



DEVON MOTH GROUP

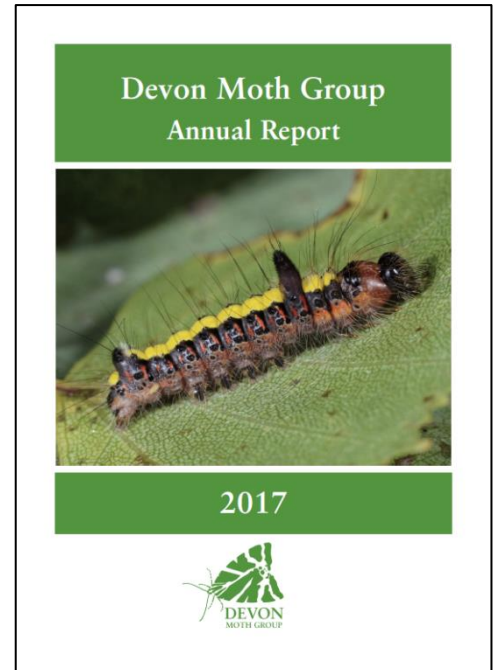
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It has been a cold spring so far with snow and below average temperatures, with the exception of a couple of notable heatwaves. If the butterflies are a reliable guide then the emergence of moth species are probably running a week or two later than average for this century.

The Devon Moth Group Annual Report for 2017 has now been published and distributed to members. The report summarises a record-breaking number of sightings – nearly 64,000 moth records for the year submitted by over 220 DMG members, local naturalists and visiting moth enthusiasts. Highlights included records of three micro-moth species never previously recorded in the county, *Lyonetia prunifoliella*, *Tuta absoluta* and *Coleophora alcyonipennella*, the best ever year for *Catocala fraxini* Clifden Nonpareil and the joint best year for *Cyclophora ruficiliaria* Jersey Mocha, both of which may now have colonised parts of Devon. Other exciting sightings included the first *Synanthedon culiciformis* Large Red-belted Clearwing record for 20 years, the second and third ever Devon records of *Cepphis advenaria* Little Thorn, the second ever record of the immigrant *Chrysodeixis chalcites* Golden Twin-spot and the first North Devon record of *Photedes fluxa* Mere Wainscot since 1960. Many thanks to everyone who sent in 2017 sightings and to Barry Henwood, the County Moth Recorder, and his team of helpers for collating and verifying all the data! All of the records are shared with the Devon Biodiversity Records Centre and the National Moth Recording Scheme.

Richard Fox



One of two *Eupithecia venosata* Netted Pug caught on 21st April on the coast near Noss Mayo (Phil Barden)

Members of Council: Nicola Bacciu (Membership & Distribution) Phil Dean (Ordinary member) Richard Fox (Chairman)
Barry Henwood (Recorder) Roy McCormick (Secretary/Treasurer) Rob Price (Publicity) Rob Wolton (Conservation)

www.devonmoths.org.uk

Indoor Meeting Report: Spring Meeting, the Kenn Centre, Kennford, 29.3.2018

Micro Magic by Bob Heckford and Stella Beavan

Bob and Stella are well known for their astonishing field work. The talk centred on some examples of their remarkable discoveries. It started with an account of *Argynnis paphia* Silver-washed Fritillary, which Bob had seen ovipositing, unusually, on the tip of a conifer in his garden. He showed very clear photos of the egg, first instar and final instar larvae. They then showed a first instar larva of *Arctia caja* Garden Tiger, which resulted from a batch of eggs found on Blackthorn. Straying away from Lepidoptera they showed a fly larva found mining the leaves of bamboo in a garden centre and an Egyptian locust found amongst the same plant.

Then for the micro-moths. It is difficult to do justice to such a wonderful presentation in a short summary but below are some examples of what they told us. They described finding the larvae of *Eulamprotes wilkella* feeding on moss, in contrast to what for a long time had been thought to be the foodplant – Common Mouse-ear. They told us of finding larvae of *Chionodes fumatella* in silken tubes associated with moss in a litter strewn area. The larva had never previously been found in the British Isles. They described rearing of *Phiaris metallicana* on Bilberry and even finding eggs on that plant – a truly amazing feat bearing in mind the minute size of the eggs. The early stages had not been previously described in the British or European literature. Bob told us of how he found larvae of *Levipalpus hepatoriella* on Mountain Everlasting, but not in the flower-head as previously described but very low down in the plant. They described rearing of the rare *Exaeretia ciniflonella* on birch from a female moth. *Kessleria fasciapennella* was known in Britain only from hills near Edinburgh, but had not been seen since the mid 1800s until a single moth appeared in a moth trap in Glencoe a few years ago. The foodplant was known to be Grass-of-Parnassus and so Bob and Stella set about searching the plants on a nearby hillside. After considerable effort they finally found mines left by young larvae and managed to rear moths. The last four species are Scottish and it is clear they never waste an opportunity during stops on their journey home. They noticed *Dichrorampha alpinana* ovipositing on an Ox-eye Daisy flower at a motorway service station. The significance of this is that it had previously been described as being laid at the stem base.

Last year at home in Devon they found hundreds of larvae of *Lyonetia prunifoliella* mining Blackthorn leaves at various sites. Larvae of this species had only very rarely been seen in Britain previously. This has led to detailed research which they will publish in due course.

Bob finished the evening with “Breaking News” – that is that he is to have yet another moth named after him. It is from Spain and the paper describing it new to science is yet to be published.

In summary the talk was a marvellous account of their adventures and astonishing discoveries. An inspiration to us all.

Barry Henwood

A plea for help

As many of you know I am writing a field guide to caterpillars with Phil Sterling. This is our last field season in which to obtain material for photographs. So, if you happen to catch a female of any of the following species I should be grateful if you would kindly hang on to it with a view to obtaining eggs.

- Alder Moth
- Lobster Moth
- Blood-vein
- Riband Wave
- Satin Wave
- Large Emerald

If you do catch one the best thing is to contact me by phone or e-mail so that we can discuss how best to achieve this. Many thanks for your help in anticipation.

Barry Henwood (01626 364080, 07731649861, barryhenwood@gmail.com)

How my LED light trap compared to a MV trap in 2017

Reading Phil Dean's article about building a LED light trap in the newsletter at the end of 2016 got me thinking about some of the attractions of using this method to catch moths around my property away from mains electricity or a generator. I have around eight acres of garden, fields and woodland and also trap occasionally in two local woods belonging to my neighbours, much of which are only accessible on foot making it highly desirable to have a light portable trap which I can carry easily over a few hundred metres.

The LED Trap

Having done some brief research on articles on which wavelengths of light appeared to best attract moths it seemed that the shorter wavelengths (violet, blue and green) were probably best. I constructed a light made up of two ultraviolet, two blue and two green 3 watt LEDs plus a cross spectrum white 3 watt LED sourced from www.futureeden.co.uk mounted on an aluminium heat sink from the same company. These are driven by a 12 Volt battery via a voltage booster and a constant current driver as described by Phil in his article, both sourced from Amazon, and I use a light sensor for automatic switching on and off. I found that this set up required just over 19 volts driving the LEDs at 0.7 amps.

I constructed the trap from a 25 litre beer brewing container with a homemade Perspex cone mounted on top, secured by Velcro for ease of fixing/removing. The light source was mounted on this on two aluminium strips. The container has a carrying handle so the electronics and battery are inside and once connected the trap can be carried to a site put down and left. The battery I use is a Tracer lithium polymer 14ah which I chose because it is much lighter (950g) than lead acid equivalents and has a much longer life, which had to be weighed against its considerable extra cost. I have found that this will drive the LEDs for over 14 hours making it viable for long winter nights. It also has a detachable rain guard to keep the trap in inclement weather.



LED trap with rain guard fitted (left) and close up of LED array (below) (Mike Braid)



Results for 2017

I ran a 125 watt MV Robinson trap in different parts of the garden restricted by the 50 metre power cable and the LED trap in more remote parts of the garden, as well as my small wood and culm field. I originally thought I would put out both traps on the same nights to compare catches but the practicality of this wasn't easy, getting them both in and recording the contents too time consuming. The result was that the MV trap tended to go out on good nights when it would be dry in the morning for reeling in the cable etc. and the LED trap where and when I had time to put it out, always in more remote places in the garden & local woods.

In all I set the MV trap 31 times and the LED trap 46 times between January 7th and November 20th and the results follow:

| | |
|---|-----|
| Number of species caught only in the LED trap | 51 |
| Number of species caught only in the MV trap | 97 |
| Number of species caught in both traps | 170 |
| Total species caught in all traps | 318 |

| Period during 2017 | LED trap | | | MV trap | | |
|------------------------------|------------|-------------|----------------|------------|-------------|----------------|
| | No Species | Total moths | Times trap set | No Species | Total moths | Times trap set |
| January to March | | | 8* | | | 5 |
| Total of all nights | 53 | 91 | | 55 | 136 | |
| Average per night | 6.63 | 11.38 | | 11 | 27.2 | |
| Maximum on any night | 13 | 21 | | 22 | 66 | |
| April & May | | | 14 | | | 9 |
| Total of all nights | 97 | 177 | | 173 | 329 | |
| Average per night | 6.93 | 12.64 | | 19.22 | 36.56 | |
| Maximum on any night | 30 | 68 | | 38 | 78 | |
| June to August | | | 12 | | | 7 |
| Total of all nights | 313 | 718 | | 330 | 752 | |
| Average per night | 26.08 | 59.83 | | 47.14 | 107.43 | |
| Maximum on any night | 50 | 117 | | 69 | 173 | |
| September to November | | | 12 | | | 10 |
| Total of all nights | 90 | 191 | | 155 | 367 | |
| Average per night | 7.5 | 15.92 | | 15.5 | 36.7 | |
| Maximum on any night | 13 | 33 | | 25 | 69 | |
| Totals for 2017 | 221 | 1177 | 46 | 267 | 1584 | 31 |

* On the first six nights up to 9th March a less powerful prototype 4 LED array was used.

Conclusions

The LED trap has worked well and although it cannot compete with the catching power of the MV trap it attracted a good variety of species if not the volume that the MV catches. This is hardly surprising when the relative power/light output is considered and I really wanted to compare it against the generally accepted best light trap. On a good night it can compare well, particularly in the numbers of species caught and not having a high volume of common species makes unpacking easier - not too many Large Yellow Underwings flapping around disturbing everything else! The LED trap also went out more on less favourable nights.

The LEDs and their driving electronics are very light making the trap very portable which is what I need. I am considering a additional larger LED array for short nights and housing the electronics and battery outside the trap, this will make it easier to empty & clean and to adjust the electronics to drive the different LED arrays for winter /summer night lengths, but an extra box to carry.

Mike Braid

Forthcoming events (see www.devonmoths.org.uk for more details)

Saturday 26th May 2018 Orcombe Point, Exmouth. Meet at 21.00 on the South West Coast Path at SY01947972. See the website for car parking details and full directions to the trapping location. Please phone Kim Leaver (07889 978223) in advance, if the weather appears unfavourable.

Friday 1st June 2018 Warleigh Point nature reserve, near Plymouth. Meet at 21.00 at Warleigh Point nature reserve SX450608 (PL5 2SL). If the weather looks unsettled please contact Barry Henwood (01626 364080) by 18.30 to check the event is still happening.