

GMS Winter News 2012/13



Winter trapping © Mark Evans

Welcome to the Winter GMS newsletter for 2012/13. This will be the last stand-alone Winter News; from 2014 the winter round-up will be incorporated into the GMS Annual Report. There will continue to be four newsletters at the end of each quarter of the main scheme.

Winter 2012/13 results

Heather Young

The overall situation

2012/13 saw more people than ever taking part in the Winter GMS, with 106 gardens returning results, just a few more than last year. Two people counted no moths at all, almost half were in single figures, and three made it into triple figures (although one had 99!), with the highest count coming from a garden in Wales with 190 moths.

Moth numbers were well down on last winter, with a decline of 42.4% in the overall average per garden; indeed the lowest of any of the five years since the winter scheme began. Winter Moth was this season's commonest moth, despite having its poorest winter since 2008/09.

The table below shows this year's top 20 with figures from the previous 4 years for comparison. Species in bold type were not amongst the top 20 last year, and all showed an increase in abundance while all of the other commonest species declined. In particular, Chestnut numbers have crashed, showing a 77% decrease year on year overall, with an even more dramatic decline in northern regions (-91% on 2011/12, and -97% on 2010/11).

ALL REGIONS	Average 2012/13 (106 Gardens)	Average 2011/12 (102 Gardens)	Average 2010/11 (97 Gardens)	Average 2009/10 (69 Gardens)	Average 2008/09 (44 Gardens)
All species	20.30	35.26	39.92	21.65	30.61
Winter Moth	2.69	3.25	4.92	2.75	1.84
December Moth	2.10	2.55	5.73	4.43	2.41
Light Brown Apple Moth	1.38	1.76	1.09	1.28	0.95
Mottled Umber	1.23	2.25	1.25	0.72	0.73
Feathered Thorn	1.20	2.96	1.22	1.07	0.95
November Moth agg.	0.96	1.04	0.31	0.64	0.39
Chestnut	0.89	3.87	3.33	1.70	2.48
Pale Brindled Beauty	0.84	1.73	1.92	0.86	1.70
Rusty-dot Pearl	0.78	1.09	0.53	0.65	0.25
Spruce Carpet	0.66	0.26	0.19	0.28	Not recorded
Red-green Carpet	0.65	0.93	0.52	0.67	0.48
Angle Shades	0.65	0.24	0.21	0.42	0.23
Yellow-line Quaker	0.59	1.14	0.94	1.28	0.80
Dotted Border	0.56	0.99	1.46	0.19	0.52
Black Rustic	0.41	0.08	0.07	0.03	Not recorded
Common Marbled Carpet	0.37	0.15	0.32	0.16	Not recorded
Blair's Shoulder-knot	0.36	0.11	0.13	0.12	0.11
Dark Chestnut	0.36	0.99	0.44	0.38	0.11
Silver Y	0.34	0.64	0.12	0.20	0.20
Red-line Quaker	0.28	0.22	0.25	0.30	0.16

Only 5 species were present at an average of more than one per garden, compared to 11 in 2011/12. Species dropping out of the top 20 were Spring Usher, Hebrew Character, *Tortricodes alternella*, Common Quaker, Large Yellow Underwing and Early Moth, probably reflecting the early onset of autumn and late arrival of spring.

The three species that have topped the charts for the last 3 winters have shown differing fortunes (Figure 1.). December Moth boomed in 2009/10 and 2010/11 but has had 2 poorer seasons since; Winter Moth peaked in 2010/11 but has maintained reasonable numbers; Chestnut peaked a year later and has dropped off dramatically in 2012/13.

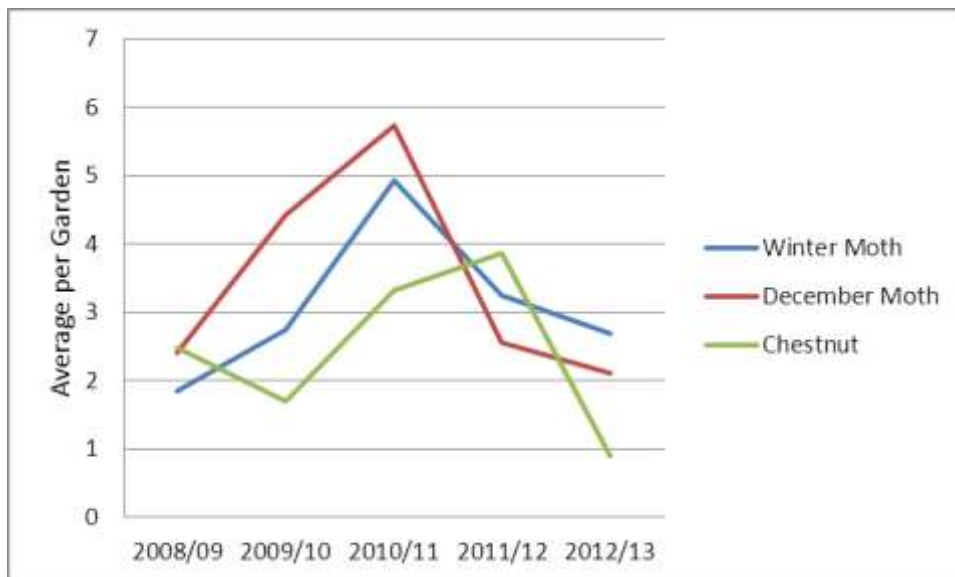


Figure 1. Annual fluctuation in numbers of three of our commonest winter moths.

Regional results

Regions have been combined into 4 areas as follows;

North – Scotland (SC), North-east England (NE) and North-west England (NW)

South – Channel Islands (CI), South-west England (SW) and South-east England (SE)

West – Ireland (IR), Wales (CY) and West Midlands (WM)

East – East England (EE), East Midlands (EM) and Yorkshire & Humberside (YH)



Chestnut © Ramsay Young

Recorder numbers were down slightly in the North and West, stable in the South, but increased from 11 to 20 in the East.

The following series of tables show the top 20-ish moths in the four areas, with figures for 2011/12 and 2010/11 for comparison.

NORTH (SC, NE, NW)	Average 2012/13 (9 Gardens)	Average 2011/12 (11 Gardens)	Average 2010/11 (7 Gardens)
All species	13.67	24.45	64.86
Pale Brindled Beauty	1.89	1.09	5.71
Mottled Umber	1.78	2.55	6.71
Winter Moth	1.22	4.55	7.29
December Moth	0.67	1.36	6.43
Spruce Carpet	0.67	1.00	0.14
Juniper Carpet	0.67	0	0
Yellow-line Quaker	0.67	0.18	0.43
Light Brown Apple Moth	0.56	0.73	0.14
Feathered Thorn	0.56	0.55	1.00
Chestnut	0.56	6.00	19.14
Angle Shades	0.56	0.18	0
Scarce Umber	0.44	2.00	1.86
Satellite	0.44	0.27	2.71
November Moth agg.	0.44	0.55	0
Red-green Carpet	0.33	0.36	1.00
Spring Usher	0.33	0.36	3.14
Early Moth	0.33	0.18	0.57
Common Marbled Carpet	0.22	0	0
Northern Winter Moth	0.22	0.82	1.00
Dotted Border	0.22	0.55	1.43
Blair's Shoulder-knot	0.22	0.18	0
Dark Chestnut	0.22	0.18	0
Nothing	10.78	10.82	9.57

Into the charts came Juniper Carpet and Common Marbled Carpet; out went *Tortricodes alternella* and Hebrew Character. Northern recorders again averaged almost 11 weeks with nothing in their trap. Total moth numbers were very low this winter, with the overall average down 44.1% on last year, and 78.9% on 2010/11. Pale Brindled Beauty took over the top spot despite no dramatic increase in numbers – other species like Chestnut, Mottled Umber, Winter Moth and December Moth did particularly poorly in the north, and only 3 species achieved an average of more than 1 per garden.



Mottled Umber © Ramsay Young

SOUTH (CI, SW, SE)	Average 2012/13 (41 Gardens)	Average 2011/12 (41 Gardens)	Average 2010/11 (46 Gardens)
All species	23.51	39.39	37.07
Light Brown Apple Moth	2.27	3.49	1.02
Winter Moth	2.22	2.15	5.65
Rusty-dot Pearl	2.02	2.54	0.74
December Moth	1.66	2.85	6.28
Feathered Thorn	1.34	3.49	1.93
November Moth agg.	1.15	1.10	0.50
Red-green Carpet	1.10	1.07	0.52
Chestnut	0.85	3.93	1.98
Silver Y	0.76	1.07	0.11
Spruce Carpet	0.73	0.10	0.11
Black Rustic	0.73	0.15	0.15
Yellow-line Quaker	0.63	1.88	1.50
White Speck	0.61	0.34	0.28
Angle Shades	0.61	0.34	0.35
Common Marbled Carpet	0.54	0.37	0.46
Mottled Umber	0.54	0.59	0.61
Blair's Shoulder-knot	0.46	0.15	0.15
Feathered Ranunculus	0.44	0.07	0.09
Ruddy Streak	0.41	0.12	0.02
Dotted Border	0.41	0.76	1.48
Dark Chestnut	0.41	0.98	0.43
Red-line Quaker	0.41	0.34	0.43
Nothing	9.27	8.24	8.59

There were a lot more changes in the charts in the south. In came Spruce Carpet, Black Rustic, White Speck, Angle Shades, Common Marbled Carpet, Blair's Shoulder-knot, Feathered Ranunculus, Ruddy Streak and Red-line Quaker. Out went Large Yellow Underwing, Hebrew Character, Common Quaker, Pale Brindled Beauty, Spring Usher, *Tortricodes alternella* and Early Moth. Three of those doing well – White Speck, Feathered Ranunculus and Ruddy Streak – appeared in the top 20 courtesy of only a few gardens, while the others were more widespread, both across the south and elsewhere. Recorders in southern regions experienced more 'blank' weeks than they have for the last 2 years, and the overall moth average was down by 40.3% on last year and 36.6% on 2010/11.



Angle Shades © Ramsay Young

WEST (IR, CY, WM)	Average 2012/13 (36 Gardens)	Average 2011/12 (39 Gardens)	Average 2010/11 (33 Gardens)
All species	24.58	38.36	46.88
Winter Moth	4.47	4.00	4.42
December Moth	3.58	3.18	6.18
Mottled Umber	2.44	4.33	1.33
Feathered Thorn	1.64	3.41	0.64
November Moth agg.	1.39	1.38	0.18
Pale Brindled Beauty	1.00	2.79	2.70
Dotted Border	1.00	1.51	1.73
Angle Shades	0.94	0.21	0.09
Spruce Carpet	0.89	0.31	0.36
Chestnut	0.89	3.85	2.76
Yellow-line Quaker	0.78	0.82	0.48
Light Brown Apple Moth	0.56	0.23	1.73
Red-green Carpet	0.53	1.18	0.55
Early Thorn	0.53	0.26	0
Scarce Umber	0.44	0.62	0.88
Dark Chestnut	0.42	1.00	0.55
Common Marbled Carpet	0.36	0	0.30
Black Rustic	0.33	0.05	0
Early Moth	0.31	0.79	0.85
Red-line Quaker	0.31	0.18	0.12
Nothing	9.03	8.38	9.12

Again there were a lot of changes to the top 20 in the west. In came Angle Shades, Spruce Carpet, Light Brown Apple Moth, Early Thorn, Common Marbled Carpet, Black Rustic and Red-line Quaker. Out went Spring Usher, *Tortricodes alternella*, Hebrew Character, Satellite, Clouded Drab, Common Quaker and Red Chestnut. Most of the more successful species also did well in other areas, and Early Thorn definitely seems to be emerging in greater numbers earlier in the year in the west. Western trappers had the fewest weeks of empty traps on average, but average numbers of moths were still down by 35.9% on 2011/12 and 47.6% on 2010/11.



Early Thorn – becoming earlier? © Janette Borwick

EAST (EE, EM, YH)	Average 2012/13 (20 Gardens)	Average 2011/12 (11 Gardens)	Average 2010/11 (11 Gardens)
All species	9.00	19.73	15.09
Light Brown Apple Moth	1.40	1.82	0.09
Winter Moth	1.10	3.36	1.82
Chestnut	1.10	1.64	0.64
December Moth	1.10	0.36	1.64
Pale Brindled Beauty	1.10	0.73	0.82
Feathered Thorn	0.40	1.82	0.09
Blair's Shoulder-knot	0.35	0	0.36
Angle Shades	0.25	0	0.09
Dotted Border	0.20	0.45	0.64
Mottled Umber	0.20	0.82	0.18
Satellite	0.20	0.18	0.27
Dark Chestnut	0.20	1.82	0.45
Scarce Umber	0.15	0.27	0
Sprawler	0.15	0.73	0
Yellow-line Quaker	0.15	0.45	0.27
<i>Tortricodes alternella</i>	0.10	0.91	0.36
March moth	0.10	1.36	2.55
Red-green Carpet	0.10	0.09	0.09
Common Marbled Carpet	0.10	0	0
Spruce Carpet	0.10	0	0
Spring Usher	0.10	0.73	0.45
Grey Shoulder-knot	0.10	0	0
Nothing	11.00	9.18	10.91

Into the charts in the east came Blair's Shoulder-knot, Angle Shades, Red-green Carpet, Common Marbled Carpet, Spruce Carpet and Grey Shoulder-knot. Out went Silver Y, *Diurnea fagella*, Hebrew Character and Early Moth. Recorders in the east consistently see the fewest number of moths in the winter, and even the healthy increase in the number of gardens sampled has not helped the overall average. Indeed it is the only area where 'Nothing' would outrank 'All species' (the overall average being down 54.4% on last year, and 40.4% on 2010/11), although the east did manage 5 species at an average of more than 1 per garden, two better than the north.

Many of the winter species can also be found during the main GMS recording period, but not all are included in the full list for every region. These species will be added to the main scheme lists for 2014 to ensure that the full flight period is covered. Likewise, some other species recorded by the main scheme appear during the winter period on a regular basis, and may be added to the Winter GMS list for next year.

Thanks as always to the recorders taking part in the Winter GMS; it can be rather disheartening to count nothing week after week, but the data is nonetheless extremely valuable.

South-West Winter Report 2012 – 13

George Davis

50% of recorders kept going after the dismal summer of 2012 – a great effort. As can be seen from table 2, average moth numbers, which are never high in the SW, were the lowest for four years. This probably represents the very poor autumn and start of the winter period in 2012 and the cold spring of 2013. The first two weeks and last two weeks of this period are when the majority of our moths are caught.

The two moths of the middle winter – December Moth and Winter Moth - appeared to have different fortunes. December Moths appeared to have declined in numbers and Winter Moth had average numbers. Last year there was some suggestion that good December Moth numbers are caught during the brief mild spells amongst much colder weather; the moths presumably choosing these spells to fly. This year it is my impression that there has not been such variation in temperature in the SW during their flight period and thus instead of short peaks of activity – which coincided with our trapping effort – they have had no peaks. The effect of this may account for fewer trapped moths or perhaps they did have a bad year.

Numbers of non-trapped weeks and blank weeks during trapping have been similar throughout the four years as can be seen from table 2.

Table 1 shows moth numbers [garden average] over the last few winters.

SPECIES	2009 - 2010	2010 - 2011	2011 - 2012	2012-13
Chestnut	1.1	2.0	4.2	0.5
Feathered Thorn	1.2	2.0	3.9	1.7
Light Brown Apple Moth. <i>E. postvittana</i>	1.7	0.9	3.4	1.4
December Moth	6.3	7.1	3.2	1.8
Yellow-line Quaker	1.4	1.6	2.1	0.7
Hebrew Character	0.1	2.0	1.6	0.3
Winter Moth	2.1	4.1	1.4	2.1
Common Quaker	0.0	2.6	1.3	0.2
Pale-Brindled Beauty	0.3	1.1	1.2	0.3
November moth Agg	0.8	0.5	1.2	1.2
Spring Usher	0.0	0.4	1.1	0.0
Rusty Dot Pearl – <i>Udea ferrugalis</i>	0.3	0.4	1.0	1.2
Red-green Carpet	0.9	0.5	1.0	0.8
Dark Chestnut	0.4	0.2	0.8	0.3
Dotted Border	0.1	1.3	0.6	0.3
Mottled Umber	0.2	0.5	0.5	0.3
<i>Tortricodes alternella</i>	0.0	0.3	0.5	0.1
Early Moth	0.2	0.7	0.4	0.1

Table 2 shows the number of recorders per winter [column 1], % of non-trapped weeks/winter [column 2] and the average number of nights trapped with no moths/per recorder/per winter [column 3]. Column 4 is the percentage of blank trapped nights over the winter season. Column 5 is the average per garden.

YEAR	Column 1	Column 2	Column 3	Column 4	Column 5
2012-13	29	5.8%	9.6	60%	21 moths
2011-12	34	3%	8.6	54%	34 moths
2010-11	37	6.3%	9.2	58%	32 moths
2009-10	28	5.7%	10.5	66%	20 moths

GMS Annual Conference

The 2013 MapMate-sponsored GMS Annual Conference was held on Sunday 3rd March in Antrobus, Cheshire, and was well attended by moth enthusiasts representing most, but not quite all, of the GMS regions. David Price's report on this will appear in the spring newsletter, and the 2014 event will be held on Sunday 2nd March, this time in Leicestershire.



Clearly mesmerised conference delegates © Elisabeth Price

Citizen Science

Dr. Adam Bates

(OPAL and the University of Birmingham)

Bates et al. (2013) was published in the March edition of the catchily-titled Dutch journal *Entomologia Experimentalis et Applicata*. This is the first publication of GMS based research in an international publication with an academic focus, detailing the steps taken by the GMS to ensure data quality and the effect that trap and bulb type have on catch. It should hopefully be the first of many such publications as researchers at the University of Birmingham, and hopefully other institutions in the future, continue to analyse this burgeoning dataset. A fuller summary of the findings of the paper will be given in the summer newsletter, but for now I thought I'd provide a quick synopsis of the level of effort that went into gathering the 2010 dataset used in the analysis.

The strength of 'citizen science' is that datasets can be gathered of a size and scope far larger than would be possible with professional scientists alone. The 314 active GMS participants provided something like 21,000 hours of recorder effort in 2010. This gathered over half a million moth records over a very wide geographical area. Despite the effort needed to get up and work early every Saturday morning for an average of 33.6 weeks out of 36, weekly data returns were pretty much always greater than 90%, which shows an impressive level of dedication. Data returns were lowest not during periods of good weather, when people might be expected to take holidays, but in periods when average moth catch was poorest. This suggests that traps were less likely to be run in poor weather conditions. Later analyses may well investigate the effects of weather on catch, so please do run traps even when catch is likely to be poor. In science, 0's are important!

A quick back of envelope calculation of the value of this dataset; assuming a post-doctoral student works 8 hours a day, 5 days a week, for 47 weeks of the year (we wish) gives us 1880 hours of student effort per year; assuming a rolling sampling window and the ability to be at 30 places at the same time, 11 students would be needed to do the same amount of work accomplished in 2010. If we very conservatively assume absolutely no overheads or travel costs at £30,000 per head, this is £330,000 worth of research in one year! Citizen science is very valuable, and amongst citizen science projects the GMS provides some of the very highest quality data. So pat yourselves on the back and please keep up the good work.

Bates AJ, Sadler JP, Everett G, Grundy D, Lowe N, Davis G, Baker D, Bridge M, Clifton J, Freestone R, Gardner D, Gibson C, Hemming R, Howarth S, Orridge S, Shaw M, Tams T & Young H (2013) Assessing the value of the Garden Moth Scheme citizen science dataset: how does light trap type affect catch? *Entomologia Experimentalis Et Applicata* 146: 386-397.

GMS Extras

Website: <http://www.gardenmoths.org.uk/>

Are you aware that there are now 3 Moth Tips leaflets available to download from the OPAL page of the Natural History Museum website? Just follow the link from the Downloads section of our own GMS website – lots of other interesting stuff on there too!

Chat room / e-group

We have a very active GMS members' forum where you can ask questions, post photos for help with identification, see what other people are finding in their traps, or just generally keep in touch with like-minded moth enthusiasts across the UK and Ireland. Ask your area coordinator for an invitation – an essential anti-SPAM measure – and join the fun.

Social networking



There is now a **brand new** Garden Moth Scheme Facebook page where you can post photos and comments and generally keep tabs on what other moth fans are talking about – please ‘Like’ us! If there is anyone out there who is a compulsive Tweeter or Blogger, why not volunteer to spread the word on the GMS across the whole wide world?

Database access

We are currently working on a protocol for access to the GMS database – as this grows, so will the interest in utilising the quality data it contains. As a consequence there will be a need for a mechanism for managing access, primarily to avoid duplication of research. This will (probably) take the form of a simple registration form to give an indication of the area(s) of interest and the expected outcome of the research. We stress that this will not be used to block access to people who have an interest in the data we have all been involved in collecting.

Area coordinators

As there have been quite a few changes to the coordinator team for 2013, here is a reminder of who you should make your first point of contact in all aspects of the GMS, depending on where you run your trap:

Region	Coordinator	E-mail address
Ireland	Don Hodgers	hedesore@gmail.com
Scotland	Heather Young	heather.young@tiscali.co.uk
Wales - Cymru	Norman Lowe	Norman@enviro-consulting.com
South-west England	George Davis	george.w.davis@lineone.net
South-east England - Overall	David Gardner	davidcgardner@farming.co.uk
SE – Berkshire, Buckinghamshire, Oxfordshire & Surrey	Janet Cheney	janet.cheney@btinternet.com
SE – Hampshire, Sussex & Isle of Wight	Martin Ellis	martin.ellis29@yahoo.co.uk
SE - Kent	David James	d.james@ssesurf.co.uk
East England	Len Britton	lensxoik@hotmail.co.uk
West Midlands - Herefordshire	Robin Hemming	robinhemming@btinternet.com
WM – Staffordshire & Shropshire	Mark Shaw	markshaw7@btinternet.com
WM – Worcestershire & Warwickshire	Stephen Howarth	stephen.howarth4@virgin.net
East Midlands	Roger Freestone	roger@freestone500.freereserve.co.uk
North-west England	Steve Orridge	steve.gms.nw@gmail.com
Yorkshire & Humberside	David Baker	d.baker99@mypostoffice.co.uk
North-east England	Mike Cook	michael_j_cook@btinternet.com
Channel Islands	Dave Grundy	dgcountryside@btinternet.com
Isle of Man	Steve Orridge	steve.gms.nw@gmail.com



December Moth © Ramsay Young

Crossword

Thanks once again to Nonconformist for another cheeky little puzzle – solution will appear in the Spring newsletter.

LEPIDOPTERAN CROSSWORD 3

By Nonconformist

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1 Across	I am never sure about this moth when found in the trap.	(9)
6	See 26a	(5)
8	Mrs Thatcher's implement would stand out well for a moth.	(4)
9	See 4d	(7)
13	Autumn immigrant misruled with it's simple, plain features.	(8)
14	See 17d	(4)
15	This small moth though noble, ached to be less colourful.	(8)
20	Lepidoptera don't have one of these. Pardon?	(3)
21	See 4d	(4)
22	3a could be have been termed one of these by BEA, BR and LNER.	(9)
25	Rare immigrant from ancient Rome, perhaps.	(5)
26 , 23 & 6.	Ordered around by a bland sergeant this moth shows it's true colours.	(6,3,5)
29	Very likely to dash about with 35a.	(4)
31	See 24d.	(3)
33 & 19	You could find this woodlands species in your garage:OK?	(3,5)
34	Would you give two beans for this beautiful blended moth?	(5)
35	The artistic southerner is at the centre of all things.	(5)
36	Could follow 24 and 37 given a couple of shouts.	(6)
37	Jack, editor of newsletters throws away citrus in all its stages.	(7)
1 Down	I turn cousin into an enjoined countryman.	(5,6)
2	Is it silver, buff or just a mackerel sky?	(7)
3	An attendee at a GMS AGM is likely to be one of these migrants.	(9)
4 , 21 & 9.	Hazel sat on the grass considering ten routes stuck on the road.	(3,4,7)
5	Possibly related to a tiny miller but would rather salute with a goodbye.	(5)
7	Put another one in the megera, so said a pop group.	(4)
10	See 17d.	(5)
11 & 18.	Like chocolate the dark variety has a York stronghold.	(8,6)
12	With 18 we see Inca, Lillitupian and Aztec signs going back for this moth.	(5)
16	This newscarrrier could well wear the colours of 26a	(6)
17, 10 & 14.	A southern species found when avocets reward me with good views.	(6,5,4)
18	See 11	(6)
19	See 33.	(5)
23	See 26.	(3)
24 & 31	Kept out this colour repeatedly.	(6,3)
27	A flyer confined to grassy haunts....	(5)
28	...but we may find a dull coloured ogre yet!	(4)
30	A moth of the computer age.	(3)
32	Needed to be in cop, but women can give an answer.	(3)

Bug surveys 2013

Dr Scott Shanks

Buglife Project Officer (Scotland)

If you're out and about in the field this year, why not keep an eye out for other distinctive six-legged creatures and help fill in some recording gaps. Buglife Scotland are running three in particular this year:

The **Scottish oil beetle survey** - the beetles are out from March to July and are good indicators of quality wildflower-rich habitat supporting solitary bees. The main page for submitting records is:

<<http://www.buglife.org.uk/getinvolved/surveys/Oil+Beetle+Hunt/Oil+Beetle+Hunt+-+Submit+results.htm>>

A national **ladybird survey** in Scotland; there aren't that many ladybird records in Scotland which is pretty shocking for such an easily identified (generally!) group. There's a great record-based page for submitting data - you click on the map and enter details, but this also has images of different forms of various ladybird species so you can choose how many of each you saw. You can upload photos too (ideally needed for verification). Nice and easy - something anyone can do!

< <http://www.ladybird-survey.org/bbc/ladybird.php>>

The final survey would be perfect for moth recorders - it's a **Scottish Glow-worm** survey (although records from other parts of the UK are good too!) It will be promoted as a postcard survey with a webpage on the Buglife site for submitting data. The site will likely be activated in May. The wingless females glow from late June through to August. They tend to climb up grass stems and start glowing about 10pm – midnight. The males look like normal beetles with big eyes and are attracted to lights. Glow worms tend to be found in areas that are good for snails as that's what the larvae eat (adults don't eat). So limestone outcrops and quarries might be good if people are out trapping - keep an eye out for glow-worms.

Of course, Scotland doesn't have a monopoly on Bug Surveys – check out the Buglife website and follow the links to any that take your fancy, from Hornet hoverflies to the OPAL Bugs Count:

<http://www.buglife.org.uk/getinvolved/surveys>



Orange ladybirds © Heather Young

And finally.....

A reminder of the perils of winter mothing!



Extreme winter mothing © Patrick Clement

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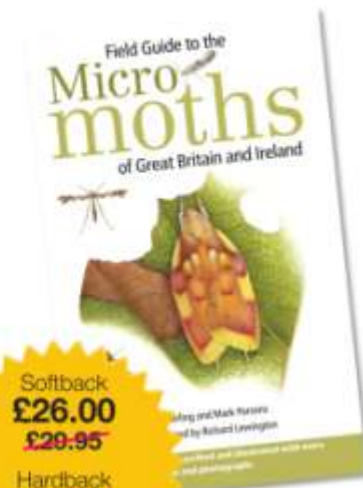
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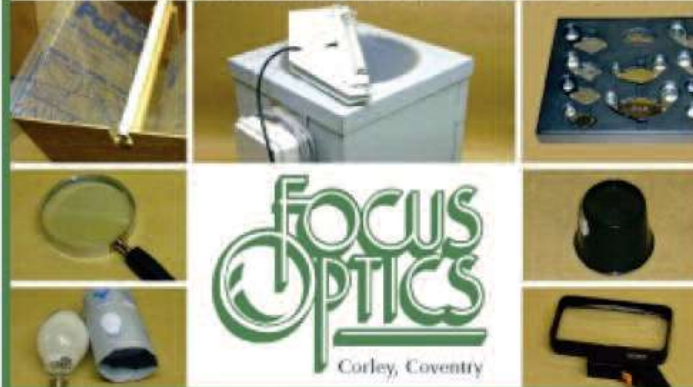
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