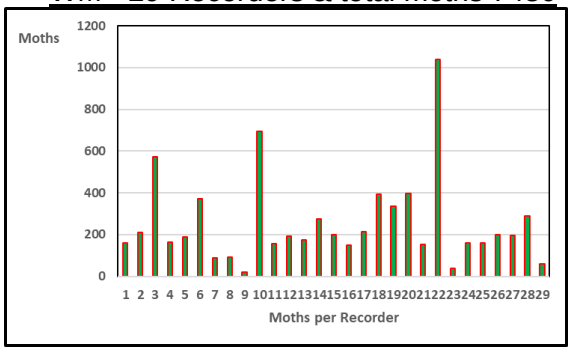
When looking at figure 5 it is obvious that the West Midlands has caught many more moths than in the North West, but the truth is often from your point of view. Yes, when looking at this chart the North West has obviously been suffering from adverse weather, but when looking at figure 6 the picture has changed and it would appear that the North West has more moths. Which do you believe? The statisticians among you will decide that you must have a level playing field and so divide total moths by total recorders. Therefore with 27 less moths the North West loses out by dividing the total by 44 recorders compared to 29 in the West Midlands.

Figure 6. GMS 2021 Q4. North West and West Midlands Garden Catches per Recorder

NW – 44 Recorders & total moths 7453

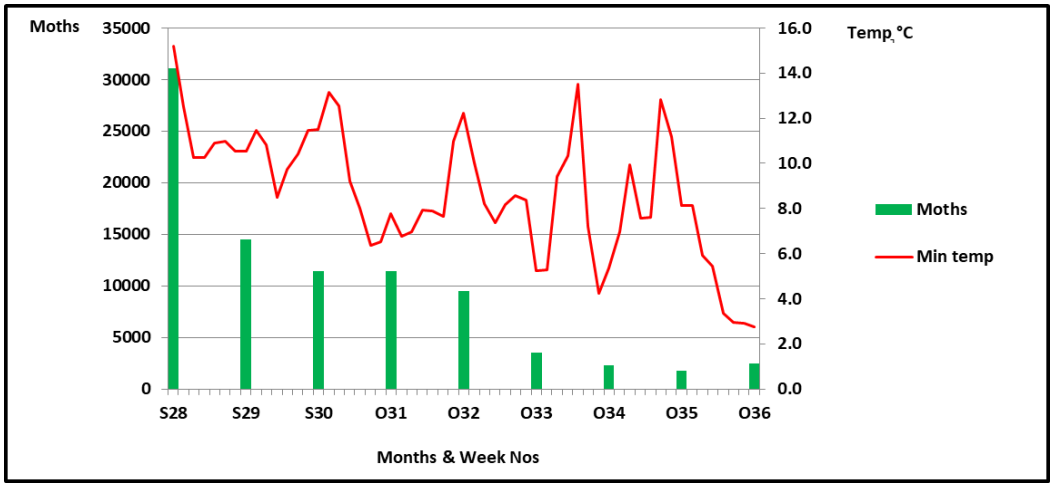


WM - 29 Recorders & total moths 7480



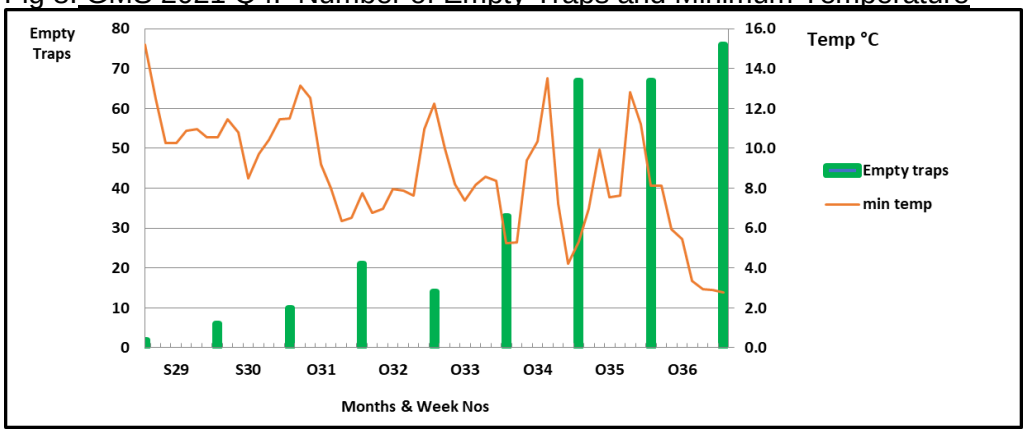
As this quarter departs from the warm days of summer and starts sliding towards autumn with colder weather and seasonal storms the number of moths caught reflect this trend (Fig 7).

Fig 7. GMS 2021 Q4. Number of Moths and Minimum Temperature



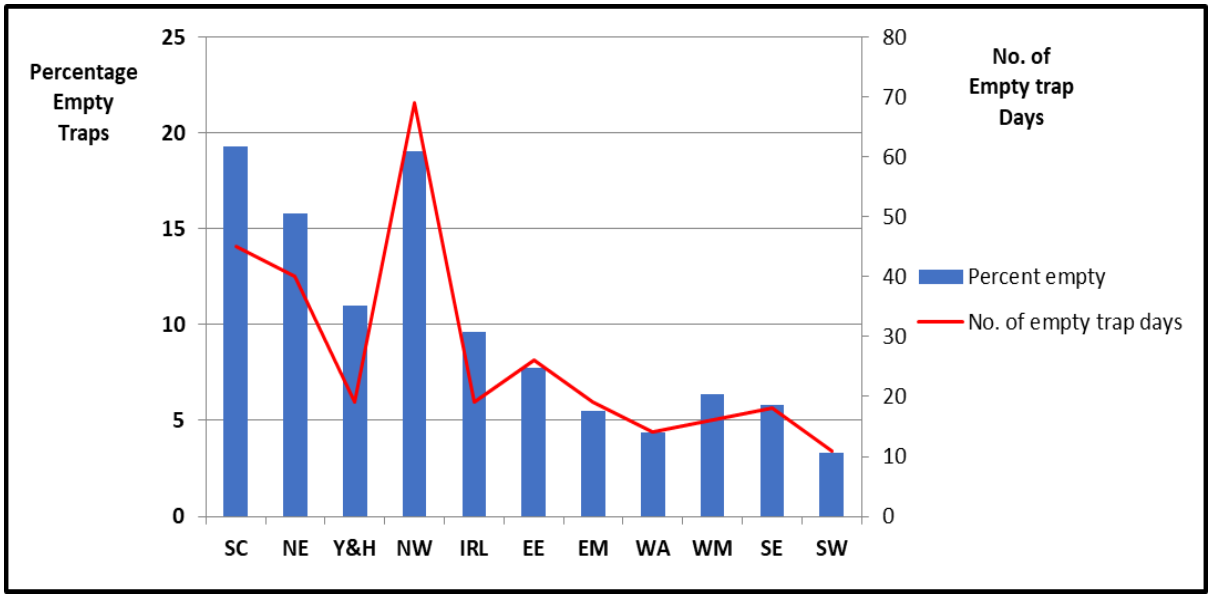
Likewise, the number of empty traps begins to increase (fig 8).

Fig 8. GMS 2021 Q4. Number of Empty Traps and Minimum Temperature



As with the number of moths caught there is a regional variation in the number of empty traps. Figure 9 shows that both Scotland and the North West had the highest percentage at 19% with the North East following closely with 16%. The most unfortunate recorder was one from the North East who had an empty trap every week. (*But still a valuable statistic – Ed*)

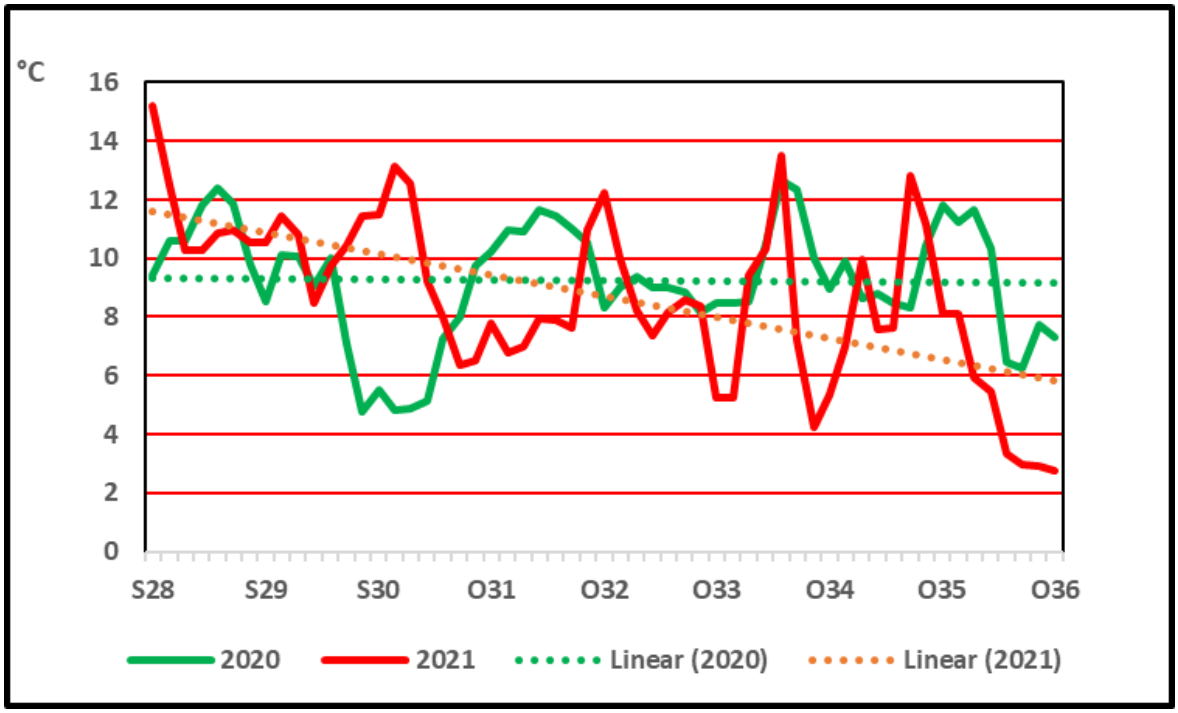
Fig 9. GMS 2021 Q4 Regional Number of Empty Traps



Comparing 2020 with 2021

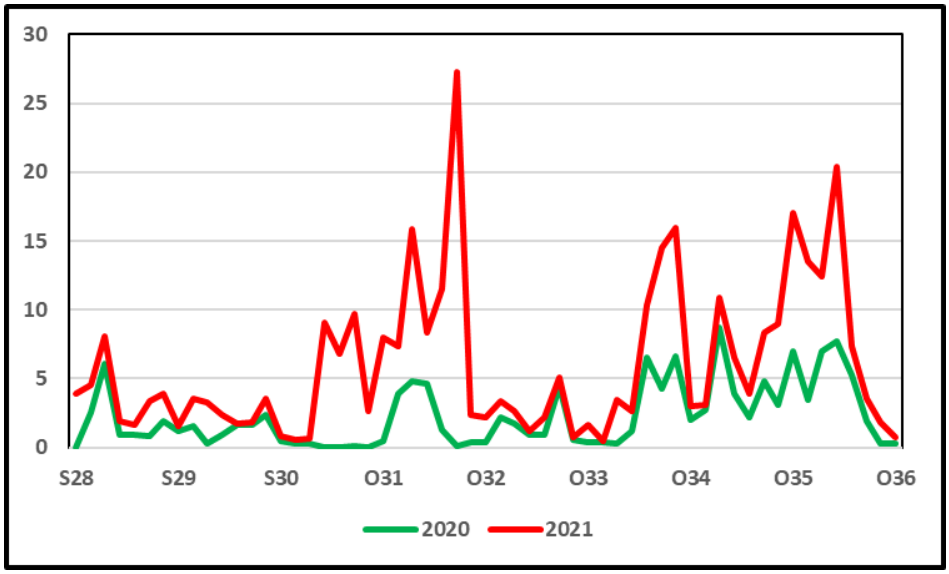
As in previous quarterly reports I have compared average minimum temperatures and this quarter's catches with that of last year (fig 10). The temperature trendline for the two years shows that the 2020 temperatures decreased slightly while this year it dropped markedly.

Fig 10. GMS 2021 Q4. Average Minimum Temperatures 2020 & 2021



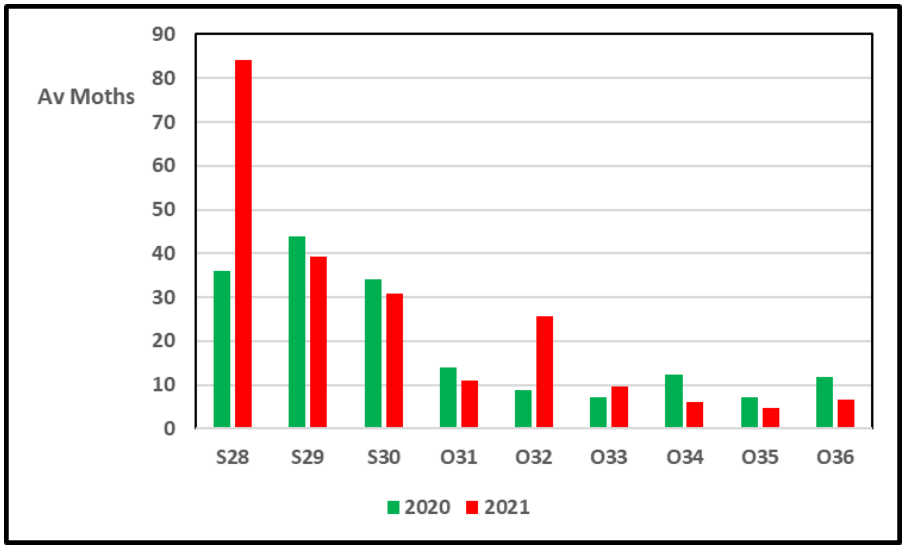
The rainfall in figure 11 is useful in that it can be an indicator of windy weather, though there is the possibility it could have been the result of thunderstorm activity – good for moths, but bad for flooding. It is interesting that this year there were sharp peaks of rainfall in both the middle and end of October when there was extensive flooding in some areas.

Fig 11. GMS 2021 Q4. Average Rainfall 2020 & 2021



The catches for 2021 start much higher than 2020 for the first week and then drop lower until week 32 when they suddenly rise possibly due to increased minimum temperatures that week. After one more week of better catches they remain lower for the rest of the quarter (fig 12).

Fig 12. GMS 2021 Q4. Average Weekly Catches 2020 & 2021



The number of species caught (table 1). also follows this pattern. Negative values are highlighted.

Table 1. GMS 2021 Q4. Difference in Number of Species 2021-2020

Year	Week 28	Week 29	Week 30	Week 31	Week 32	Week 33	Week 34	Week 35	Week 36
2020	182	168	158	119	102	105	116	91	100
2021	208	160	156	87	125	87	73	64	52
Change	26	-8	-2	-32	23	-18	-43	-27	-48

Statistics

Table 2 says it all – an improvement from Q4 2020. It is good to see a table with only five species showing a reduction in number from last year. As for the Lunar Underwing, this is the first year we have seen it for a number of years. Normally we only get to see it on one of David Brown's courses.

It has been a good season for the Common Marbled Carpet rising from 7th to 3rd position as well as the Brimstone Moth moving 17th to 9th which made appearances in 61% of the gardens compared with 2020 when it only occurred in 41% of them. Although it appeared less times last year the numbers per visit were greater. For example, in Wales the Brimstone Moth was seen in 34 gardens compared with 32 in 2020 while in the West Midlands it was seen in 27 and 19 gardens respectively.

Table 2. GMS Q4 2021. Top 20 Core Species

Position		Top 20 species	Mean Per Trap			Catching Frequency (%. of gardens)		
2020	2021		368 Gardens	369 Gardens	Change			
			2020	2021		2020	2021	Diffnce
1	**1**	Large Yellow Underwing	24	**26.4**	2.4	92	**94**	2
5	**2**	Setaceous Hebrew Character	8.9	**23.7**	14.8	69	**75**	6
7	**3**	Common Marbled Carpet	4.6	**12.6**	8.1	78	**89**	11
6	**4**	Light Brown Apple Moth	6.6	**12.4**	5.8	70	**77**	7
2	**5**	Lunar Underwing	19.3	**11.7**	-7.6	69	**67**	-2
15	**6**	Common Wainscot	2.3	**9.1**	6.8	30	**46**	16
3	**7**	Square-spot Rustic	14.8	**7.1**	-7.7	81	**72**	-9
4	**8**	Lesser Yellow Underwing	12.7	**6.5**	-6.2	89	**79**	-9
17	**9**	Brimstone Moth	2.1	**5.6**	3.5	49	**60**	11
22	**10**	Snout	1.9	**5**	3.2	44	**61**	17
10	**11**	Beaded Chestnut	3.9	**5**	1.1	44	**44**	0
8	**12**	November Moth agg.	4.2	**4.9**	0.7	64	**61**	-3
13	**13**	Red-green Carpet	2.7	**4.7**	2	67	**73**	5
16	**14**	Vine's Rustic	2.2	**3.9**	1.7	37	**43**	6
23	**15**	Angle Shades	1.9	**3.6**	1.7	61	**72**	11
9	**16**	Black Rustic	4	**3.2**	-0.7	67	**61**	-6
11	**17**	Silver Y	3.7	**3.1**	-0.6	77	**73**	-4
24	**18**	Garden Carpet	1.6	**2.5**	0.9	48	**60**	12
31	**19**	Copper Underwing agg.	1.1	**2.5**	1.4	39	**53**	14
29	**20**	Willow Beauty	1.2	**2.3**	1.1	35	**46**	10

Taking this further, in Wales for example, the maximum number of Brimstone Moth caught in any one night in 2021 was 100 by a recorder in Radnorshire. Then the maximum of 20 moths in 2010, caught by a recorder in the Gower, is subtracted giving a total of 80 [100-20 =80]. Negative values are highlighted (table 3).

Table 3. GMS 2021 Q4. Maximum Catches (2021 minus2020)

Vernacular	SC	NE	Y&H	NW	IR	EE	EM	WA	WM	SE	SW
Large Yellow Underwing	21	13	-5	51	32	3	-51	19	18	-6	36
Setaceous Hebrew Character	33	-12	8	-15	59	113	310	133	174	-3	32
Common Marbled Carpet	5	6	5	26	39	9	15	3	14	27	11
Light Brown Apple Moth	42	1	3	9	27	-1	-9	8	25	18	11
Lunar Underwing	28	-21	-47	10	-1	-28	-91	26	-37	-117	2
Common Wainscot	3	1	12	-2	1	55	146	1	166	5	-6
Square-spot Rustic	-22	-73	-7	3	-36	-39	4	5	-9	-21	-38
Lesser Yellow Underwing	-6	-9	-9	1	-1	3	-5	13	-9	11	-16
Brimstone Moth	3	1	-1	8	4	5	11	80	68	19	14
Snout	6	4	10	5	-1	43	9	-2	10	26	18
Beaded Chestnut	0	13	12	2	28	-9	29	9	9	9	-5
November Moth agg.	-9	2	-9	-19	8	-5	2	-15	0	13	1
Red-green Carpet	5	6	0	10	2	-1	6	3	5	23	0
Vine's Rustic	0	0	3	2	0	44	0	35	1	14	8
Angle Shades	10	3	2	3	7	0	10	17	-5	25	7
Black Rustic	4	0	0	8	8	1	1	8	0	12	0
Silver Y	7	-2	-7	1	-3	-1	-8	-9	0	19	14
Garden Carpet	4	4	-4	13	8	2	-15	2	3	15	1
Copper Underwing agg.	4	29	5	7	-3	-2	17	4	7	13	8
Willow Beauty	1	2	2	1	-1	-3	4	-3	-6	-10	-14

Breaking the more numerous moths down to regional level I have listed the top 10 core species and it is interesting to note the top moth, the Large Yellow Underwing, having lost pole position in four of the regions (table 4).

Table 4. GMS 2021 Q4. Top 10 Regional Core Species

Scotland (29)	Mean	North East (31)	Mean	North West (44)	Mean
Large Yellow Underwing	10.8	Large Yellow Underwing	13.6	Large Yellow Underwing	29.3
Winter Moth	8.1	Common Marbled Carpet	7.5	Common Marbled Carpet	20.3
Light Brown Apple Moth	7.5	Light Brown Apple Moth	6.7	Light Brown Apple Moth	11.8
Common Marbled Carpet	6	Red-Green Carpet	4.2	Set Hebrew Character	8
Spruce Carpet	5.9	Silver Y	4	Lesser Yellow Underwing	7.3
November Moth agg.	5.3	Rosy Rustic	3.7	Red-Green Carpet	7.1
Red-Green Carpet	5.2	November Moth agg.	3.4	Snout	5.2
Brown-spot Pinion	4.3	Brown-spot Pinion	3.1	Ruddy Streak	4.9
Rosy Rustic	3.7	Copper Underwing agg.	3.1	November Moth agg.	4.8
Set Hebrew Character	3.5	Set Hebrew Character	2.5	Copper Underwing agg.	4.5
Yorks & Humber (20)	**Mean**	**Ireland (23)**	**Mean**	**East of England (39)**	**Mean**
Large Yellow Underwing	20.7	Common Marbled Carpet	21.2	Set Hebrew Character	49.9
Light Brown Apple Moth	16.1	Light Brown Apple Moth	18.7	Large Yellow Underwing	29.7
Set Hebrew Character	13.2	Set Hebrew Character	9.9	Common Wainscot	16.2
Lunar Underwing	9.7	Beaded Chestnut	9	Light Brown Apple Moth	15.2
Common Marbled Carpet	7.1	November Moth agg.	8.2	Vine's Rustic	11.3
Beaded Chestnut	7	Rosy Rustic	7	Square-spot Rustic	11.1
Snout	5.6	Large Yellow Underwing	6.6	Snout	10.4
Lesser Yellow Underwing	5.5	Angle Shades	5.7	Beaded Chestnut	9.5
Garden Rose Tortrix	4.2	Garden Carpet	5.1	Lunar Underwing	8
Green Carpet	3.9	Black Rustic	5.1	Lesser Yellow Underwing	7.1
East Midlands (40)	**Mean**	**West Midlands (29)**	**Mean**	**Wales (39)**	**Mean**
Set Hebrew Character	69.7	Large Yellow Underwing	34	Large Yellow Underwing	22.3
Large Yellow Underwing	35.2	Set Hebrew Character	28.8	Common Marbled Carpet	22.1
Lunar Underwing	30.4	Common Wainscot	27.2	Brimstone Moth	19.4
Common Wainscot	30.1	Lunar Underwing	17.6	Set Hebrew Character	15.5
Light Brown Apple Moth	16.6	Light Brown Apple Moth	15.6	Lunar Underwing	10.1
Common Marbled Carpet	11.9	Common Marbled Carpet	13.2	Square-spot Rustic	8.7
Beaded Chestnut	10.8	Brimstone Moth	8.8	November Moth agg.	8.3
Smoky Wainscot	10.6	Lesser Yellow Underwing	8	Light Brown Apple Moth	7.5
Lesser Yellow Underwing	9.8	Square-spot Rustic	6.9	Lesser Yellow Underwing	6.2
Square-spot Rustic	9.5	Red-Green Carpet	6.7	Red-Green Carpet	6.1
South East (36)	**Mean**	**Southwest (39)**	**Mean**		
Large Yellow Underwing	34.2	Large Yellow Underwing	41.3		
Set Hebrew Character	23.3	Lunar Underwing	23.7		
Lunar Underwing	17.8	Set Hebrew Character	19.4		
Light Brown Apple Moth	13.1	Common Marbled Carpet	16.8		
Square-spot Rustic	11.9	Square-spot Rustic	12.3		
Common Wainscot	10	Light Brown Apple Moth	10.6		
Willow Beauty	7.8	Snout	10.5		
Vine's Rustic	7.4	Lesser Yellow Underwing	9.8		
Lesser Yellow Underwing	6.9	Brimstone Moth	8.9		
Common Marbled Carpet	6.3	Beaded Chestnut	7.2		

All the catches and trap nights completed by the recorders are summarised in Table 5. The minimum and maximum moth numbers both within and between regions over the nine-week period vary considerably, yet with some similarities, possibly reflecting location, type of trap and/or the individual micro-climates while the trapping effort (moth trap nights) remains remarkably consistent. The third section shows the preferred night for trapping. Although Friday is the official night three nights either side are acceptable as everyone hopefully has a life apart from mothing.

Table 5. GMS 2021 Q4 - Regional Statistics

Region	Gardens	Moths			
		Total	Mean	Min	Max
SC	29	3356	116	22	487
NE	31	2964	96	0	274
Y&H	20	3283	164	18	440
NW	44	7453	169	4	560
IRL	23	3781	164	20	510
EE	39	9992	256	37	826
EM	40	13783	345	50	956
WA	39	9207	236	20	665
WM	29	7480	258	19	1037
SE	36	8495	236	17	594
SW	39	10740	275	39	1217

Moth Trap Nights		
Possible	Actual	Percent
261	233	89.3
279	253	90.7
180	173	96.1
396	362	91.4
207	198	95.7
351	335	95.4
360	347	96.4
351	322	91.7
261	250	95.8
324	309	95.4
351	331	94.3

Weekday Trap Nights							
Night	Tues	Wed	Thurs	Fri	Sat	Sun	Mon
Days	46	64	204	1756	413	163	75
Percent	2	2	7	65	15	6	3

While Table 5 shows just the blunt maximum or minimum number of moths caught in one night Table 6 shows the number and percentage of recorders per region as well as the total number of moths caught by their recorders expressed as size classes. These range from less than 10 moths per recorder to greater than 500 moths.

Table 6. GMS 2021 Q4 - Regional Recorder Size Distribution

Region	**Recs**	**% Total Recs**	**≤10 moths**	**≤50 moths**	**≤100 moths**	**≤500 moths**	**>500 moths**
SC	29	8	0	0	26	3	0
NE	31	8	1	5	16	9	0
Y&H	20	5	2	8	10	0	0
NW	44	12	2	4	11	24	3
IRL	23	6	0	7	0	15	1
EE	39	11	0	2	3	30	4
EM	40	11	0	1	1	29	9
WA	39	11	0	3	6	26	4
WM	29	8	0	2	3	21	3
SE	36	10	0	3	2	28	3
SW	39	11	1	3	33	2	0

Additional Species

The lower part of the form is to input other moths caught in the GMS trap that are not in the core and regional species list. This quarter, there were over 513 rows of data coming from all of the regions giving a total of over 1522 moths of 193 species of both micro and macro moths, assuming of course that the identifications are correct.

Some of these may actually be duplicated up to three times when one recorder identifies it as the species whilst others record it as a sp. or an agg. Table 7 below lists the top 20 moths from the section for this quarter. "R" identifies it as a regional species and is actually included in their upper section. The Boxworm / Box-Tree Moth was the main species caught especially in the East of England and South West, no doubt ably assisted by garden nurseries selling infested shrubs.

Table 7. GMS 2021 Q4 – Additional Species

Latin/Vernacular	Total	SC	NE	Y&H	NW	Irl	Wa	WM	EM	EE	SE	SW
Boxworm Moth	588	0	0	7	2	0	0	2	1	361	1	214
Pine Carpet	25	0	0	0	1	0	8	2	1	13	0	R
Eudonia angustea	55	0	0	0	7	1	8	10	10	18	0	1
Bryotropha domestica	5	0	0	0	0	0	0	0	0	5	0	0
Red-Green Carpet	8	0	0	0	0	0	0	0	0	4	0	4
Large Ranunculus	34	0	0	0	0	0	12	0	6	6	R	10
Spindle Ermine	14	0	0	0	0	0	3	1	0	3	0	7
Lunar Yellow Underwing	3	0	0	0	0	0	0	0	0	3	0	0
Ermine moth	2	0	0	0	0	0	0	0	0	2	0	0
Agonopterix alstromeriana	5	0	0	0	0	0	0	0	0	3	0	2
Cochylis dubitana	4	0	0	0	0	0	0	0	0	2	0	2
Streak	5	0	0	0	0	0	0	2	0	3	0	0
Acleris sparsana	44	7	4	1	6	1	2	5	6	2	1	9
Cochylis hybridella	4	0	0	0	0	0	0	0	0	2	0	2
Feathered Gothic	24	0	R	R	0	0	18	2	1	3	R	R
White-line Dart	2	0	0	0	0	0	0	0	0	2	0	0
Common Plume	1	0	0	0	0	0	0	0	0	1	0	0
Coronet	3	0	0	0	0	0	0	2	0	1	R	R
Ypsolopha sequella	6	1	1	1	1	0	0	0	0	1	1	0
Agonopterix arenella	5	0	0	1	0	0	1	0	0	2	0	1

This quarter also saw the capture of 6 Clifden Nonpareil. We caught our second ever Clifden Nonpareil two years almost to the week after our first one, which incidentally was the first for the county. I spotted it high up on our gable wall above the moth trap and as we were late for leaving on a cross country trip, we called in our county recorder in the next village. He quickly came up muttering something about my skills in identification. On seeing it he was up the ladder like a ferret after a rabbit. We then left leaving him to enjoy the spectacle before releasing it later that night. This time we were not alone as a few days later one was found resting at Devil's Bridge, not too far from us. Then, bracketing these dates, two moths were caught just south of VC46 near Cardigan.

While occurrences of this magnificent moth are rare up here in Mid Wales, they are more common further south as shown by catches this quarter in the West Midlands where Stephen Mitchell caught the only one known recorded this year in his region. In the East of England Andy Musgrove was one of three recorders to catch one. Regional coordinator, Peter Lack, another recipient of the "Clifden medal" said that there have been comments in the Suffolk Facebook group about recorders joining the Clifden Club and their website shows they are widespread and now resident in East Anglia. Finally, in the South West, Bill Quantrill caught his first one after trapping for 20 years and then caught another three days later. The regional coordinator, Bob Smith said he first saw one in 2019 and since then has caught four more.

Bob Smith

Andy Musgrove

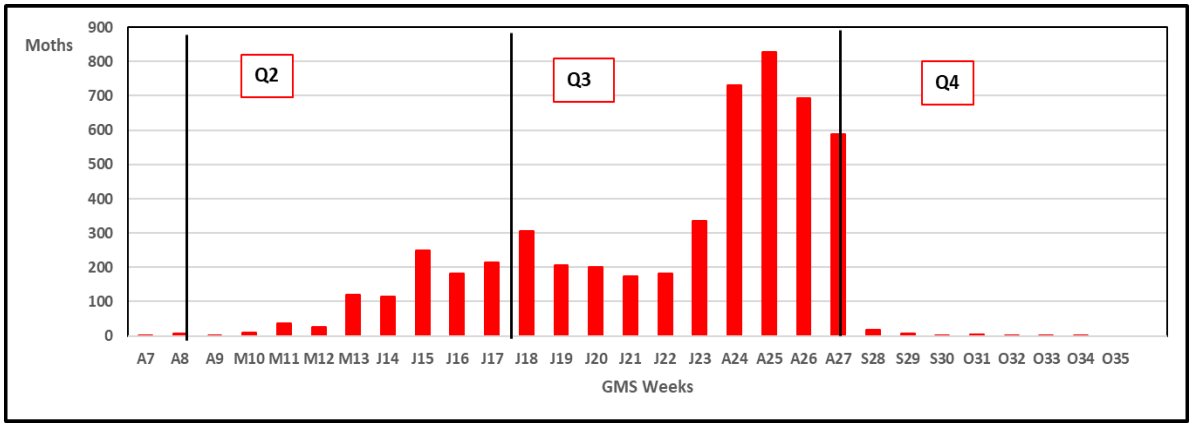
Follow Ups

In earlier reports this year I described both the Flame Shoulder and the Flounced Rustic whose flight periods outspan the two-month quarter and so I have produced charts showing their complete flying season this year.

Flame Shoulder

This moth, featured in the second quarter, mentioned that it has two generations flying in May & June and again in August & September. This is borne out in figure 13 with adults appearing in April and a continuous presence with two peaks until September when the adults almost completely disappear.

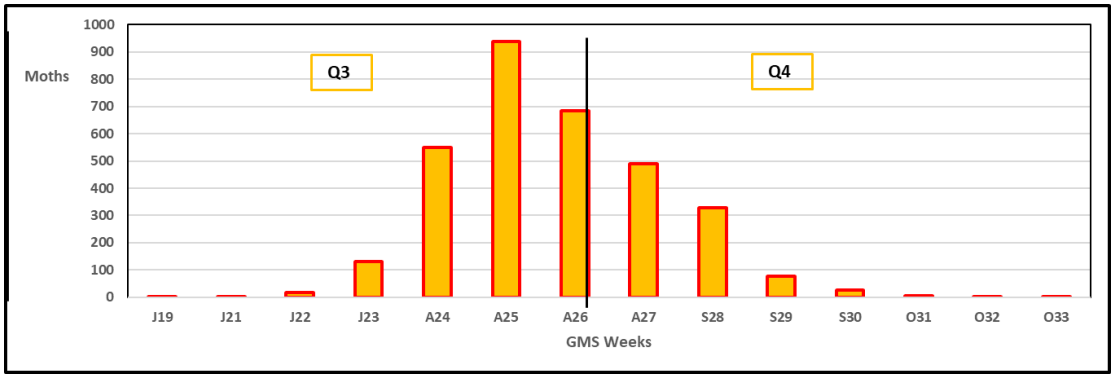
Fig 13. GMS 2021 Q4. Flight Period of the Flame Shoulder in 2021



Flounced Rustic

Similarly, I have shown the full flight period of the Flounced Rustic which tails off in the fourth quarter.

Fig 14. GMS 2021 Q4. Flight Period of the Flounced Rustic in 2021



The Snout (*Hypena proboscidalis*)

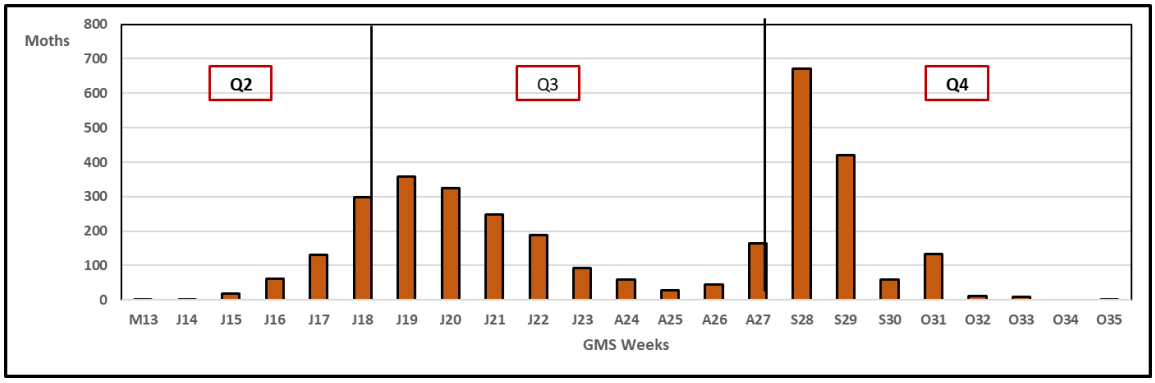
The Snout, so called because of its long nose or palps, was first described by Franz von Paula Schrank in 1802. *Hypena*, from the Greek *Hypene* meaning a moustache or beard from the setose (bristly) labial palps and *proboscidalis* from *proboskis* (Linnaeus) from its long porrect (stretched out) labial palps, suggesting an elephant's trunk.

Formerly a member of the Noctuid family, it has now been reclassified in the family Erebidae, sub-family Hypeninae. It is a widespread moth throughout most of Britain and Ireland wherever its foodplant, Common Nettle, occurs. Its long-term trend shows a small but significant increase and the species has colonised Shetland and the Outer Hebrides. Since the 1970's a second brood has occurred more frequently and further north (Atlas of Britain and Ireland's Larger Moths).

The moth is unmistakeable because of its long snout. It has a distinctive delta shape with broad fore-wings, slightly hooked at the tips and cross-lines variable in colour from brown to dullish grey-brown. The second-generation moths are considerably smaller and often darker.

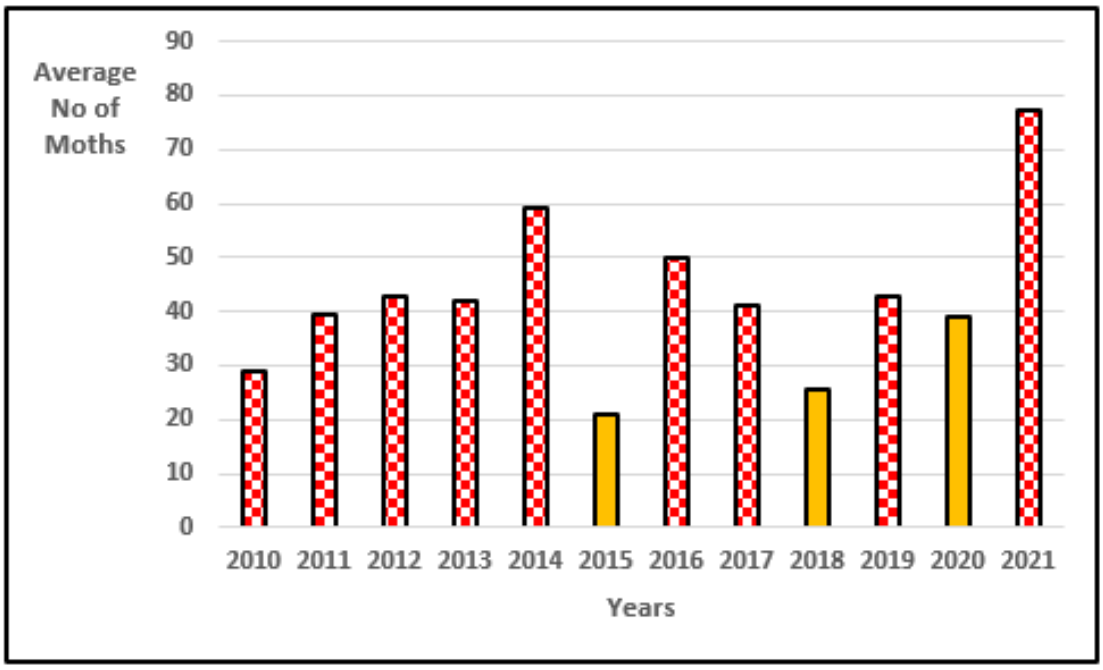
It can be found in numbers around dusk flying over patches of nettle and is a common visitor to the light trap. It is on the wing from June to August and again later in autumn (August to October). It overwinters as a larva (August to May) and, again as a second-generation, July to August. It feeds at night and hides between spun leaves of the foodplant during the day. It pupates in a cocoon formed among the nettle leaves.

Fig 15. GMS 2021 Q4. Flight Period of The Snout in 2021



The average numbers for The Snout in Q4 from 2010 show a varied pattern with this year being the best of the bunch and the hatched years showing when it featured in the top 20 moths (fig 16).

Fig 16. GMS 2010 - 2021 Q4. Average Numbers of The Snout 2010 – 2021



Scheme for Lending Moth Traps in the North East

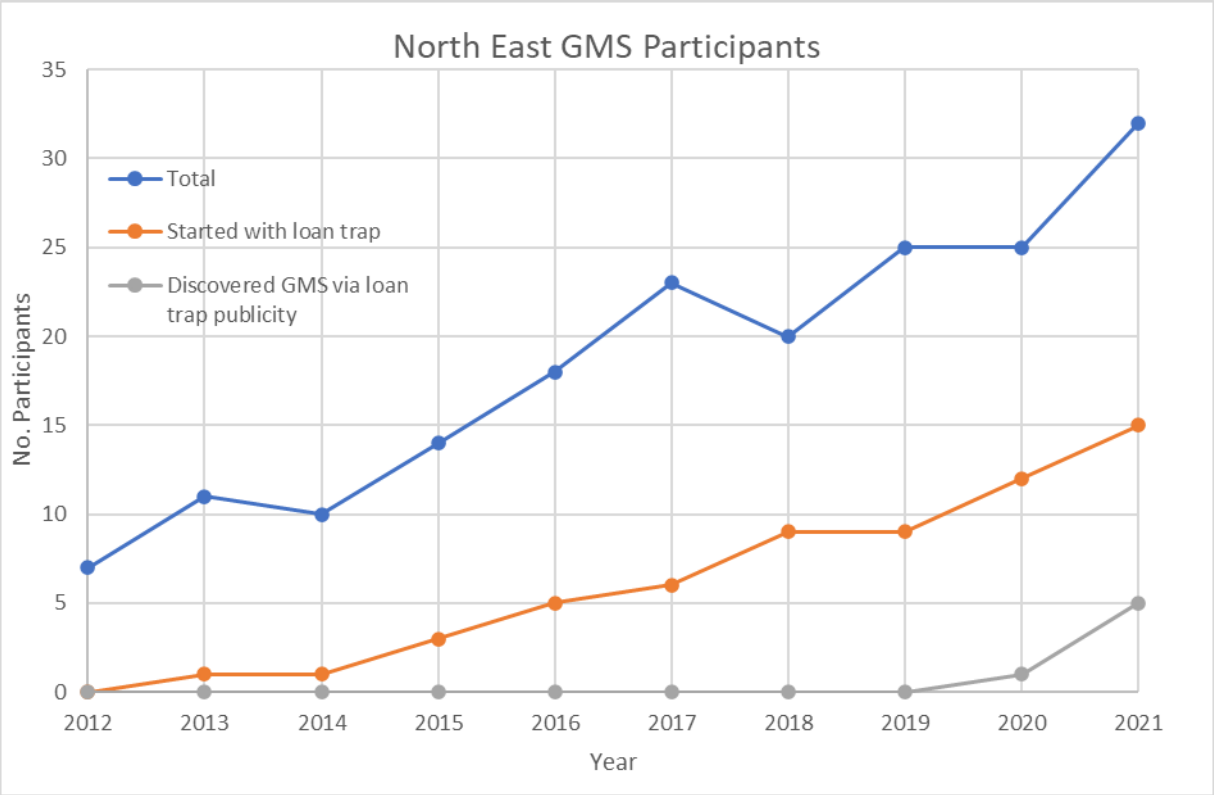
Mike Cook - Garden Moth Scheme North East England Coordinator

This article is a follow up to one I wrote in 2016 for the Quarter 3 Newsletter. It's all about how we created and extended a scheme to lend out moth traps in the North East. Five years later, I thought it would be interesting to review how the scheme had progressed.

At the end of the 2011 GMS I was asked if I would be willing to take over from Tom Tams as North East England Coordinator. My first task was to allocate two moth traps that had been donated to the GMS by Anglian Lepidopterist Supplies (ALS). The terms were that on completion of a year's trapping, and the submission of a valid data set to the GMS, ownership of the trap would be transferred to the recipient. I thought at the time that this was not an efficient way to try and encourage people to trap moths, but, being only months into the job, I did not want to rock the boat.

To see if a year's loan of a trap might be enough to hook people on moth trapping, we bought a second electric set to go with our original unused trap and, in February 2013, lent our old trap to friends, Lynda and Joe. By the autumn of 2013, they had submitted a valid data set and bought their own moth trap. Encouraged, we applied for a small grant from the North East Environmental Records Centre (ERIC North East) to buy a second loan trap. We were not awarded the grant but were encouraged to re-apply the next year, when we were successful. We lent our loan trap to another friend, Clive, for 2014, but unfortunately the experience was not what he expected and he did not complete the GMS.

By 2016, another three traps had been donated to the loan scheme, making five in total. We publicise the traps via the Natural History Society of Northumbria, ERIC North East, the Northumberland and Tyneside Bird Club and the North East England Branch of Butterfly Conservation. So far, we have always had more applications to borrow traps than we have traps to lend!



In 2020 something interesting happened. Someone contacted me who had a moth trap and had heard about the GMS because of the publicity that I circulated about the loan trap scheme. In 2021 another four participants joined the GMS for the same reason.
The bottom line is that in 2021, 20 of my 32 participants had joined the GMS because of the loan trap scheme! The percentage of North East participants in the GMS grew from 2.2% in 2012 to 8.4% in 2021. In my opinion, this growth was almost entirely due to the loan trap scheme.

I'm a GMS Regional Coordinator, but there is no reason that someone other than the Coordinator could not start a similar scheme in another region. It cost us £60 for an electric set to recommission our original trap, but with that trap now with its fourth recipient, we consider the money well spent. Why not investigate small grants available in your area? There are other sources than your Local Environmental Records Centre, for instance in the North East, Northumbrian Water make small grants available to the community.

Yorkshire's Flying Carpets

David Baker

This is no "Ali Baba" flight of fancy, but an updated version of a short article written for a non-moth oriented audience some years ago. I am not "trying to teach Grandma to suck eggs" as they say but we, thankfully, always have some relatively new recorders with us and the Editor does require some newsletter content. There are 53 British species of moth carrying the name "Carpet", 34 of them are on the Yorkshire list and I have been fortunate enough to have found 21 in my own moth trap over the last twenty-two years.

But why "Carpets"? Was it thought that their larvae caused damage to carpets in a similar way to clothes moths or is it that the wing markings resembled the patterns on the brightly coloured carpets being brought into the country in the eighteenth century? I prefer the second version. However, I can find no reference to this fact in any of my books on the subject. The earliest written reference to "Carpet" I can find is in 1894 and even though paintings of 1762 illustrate the moths by their vernacular names the texts have now been so modernised that any possible previous written references are removed. (*This inspired me to search through my collection of old moth books without success – Ed.*)

The most likely find around our homes and gardens is likely to be the well distributed Garden Carpet. It rests on garden walls and fences almost anytime between mid-April and October and there can be three overlapping generations in this species. A small greyish and black moth does not sound colourful, but surely even this most common of moths is a good-looker!

Garden Carpet

Common Carpet

Two more widespread moths with long flight periods are the Common Carpet and Silver-ground Carpet. Both are regular day-fliers and can be disturbed from their resting places in rough vegetation and woodland scrub on bright days from May to August. Both appear similarly light coloured when flushed, but with care they can be followed to a new resting place and identified. They are also regular visitors to my garden moth-trap throughout the summer months.

Silver-ground Carpet

Blue-bordered Carpet

The attractively well-named Blue-bordered Carpet is more elusive, it being a moth of damper woodlands with a particular liking for Red Campion, but it also is attracted to light and is a welcome garden visitor in very small numbers most years, although I have only caught it over a short 5 week period late June through July.


Common Marbled Carpet


Common Marbled Carpet

From my records the Common Marbled Carpet has probably the longest overlapping flight period of all the carpets but this is discounting the odd ones which hibernate during the winter. It's most usual form with me has a large expanse of light brown scales on each wing, although I do catch reasonable numbers of the darker version, as shown above, alongside the open-patched one. The adult flies in early summer (from mid-May), with a second generation in early autumn. My latest being mid October. It is attracted to bright lighting and settles on walls, windows and fences. I had hoped to catch the very similar Dark Marbled Carpet at home but have not yet found one I can be clearly confident in identifying.


Dark Marbled Carpet


Broken-barred Carpet

However, I did manage to trap one on an evening trapping session near Ingleborough, just nicely inside the border with Lancashire in 2016 but never a specimen so clear at home. A species I have found at home on only two occasions, with a 17 year gap, is the Broken-barred Carpet. A single brood species with a short flying season.


Scorched Carpet


Water Carpet

I have only encountered the Scorched Carpet (above left), four times in my 21 years of recording moths. The first time, on a field trip, it flew before I could get a good shot but in 2006, at home, it was more amenable, or perhaps I was more patient, and I managed to do it justice using my, then, new digital camera. Individual specimens have graced the trap in 2018 and 2020. Although in the Geometridae family this moth is one of only 5 species carrying the name “Carpet” outside the Larentiinae sub-family, it and the four other non-Yorkshire dwellers being in the Ennominae sub-family. The Water Carpet is a fairly uncommon and local moth flying in April and May. I have only seen it twice, once at home and the other in a local nursery gardens where I trap once a month. It is usually found in damp woodlands but does, obviously, wander occasionally.

Beautiful Carpet

Sandy Carpet

Another “once only” moth for me in Yorkshire is the Beautiful Carpet, a moth of broad-leaved woodlands. This distinctive moth is set apart from other black and white carpets by lacking a central dark band. This specimen was caught in a local garden in 2004 on the same evening as the Sandy Carpet. However, I have had better luck with the Sandy Carpet, catching it in 4 separate years but with all dates spanning only 8 days from 29 May to 5 June. It is said to fly mainly at dusk with its main flight often completed before darkness sets in.

Oblique Carpet

Flame Carpet

The Oblique Carpet (above left) is bi-voltine in England and my catches appear to have been taken in each of these generations over 2 separate years, 2008 and 2009. In 2008 the specimen was, like me, almost past its sell by date and a little worn. However, with care I was able to differentiate it from the two fairly similar species of Oblique Striped and Many Lined. Further checking then showed that neither of these species is on the Yorkshire List, but wouldn’t we all like to find something extremely unusual or rare? The Flame Carpet, classed as common, returns most years but in decreasing numbers. This century the overall distribution and abundance of this species has shown to be increasing, but certainly not in my trapping area.

Green Carpet

Dark-barred Twin-spot Carpet

Back to the more commonplace! I find the Green Carpet a regular visitor into the garden every year and in fact 2021 brought along 54 sightings. This moth is at its best immediately after emergence as it fades very quickly to a much duller, almost pale yellow/whitish hue, although the particular pattern of the dark blotches makes it readily identifiable. The most common of the “twin-spots” for me is the Dark-barred Twin-spot Carpet flying from May to early September. This is a widespread species throughout the county but for me the numbers have dropped since 2018. Has my change to a “Blacklight” system caused this drop in numbers?

Large Twin-spot Carpet

Red Twin-spot Carpet

The Large Twin-spot Carpet, a broad-leaved woodland species ventured into my garden each year from 2007 to 2014 and has not been seen since, whilst another welcome visitor, the Red Twin-spot Carpet, was first seen in 2002 and then not again until its final visit in 2009.

Autumn Green Carpet

Red-green Carpet

Now for some Autumn moths. Firstly the Autumn Green Carpet which arrived at my trap in mid-October 2008. This was a real surprise visitor as it is not usual to find it at such a low altitude as Tadcaster, a mere 21 metres above sea level, its usual haunts being at upland

levels. But one of autumn's most regular visitors for me is the beautifully shaded Red-green Carpet, particularly splendid when freshly emerged from September to November. This species hibernates as an adult and in 2004, 2009 and 2017 I have sighted a single adult after emerging from the hibernation period in March and April.

Grey Pine Carpet

Pine Carpet

So let us now look at a final four species of carpets, all associated with conifers and some of which have possibly benefited from the regular planting of ornamental conifers in our gardens. This, I suppose, should be expected from their vernacular names. Firstly, the Grey Pine Carpet which is double brooded and fairly widespread in pinewoods. The first generations of both species appear in early summer but I am more likely to catch their second broods appearing in late September/October. The Pine Carpet is scarce and thinly populated in Yorkshire and my only sighting was in the wooded area surrounding the Yorkshire Air Museum at Elvington, near York.

Spruce Carpet

Juniper Carpet

As with the Grey Pine Carpet I am more likely to see specimens of the Spruce Carpet in their second brood from September onwards but have had the odd sighting in June. The numbers, however, are also dwindling. The second broods of the above species arrive alongside, or just before, their "cousins" the Juniper Carpet, a single generation species, which often spend days settled on the outside of my garage and dining-room walls. Their numbers have remained fairly consistent although I had wondered if they would be much scarcer now that many neighbours have cut down conifers in the area. Their disappearance in early November is, for me, definitely a prelude to winter and generally an end to my daily trapping sessions for around three months.

New species in my garden during 2021

Audrey Turner VC95

I've been moth trapping casually since 2007, and more regularly since joining the Garden Moth Scheme in 2011, and I'm surprised that I still find new species every year. Every year I start out thinking that I won't see anything different, or if I do it will just be some tiny, obscure micro.

With 16 new species in 2020, I wasn't really expecting much at all this year. However, I was surprised to get 9 new species in the year, 5 macros; Scarce Prominent, Shoulder-striped Wainscot, Vapourer, Mottled Umber and Northern Winter Moth and 4 micros; Holly Tortrix, Mother of Pearl, *Epinotia brunnichana* and *Bryotropha domestica.*

Scarce Prominent

Mother of Pearl

My garden is fairly small, towards the northern end of Aviemore, and light pollution has certainly increased since I first started trapping, there have been at least a couple of hundred houses built to the north of me since then as well. However, my garden backs onto a footpath which leads to mixed woodland and some grassy and heathery areas within a couple of hundred metres of the garden, which is where I suspect quite a few of the moths come from.

Experiences of a first year GMSer

Graham Fairs

I have had a life-long fascination with butterflies and moths but, in terms of the latter, tended to focus on the "crowd pleasers" of the hawkmoths and those I chanced upon in the garden or on walks, rather than actively seeking to attract and identify species. In part this was due to time constraints but, on retirement, I decided it was time to get a moth trap and see what was flying tonight. I joined the Garden Moth Scheme at the start of the season having purchased an Eco Robinson trap with 20W Blacklight.

I live on the North Northumberland coast (VC68) around a mile from the coast itself and with farmland to the rear. This land contained cattle on an infrequent basis and is generally grass, although there was an abundance of buttercups during a period of several weeks when no animals were present.

There is a streetlight on the road to the front of the property but the rear, where the trap has been sited, is reasonably dark. The back garden contains hawthorn, flowering plants such as lavender and catmint (which proved to be particularly attractive to Silver Y this year) and a nettle patch or two. There is also a small pond. The back garden faces west.

The trap was operated on each of the weekends through the GMS recording period although not always on a Friday. Decisions were made primarily on the basis of wind strength predictions due to the prevailing south-west direction, or excessive rain.

In total I recorded 488 moths of 83 species during the season. I perceive that this was relatively low compared to others in Northumberland and, subjectively, suspect that this may be due to the limitations of a 20W light and the adjacent farmland which is likely to be less attractive to feeding and breeding populations. Below is my species list (in order of trapping).

Hebrew Character	Middle-barred Minor	Lempke's Gold Spot
Early Grey	Elephant Hawk	Purple Thorn
Chestnut	Light Arches	Orchard / Willow Ermine agg.
March Moth	Peppered Moth (light form)	Small Square-spot
Clouded Drab	Grey / Dark Dagger	Crambus perlella
Common Quaker	Marbled Orchard Tortrix	Square-spot Rustic
Red Chestnut	Common Rustic agg.	Agriphila tristella
Heart and Dart	White-line Dart	Agriphila straminella
Common Pug	Marbled Minor agg.	Brown-spot Pinion
White Ermine	Willow Beauty	Light Brown Apple-moth
Common Swift	Mottled Beauty	Common Marbled Carpet
Small Square-spot	July Highflyer	Silver Y
Swallow Prominent	Drinker	Eudonia angustea
Coxcomb Prominent	Lychnis	Spruce Carpet
Bee Moth	Cnephasia agg.	Lunar Underwing
Clouded-bordered Brindle	Common Footman	Setaceous Hebrew Character
(melanic form)	Blastobasis adustella	Anthophila fabriciana
Large Yellow Underwing	Matilella fusca	Large Wainscot
Buff Ermine	Lesser Swallow Prominent	Green Brindled Crescent
Rustic Shoulder-knot	Rosy Minor	Red Line Quaker
Mottled Rustic	Orange Swift	Figure of Eight
Garden Grass-veneer	Shuttle-shaped Dart	Angle Shades
Bryotropha terrella	Flounced Rustic	Red-green Carpet
Riband Wave	Lesser Broad-bordered Yellow	Dark Chestnut
Dark Arches	Underwing	Rush Veneer
Spectacle	Lesser Yellow Underwing	Chestnut
Common Wainscot	Mother of Pearl	Garden Carpet
Brown House-moth	Plain Golden Y	
Cabbage Moth	Udea lutealis	

There were eight nil returns (5th and 12th March; 9th April; 7th, 22nd and 28th May; 31st October and 5th November).

One thing which I have to confess has taken me slightly by surprise, although in hindsight it shouldn't have, is the difficulty in identifying a number of "little brown job" species where there is significant variation in colour and markings. I have to thank a number of individuals and Facebook groups for helping with my self-doubt and misidentifications.

No rarities although the Large Wainscot was a little surprising taking account of the location. Absolutely no surprise was that Large Yellow Underwing was the highest number, 103, although I'm conscious that this is surpassed in a single night by some!

Beaded Chestnut at Old Quarrington County Durham

Richard Cowen

Beaded Chestnut is a common enough moth in England but the Atlas of Britain and Ireland's Larger Moths shows a distinct southern/midlands bias for it. I was not aware of this last year when I was sending my records to the County Recorder. My counts for the Garden Moth Scheme may have been quite modest at 2 on the 19 September, another 2 on 2 October and one on 16 October. However, those numbers (together with some recorded on other nights I put the trap out) were apparently on a par with records for the whole of County Durham each year.

So I looked forward with some anticipation to my records for the September/October period this year to see if this was replicated or if last year was just a "one off". So it was with some surprise that I recorded the following for Beaded Chestnut on nights for the GMS

-10 September 1
-17 September 8
-24 September 15
-29 September 2
-8 October 3

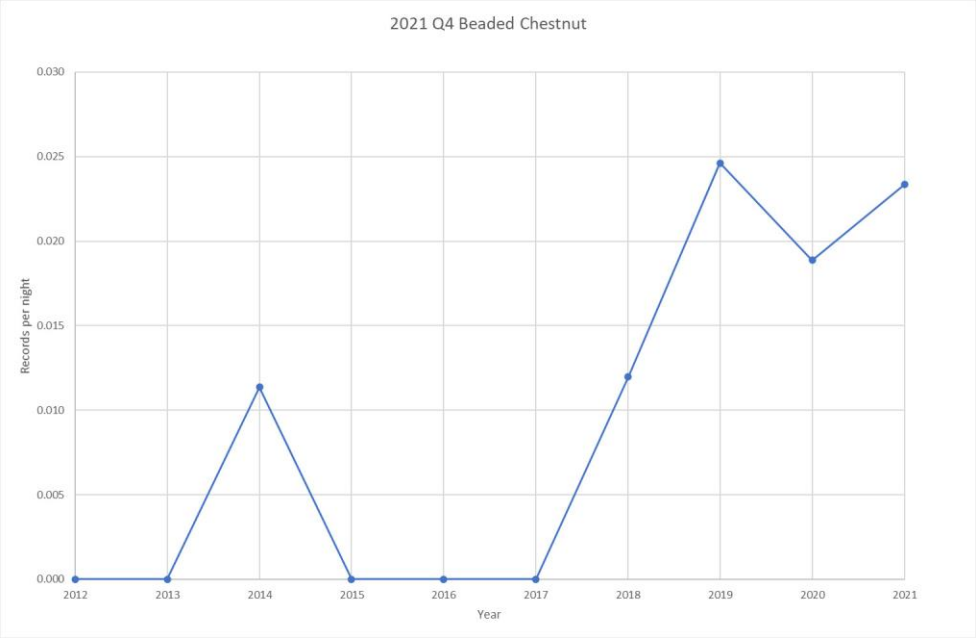
To this can be added the following counts when I trapped in a different part of my property, about 100 metres from the actual garden

-14 September 5
-22 September 9
-28 September 4
-6 October 2
-12 October 1

-

The attached chart shows the trends for Beaded Chestnut in the North East of England GMS records over the past 10 years. I have only been recording since 2019 (when I had 1 record of 2

Beaded Chestnut) but in 2020 and 2021 I am told I had 60% of the records (11 out of 18) and 75% of the individuals (36 out of 48) for the whole of the Region.



My home at Old Quarrington is close to the A1(M), about 5 miles SE of Durham city in the middle of County Durham. It is rural but so is much of the county. I cannot think of a reason why the numbers I have recorded should be significantly higher than elsewhere in the county or even the region. It will be interesting to see if these numbers are replicated next year.

Puzzle Corner

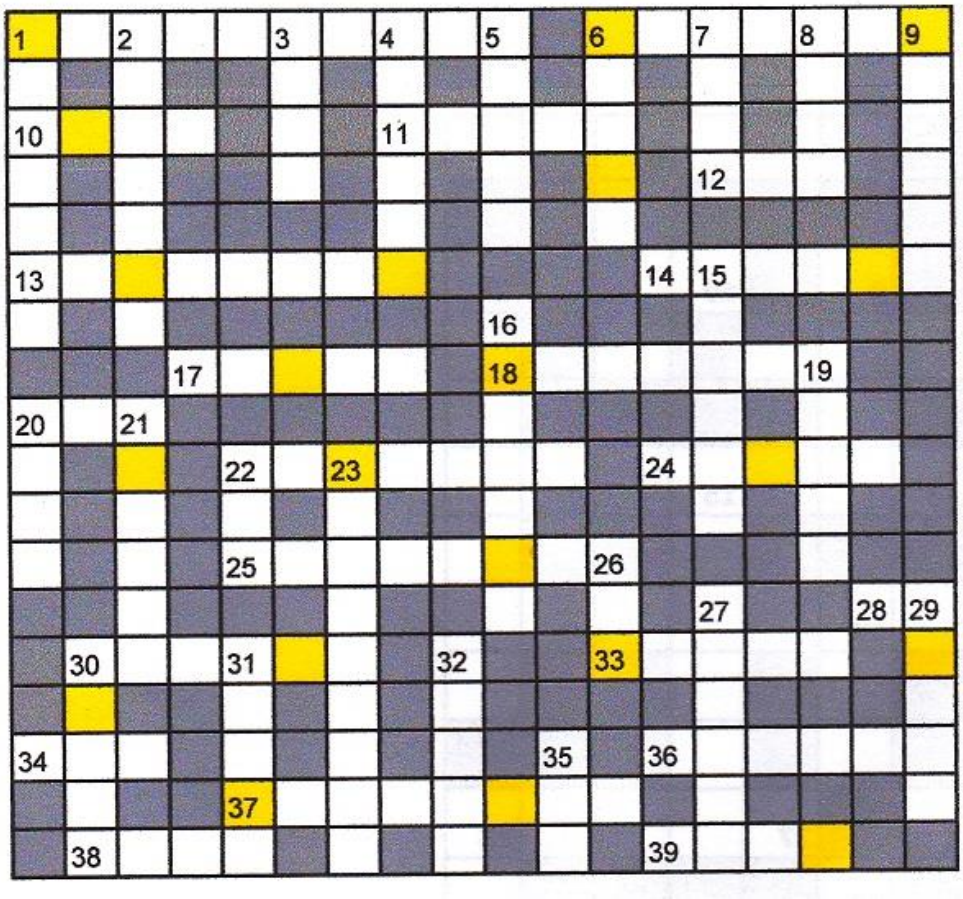
Lepidoptera Crossword No.17 Solution Nonconformist

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

The anagram is of a Willow-herb Hawkmoth.

Lepidoptera Crossword No. 18 Nonconformist

Answers are whole, or parts of, vernacular names of moths on the British list.
The letters from the yellow squares form the name of which British Moth?



Clues Across.

1. & 17a.My Aunt Lily places inert items in her trap to catch these.
6.A great supper can be found in many local habitats.
10 & 38a.Did this moth go around trying to sell Christmas trees?
11.When searching for this species I count ruins as being the best area.
12 & 39a,22a.I, when in my teens, struck out early for the woods and recorded this species.
13.A hen-bite within a sleigh may lead to this coloured, well liveried beauty.
14. See 8d.
17.See 1d.
18.See 30d.
20See 4d.
22.See 12a
24.See 9d.
25. Do predators like these moths plain or, as here, well seasoned.
28.The only species to fly in reverse?
30.A small rounded object which could stand out in a garden.
33.See 23d.
34.Will reach self-prominence starting in the Midlands and Yorkshire.
36.Epaulettes, panelling or even a hot-drink owned by a high politician?
37.Twenty cent huts can be produced either plain or dark.
38See 10a
39.See 12a

Down

1.& 35d.You could feed your guppy cress whilst looking for this conifer lover.
2.See 29d.
3 & 15d.The Romans would remove 5 from their ivory crusts to obtain this commoner.
4 & 20a,20d.In mid-summer a pond dip helps a lout dampen off whilst searching for this.
5.Sounds to be banished from Ireland, Man or Wight ?
6.The state of a usually resplendent attendant on a bad day.
7.Outstanding species in their one particular habitat.
8 &31d,14a.A scarce, but, great find if the bank-clerk cheats in your favour.
9 & 24a.When found, it was in ruinous form. A real mess!
15.See 3d.
16.Eventually the local yobs cured their obsession and left the panels behind.
19.Is it the aroma or individuality which attracts us to these very local specimens?
20.See 4d.
21 & 22d.Take a country walk for this little beauty rather than go to a pet talent show.
22.See 21d
23 & 33a.On a late shopping spree Herb spent Metro-money to help procure this species.
26.See 32d.
27.Very well liked in the woodland but thought to be a bit "non U".
29 & 2d.The Yorkie says to Paddy "I run lines tha' can't imagine" for this specimen.
30 & 18a.A good flowery purchase in the York Shambles Co-op helps us find this moth.
31.See 8d.
32 & 26dAn immigrant which should study trap lore before discarding its lustrous finery.
35.See 1d.

Tailpiece

In the last edition I promised to try to get the final 2021 newsletter to you all in time for Christmas. But with only a few weeks to go it seemed that I wasn't going to have enough material. However at the last minute several articles came in from northern contributors and in fact this edition has turned out to be quite an extensive and, I hope, an interesting one.

A Merry Christmas and a Happy New Year. And please keep safe.
Norman Lowe
norman@enviro-consulting.com

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 - we now have over 1100 'Likes'!
Facebook Group - https://www.facebook.com/groups/438806469608527/ - currently with more than 2200 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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