

ESSEX MOTH GROUP ANNUAL NEWSLETTER 2022

COMPILED BY DOUGAL URQUHART



DON DOWN (left) AT BELFAIRS NATURE RESERVE

WITH ROGER PAYNE 4/8/18

(Pic – G.Bailey)

Welcome to the annual newsletter of the Essex Moth Group. The Group was first formed in 1996 and is now entering its 26th year. This newsletter is the biggest one yet produced, running to 88 pages and over 330 photographs – 11 more pages and 30 more photos than last year! Each year it gets bigger!

The newsletter is important to the Essex Moth Group and shows the important moth recording work that members carry out across the county of both the common species and the scarcer species too. Some reports detail interesting trends in populations. The newsletter also allows other members to share their account of the previous mothing season, to share their sightings as well as their moth images too.

As group co-ordinator, thank-you to all those members who have contributed an article for this newsletter. It's great to see the variety of reports from around the county ranging from the experienced members to the beginners to mothing. There are some fascinating accounts and some great moths described in the reports, illustrated with some excellent images. The newsletter is a helpful way of seeing various trends in moth populations as new species spread across the county, as well as reading about those species that are declining in numbers. All the reports from around the county in the newsletter are summarised each year in the Moth Highlights report published in the Essex Field Club's annual journal of the Essex Naturalist.

I trust members will find this newsletter an interesting read. The articles have had very little editing and are read as they were sent in. All images have been credited, usually to the right-hand side of the page with the initials of the photographer.

Apologies in advance for any spelling or grammar errors especially with the scientific names!

If you want to share any other ideas about the Moth Group, you can contact me – Dougal Urquhart as the Moth Group coordinator on 07494866157 or at – dougalurquhart57@gmail.com;

Information about the Essex Moth Group can be found on the Essex Moth Group website at www.essexfieldclub.org.uk/portal/p/Essex+Moth+Group . Help is needed with keeping these pages updated.

At present the moth County Recorder for Essex is Peter Harvey and whilst Peter is more than happy to continue to deal with records, we need a moth specialist to come forward to manage identification requests and organise and promote recording in the county.

Contact Peter at: grayspeterharvey@gmail.com;

ESSEX MOTH GROUP FACEBOOK PAGE

The Moth Group Facebook page was started in July 2017 by Simon Wood and has been well used and visited by many members and other moth enthusiasts. Plenty of moth pictures have been posted both of known and unknown identity, providing opportunities for discussion – which is exactly what it is there for.

As of February 2022, the Group had 398 members who had joined – over 100 new members in the last twelve months for the second year running shows that interest in moths continues to increase.

This is an informal discussion group relating to all things mothy within Essex, UK, VC18 and VC19. All sightings and identification queries are very welcome. When posting a photograph, it would be most helpful to have an idea of the size of the moth, whether at rest or wings-span and of course a date and location for the record.

ESSEX MOTH GROUP VERIFICATION PANEL

In March 2020 the first meeting of the Panel involving a few experienced moth-ers took place at Wat Tyler CP just prior to covid striking. It was the first time for several years that issues were discussed relating to species recording, verification of records, adopting Butterfly Conservation verification codes and reviewing the Essex Red Data species list. Two years later in early March 2022 the Moth Group Panel reconvened with Simon Wood, Graham Ekins, Tim Green, Neil Harvey, Rob Smith and Dougal Urquhart. A few more have subsequently agreed to join – Ben Sale as a determiner, Bill Crooks and Steve Rolls, with maybe one or two others to help us too. The panel has been asked to review nearly 2500 records that have been queried on the database, discussions also involved the verification process, reviewing the complete Essex moth list and plans to update the Essex Red Data List which was compiled twenty years ago.

Following a meeting of the Verification Panel on 7th March 2022 and with the season starting to warm up a little, it seems an appropriate time to remind observers of the method behind getting species' identifications confirmed. Using the correct method will save the Panel valuable time when checking through the data submitted.

Each moth has an identification Verification Code, which can be found on the individual species' pages on the Essex Field Club website, to the right-hand side of the screen. In simple terms this a code which advises on how easy it is to ID the adult form of a species, from 1 the easiest to 4 the hardest. There are also codes for immature stages which cover leaf mines, cases, pupa etc. Clicking on the link on EFC website will take you to the Butterfly Conservation website and a full description of the categories which, for adult moths, are listed in brief below:

1. Category 1 species are those that are distinctive and provided they are within range and usual occurrence period will not need identification verified by a member of the Panel or recognised expert.
2. Category 2 species are not quite so distinctive but ones which given some experience will soon become familiar to those starting out in moth-trapping. Thus, once you have had a Category 2 species verified by a Panel member or recognised expert, the species can then be treated as a Category 1 species.
3. Category 3 species will require a very good photo showing all relevant features, or perhaps a voucher specimen.
4. Category 4 species are those requiring genital dissection to separate very similar species.

One important thing to note is the meaning of the terms 'Recorder' and 'Determiner', which appear on Mapmate input screens and within the EFC moth recording template. The **Recorder** is the person who found the moth and created the record (you). The **Determiner** is the person who provided the identification of the moth, which might be you or might be somebody else with more experience or knowledge of the species. **It is most important that you confirm the name of the person who identified the moth in this way, together with a brief note in the 'Comment' field of whether it was from a photo, by genital dissection etc.** Verification of the record so that it can be added to the database will be by the Panel, based on the information provided.

The screenshot shows the 'Species Account for *Catocala sponza*' on the Essex Field Club website. The page features a navigation menu on the left, a central species account with a photo of the moth, and a right-hand sidebar with support and center information. The 'Verification Grade' section is highlighted with a red circle, showing a grade of 'Adult: 2' and a note: 'Adult: Good quality photographs or possibly a specimen will be required'. A blue arrow points to a 'Click on link for further info' text.

ESSEX MOTH GROUP ANNUAL MEETING

For the second year running, there was not an annual meeting in February of the Moth Group because of concerns about the Covid pandemic. Last autumn during the time of planning a potential date, there were still a lot of covid cases around and prospects didn't look promising for a February meeting, especially holding it just a few weeks after the festive season. As it turned out our usual venue at the Green Centre wasn't available anyway for the Moth Group, which would've complicated the logistics of holding a meeting somewhere else.

Thoughts have been considered into holding a meeting at a different time of year and also using a different venue. However the Moth Group has been grateful to the financial support the Essex Field Club has provided over recent years in holding the annual meeting in the Green Centre. A meeting held elsewhere is likely to be much more expensive for any members attending.

The Essex Moth Group is still determined to hold its 25th annual meeting, despite having been called off twice now!

MOTH GROUP ACTIVITIES

There aren't any regular mothing sessions held for members during the year, with the exception of the annual meeting at Tiptree Heath. However there are many informal get togethers of moth group members that are organised ad hoc across the county. There may be some members in your locality who'd be interested in arranging a moth evening at a local park or reserve.

MOTH SURVEY AT LAINDON COMMON

The new biodiversity officer for Basildon District Council Josh Childs is keen to have more moth recording carried out this summer on Laindon Common, situated just south of Billericay. There has been some moth recording carried out here in the past but it would be useful if any members were able to help update the moth records. The site is 11 ha comprising a mix of lowland heath, ancient acid grassland, scrub, woodland as well as several ponds. I can provide more details if interested at - dougalurquhart57@gmail.com;

MOTH SURVEY AT GREAT DUNMOW FARM

Anna Stevenson recently started a four-year M & S Farming and Nature programme on her arable farm at High Roding near Great Dunmow. The initial habitat assessment report has identified moths as a focus species group. She would like to record the variety of moths present on the farm for the duration of the programme to help monitor habitat improvements that have been made. If anyone near that part of Essex would like to carry out some moth surveys through the season for Anna, she would be very grateful. Contact me, Dougal for more details at dougalurquhart57@gmail.com;

TIPTREE HEATH MOTH EVENING

This popular annual mothing evening on the heath will be taking place on Wednesday 27th July 2022 by kind invitation of the EWT warden Joan Pinch. Meet at the Tiptree Heath car park at 8.30pm on the B1022 Tiptree to Maldon road. Contact Dougal on 07494866157 if you're interested in attending.

THE ESSEX NATURALIST

This annual journal of the Essex Field Club includes the Essex Moth Highlights of the previous year. That report is a condensed version of all the reports that are in this Essex Moth Group Newsletter. Thanks to all the contributors of reports to this newsletter as it forms the basis of the year's round up of moth highlights.

I first met Don when I started work at Southend Museum in 1980 and joined the South Essex Natural History Society. He had been an active member since he was young and remembered the society's founder members in the 30s and 40s, especially Harry Huggins who was his mentor in entomology.

He lived in Thundersley in Wood End Close in a bungalow aptly called 'Aegeria' as he was the first person to find the Speckled Wood in Essex in the 1950s (it had disappeared from South-east England for many years). For many years he worked at the Bowling Club in Imperial Avenue, Westcliff and bowling was another passion of his, as was Southend United Football Club.



Belfairs Nature Reserve



Don & Cathy Down at Daws Heath



At Dave Whitewood's
reserve near Pound Wood
(R.P.)

He was a real expert on Lepidoptera and if I needed anything identified or information, I would go to him. He was a mine of information, especially on larvae, as he had personally bred through most British species. He regularly moth trapped in his garden which was a real delight, full of flowers he knew would attract butterflies and moths and also food plants which he could use for breeding. In fact he was an excellent all round entomologist and often came to me with unusual specimens including the Birch Sawfly and the first Hornet Hoverflies *Volucella zonaria* which were then increasing in South Essex. I still have a specimen of the spectacular Bumblebee Rove Beetle *Emus hirtus*, a large hairy beetle which mimics a bumblebee. He told me he caught it when it was flying in Bournes Green Nursery in the 1950s (I think). It has always been very rare, restricted to North Kent and this may be one of the only Essex records.

He remembered the butterflies of long ago including **Large Tortoiseshells** in South Essex and fritillaries in most of the woods including **Heath Fritillaries** in Belfairs, which he took an active interest in when they were re-introduced in the 1980s. He used to do a lot of conservation work in Dodd's Grove and Belfairs cutting back bracken, saplings and bramble to clear areas for the **Heath Fritillary** and his annual counts were published in the SENHS journal. In fact, his finds of the year were annually published in this journal and he became President of the club in 2003. He also campaigned to make the Belton Hills a nature reserve and was always contacting Southend Council about its conservation. The same goes for Canvey Wick and he was one of the first to publicise its great value for wildlife and strive to get it protected. I believe he was one of the first to moth trap there.



Bells Hill Lane, Vange



Grays Chalk Pits



Don in his garden (RP)

He never really gave up moth trapping and well into really old age, I used to give him lifts to Mark's Hill Wood on the Langdon Hills where Rod Cole, Peter Furze etc were regularly trapping. He also came to Belfairs where we met up with Graham Bailey right up to a few years before he died. Years ago, he told me he would travel long distances in search of certain moths he needed for his collection from Cornwall to Northern Scotland. His enthusiasm never waned, and he was great with youngsters, freely sharing his vast knowledge whenever he could.

I went to his funeral on 24th June, 2021, which appropriately took place in Belfairs Nature Reserve and at a time when the Heath Fritillaries were flying in some numbers. It was not a religious ceremony and the eulogies were read by several members of his family, both young and old. He was very much a loving family-man and will be sorely missed. (Pic R.P.)



REMEMBERING THE LIFE OF DONALD GILBERT DOWN (1930-2021)

GRAHAM BAILEY

I first met Don Down in the late 1970's when I attended an indoor meeting of the South Essex Natural History Society (SENHS) at Southend library. I don't recall the subject matter of the talk, but I was there to meet the person who knew more about the local Lepidoptera than anyone else in the area. His mentor was the recently deceased Henry Huggins who I also had the great fortune to know as he lived only a fairly short walk from my home in Leigh-on-Sea. Mr Huggins had been a Bank Manager locally and his great in-depth knowledge of many aspects of Natural History were a considerable inspiration to many, a young Don and I included.

I believe Don first became interested in butterflies and moths from an uncle who used to collect them, probably back in the mid-1930's. Throughout his teenage years he spent many hours exploring his local neighbourhood and became totally engrossed in how butterflies lived their amazing lives, collecting examples of various species wherever he could. As he grew older, he became more interested in moths and would collect and breed many species through to the adult insects, some of which he retained in his collection. Over the years his expertise in other fields of Nature also broadened and he became quite accomplished in identifying the intricacies of the natural world around him, although the local populations of Lepidoptera would always prevail to the forefront of his studies.

In the mid and late 1970's I used to run a moth trap in the garden, and in 1976 I was overjoyed to catch both **Bedstraw Hawkmoth** and **Great Brocade**, both migrant species that came over in that (for the time) unprecedented hot summer. Don had been alerted to my captures by Henry Huggins, although it was still a few years before I could meet him in person. During the 1980's I occasionally met Don at SENHS talks in Southend, but was now employed in the NHS and shift work made put paid to much free time. I rarely saw that much of Don from the late 1980's until the early 1990's as I liked to travel whenever I could, but after I came home to care for my parents I spent many hours exploring the countryside of south Essex with the aim of gleaning butterfly records for the forthcoming atlas of the insects, and this would include the entire British Isles.



Don at moth session



Moth session late 90's



West Wood, Hadleigh mid 90's
(GB)

The one person who had the most impressive in-depth knowledge of the local butterflies was Don and I enquired of his expertise on a number of occasions to help me track down some of the more elusive species. One of the principal butterflies on my radar was the **White-letter Hairstreak**, and I was aware of a strong colony on the Benfleet Downs close to Hadleigh Castle. I recall him being very cagey about giving away any precise locations for the insects, presumably because he erroneously thought I might want to collect them. I would only be armed with a camera, but at least I had the time to explore the area assiduously and in due course I located the insects, in fact many dozens of them mostly nectaring on bramble flowers along the sheltered rides on the steeply sloping ground. I was also discovering burgeoning colonies of **Marbled White** and **Brown Argus**, the latter species he tended to be sceptical about at first as he thought I was mis-identifying female **Common Blues**. However, in 1993 I showed him around some locations where I had tracked the Lycaenids the previous year and he apologised for being a non-believer when we counted more in a single day than he had ever seen locally in his lifetime! To say he was over the moon with our discoveries would be something of an understatement! Further discoveries on the Benfleet Downs of the *helice* form of the female **Clouded Yellow** ovipositing on bird's-foot trefoils, and the finding of a male **Chalkhill Blue** got him even more excited in 1994 and encouraged him to make some more excursions to the area to see what rarities he could locate for himself. Not surprisingly, it was Don who uncovered most of the moth mysteries when on our walks, especially with the larvae as he usually took his faithful beating tray with him when doing fieldwork. Most of our trips were to local woodlands such as Belfairs Nature Reserve and West Wood, the latter being only five minutes walk from his home in Thundersley. During the 1990's Don and I carried out several moth recording trips to West Wood, enlisting the use of a wheelbarrow to carry the generator, tripod, bulb and cable just over the road and into the oak and hornbeam woodland. In more recent years Don would often bemoan the lack of moths and larvae he could find there, possibly due to management issues or increasing public usage.

From the mid-1990's I generally met up more frequently with Don, and these were quite often for longer trips to other counties in SE England such as Bonsai Bank in Kent to look for **Duke of Burgundy Fritillary** and the North Downs in Surrey for chalk speciality species. Don would always find something of curiosity to interest other members of the party, whether or not they were amateur entomologists. His sharp eyes would forever be on the look out for anything different lurking in a hedgerow or amongst the grasses and flowers under his feet. He was always alert to the natural world and often he would dart away from the group to investigate an insect or another creature that had caught his attention. If he could, Don would pot it up to show other members of the party, although some people did not appreciate him capturing live creatures for the education of others. However, he always lived to tell the tale! He had bred through nearly two hundred different types of British moth in addition to most of our butterfly species. He often went to great pains to provide adequate amounts of food plant for the larvae, and the cages would adorn the outside of his property and provide a fascinating array of the miniature wonders of Nature.

He would love an audience and he certainly knew how to tell a story when one was required, and some tales were oft repeated for those of us who went on frequent travels with him! One such was when he and his friend Clive journeyed to the wilds of west Wales to search out a localised moth that had very specific habitat requirements. Apparently they were looking for a farm owned by a certain Mr Jenkins, but unfortunately they only had a rough idea of where they needed to be, and in enquiring about the said farmer Jenkins they discovered that most of the farms in the area had a Jenkins as their main occupier! I believe they found who they wanted in the end, more from locating some suitable moth habitat rather than the correct farmer from what I recollect! He loved to relate the stories of his travels, exploits and adventures and I'm sure he must have told me many dozens of them over the years, some regarding his local wanderings and others referring to the far-flung reaches of these islands and beyond. He made trips to Spain, Japan and Australia when visiting his son when his teaching job took him to various exotic locations and, weather allowing, he would be out and about and investigating the local fauna and flora, which naturally included the Lepidoptera of the area.

During the mid and late 1990's I must have visited the Hadleigh Castle Country Park on countless occasions, and I well remember one Good Friday in early April 1996 when I started off on foot down Chapel Lane, the access road to the main entrance of the Park. It had been a cold winter and snow had arrived and stayed in place for some time, leading certain of us to wonder if the **Camberwell Beauties** seen the previous summer might have successfully hibernated. The morning was reasonably bright and sunny as I walked down the built-up lane, when my attention was suddenly enticed away to my right as I became aware of a large dark butterfly fluttering elegantly around a small front garden. No wonder the old collectors referred to this species as the Grand Surprise! What a fantastic surprise indeed, and not one to be forgotten. I even managed to get a few photos of the magnificent creature as it settled on a fence in the front garden, basking in the cool sun. After a couple of minutes it flew off almost vertically into the sky and never to be seen by me again. However, I perceived it disappeared over the rooftops in the direction of Don's home, a little over five minutes fast walk away from my sighting. I telephoned Don from a phone box just down the road and explained that he should be on the lookout for a special 'Surprise' in his garden. I don't think he believed me at first – he might have thought it a belated April fool but I managed to convince him that a stunning winged guest could soon be gracing his beautifully maintained garden. I got the impression from the next time we met that he spent most of the next three or four days scouring every nook and cranny in his garden searching for this magical insect, but unfortunately all to no avail!

At the end of the century three of us from our local Cambs. & Essex branch of Butterfly Conservation would make several expeditions to far-flung corners of our country in search of some of our more elusive Lepidoptera. As well as Don and I, this included John Dawson who would drive down from near Cambridge and collect the two of us for our new adventure. Our first excursion was in mid-September 1999 and involved a trip down to Tintagel in north Cornwall where we stayed at the local Youth Hostel situated on the cliff top. The first evening we walked a short distance along the coast path and set up our traps overlooking the sea, but then a big problem – the generator wouldn't start! Thankfully John is an excellent mechanic and after a while he managed to sort out the problem. We then had a respectable number of moths, including more localised ones such as the **Anomalous** and the **Black-banded**. Our days were spent searching for larvae and investigating likely looking habitats that might reward us with something more unusual.



Don and John Dawson mid 90's
Tintagel Youth Hostel



Don with beating tray looking for
larvae north Cornwall coast



Don and John Dawson Sept 1999
In Scotland (G.B)

The following year we returned to west Cornwall, this time staying at Coverack Youth Hostel and again exploring the coastline, secluded bays and areas of heathland and flowery meadows to see what we could find. We had two nights of moth recording at Kynance Cove in early September, the first with only a few moths due to a chilly breeze coming in off the sea. However, the second evening proved more productive as several **Black-banded**, **Devonshire Wainscot**, **Vestal** and **Hedge Rustics** arrived, with many more individuals of **White-speck** and **Feathered Gothic** also noted. The following year we all travelled down to Torquay in late July 2001 to look for the **Jersey Tiger** at a site known as Hope's Nose which Don believed should be an ideal site for our principal species. In total over two nights we noted about a dozen of the 'tigers', with more unusual insects being **Brussels Lace**, **Bordered Sallow**, **Annulet**, **Crescent Dart** and **Marbled Coronet**. Little did we know at the time that the **Jersey Tiger** would soon be colonising south Essex and is not an infrequent visitor to moth traps and buddleias in the area. How times change!



Don and John Dawson in Scotland Sept 1999



Don at Straloch Moor Scotland Sept 1999



Don and John Dawson in Scotland Sept 1999 (GB)

My most memorable excursions with Don and John were those north of the border to the Highlands of Scotland, and in particular our first trip there in mid-August 2000 which delivered all the principal specialities of the region during our short stay there. We stopped at a B&B near Kincaig that had some excellent habitat of heathland and mixed woodland close by, and thankfully the weather behaved itself! The first evening we collated over seventy species of macro, the most notable being more northern insects such as **Gold Spangle**, **Plain Clay**, **Angle-striped Sallow**, **Cousin German** and **Manchester Treble-bar**. I well recall coming down to breakfast the next morning and finding both Don and John at the table with huge beaming smiles as a result of the superb selection of moths that had graced our session. We had another couple of evenings of recording and amassed further new species such as **Golden-rod Brindle**, **Green Arches**, **Red Carpet** and **Haworth's Minor**. During the day we would all be searching for larvae, and both Don and John found plenty worthy of interest at Straloch Moor, such as those of **Small Chocolate-tip**, **Puss Moth**, **Sallow Kitten**, **Light Knotgrass** and **Dark Tussock**. Don was in his element when inspecting any likely shrub or hedges for larvae and he could nearly always identify to species level without too much trouble. Another trip to Scotland the following summer was not so successful due to inclement weather, but as least we managed to find a few **Chequered Skippers** by Loch Arkaig in some hazy sunshine.

Numerous local day and night trips to different sites in Essex involving travelling out and about with Don occurred for many years, and the likes of Thorndon Park and Grays Chalk Quarry deserve mention as such places could evoke his overflowing enthusiasm when confronted with something unexpected. Our discovery of a **Chalk Carpet** at Grays after an absence of over twenty years certainly put a welcome smile on his face and similar experiences would often evince stories of how much commoner many insects were when he was a youngster, and how things had changed, generally for the worse in latter years. Thorndon Park had **Great Oak Beauties**, **Rosy Marbled** and **Lobster Moths** to cheer him up and dispel his sometimes downcast demeanour. At a privately owned section of Hockley Woods in July 2005 we noted two **Olive Crescents**, possibly the first ever records of this species from anywhere in south Essex. At first Don thought I might recently have been to one of their known sites in the north of the county and brought the insects back with me, but I had to reassure him this definitely was not the case!

Throughout most of his life, Don's main locality for his Natural History research and general rambles would be nearby at Hadleigh Great Wood, and in particular Belfairs Nature Reserve which is an integral part of the larger woodland. Don had many decades of knowledge relating to this site, and he knew it back in the 1950's when it was home to many species of butterfly, most notably the **High-brown Fritillary** which has now become an extremely rare and marginalised species. **Pearl-bordered** and **Heath Fritillaries** also graced the rides and glades of the reserve, the latter being re-introduced in the late 1990's and is still

present to this day. Don participated in the work parties organised to help create suitable habitat for the **Heath Fritillary** butterflies and their larvae, otherwise encroaching brambles, bracken and birch scrub would quickly be the death knell for the butterfly. He continued to contribute his time and energy well into his eighties, and his efforts, along with that of the other volunteers, have helped to aid the preservation of the iconic insect at this historic woodland.

For the last twenty or so years of his life Don became very involved with Canvey Wick, a former brownfield site on the west side of the island that has now evolved into a unique sanctuary for a wealth of wildlife, the Lepidoptera being no exception.

Don and I had the great privilege to be among the first non-professional naturalists allowed on to the site on the 13th July 1999, and what amazing visions were to confront us on our wanderings through the undisturbed vegetation! The place was overflowing with orchids of various species, principally Southern Marsh and Common Spotted, but also patches here and there of Pyramidal and Bee orchids.

Hundreds of butterflies flitted around us, mainly **Marbled Whites** and **Meadow Browns**, but also plenty of **Small** and **Essex Skippers**, **Peacock**, **Common Blue** and **Brown Argus**. We realised this could be an excellent site for moths, and so it proved as we ventured on to the site on many occasions, often with Ben Sale to help identify all the micros that we encountered. It used to be quite a trek for all three of us to access Canvey Wick - unloading the generator, cables and traps beside the road with Don standing guard over the equipment whilst Ben and I parked our cars near the fast-food outlet across the other side of the superstore car park. It then entailed quite a trek to where we could set up the traps within the shelter of the surrounding birch and willow trees. Thankfully there is now a dedicated car park for Canvey Wick and it is possible to properly access the heart of the reserve, which now has SSSI status. We had one especially memorable evening on site on 15th July 2013 when we had a total of at least 235 moth species, a phenomenal number by any standards. Ben and I well recall poor Don stressing himself out and lamenting the fact that there were 'too many moths' and he was unable to find anything of interest amongst the hordes of moths and other insects!

Don was heavily involved with Canvey Wick and often went there on the bus or arranged a lift with a friend and would spend many hours exploring the place and taking note of his sightings. He was very pleased to be consulted on the various planning stages that were instrumental in part of the area becoming a SSSI and achieving national fame for the unique invertebrate fauna, and some headlines proclaimed it to be 'Britain's very own rainforest' due to the immense number of rare insects and other creatures that inhabit the location. In late September 2014 the television celebrity Steve Backshall officially opened the site and Don could feel rightly gratified that his input helped to gain national recognition for such an important wildlife area. Some of his family was present on the open evening and I believe they must have been very proud of his achievements in helping to establish 'his baby' as a renowned area of Natural History interest that could be enjoyed and appreciated by people from all over the country.



Don, Steve Backshall and two grandchildren at Canvey Wick opening September 2014 (GB)

Unfortunately there were many aspects of countryside management that did not sit well with Don, and he would frequently voice his frustrations to those of us who knew him well, and often to those who had no idea who he was! He would readily lambast any poorly thought-out management that could be detrimental to wildlife, such as bemoaning the wayward regimes employed by local councils and authorities to maintain hedgerows, road verges, woodlands, etc. This was one of the bugbears of his life and it would frequently see him very upset and agitated, as many could testify. He cared passionately about the countryside and how it should be maintained, and he would often remonstrate with those tasked at 'tidying up' the rural or urban green spaces that were so dear to him. I attended a number of sessions with Don over the years,

such as our day out to Witham for a meeting with the Environment Agency regarding the management of the seawall grasslands, another of Don's ongoing woes. He also expressed his concerns about what he believed were the calamitous mowing regimes on the Belton Hills in Leigh-on-Sea, a subject which so visibly upset him that he vowed not to visit the site again unless the local council took drastic remedial action. Some headway was achieved with the council and their contractors, but for Don it was the old story of 'too little too late'.

He worked for many years as a groundsman at a bowling club in Westcliff-on-Sea, and he was also a member of the same club. Over the years he accumulated an impressive number of trophies as a sign of his expertise at his favoured sport. His other great unwavering passion in life was football, and especially his support for the local team Southend United FC. The club did have some good times towards the end of the last century, but Don supported them through thick and thin, invariably suffering in the cooler months of the year and getting home chilled and shivering. In a way, it was best for him not to witness the team's demise that has seen them slip into the National League, a situation that surely would have broken Don's heart if he had lived long enough to see the end of the season.

To anyone who knew the man, Don was pretty much a one-off in this day and age. He was a very principled man who steadfastly believed in the beauty and wonders of Nature, something that never wavered throughout his ninety-one years on this Earth. Don had the great art of getting across his deep fondness for his subject matter to even the most uninterested of observers, an uncanny skill that is a rare quality nowadays. Don's wife, three children and his grandchildren have all lost someone whose genuine love of the natural world was engendered at a very young age. This had helped him to fulfil a long and incredible love for the world around him, and hopefully this enthusiasm has rubbed off somewhere down the line on all the myriads of people he met during his lifetime.

NIGEL CUMING

DOUGAL URQUHART

Essex – and Suffolk too, lost a very experienced and knowledgeable field naturalist when Nigel Cuming passed away in Colchester in October 2021 aged 83. He was an active moth-er and had been a member of the Essex Moth Group from its beginning over twenty-five years ago. Mothing ran in the family blood as his cousin was Joe Firmin who was on the Essex Lepidoptera panel for many years and was instrumental in starting the Essex Moth Group in 1996.

Nigel regularly attended moth evenings and on one occasion at a Moth Group meeting at Cudmore Grove in 1998 a **Red Underwing** landed on his spectacles as he leant over the trap which led to much ribbing! – pictured right (DU).



Magic of Mothwatch

NIGEL CUMING TRIBUTE

ANDREW THOMPSON

Nigel has been described by many of his friends as a very knowledgeable and highly skilled all round field naturalist. Being equally at home showing friends where to look for Bee Orchids near Stanway or crawling around on his hands and knees identifying flowers on Fair Isle as in July 1993. He was also an enthusiastic birdwatcher resulting in many twitches with various friends, for example his first Red-flanked Bluetail in Dorset in November 1993 or the Red-throated Thrush at the Naze in September 1994. He was also quite capable of creating his own twitch for example by finding a Sabine's Gull at Abberton Reservoir Dam with his friend Brian Smith in October 1996.

In many ways though it was as a dedicated field entomologist that he excelled by finding many rare or little known Bugs and Beetles. The prime example being his discovery at Abberton reservoir of a beautiful Weevil called *Rhynchites auratus*, known colloquially now as the "Abberton Weevil", a species which had been deemed to be extinct since the mid 1800's. As an entomologist Nigel was inspirational with his knowledge, enthusiasm and willingness to help and advise people. By educating people to the importance

of insects to the health of our natural world particularly Beetles and to the decline of insects in general he motivated other people to start studying for example Beetles, Bugs and Weevils. Importantly he was always there to help with the tricky identification that many insect species require.

With Nigel's passing many of us have lost a very dear friend but it has also left a very large hole in our knowledge of the natural history of our local area which will unfortunately be difficult, if ever to fill.

SLOE CARPETS – RSPB OLD HALL MARSHES

On the cold and clear night of 14th April Graham Ekins, Jonathan Newman from Peterborough and myself were joined at Old Hall Marshes by Tony Davis and Sharon Hearle of Butterfly Conservation to look for **Sloe Carpets** in one of the strongholds for the species in the country. We ran eight traps and managed to see eight **Sloe Carpets**, all but one of them being netted by torch – six of them by Jonathan! Moth activity was very reduced in the cold temperatures and by the end of the night 46 moths of 13 species were logged with 11 **Water Carpets** being the most numerous.



RSPB OLD HALL MARSHES – 22ND APRIL



WATER CARPET (DU)

A second visit on 22nd April to Old Hall Marshes with Simon Wood, Carla Davis and Andrew Raybould was even quieter than the first visit on a cold and clear night. We had called it quits by 11pm once we had seen two **Sloe Carpets**.

HIGHWOODS CP

Andrew Raybould, Carla Davis, Simon Wood and myself met up at Highwoods Country Park in Colchester on 14th July, setting up five traps on the northern edge of the grasslands of Woodcock Down on the east side of the park. On a clear night with a new moon, the heavy dew suppressed numbers but we still managed to record 121 species. Highlights included **Festoon**, **Peach Blossom**, **Rosy Footman**, **Kent Black Arches**.and **Leopard Moth**. (pictured right, DU)



TIPTREE HEATH

The annual Moth Group meeting at Tiptree Heath was held on 25th August, a rescheduled meeting after the original one in late July was postponed due to rain. Thanks to Joan Pinch's invite, it was well supported by both Moth Group members and Friends of Tiptree Heath. Traps were brought along by Graham Ekins, Andrew Raybould, Glen Moore, Neil Murphy, Daniel Blyton and by me which ensured good coverage with at least eight traps being used. By the end we had logged a respectable total of 1534 moths of 137 species including aggregates.



TIPTREE HEATH



GOLD-SPOT

(DU)

Highlights were the first Essex record of the heath loving micro *Aristotelia ericinella*, also *Pempelia genistella*, *Cydia amplana*, *Acrobasis tumidana*, eight **Birch Mocha**, **Gold-spot**, **Svensson's Copper Underwing**, **Mouse Moth**, **Olive**, **Webb's Wainscot**, **Dark Sword-grass**, as well as 44 **Gypsy Moths** and one **Oak Processionary**. It was useful visiting the Heath on this occasion, a month later than our usual meetings in the past, enabling us to see some different species.

LOFTS FARM

A mothing evening on 9th September was arranged at Lofts Farm at Heybridge by Simon Wood following a request by the owner to have some wildlife surveys carried out her farmland and gravel pits. Graham Ekins and I brought our traps along to join Simon's and we were also joined by Carla Davis and John Buchanan for the evening. There was quite a chill in the breeze and there were long clear spells during the evening resulting in a moderate dew by midnight. In total 92 species of 820 moths were recorded.



Moths of note included *Evergestis limbata*, *Cydia amplana*, **Cypress Pug**, **Dewick's Plusia**, **Webb's Wainscot**, **Vapourer**, **Dark Spectacle** and 21 **Dusky Thorns**. Other wildlife of note included a Water Stick Insect, Smooth Newt lured across the sheet to the lights, Daubenton's Bat and Soprano Bat nearby.

Habitat:

We didn't make detailed habitat notes but would just state that Stour Wood is an area of ancient woodland adjacent to the Stour estuary in north Essex. The dominant tree species is Sweet Chestnut (*Castanea sativa*) which is of little value to lepidopteran species. More importantly, for our main target species (Olive Crescent and Triangle) there is a significant population of ancient oak (*Quercus rubor*). More open areas are present and hold a wide variety of woodland flora.

Moth-trapping:

We made 4 visits which are summarised in the table below:

Date	6 th June	8 th July	14 th July	11 th August
Observers	CL BL	CL BL	CL	CL
Total moths	624	897	497	729
Species	104	163	120	125
Traps	135W MV x4	135W MV x4	135W MV x2	135W MV x2
	15W actinic Heath x 3	15W actinic Heath x 3	15W actinic Heath x 2	15W actinic Heath x 2
	22W synergetic box	22W synergetic box	22W synergetic box	22W synergetic box
	Twin 25W actinic Skinner	Twin 25W actinic Skinner		



Figure 1: Traps gathered in and ready to open - morning of 7th June

A total of 2747 moths of 309 species were obtained. These included 3 Red Data Book species, 2 Nationally Scarce A species and 12 Nationally Scarce B species.

Red Data Book species:

37.091 ***Coleophora deviella*** – a saltmarsh species, largely confined to SE England; foodplant annual sea-blite (*Sueda maritima*). 10 records on the Essex Field Club website (I have recorded this species 5x on Foulness) and it is certainly under-recorded as genital dissection is required to identify it. 1 on 8th July.



Figure 2: *Coleophora deviella*, Stour Wood, 08/07/2021

53.002 ***Heterogenea asella* (Triangle)** – a species of ancient oak woodlands in S England; foodplants oak (*Quercus rubor*), beech (*Fagus sylvatica*). A speciality of Stour Wood and one of our target species. 1 male on 14th July; 1 male and 1 female on 11th August.



Figure 3: *Heterogenea asella* (Triangle) male, Stour Wood, 14/07/2021

72.054 ***Herminia tarsicrinalis* (Shaded Fan-foot)** – a species of bramble thickets (*Rubus fruticosus*) in Essex, Suffolk and Norfolk. Another speciality of Stour Wood. 1 on 8th July.



Figure 4: *Herminia tarsicrinalis* (Shaded Fan-foot), Stour Wood, 08/07/2021

Nationally Scarce A species:

39.004 ***Dystebenna stephensi*** – a species of ancient oak woodland in SE England; foodplant oak (*Quercus* spp). 1 on 8th July, 1 on 14th July



Figure 5: *Dystebenna stephensi*, Stour Wood, 08/07/2021

Nationally Scarce B species:

12.017 ***Nemapogon koenigi*** – said to be local and scarce and is confined to S.England; but probably under-recorded as requires genital dissection to confirm identity. Saproxylic. 1 on 8th July.

12.019 ***Nemapogon ruricolella*** - said to be local and scarce and is confined to S.England; but probably under-recorded as requires genital dissection to confirm identity. Saproxylic. 1 on 8th July.

30.001 ***Agnoea flavifrontella*** – confined to woodland in S.England, there are no database records for this species on the Essex Field Club website. Regrettably, since this may be a first for Essex, I did not take any images or retain the specimen. Feeds on leaf litter. 1 on 14th July.

35.032 ***Pexicopia malvella*** (Hollyhock Seed Moth) – uses Hollyhock as a foodplant in grassland and gardens, but the relevant foodplant at Stour Wood is likely to be marsh mallow (*Althaea officinalis*) which grows on the drier parts on saltmarsh. 1 on 14th July, 2 on 11th August.

35.073 ***Monochroa palustrellus*** – foodplant curled dock (*Rumex crispus*) and although nationally scarce is actually quite common in Essex. 1 on 8th July

37.017 ***Coleophora prunifoliae*** – foodplant blackthorn (*Prunus spinosa*) – requires genital dissection to identify. 1 on 8th July.

- 38.049 *Elachista stabilella* – foodplant various grasses – requires genital dissection to identify.
 45.028 *Capperia britanniodactylus* (**Wood Sage Plume**) – food plant wood sage (*Teucrium scorodonia*)
 – only 10 previous Essex records and this is the first record for Stour Wood. 2 on 8th July.



Figure 6: *Capperia britanniodactylus*, Stour Wood, 08/07/2021

- 53.001 *Apoda limacodes* (**Festoon**) – foodplant oak (*Quercus* spp) – confined to S.England. Although nationally scarce this species is common in Essex woodlands, but 30 on 8th July is the highest number I have ever recorded on a single night, 15 on 14th July.
 62.010 *Elegia similella* – another species of oak woodland in SE England , foodplant oak (*Quercus rubor*). 2 on 8th July, 2 on 14th July.
 72.004 *Hypena rostralis* (**Buttoned Snout**) – foodplant hop (*Humulus lupulus*) – not sure if this grows in or near Stour Wood, but there are several previous records for the area. 1 on 8th July.
 72.066 *Parascotia fuliginaria* (**Waved Black**) – feeds on bracket fungi on rotting wood of birch (and pine). Fairly regular in Essex woodlands. 1 on 14th July.

Migrants?

The following species are listed as migrants but are now almost certainly resident in Essex.

- 63.103 *Catoptria verellus* – 40 on 8th July, 50 on 14th July – by far the largest numbers we have ever recorded.
 72.011 *Lymantria dispar* (**Gypsy Moth**) – 2 on 11th August
 72.041 *Lithosia quadra* (**Four-spotted Footman**) – 25 on 8th July, 40 on 14th July – by far the largest numbers we have ever recorded.



Figure 7: *Catoptria verellus*, Stour Wood, 08/07/2021

It is also worth mentioning the incredible sight of 90 Black Arches and 200 Rosy Footman on 11th August.

Attached to this report is a complete list of the moths recorded. Specimens with a green number were confirmed by genital dissection, (although where the number recorded is >1 usually only 1 of these was examined).

Although we did not survey the butterfly families (or day-fliers in general) I have recorded the presence of Silver-washed Fritillary on 14th July.

We failed to record Olive Crescent. This species is said to fly only on warm nights. Although we selected the warmest night of each week that we trapped, all of these nights were cooler than might be expected at the time of year. We hope to try again in 2022.

Chris and Ben Lewis



CLIFDEN NONPAREIL



CONVOLVULUS HAWKMOTH



EMPEROR MOTH (G.P.)

Despite the very indifferent weather over a large part of the main mothing season and the record-breaking number of frosts during April, 2021 was for me still another wonderful year of anticipation and delight.

It being my first full year I was able to pick up a lot of species between January and April that I never got to see last year including probably my favourite Spring moth, the majestic **Oak Beauty**. I particularly enjoyed raising some species through all stages to adult and looking for early stages out in the field. I managed to get some field trapping in away from the garden something I hope to increase considerably in 2022. I was able to focus more on the micros I just didn't have time to analyse last year because I was swamped with the daily arrival of new macros that delight and occupy a novice mother.

I don't have the years of data to make meaningful comparisons of species rise or decline etc. but hopefully my records will contribute to the bigger picture. I will concentrate on the more notable moths seen. Most of my trapping was in my garden in Little Clacton which has open fields on two sides some large neighbouring gardens and a few established Oak and Birch nearby.

My life list now stands at 460, my garden list at 445 and last year's list at 422 which although far short of others I find remarkable. Who knew there was so much to see just outside my backdoor?

I managed to record eight species of Hawk Moth again during the year, all the same species as last apart from **Convolvulus Hawkmoth**, which I saw twice in the garden, substituting for the **Bedstraw Hawkmoth** I saw last year.



RED-BELTED CLEARWING

YELLOW-LEGGED
CLEARWING

OAK BEAUTY (G.P.)

There were so many other highlights, too many to list here but I can't not mention the **Emperor Moths**, **Yellow-legged** and **Red-belted Clearwings**, these three all attracted to pheromone lures, a male & two female **Gem** on different nights, the mighty **Clifden Nonpareil** a real surprise, the dinky little **Festoon**, and so on and so on.

I've really enjoyed rearing moths again, something that got me hooked as a kid and successfully took **December Moth** from egg to adult, saw a couple of my **Puss Moths** from 2020 emerge (the others are hopefully going to emerge this year) and currently have a brood of **Oak Eggars** overwintering. I am going to try my best to rear more this year.

I made a big effort to identify more micros during 2021 and added just over eighty species to my life list. It's clear to me that many of these micros must be under recorded/reported as 32 of those species, although many of them not rare, had never been recorded before in my hectad. Even more had only been recorded once or twice before.

The year started well in February when I identified *Psychoides filicivora* larvae on my Hart's-tongue Fern. I netted the plant and was pleased to spot the adults when they emerged on the 1st of June.



GEM



Palpita vitrealis



FESTOON

(G.P.)

August produced a surprise in the form of *Acrobasis tumidana*. This moth was seen on five separate occasions. It was first identified for me by Simon Wood as I had thought it to be *A rapandana* until he pointed out the raised band of scales indicative of *A tumidana*. Described in the literature as a scare immigrant but possibly breeding in county now.

Also, on the migrant front I trapped a total of nine *Palpita vitrealis* on five nights between the 15th September and the 10th November.



Acrobasis tumidana



CRESCENT PLUME



Musotima nitidalis

(G.P.)



Psychoides filicivora



Stigmella aurella

Finally, to round off the season I netted a *Musotima nitidalis* that danced into the beam of my headtorch as I walked back from a late season trap in a footpath near my house on the 18th November.

The most recent stars have been several *Stigmella aurella* raised from leaf mines found in my garden late last year. Not uncommon but I had never seen an adult.

I have had a fabulous year as my interest in all things moth deepens. Here's to a great 2022

A single 125W MV Robinson trap was operated in the garden throughout the season, with an additional 15W actinic trap operated from the beginning of April until the end of October. Regularly recorded species not noted this year included **Vestal** *Rhodometra sacaria* , **Bordered Straw** *Heliothis peltigera* , **Scarce Bordered Straw** *Helicoverpa armigera*, **Small Mottled Willow** *Spodoptera exigua* and **Waved Black** *Parascotia fulginaria* .

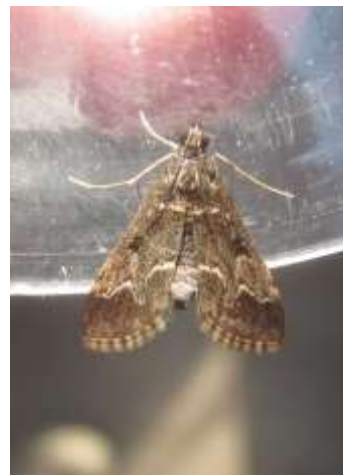
Table 1. Monthly totals of the more regular immigrant species.

	J	F	M	A	M	J	J	A	S	O	N	D	T
Diamond-back Moth <i>P. xylostella</i>	0	0	0	0	1	87	54	12	1	1	0	1	157
*European Corn-borer <i>O. nubilalis</i>	0	0	0	0	0	1	17	13	0	0	0	0	31
Rusty-dot Pearl <i>U. ferrugalis</i>	0	0	0	0	0	0	4	29	13	10	2	0	58
Rush Veneer <i>N. noctuella</i>	0	0	0	0	0	0	6	0	1	1	0	0	8
Humming-bird Hawkmoth <i>M. stellatarum</i>	0	0	0	0	0	1	0	0	0	0	0	0	1
Gem <i>Orthonama obstipata</i>	0	0	0	0	0	0	3	1	1	4	0	0	9
Silver Y <i>A. gamma</i>	0	0	0	0	4	49	129	235	63	4	2	0	486
*Tree-lichen Beauty <i>C. algae</i>	0	0	0	0	0	0	6	18	0	0	0	0	24
Delicate <i>M. vitellina</i>	0	0	0	0	0	0	4	0	7	11	0	0	22
Pearly Underwing <i>Peridroma saucia</i>	0	0	0	0	0	0	0	0	2	0	0	0	2
Dark Sword-grass <i>A. ipsilon</i>	0	0	0	0	2	0	2	4	1	2	0	0	11

*Records likely to be associated with local breeding populations.



VAGRANT CHINA-MARK



DARK MARBLED TABBY



**DOUBLE-STRIPED
KNOT HORN**



**FEATHERED SLENDER
(C.A.)**

New Micro's for site were as follows:

Feathered Slender *Caloptilia cuculipennella* One on 15th August.

Fleabane Fanner *Digitivalva pulicariae* One on 2nd August, potential new for Essex.

Bindweed Bentwing *Bedellia somnuletella* Singles on 20th August and 22nd September.

Bordered Ermel *Ethmia bipunctella* One on 3rd August.

Double Striped Knot-horn *Cryptoblabes bistriga* One on 19th August.

Golden Pearl *Anania verbascalis* One on 11th September.

Vagrant China-mark *Diasemiopsis ramburialis* Single on 8th November.

Dark Marbled Tabby *Duponchelia fovealis* One on 29th September.



BINDWEED BENTWING



BORDERED ERMEL



BUFF-NECKED NEB



COAST NEB

(C.A.)

Notable Micro`s

Powdered Flat-body *Agonopterix curvipunctosa* Eight between 21st March and 2nd June.

Estuarine Flat-body *Agonopterix putridella* One on 29th July.

Pignut Flat-body *Depressaria pulcherrimella* One on 18th July.

Acer Sober *Anarsia innoxia* Singles on 8th July and 4th August.

Fen Crest *Brachmia inornatella* Singles on 14th and 25th July.

Buff Marked Neb *Monochroa lucidella* Single on 25th July.

Notch-wing Neb *Monochroa suffusella* One on 25th June.

Coast Neb *Monochroa moyses* Twelve on 8th July.

Scarce Mompha *Mompha jurassicella* Two on 15th March and a single on 10th November.

Small Saltern Conch *Gynnidomorpha vectisana* Singles on 21st and 30th August.

Southern Bell *Crociosema plebajana* Singles on 30th August 7th and 8th September.

Mugwort Bell *Eucosma metzneriana* Singles on 25th June and 18th July.

Vagrant Piercer *Cydia amplana* Singles on 18th, 31st August and 17th September.

Rosy Striped Knot-horn *Onocera semirubella* Singles on 2nd August and 24th September.

Scarce Oak Knot-horn *Acrobasis tumidana* One on 1st September.

Box-tree Moth *Cydalima perspectalis* Seven between 3rd July and 14th October.



GEM



GOLDEN PEARL



SPRAWLER



FLEABANE FANNER

(C.A.)

New Macro`s

Sussex Emerald *Thalera fimbrialis* Two 25th July.

Sprawler *Asteroscopus sphinx* Single on 16th November.

Notable Macro`s

Spurge Hawk-moth *Hyles euphorbiae* Singles on 11th and 14th July.

Having been sent an image of a mystery caterpillar, with a request to its identity, a visit to the area on 16th August revealed an incredible sixty-seven larva in various stages of development, subsequent searches further afield of similar areas drew a blank.

Sloe Carpet *Aleucis distinctata* Four between 31st March and 9th May.

Gypsy Moth *Lymantria dispar* Seven between 17th-26th August.

Plumed Fan-foot *Pechipogo plumigeralis* Seven between 16th July and 7th October.

Dewick`s Plusia *Macdunnoughia confusa* A total of nine between 4th August and 26th September.

Toadflax Brocade *Calophasia lunula* Singles on 6th June and 3rd August.

Clancy`s Rustic *Caradrina kadenii* Singles on 17th September and 20th October.

Fisher`s Estuarine Moth *Gortyna borelli* A total of thirteen between 6th-28th September.

Feathered Brindle *Aprophya australis* Single on 20th September.



SPURGE HAWK-MOTH CATERPILLARS

(C.A.)

Odonata recorded in traps.

Migrant Hawker *Aeshna mixta* Single on 18th August.

Other Odonata.

Southern Migrant Hawker *Aeshna affinis* Twenty seven males in garden on 3rd August.

Southern Emerald Damselfly *Lestes barbarus* A single male on 26th June, at a site where previously not recorded, followed by reports through July.



SUSSEX EMERALD

(C.A.)

Moth trapping was carried out in the West Mersea back garden during 2021 on 79 nights, recording 177 species of macro moth. This is down on the previous year when 202 species were logged from ninety nights.



EMPEROR MOTH FEMALE



EMPEROR MOTH EGGS



EMPEROR LARVAE (D.U.)

The first highlight of the mothing season was a fabulous female **Emperor Moth** which proceeded to lay 25 eggs whilst inside the trap. The eggs were then retained and after hatching two weeks later, the resulting larvae were reared up with regular bramble-feeds over the following six weeks. After being allowed to pupate over the winter, hopefully there will a fresh emergence of Emperors and Empresses onto Mersea this coming spring.



TOADFLAX BROCADE



TOADFLAX BROCADE LARVA



BUTTONED SNOOT



CLANCY'S RUSTIC (DU)

A **Toadflax Brocade** was trapped on 27th May – only the second year running it's been recorded here. A **Buttoned Snout** was a new species for the garden on the 9th June and a **Green Silver Lines** was nice having missed out last year. The first of several **Clancy's Rustics** appeared on 28th June with other highlights that night being **Small Elephant Hawkmoth**, **Blotched Emerald** and **Bordered White**. A **Scarce Silver Lines**, **Beautiful Hook-tip** and *Evergestis limbata* were on 2nd July with another *Evergestis limbata* on 7th July. The first of a few **Plumed Fan-foots** was seen on 16th July followed by two on the 18th and then singles on 22nd July and 3rd August. A **Garden Tiger** gracing the trap on the 18th July was an unexpected find and nice to see one actually living up to its name! Also that night were two **Clancy's Rustics**, two **Privet Hawkmoths**, two **Pine Hawkmoths**, five **Elephant Hawkmoths** and *Epiblema foenella*. The only **Rosy Footman** of the season was seen on 28th July along with *Dasycera oliviella*. August highlights were a **Plumed Fan-foot** on 3rd August, **Clancy's Rustic** on the 4th, **Dark Sword-grass** on 10th and an **Old Lady** on 24th August with a second **Old Lady** on 1st September.



ROSY FOOTMAN



GARDEN TIGER



LARGE THORNS (DU)

Another main highlight of the season was the first **Large Thorn** for the garden on 6th September, followed by two on 7th and a single on the 8th. Another **Old Lady** was on 7th September, followed by the first **Lunar Yellow Underwing** on 13th also another **Plumed Fan-foot**. **Clancy's Rustics** were the main feature through October being recorded on nine nights between 8th and 27th, peaking at five individuals on both 9th and 13th of the month. A **Gem** was a nice migrant of surprise on 9th October, while **Cypress Carpets** were noted on 13th October and 8th November. The only **Merveille du Jour** noted made a late appearance on 27th October, while the last moth of note for the season was the first **Oak Rustic** for the garden on 30th October – continuing its spread across Essex. After a **December Moth** was noted on the 22nd November then that was a sign for the trap to be put away for the winter.



OAK RUSTIC



LUNAR YELLOW UNDERWING



PLUMED FAN-FOOT (DU)

PASSENGER MOTH, WIVENHOE

GLYN EVANS

Glyn Evans trapped a **Passenger Moth** in his Wivenhoe garden on 22nd August 2021. This appears to be the third Essex record after one at Bradwell on 15th September 1969 by Bob Dewick and the second one by Robin Barfoot at Woodford Green in 2011.

(Pic GE)



As March arrived I started my third year of moth trapping and despite the terrible spring weather delaying many moths, it was a very enjoyable moth year with several 'firsts', and not just regarding new moth species.

Without doubt, the best 'first' for me was remote trapping. Previously only confined to my garden (except two appalling efforts at work which resulted in about six moths total), this year I was able to get out and about locally. Teaming up with Glen Moore and Neil Murphy (both relatively new moth-ers like myself) we trapped several times at three different sites - Chalkney Wood in Earls Colne, Brookes Nature Reserve in Braintree and the Arboretum at Marks Hall Estate in Coggeshall. I also trapped at the annual moth trapping event at Tiptree Heath, which I had joined two years previously as a spectator only. In total, I managed to trap 15 times out and about between March and October.

Trapping with others has been very rewarding, especially when experienced moth folk are about to learn from. At the Tiptree Heath session I was able to get some 'on the spot' help with some identifications from Dougal Urquhart, Graham Ekins and Andrew Raybould. Dougal also kindly joined Glen, Neil and me for one of our visits to Chalkney Wood. I look forward to remote trapping this year immensely.

Another 'first' for me came as the year was drawing to a close. A brief early evening trip to Chalkney Wood (without traps) with Glen and Neil two days before Christmas Day was planned specifically to try and see a flightless female moth. As well as the vast numbers of male **Winter Moths** (*Operophtera brumata*) in the air or on trunks waiting patiently for a female, which was an unexpected bonus, we managed to spot a few **Winter Moth** females on trunks. Another added bonus was a different female moth, spotted by Neil, which was a **Mottled Umber** (*Erannis defoliaria*). A truly magical couple of hours.



Winter Moth, pair in cop



Mottled Umber, female



Winter Moth, males waiting

Trapping in habitats outside of my garden meant I had a much greater chance of seeing moth species previously not encountered, both at my trap and at others' traps.. And I wasn't disappointed. The best macromoth to grace my trap was the mighty **Clifden Nonpareil** (*Catocala fraxini*), a moth that appears to be re-establishing itself in the county with several other moth-ers also recording them in 2021. Mine was recorded at Chalkney Wood on 16th September. A week later I watched Neil and Glen each net one at Brookes Nature Reserve, in amongst some Aspen (and then both lose them soon after!). It is quite possible they were a mating pair. The best micromoth caught during my remote trapping was a **Breckland Plume** (*Oxyptilus distans*) at Brookes Nature Reserve on 10th June, confirmed by gen det. This appears to be only the second record of this species in the county.

Another interesting micromoth I found in my local nature reserve (Brickfield and Long Meadow LNR, Earls Colne) in late August, not from trapping but a lucky spot during a daytime stroll, was *Ochsenheimeria taurella*. A very odd looking moth, which I didn't realise was a moth when I first potted it for a closer examination. It was also nice to catch a pair of **Buff Arches** (*Habrosyne pyritoides*) at Marks Hall Estate on 9th July. I had only seen one before, in my garden trap in 2021...but only a glimpse during the evening as it was gone by daybreak.



Clifden Nonpareil (Chalkney Wood)



Breckland Plume (Brookes Nature Reserve)



Ochsenheimeria taurella (Long Meadow)



Buff Arches (Marks Hall Estate Arboretum)

There were so many other 'new to me' moth species I saw during my field trips, including the following (all to my trap): **Alder Moth** (*Acronicta alni*), **Figure of Eighty** (*Diloba caeruleocephala*), **Minor Shouder-knot** (*Brachylomia viminalis*), **Small Wainscot** (*Denticucullus pygmina*), *Ancylis mitterbacheriana*, *Elachista argentella* at Brookes Nature Reserve; **Dingy Shell** (*Euchoeca nebulata*), **Marbled White-spot** (*Deltote pygarga*), **Peach Blossom** (*Thyatira batis*), **Shaded Fan-foot** (*Herminia tarsicrinalis*), **Webb's Wainscot** (*Globia sparganii*), **Brown Plume** (*Stenoptilia pterodactyla*) [gen det], **Gold Swift** (*Phymatopus hecta*), *Opostega salaciella* at Marks Hall Estate; **Brindled White-spot** (*Parectropis similaria*), **Broken-barred Carpet** (*Electrophaes corylata*), **Dark Swordgrass** (*Agrotis ipsilon*), **Drinker** (*Euthrix potatoria*), **Large Emerald** (*Geometra papilionaria*), **Lobster Moth** (*Stauropus fagi*), **Poplar Lutestring** (*Tethea or*), **Sandy Carpet** (*Perizoma flavofasciata*), **Six-striped Rustic** (*Xestia sexstrigata*), **Yellow Horned** (*Achlya flavicornis*), *Cryptoblades bistrigia*, *Eulia ministrana*, *Hypotima rhomboidella*, *Paracrania chrysolepidella* [gen det], *Semioscopis avellanella*, *Syndemis musculana* at Chalkney Wood; **Orange Sallow** (*Tiliacea citrigo*), **Pale Oak Beauty** (*Hypomecis punctinalis*), **Rosy Footman** (*Miltchrista miniata*) at Marks Hall Estate and Chalkney Wood; *Apotomis betuletana*, *Pseudosciaphila branderiana* at Chalkney Wood and Brookes Nature Reserve; **Sharp-angled Peacock** (*Macaria alternata*), *Agonopterix nervosa*, *Aristotelia ericinella*, *Lathronympha strigana*, *Mirificarma mulinella* and *Stenolechia gemmella* at Tiptree Heath.



Minor Shoulder-knot



Sharp-angled Peacock



Poplar Lutestring



Dark Sword-grass



Lobster Moth



Diurnea fagella



Elegia similella



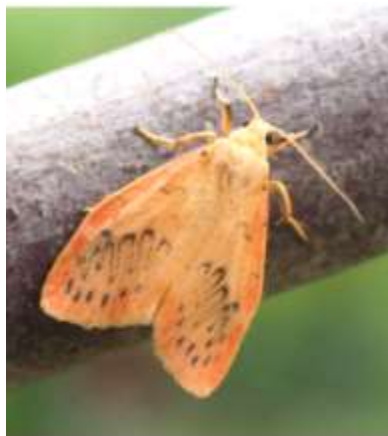
Semioscopis avellanella



Paracrania chrysolepidella



Gold Swift



Rosy Footman



Webb's Wainscot



Stenolechia gemmella



Aristotelia ericinella

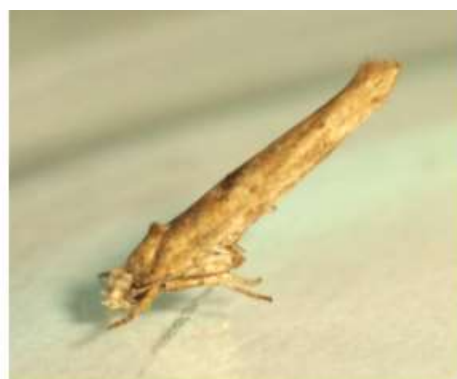


Mirificarma mulinella

When it comes to trapping in my garden, the highlight has to be the **Pine Cone Tortrix** (*Gravitarmata margoratana*) that came to light in May. As the common name suggests, this is a pine specialist and was only first recorded in the UK in 2011, in Kent. This was the first record for Essex. Rather pleasingly, having recorded the first two Essex records of the olive loving *Zelleria oleastrella* last year, I had this species to light again, and on three separate occasions, though much later in the year (September this year as opposed to June last year). Interesting to see this moth was also recorded by Bill Crooks in the south of the county this year, also in September.



***Gravitarmata margoratana*, new to Essex**



***Zelleria oleastrella*, classic pose**

I trapped a total of 86 times at home. Still a relatively new moth trapper there were many new moth species to my garden in 2021. New macromoths included: **Blue-bordered Carpet** (*Plemyria rubiginata*), **Bordered White** (*Bupalus piniaria*), **Early Moth** (*Theria primaria*), **Peacock Moth** (*Macaria notata*), **Phoenix** (*Eulithis prunata*), **Scarce Silver Lines** (*Bena bicolorana*) and **Small Phoenix** (*Ecliptopera silaceata*).



Small Phoenix (form insulata)



Phoenix



Green Silver Lines



Bordered White



Blue-bordered Carpet



Peacock Moth

New micromoths included: *Acrolepia autumnitella*, *Alabonia geoffrella*, *Aphomia zelleri* (which seems quite a rare moth in Essex), *Assara terebrella* (an Essex RDB species with just 8 previous county records, the last from 2016), *Bucculatrix cidarella*, *Callisto denticulella*, *Cochylis hybridella*, *Cochylis nana*, **Common Nettle-tap** (*Anthophila fabriciana*), *Cydia amplana* (a moth that appears to be on the increase in the county), *Dioryctria abietella*, *Diplodoma laichartingella*, *Ectoedemia decentella*, *Elachista albifrontella*, *Epermenia chaerophyllella*, *Evergestis limbata*, *Metzneria lappella*, *Musotima nitidalis* (also seen on two visits to Marks Hall Estate), **Oak Nycteoline** (*Nycteola revayana*), *Ptycholoma lecheana* (also seen at Chalkney Wood), **Raspberry Clearwing** (*Pennisetia hylaeiformis*), *Rhodophaea formosa*, *Scoparia pyralella*, *Scoparia subfusca*, *Teleiodes luculella*, *Teleiodes vulgella*, *Tinea semifulvella* and *Vitula biviella* (another rare moth in Essex). *Psyche casta* was a new adult for my garden (I have seen the larval cases often enough). Plus I had a new moth in my house, **Common Clothes Moth** (*Tinea bisselliella*), not that I was especially pleased to see this one!



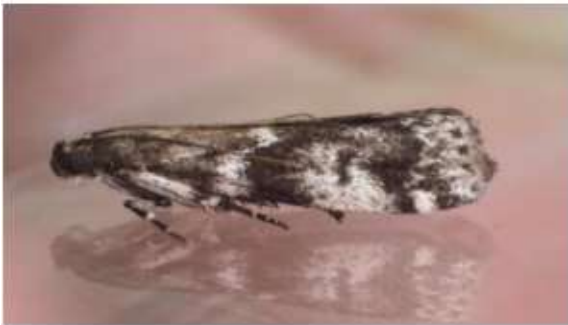
Musotima nitidalis



Aphomia zelleri



Raspberry Clearwing



Assara terebrella



Dioryctria abietella



Rhodophaea formosa



Vitula biviella



Scoparia subfusca



Psyche casta



Alabonia geoffrella



Ectoedemia decentella



Callisto denticulella



Metzneria lappella

Last year was my first sortee into the world of 'gen.det.' As well as the three already detailed above for moths trapped remotely I also sent a few off from my garden and this meant I was able to confirm / add a small selection of (common) micromoths to my garden list, these being: *Elachista freyerella*, *Phyllonorycter nicelli*, *Scrobipalpa ocellata*, *Stigmella aurella* and *Stigmella hybnerella*. I will most likely build on these this year by sending off another small selection.

I also had many fabulous moths as returning visitors to my garden, too many to name so instead here are some photographs of my favourites. However, a special mention should go to **Old Lady** (*Mormo maura*). Having not seen any in 2020 I was delighted to see this species again, especially on the evening of 16th July when there were five in total flying about the garden, completely ignoring the moth trap.



Black Arches



Dusky Sallow



Barred Yellow



Black Rustic



Iron Prominent



Marbled White



Orange Moth



Frosted Orange



Oak Beauty



Broad-barred White



The Herald



Puss Moth



Lime-speck Pug



Blastodacna hellerella



Ypsolopha sequella



***Esperia sulphurella*, in cop**



Catoptria pinella

The poor start to year may have added to a slightly higher number of previously seen moth species being absent? Some of the moths I was sad not to see in my garden were **Canary-shouldered Thorn** (*Ennomos alniaria*), **Chocolate Tip** (*Clostera curtula*), **Eyed Hawk-moth** (*Smerinthus ocellata*), **Frosted Green** (*Polyploca ridens*), **Pebble Prominent** (*Notodonta ziczac*), **Swallow Prominent** (*Pheosia tremula*), **Tawny Speckled Pug** (*Eupithecia icterata*), **Waved Black** (*Parascotia fuliginaria*) and *Coleophora amethystinella*. The most surprising 'no-show' was the **Cinnabar** (*Tyria jacobaeae*), both as an adult and a larva.

I once again dabbled with some moth 'early stages' during the year, including **December Moth** (*Poecilocampa populi*), reared from eggs laid in a pot late in 2020, a pair of **Snout** (*Hypena proboscidalis*), reared from caterpillars I found on nettles in my garden, and a **Swallow-tailed Moth** (*Ourapteryx sambucaria*), reared from a caterpillar found in old prunings at the bottom of my garden. The latter was so twig-like I almost didn't spot it despite its large size. Two species' larvae that I'd not seen in my garden before and which needed no rearing through for definitive identifications were a single caterpillar of **Box-tree Moth** (*Cydalima perspectalis*) on Box, and **Mullein** (*Cucullia verbasci*) on *Buddleia globosa*. As for the previous year, I found a single **Vapourer** (*Orgyia antiqua*) caterpillar. This time it was under our pear tree, rather than on one of our apple trees.



December Moth (larva)



Swallowtail Moth (larva)



Box-tree Moth (larva)



Mullein (larva)



Vapourer (larva)



Stigmella spp. (vacated mines)

(All pics -D.B)

I also collected various leaf miners as larvae or pupae within leaves, from the garden and elsewhere, but any adults that appear will feature in next year's report. That said, I did get identifications confirmed from vacated mines on a beech tree leaf at home - those of *Stigmella tityrella* and *Stigmella hemargyrella*, both species not previously recorded in my garden. Now I know these are present I will look out for the adults during their flight times (or else look out for occupied leaf mines so I can try rearing them through to adults).

And finally, in case anyone missed this on Facebook, here is a poem I wrote nearly 20 years ago when moths were but interesting and mysterious names to me.

The Old Lady **by Daniel Blyton 2003 ©**

*The day was early grey
With green silver lines
As the gatekeeper,
In his argent and sable uniform,
Stood like an iron prominent
Amongst the black arches
Of Dunbar House -
A gothic sprawler, a dark spectacle.*

*Inside, the dingy footman,
With his sallow complexion,
Was polishing his burnished brass
By the smoky wainscot
As the old lady,
In her great brocade
With gold fringe and lace border,
Rose up like a phoenix
From her flame carpet.*

*Once a lilac beauty,
She now sat like a clay sculpture,
Her hair a small yellow wave
And her face like mother-of-pearl;
Just a rivulet
In the bloodvein of the ancestral home,
Like a true lover's knot untied.*

*And outside, high above, a herald -
The Ghost Swift flew
In a figure-of-eight
Waiting with its grey dagger.*

A year marked by less than ideal weather, traps were deployed less than we would have liked. Typically four traps were in action (250MV, two 125MV, 80W actinic) but the 5W LED was occasionally deployed, mostly in the autumn when its success seems greatest.

We took the difficult decision this year to stop counting (almost) every moth. There were two reasons for this. Firstly, the sheer amount of time it could take in high summer to count, log and identify the species - it was not unusual to be on site at 0530 and still be at it at 1400! And that did not include time away from site identifying the more difficult specimens. Doing this three times a week was a strain on our time. Secondly, the sheer numbers of many species could at times be daunting, some species such as **Latticed Heath** and various oak feeding tortrices occasionally making it in to four figures. On a warm, muggy July morning, many would escape the traps despite our best efforts and ingenuity!

So what did 2021 produce? Well, a total of 516 species were recorded during the year of which an impressive 62 were new species for the Wood, taking the site total to 743 species.

Notable amongst the 62 were **Oak/New Oak Pigmy** *Zimmermania atrifrontella/longicauda* (third Essex record) which mines under the bark of young oak, **Small Carl** *Tischeria dodonaea* (last recorded in Essex in 1906), **Hornbeam Slender** *Parornix carpinella* (seventh site for the species in Essex) **Scarce Ermine** *Yponomeuta irrorella* (26th July - third County record) and **Wood Sage Plume** *Capperia britanniodactylus* (3rd July - fourth site for the species in Essex). All but the last species were identified from their mines in leaf or bark.

As far as the site's specialities are concerned, the principal one is **Small Black Arches** *Meganola strigula* and it had an exceptional year with the total of 145 being by far the highest total since regular trapping started in 2018. Numbers were all the more exceptional given that trapping was at a reduced level compared to 2018 and 2019.

Table 1. Summary of the occurrence of Small Black Arches in 2022.

Year	Total	Average nightly catch*	Early/late dates	Duration
2018	67	8	14/06-12/07	29 days
2019	106	9	22/06-18/07	27 days
2020	46	9	13/06-07/07	25 days
2021	145	29	26/06-26/07	31 days
	*ignoring blank nights within recording period			

A single **Dark Crimson Underwing** *Catocala sponsa* was caught on 26th July, continuing the species' annual presence in the Wood since first recorded in 2018. **Marbled Grass-veneer** *Catoptria verellus* was trapped on three nights and confirming the continuing presence of this species too. A total of three Hornbeam feeding **Beautiful Pearl** *Agrotera nemoralis* point to this being another species that has now established itself after the first record in 2020.



DARK CRIMSON UNDERWING



BEAUTIFUL PEARL

(S.W.)



MARbled GRASS-VENEER



WOOD SAGE PLUME



SCARCE ERMINE (S.W.)

Other micro notables included a **Dark Smudge** *Ypsolopha horridella* on 26th June (third site record), **Scarce Forest Tubic** *Dasycera oliviella* on five nights (common here), single **Treble-spot Flat-body** *Telechrysis tripuncta* on 9th and 13th June (2nd and 3rd site records), a single **Wainscot Neb** *Monochroa palustrellus* on 26th July (2nd for site), **Short-barred Groundling** *Caryocolum blandella* on four nights, **Black-spotted Groundling** *Pseudotelphusa scalella* on five nights, **Brindled Groundling** *Recurvaria nanella* on two nights, **Oak Cosmet** *Dystebenna stephensi* on one night, **Forest Tortrix** *Choristoneura diversana* on two nights, a total of 19 **Early Oak Piercer** *Pammene giganteana* to pheromone lure (17 on 23rd and two on 25th March) and a single **Maple Piercer** *Pammene trauniana* on 9th June. Very limited use of pheromones did produce a new clearwing for the site, **Red-tipped** *Synanthedon formicaeformis* to pheromone on 3rd June. **Festoon** *Apoda limacodes* had a poor year with records on just six nights.

Notable pyralids included **White-barred Knot-horn** *Elegia similella* on five nights and single **Rosy-striped Knot-horn** *Oncocera semirubella* on three nights.

Geometers seems to have a poor year with the only notable record being two **Sloe Carpet** *Aleucis distinctata* on 9th May.

Two apparent colonists appeared again this year with two **Oak Processionary** *Thaumetopoea processionea* suggesting residence with records occurring in the last three years, although no caterpillar 'trains' have been seen yet and 13 **Gypsy Moth** *Lymantria dispar* confirmed how well established this species is now.

A single **Dotted Fan-foot** *Macrochilo cribrumalis* was trapped on 19th July, whilst a **Plumed Fan-foot** *Pechipogo plumigeralis* on 14th August was new for the Wood and single **Waved Black** *Parascotia fuliginaria* were noted on 26th July and 14th August (annual since 2017).



OAK COSMET



SMALL CARL



OAK / NEW OAK PYGMY (S.W.)

Noctuid numbers were low again, continuing a trend. A **Sandhill Rustic** *Luperina nickerlii* was trapped on 6th September, a **Webb's Wainscot** *Globia sparganii* on 11th August, a **Small Ranunculus** *Hecatera dysodea* on 9th June, which was new for the Wood, a single **L-Album Wainscot** *Mythimna l-album* on 16th October, a **Lunar Yellow Underwing** *Noctua orbona* on 6th September and a **Clancy's Rustic** on 7th October, the second site record. And the larger and later cousin to **Small Black Arches**, **Kent Black Arches** *Meganola albula* occurred on 17th and 19th July.

As I am sure others will note, it was a very poor year for migrants, although a **Gem** *Nycterosea obstipata* on 14th August was a first for Hazeleigh. **Silver Y** *Autographa gamma* were mostly trapped as singles with the species appearing on ten dates between 10th May and 2nd September. **Diamond-back Moth** *Plutella xylostella* was also in short supply with less than 20 recorded all year with the most on any one night being six on 9th May (the same night that six **Silver Y** occurred - the only night of the year more than one occurred), the earliest of the year, whilst the latest occurred on 19th November, the same day that the year's only **Rusty-dot Pearl** *Udea ferrugalis* made its appearance. Just three **Rush Veneer** *Nomophila noctuella*, one in August and two in October, complete the set of commoner migrants. Scarcer migrants were virtually non-existent, assuming that the three **Scarce Oak Knot-horn** *Acrobasis tumidana* that were caught now fall into the resident category. All that can be added is a single **Hummingbird Hawkmoth** *Macroglossum stellatarum* on 5th August.

And finally, a quick look at butterflies. It was a generally poor year for **White Admiral** *Limenitis camilla* and **Silver-washed Fritillary** *Argynnis paphia* with the former perhaps running at 50% of sightings in the last few years and the latter seen on less than five occasions after numerous sightings in 2020. After good years recently **White-letter Hairstreak** *Satyrrium w-album* and **Brown Argus** *Aricia agestis* were absent, although **Purple Hairstreak** *Favonius quercus* had a reasonable year as did **Brimstone** *Gonepteryx rhamni*. And it was the fourth year in the row that we have failed to find **Small Tortoiseshell** *Aglais urticae* in the Wood. But, to finish on a high note, it appears **Marbled White** *Melanargia galathea* is colonising the surrounding fields.

CLIFDEN NON-PAREILS

DOUGAL URQUHART



On the morning of 28th August 2021, Andrew Thompson was stunned to find a **Clifden Nonpareil** resting on the wall beside his front door of his house at Stanway Green, Colchester. Nearby his moth trap had operated during the previous night which must've attracted the moth into the garden, although it chose to rest up on the brickwork where its markings blended in with the background. Charlotte Wells was helping Andrew that morning sorting out the moths from the trap.

After Andrew texted me a photo of the moth he'd just caught, I alerted Graham Ekins and we both jumped in our cars that afternoon for our first ever moth twitch! The moth pictured left (D.U.)

Between late August and late September **Clifden Nonpareils** reported in Essex included from Thorrington, Lawford, Little Clacton, Brooks Reserve, Chalkney Wood, Eight Ash Green, Great Dunmow, 4 at Wenden Lofts, 13 at Bradwell, Brentwood, Belfairs NR, Magdalen Laver

2021 was a poor year for scarce immigrant lepidoptera but many recent colonists continued to consolidate their position.

At the moment plans for a new nuclear power station at Bradwell do not seem to be progressing but now there is a potential new threat from a housing development which could come right up to the edges of the reserve.

January got off to a reasonable start with **Winter Moth**, **Mottled Umber** and **Chestnut** in the trap on the 11th. Two **Peacocks** were active on the 22nd and a pristine **Red Admiral** was basking in sunshine near the Moth Trap on the 29th. From the 7th – 14th February the weather was very cold with several inches of snow, but by the 20th warm weather had arrived with a **Brimstone** seen by day and a **Red-headed Chestnut** that night. After an uneventful spring migrant activity increased dramatically in the second week of May, with at least 13 **Painted Ladies** and 20 **Red Admirals** on the 11th.

A daytime sighting of a **Beautiful Marbled** in the meadow on the 26th June was a surprise, although by then the first **Delicates** were also coming in. *Catoptria verellus* is now common here with a record annual total of 218 in the trap and **Box-tree Moth** is now so abundant that it seems to be appearing all over the village. Sadly, the wet summer dashed early hopes that 2021 would become a great **Painted Lady** year but by late August phenomenal numbers of **Red Admirals** were about. Following on from one only last year a **Dark Crimson Underwing** was in the trap on the 15th August and the first of an unprecedented 13 **Clifden Nonpareils** on the 28th.



DARK CRIMSON UNDERWING

The **Jersey Tiger** has finally reached us with two different individuals active around the buddleias on the 23rd and 29th of the month. It was good to see **Vestal**, **Scarce Bordered Straw** and **Dewick's plusia** during September but it was our first ever **Heath Rustic** on the 5th which was the highlight of the month. The migrant theme continued during October with a **Radford's Flame Shoulder** on the 9th and there was also a curious array of unseasonably late records noted around the same time. **Webb's Wainscot** on the 18th, **Common Wave** on the 19th and **Shoulder-striped Wainscot** on the 24th. Also, on the 26th no less than three **Blood-veins** were in the trap.

A bizarre season came to a close with an 'early' **Common Quaker** on the 29th December and two **Red Admirals** on New Years Eve!



HEATH RUSTIC



RADFORD'S FLAME SHOULDER (SD)



2021 was another excellent year for recording in our Boreham garden with 22 new species, 15 of these being Micro. I mentioned in the 2020 report that it would be great to reach 900 species in 2021 and I was delighted that this was achieved, thanks primarily to GD confirmation by Graeme Smith and Keith Kerr. Not surprisingly this is the lowest number of new species recorded since I started mothing in Boreham. I anticipate this decreasing further in the coming years. The star macro moth this year was a migrant, **Striped Hawk-moth** on the 10th May along with several more common migrants.

Striped Hawkmoth, *Hyles livornica*,

Boreham garden statistics from the last 5 years

Year	2017	2018	2019	2020	2021
New Micro	22	38	37	31	15
New Macro	8	8	9	18	7
Total New	30	46	46*	49	22
Year total	497	567	429	625	513
Garden total	731	777	835	884	906
Nights trapped	96	103	105	140	129
Moth total	7311	8105	8235	18,875	13,616

*In 2019 a full review of the Boreham list resulted in 12 species being added to the cumulative total, this included species that had been preserved from previous years and confirmed by GD and those previously overlooked but included in Goodey, B. (2004) *Moths of Essex*.

Nights trapped in our Boreham garden in 2021.

Month	Jan	Feb	March	April	May	June	July	Aug	Se	Oc	No	De	Total
Total nights	10	10	10	13	15	18	3	11	11	4	12	12	129

I trapped for a total of 129 nights with most activity between April and June. This is my 2nd highest annual catch total, this was also reflected in the total number of moths logged. I was abroad for most of July and October and so missed some potentially excellent arrival conditions.



Tuta absoluta
Both New for Essex in 2021.



Bucculatrix ulmifoliae



On the 10th June I was pleased to have confirmed a new species for Essex, **Breckland Piercer**, *Cydia milleniana*. This is a Larch specialist with a 2 year cycle and in the UK is known only from East Anglia where it is a rare moth. Two other species recorded were new for Essex from several sites in 2021, they were *Tuta absoluta*, a pest of Tomatoes in southern Europe and *Bucculatrix ulmifoliae*, an adventive species first recorded in Surrey in 2006 from imported hybrid Elms.

Breckland Piercer, *Cydia milleniana*, first for Essex. (8mm)

The 22 New species for our Boreham garden in 2021

ABH No	Name	Date	Comment
04.063	<i>Stigmella roborella</i>	12/6/21	GD
14.011	<i>Bucculatrix ulmifoliae</i>	7/6/2021 New for Essex in 2021	GD
15.016	<i>Euspilaptryx auroguttella</i>	16/6/21	GD
17.011	<i>Ypsolopha ustella</i>	14/11/21	
32.002	<i>Semioscopis steinkellneriana</i>	24/4/21	Local
35.127	<i>Tuta absoluta</i>	24/8/21 new for Essex in 2021	GD Adventive
35.132	<i>Caryocolum fraternella</i>	8/8/21	GD Local
38.024	<i>Elachista poae</i>	1/6/21	GD NSB
38.043	<i>Elachista scirpi</i>	16/6/21	GD NSA
49.337	<i>Cydia milleniana</i>	10/6/21 first for Essex	GD pRDB3
49.358	<i>Grapholita tenebrosana</i>	16/6/21	GD Local
49.362	<i>Pammene giganteana</i>	29/3/21	GD NSB
49.363	<i>Pammene argyrana</i>	15/04/21	GD Local
62.062	Indian Meal Moth <i>Plodia interpunctella</i>	12/6/21	Local
63.109	<i>Pediasia contaminella</i>	7/9/21	NSB ERDL
68.001	Emperor Moth	04/4/21	To EMP lure
69.015	Striped Hawk-moth	10/5/21	
70.047	Gem	13/8/21	
70.193	Lesser Treble bar	14/6/21	GD ERDL
70.282	Early Moth	21/2/21	
72.057	Plumed fan-foot	7/9/21	
73.223	Oak Rustic	14/11/21	

ERDL: Essex Red Data List; NSA/NSB: Nationally Scarce A/B; Local: Nationally Local; GD: Genital Dissection; Adventive: Introduced.

<https://www.essexfieldclub.org.uk/Essex> Red Data List larger Moths

ABH Number as in Agassiz, D.J.L., Beavan, S.D., & Heckford, R.J. (2013) *A Checklist of the Lepidoptera of the British Isles*. Royal Entomological Society, St. Albans.

Davis, A.M. (2012) *A Review of the Status of Microlepidoptera in Britain*, Butterfly Conservation (Report No S12-02)

Fox, R., Parsons, M.S., & Harrower, C.A. (2019) *A Review of the status of the macro-moths of Great Britain* (BC report to NE).

10 most numerous species trapped in 2021

An analysis of the 10 most trapped species was particularly interesting as it included **Box-tree Moth**, this was only recorded for the first time here in June 2017. Another, **White-point** was until recently considered primarily a migrant but is now well established in the Chelmer Valley to the south of the village along with **L-album Wainscot** of which 31 were recorded this year. Neither of the former has been included before in this list.

ABH No	Latin Name	English Name	Number
73.359	<i>Xestia c-nigrum</i>	Setaceous Hebrew Character	1657
73.342	<i>Noctua pronuba</i>	Large Yellow Underwing	861
63.054	<i>Cydalima perspectalis</i>	Box-tree Moth	569
73.317	<i>Agrotis exclamationis</i>	Heart and Dart	559
73.325	<i>Agrotis puta</i>	Shuttle-shaped Dart	557
73.291	<i>Mythimna pallens</i>	Common Wainscot	457
73.297	<i>Mythimna albipuncta</i>	White-point	448
18.001	<i>Plutella xylostella</i>	Diamond-back Moth	332
49.039	<i>Epiphyas postvittana</i>	Light-brown Apple Moth	327
73.319	<i>Agrotis segetum</i>	Turnip	311

ABH Number as in Agassiz, D.J.L., Beavan, S.D., & Heckford, R.J. (2013) *A Checklist of the Lepidoptera of the British Isles*. Royal Entomological Society, St. Albans.

Migration

Until early May there was little sign of migrant activity then overnight on the 10th May warm air and a light SE resulted in the trapping of a fresh **Striped Hawk-moth** and a surprising **46 Diamond-backed Moths**, *Plutella xylostella*. I have previously only seen this species on the continent and so was delighted. June was fairly quiet with **Dark Sword-grass** and **Hummingbird Hawk-moth** being the highlights. In August there were several nights with a warm southerly airflow, often associated with rain. Highlights included my first **Gem** as well as 14 **Vagrant Piercer**, *Cydia amplana*, 48 **Tree-lichen Beauty** and 49 **White-point**. September was an excellent month with several warm and settled nights, no less than 362 **White-point** were logged this month, the first 3 **Clancy's Rustic**, 3 more **Vagrant Piercer** *Cydia amplana*, 2 **Delicate** and a **Scarce Bordered Straw**, 2 species that are less than annual, also a fresh **Dewick's Plusia**. Although away for most of October I still managed to log 3 more **Clancy's Rustic**. Migration this year continued into November with **Rusty-dot Pearl**, **Rush Veneer** *Nomophila noctuella*, a NFS **Oak Rustic** and the 5th **Dark Sword-grass** of the year

Migrant summary

Species	ABH No	May	June	July	Aug	Sept	Oct	Nov	Total
Diamond-back Moth <i>Plutella xylostella</i>	18.001	68	232	10	7	8	2	5	332
*Vagrant Piercer <i>Cydia amplana</i>	49.343				14	3			17
*European Corn Borer <i>Ostrinia nubilalis</i>	63.028		1	1	1				3
Rusty Dot Pearl <i>Udea ferrugalis</i>	63.031	1			1	1		3	6
<i>Acrobasis tumidana</i>	62.033					2			2
<i>Palpita vitrealis</i>	63.048			1		1			2
Rush Veneer <i>Nomophila noctuella</i>	63.052		1					1	2
Hummingbird Hawk-moth <i>M. stellatarum</i>	69.010		1						1

Striped Hawk-moth <i>Hyles livornica</i>	69.0 15	1							1
Vestal <i>Rhodometra sacraria</i>	70.0 38					1			1
Gem <i>Nycterosea obstipata</i>	70.0 47				1				1
*Dewick's Plusia <i>Macdunnoughia confusa</i>	73.0 10					1			1
Silver Y <i>Autographa gamma</i>	73.0 15	11	47	4	29	32	4	4	131
Scarce Bordered Straw <i>Helicoverpa armigera</i>	73.0 76					1			1
Delicate <i>Mythimna vitellina</i>	73.2 95					2			2
Dark Sword-grass <i>Agrotis ipsilon</i>	73.3 27	1	1		1	1		1	5
* Tree-lichen Beauty <i>Cryphia algae</i>	73.0 82				48				48
Oak Rustic <i>Dryobota labecula</i>	73.2 23							1	1
* White-point <i>Mythimna albipuncta</i>	73.2 97		32	2	49	361	3	1	448
* Clancy's Rustic <i>Caradrina kadenii</i>	73.0 93					3	6		9
TOTALS		82	315	18	151	417	15	16	1014

*Records likely to be associated with local breeding populations

Status of the 513 species trapped in our Boreham garden during 2021 Essex Red Data List (ERDL)

An impressive total of 42 species on this list were logged in our Boreham traps. It is over 2 decades since the last review and some will no doubt be removed, this may include species such as Toadflax Brocade and L-album Wainscot. I have listed some of the scarcer species in this category.

ABH No	English Name	Latin Name	Number	No of Nights
04.074		<i>Ectoedemia sericopeza</i>	1	1
16.008		<i>Yponomeuta sedella</i>	1	1
19.011	Leek Moth	<i>Acrolepiopsis assectella</i>	1	1
37.017		<i>Coleophora prunifoliae</i>	1	1
49.261		<i>Crociosema plebejana</i>	2	2
49.365		<i>Pammene albuginana</i>	1	1
62.010		<i>Elegia simiella</i>	2	2
73.197	Dotted Chestnut	<i>Conistra rubiginea</i>	1	1
73.344	Lunar Yellow Underwing	<i>Noctua orbona</i>	1	1

Nationally Local Species

A total of 97 of the species trapped had this category, some of the more significant Essex species are listed below. I have omitted most of those with several entries including all the Clearwings.

ABH No	English Name	Latin Name	Number	No of Nights
07.014		<i>Nematopogon metaxella (GD)</i>	1	1
12.048		<i>Pyschoides filicvora (GD)</i>	2	2
14.002		<i>Bucculatrix nigricomella</i>	1	1
14.012		<i>Bucculatrix bechsteinella(GD)</i>	2	2
14.013		<i>Bucculatrix demaryella (GD)</i>	1	1
15.007		<i>Caloptilia azaleella</i>	5	5
15.017		<i>Calybites phasianipennella</i>	2	2
16.008		<i>Yponomeuta sedella</i>	1	1
16.010		<i>Zelleri hepariella</i>	2	2

19.011	Leek Moth	<i>Acrolepiopsis assectella</i>	1	1
35.046		<i>Bryotropha senecetella (GD)</i>	2	2
35.132		<i>Caryocolum fraternella (GD)</i>	1	1
35.148		<i>Carpatolechia fugitivella (GD)</i>	1	1
37.014		<i>Coleophora coracipennella (GD)</i>	1	1
37.039		<i>Coleophora hemerobiella (GD)</i>	1	1
37.083		<i>Coleophora saxicolella (GD)</i>	1	1
37.086		<i>Coleophora versurella (GD)</i>	1	1
45.001	Saltmarsh Plume	<i>Agdistis bennetii</i>	1	1
49.014		<i>Archips crataegaa</i>	2	2
49.042		<i>Neosphaleroptera nubilana(GD)</i>	1	1
49.055		<i>Cnephasia communana (GD)</i>	1	1
49.073		<i>Acleris schalleriana</i>	1	1
49.121		<i>Aethes tesserana</i>	2	2
49.275		<i>Eucosma conterminana</i>	1	1
49.304		<i>Clavigesta purdeyi</i>	1	1
49.320		<i>Dichrorampha alpinana (GD)</i>	3	3
49.315		<i>Dichrorampha simpliciana (GD)</i>	1	1
49.322		<i>Dichrorampha plumbagana (GD)</i>	1	1
49.358		<i>Grapholita tenebrosana (GD)</i>	1	1
49.365		<i>Pammene albuginana</i>	1	1
62.062	Indian Meal Moth	<i>Plodia interpunctella</i>	1	1
62.065		<i>Ephestia woodiella (GD)</i>	2	2
70.037	Clay Triple-lines	<i>Cyclophora linearia</i>	1	1
70.148	Maple Pug	<i>Eipithecia inturbata</i>	1	1
72.004	Buttoned Snout	<i>Hypena rostralis</i>	11	4
72.037	Round-winged Muslin	<i>Thumatha senex</i>	1	1
72.063	Blackneck	<i>Lygephila pastinum</i>	1	1
73.053	Chamomile Shark	<i>Cuculia chamomillae</i>	2	2
73.100	Silky Wainscot	<i>Chilodes maritima</i>	1	1
73.132	Sandhill Rustic	<i>Luperina nicjerlii</i>	4	4
73.151	Webb's Wainscot	<i>Globia sparganii</i>	2	2
73.197	Dotted Chestnut	<i>Conistra rubiginea</i>	1	1
73.302	Obscure Wainscot	<i>Leucania obsoleta</i>	2	2
73.344	Lunar Yellow U.wing	<i>Noctua orbona</i>	1	1

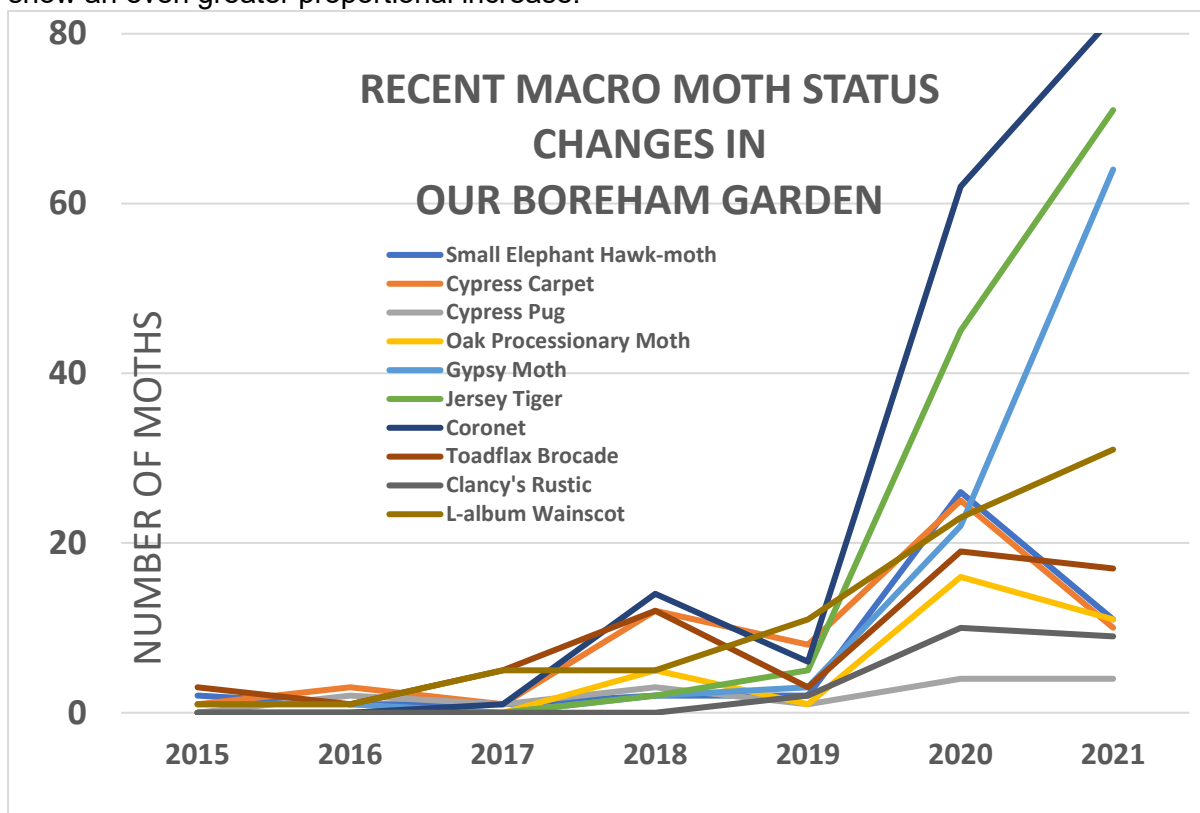
Nationally Scarce A and B

18 species were within these categories, 13 of these were Micros and all of the latter have been listed

Category	ABH No	English Name	Latin Name	Number	No of Nights
NSA	04.074		<i>Ectoedemia sericopeza 9GD)</i>	1	1
NSA	38.043		<i>Elachista scirpi (GD)</i>	1	1
NSA	49.356		<i>Grapholita lobarzewskii</i>	1	1
NSA	62.061		<i>Vitula biviella</i>	2	2
NSB	35.033		<i>Platyedra subcinerea</i>	5	5
NSB	35.099		<i>Gelechia senticetella</i>	6	6
NSB	35.118	Beet Moth	<i>Scrobipalpa ocellatella (GD)</i>	1	1
NSB	37.017		<i>Coleophora prunifoliae (GD)</i>	1	1
NSB	38.024		<i>Elachista poae</i>	1	1
NSB	49.219		<i>Thiodia citrana</i>	1	1
NSB	49.362		<i>Pammene giganteana</i>	14	8
NSB	62.010		<i>Elegia simiella</i>	2	2
NSB	63.109		<i>Pediasia contaminella</i>	1	1

Recent Boreham Macro moth Status Changes

Like many across the County I have been recording significant recent changes in catches for once rare or scarce species of both Macro and Micro moths. Some of these have probably resulted from Climate Change and will no doubt continue at a rapid rate. I thought it would be of interest to plot the annual catch data for 10 of these macro moth species from our garden. It does suggest a very rapid change, particularly since 2018. Due to the limits of the axis scales an additional 3 species have not been plotted but the data show an even greater proportional increase.



RECENT MACRO MOTH STATUS CHANGES								
ABH No.	Common Name	2015	2016	2017	2018	2019	2020	2021
69.017	Small Elephant Hawk-moth	2	1	1	2	2	26	11
70.083	Cypress Carpet	1	3	1	12	8	25	10
70.159	Cypress Pug	0	2	1	3	1	4	4
71.001	Oak Processionary Moth	0	0	0	5	1	16	11
72.011	Gypsy Moth	1	1	0	2	3	22	64
72.030	Jersey Tiger	0	0	0	2	5	45	71
73.047	Coronet	0	0	1	14	6	62	82
73.059	Toadflax Brocade	3	1	5	12	3	19	17
73.093	Clancy's Rustic	0	0	0	0	2	10	9
73.300	L-album Wainscot	1	1	5	5	11	23	31
Three additional species not included in the graphic also show recent significant increases								
73.297	White-point	7	14	9	56	21	161	448
63.054	Box-tree Moth	0	0	4	32	97	415	569
73.082	Tree-lichen Beauty	2	32	2	88	66	159	48

Latest ever records

With the mild weather for most of November and the first half of December I trapped several species that were the latest ever recorded. I suspect this trend of extended flight times will continue with climatic amelioration. I have tabulated below the more significant records.

Species	Previous latest record	Record in 2021
<i>Acleris sparsana</i>	4 th November 2015	29 th December 2021
Rusty-dot Pearl , <i>Udea ferrugalis</i>	17 th November 2020	19 th November 2021
Rush Veneer <i>Nomophila noctuella</i>	15 th November 2020	19 th November 2021
Beautiful Plume <i>Amblyptilia acanthadactyla</i>	18 th December 2020	29 th December 2021
Common Marbled Carpet <i>Dysstroma truncata</i>	21 st October 2020	13 th December 2021
Red-green Carpet <i>Chloroclysta siterata</i>	15 th November 2018	17 th November 2021
Scarce Umber <i>Agriopis aurantiata</i>	4 th December 2018	13 th December 2021
Cypress Carpet <i>Thera cupressata</i>	10 th November 2020	5 th December 2021
Spruce Carpet <i>Thera britannica</i>	9 th November 2020	17 th November 2021
Sprawler <i>Asteroscopus sphinx</i>	17 th November 2020	19 th November 2021
December Moth <i>Poecilocampa populi</i>	25 th November 2020	12 th December 2021
Lesser Yellow Underwing <i>Noctua comes</i>	17 th November 2020	12 th December 2021
Blair's Shoulder-knot <i>Lithophae leautieri</i>	15 th November 2018 & 2020	19 th November 2021
Merveille du Jour <i>Dichonia aprilina</i>	15 th November 2018	21 st November 2021

Anticipated species

I was delighted to record **Plumed Fanfoot**, one of 3 species that I had targetted in 2020. I have still to record **Clifden Nonpareil** and **Black-spotted Chestnut**. Other Macro species I am hoping to record in the future include **Fiery Clearwing**, **Porter's Rustic** and **Radford's Flame Shoulder**. In addition there are several possible Micros such as **Kent Knot-horn**, *Moitrelia obductella*.

Lures

Thanks to Tim Green I am now using a number of Lures and will expand on their use in 2022. I have again deployed Clearwing lures but have limited their use in 2021. Evie and I were delighted to see an **Emperor Moth** attracted to a lure on the 3rd April. Its flight reminded us of a dull-coloured *Nymphalid* butterfly. The species attracted were recorded as follows:

ABH No	Species	First record	Lure	Confirmation
49.365	<i>Pammene albuginana</i>	04/06/2021	ARG	GD
68.001	Emperor Moth <i>Saturnia pavonia</i>	04/04/2021	EMP	
45.010	Beautiful Plume <i>Amblyptilia acanthadactyla</i>	29/04/2021	EMP	
52.008	Red-tipped Clearwing <i>S. formicaeformis</i>	27/06/2021	FOR	
49.357	<i>Grapholita funebrana</i>	10/05/2021	FUN	GD
52.002	Hornet Clearwing <i>Sesia apiformis</i>	29/06/2021	HOR	
52.001	Raspberry Clearwing <i>Pennisetia hylaeiformis</i>	27/06/2021	HYL	
52.003	Lunar Hornet Clearwing <i>Sesia bembeciformis</i>	23/07/2021	LUN	
52.003	Lunar Hornet Clearwing <i>Sesia bembeciformis</i>	06/06/2021	LUN	
19.011	<i>Acrolepiopsis assectella</i>	14/06/2021	LYM	
49.362	<i>Pammene giganteana</i>	21/03/2021	MOL	GD
49.357	<i>Grapholita funebrana</i>	14/05/2021	MOL	GD
52.011	Red-belted Clearwing <i>S. myopaeformis</i>	13/06/2021	MYO	
52.011	Red-belted Clearwing <i>S. myopaeformis</i>	14/06/2021	MYO	
52.011	Red-belted Clearwing <i>S. myopaeformis</i>	15/06/2021	MYO	
15.046	<i>Phyllonorycter blancardella</i>	24/05/2021	NIG	GD

49.356	<i>Grapholita lobarzewskii</i>	13/06/2021	SKI	GD
49.362	<i>Pammene giganteana</i>	10/04/2021	SPIL	GD
49.363	<i>Pammene argyran</i>	15/04/2021	SPIL	GD
49.365	<i>pammene albuginana</i>	30/052021	SUS	GD
73.319	Turnip <i>Agrotis segetum</i>	11/06/2021	TIP	
52.011	Red-belted Clearwing <i>S. myopaeformis</i>	11/06/2021	TIP	
52.011	Red-belted Clearwing <i>S. myopaeformis</i>	12/06/2021	TIP	
52.013	Currant Clearwing <i>Synanthedon tipuliformis</i>	22/06/2021	TIP	
52.013	Currant Clearwing <i>Synanthedon tipuliformis</i>	27/06/2021	TIP	
52.012	Yellow-legged Clearwing <i>S. vespiformis</i>	26/06/2021	VES	
52.010	Orange-tailed Clearwing <i>S. andrenaeformis</i>	27/06/2021	VES	



Emperor Moth, attracted to lure 4th April 2021, NFS

Conclusion

Our Boreham garden continues to amaze us with the diversity and number of species trapped. It does seem unexpected as we live close to the western edge of the village but still some 200 metres to the nearest fields. Reasons are difficult to quantify but are no doubt related to the following:

- The village is still surrounded by farmland
- The Chelmer Valley with its diversity of wetland habitats is to the south.
- Extensive gravel workings are to the North beyond the A12.
- The ridge of Danbury and Little Baddow with extensive nature reserves and large estates is just 2kms further south.

With suitable weather conditions an interesting variety of coastal and migrant species can be recorded. It is suspected that the Chelmer Valley extending down to Maldon acts as a funnel with little in the way of major habitation before Boreham. It is also possible that having streetlights switched off between midnight and 05.00 may aid the attraction of our garden moth traps.

Having looked back recently to my garden records from 20 years ago it is clear that the numbers of moths has declined while some species such as **Garden Tiger**, **Ghost Moth** and **Magpie** have had no recent records. I am also more likely to get just one or two records of some species where 20 years ago I would have recorded several.

As some compensation we are seeing a number of colonisations such as **L-album Wainscot**, as well as the arrival of interesting adventives such as *Musotima nitidalis*.

We are living in a very interesting and dynamic period and so our records in future decades will be studied with some interest by those researching moth population dynamics.



Oak Rustic (NFS)



Plumed Fan-foot (NFS)



Gem (NFS)



***Pediasia contaminella* (NFS)**



Indian Meal Moth, *Plodia interpunctella* (NFS)



***Pammene argyrana* (NFS)**

445 species were recorded in the garden in 2021 (515 in 2020). There were 8 new macros and 21 new micros for the site with 7 of these determined by dissection. 4 new *Coleophora* were added by dissection including *C. taeniipennella* (3rd July, 6th Essex record, first since 2015). Other new species which are scarce in Essex included *Nematopogon metaxella* (by GD, 14th June, 19 previous records from 10 sites in Essex), *Eriocrania sangii* (by GD, 31st March, 7 previous records from 5 Essex sites and the first since 2014) and *Pammene giganteana* now being more regularly recorded as a lure by-catch (22nd and 23rd March, the 25th and 26th Essex records recorded previously from 10 sites). **Lunar Thorn** was recorded for the first time (2nd June) and has only been recorded a handful of times in Essex since 2012. A female **Emperor Moth** was attracted to the 125MV and was a first for the garden (12th May).



EMPEROR MOTH FEMALE



LUNAR HORNET MOTHS

Lures were employed again this year resulting in **Red-Tipped Clearwing** and **Lunar Hornet Moth** being added to the site list. *Triaxomasia caprimulgella* (by GD, 2nd July, 12th Essex record and the third Essex site) was attracted to the Lunar Hornet lure as was noted by others around the country. 2 *Stenoptinea cyaneimarmorella* were attracted to the HYL lure (12th July) repeating 2020 almost to the day, a rarely recorded Essex moth.



LUNAR THORN

*Stenoptinea cyaneimarmorella**Triaxomasia caprimulgella*
(AR)

Other new macros that gave overdue appearances were, **Early Moth**, **Flame Carpet**, **Cream-spot Tiger** and **The Gem**. Eight species of **Clearwing** have now been recorded (all from the use of lures) and after 2 years of sending specimens for dissection 22 *Coleophora*, 6 *Cnephasia*, 6 *Dichrorampha*, 5 *Pammene* and 3 *Paronix* have been positively identified (my thanks to Graeme Smith for the dissections).

Five trapping sessions at other Essex sites during the year were very welcome with several new lifer species and Essex species particularly from Canvey Wick, Hazeleigh Woods and Tiptree Heath.

In 2021 we trapped on 30 occasions recording 4705 moths of 386 species. At the end of 2020 my birthday present was a portable 20w Actinic Heath trap so we could trap farther afield round the farm. We only managed this twice, with trapping sessions till midnight, but one on the 9th September caught my first Lunar Yellow Underwing and the 1st for this hectad. It also caught my first *Musotima nitidalis* on the 7th October. This species is increasing and spreading quite quickly.

We used it near the house together with the Skinner 125w MV trap on 8 occasions during the quieter months with interesting results. The traps were less than 100 meters apart. The 125w MV in the more open area between the farm buildings and the field with trees nearby and the 20w actinic in the garden under the trees. We were surprised how different the results were. The 125w MV is a bigger trap and would be expected to get more moths which it did. But some common moths in one trap were not seen at all in the other, some moths were in similar amounts. A few examples below.

7th October	125w MV	20w actinic
Barred Sallow	56	1
Lunar Underwing	25	0
L-album Wainscot	13	0
Box Moth	7	0
Common Marbled Carpet	6	10
Red-line Quaker	0	4
Yellow-line Quaker	3	2
Over all	236 moths 41 species	69 moths 28 species –10 of which were not found in the 125wMV



CREAM-SPOT TIGER



RUDDY CARPET

(RL)

Some of the most interesting moths found were seen by pure chance.

Eponotia nanana (Nb) – confirmed by gen. det. - was tapped from my Norway Spruce 9th June as I was passing with a net whilst using my moth lures. The last recorded sighting is 2014 and this is the 1st recording in my hectad.

Agnoea flavifrontella (Nb) – confirmed by gen. det. - was on my kitchen window 14th June. This species had not been recorded in Essex since 1928 but mine turned up in 2021 together with one at the other corner of Essex so one in VC18 and one in VC19 after a 93 year gap.

A **Ruddy Carpet** (Nb) was spotted resting in the poly tunnel on the 3rd July.

My first **Jersey Tiger** (Nb) was spotted feeding on flowers in the farmyard on the 10th August.



CURRENT CLEARWING



LUNAR HORNET MOTH



RASPBERRY CLEARWING

We tried using moth lures for the first time in 2021. Leaving them out for short periods until we attracted the desired moth. The quickest was the **Lunar Hornet Moth** on the lures 1st outing, 16th July, within half an hour of putting it out. As the commonest of the moths found it is probably not surprising. Others took a little longer but we had 3 **Curren Clearwings** on 14th June, **Red-tipped Clearwing** 16th June, **Red-belted Clearwing** 16th July and **Raspberry Clearwing** on the 11th August. We also had a chance sighting of another **Red-tipped Clearwing** in the poly tunnel on the 1st July where we had our first positive id of the same species in 2019.



Epinotia nanana



Agnoea flavifrontella



Musotima nitidalis (RL)

Another interesting season with plenty of variety. Many thanks to all on the Essex Moth Group Facebook page for their patience and help and for sharing so many of their finds and experience. Good mothing for the 2022.

In 2021 moth-trapping occurred on 9 nights:

4768 moths of 307 species were obtained.

Only 2 Red Data Book species were recorded this year

Date	Site	Grid ref	No. of moths	No. of species
8 th May	Bennetts Butt	TR041944	61	30
29 th May	Bennetts Butt	TR041944	58	22
10 th July	Sharpsness Head	TQ989887	879	104
7 th August	Bennetts Butt	TR041944	329	91
14 th August	Sharpsness Head	TQ989887	626	140
21 th August	Bennetts Butt	TR041944	873	100
4 th September	Sharpsness Head	TQ989887	763	54
11 th September	Sharpsness Head	TQ989887	1129	58
23 rd October	Sharpsness Head	TQ989887	50	12

14 species were new for Foulness, including 2 scarce migrants (Gem and Plumed Fan-foot) and 1 Nationally Scarce A (*Scrobipalpa salicorniae*). This brings the total number of species of Lepidoptera for which I have a record of occurrence on Foulness to **692**.



Figure 8: Gem, Foulness, 14/08/2021

I have a photographic voucher for nearly all of these species. These and others are presented on my moth website britishlepidoptera.weebly.com.

Scarce species recorded in 2021 are shown in bold in the cumulative list presented below:

Scarce Migrants

49.343 *Cydia amplana* (Vagrant Piercer) – 1 on 03/08/2018 – first recorded in Britain in 1990, now becoming more regular; **1 on 14/08, 1 on 21/08/2021**

62.017 *Sciota adelphella* – 1 on 08/08/2020 - 7 previous Essex records according to Essex Field Club website

62.033 *Acrobasis tumidana* – 2 on 08/08/2020; **1 on 14/08/2021**

63.048 *Palpita vitrealis* – 2 on 19/09/2020

70.147 *Nycterosea obstipata* (Gem) – **1 on 14/08/2021**

72.011 *Lymantria dispar* (Gypsy Moth) – 1 on 31/07/2020; **2 on 14/08, 1 on 21/08/2021**

72.032 *Coscinia cribraria* (Speckled Footman) – 1 on 31/07/2020 – 3rd Essex record and 24th British record of the migrant race *bivittate*

72.057 *Pechipogo plumigealis* (Plumed Fan-foot) – **1 on 14/08/2021**

73.076 *Helicoverpa armigera* (Scarce Bordered Straw) – 4 on 26/08/2017; 1 on 12/09/2020

73.087 *Spodoptera exigua* (Small Mottled Willow) – 2 on 04/07/2015, 1 on 01/08/2015, 2 on 15/08/2015 – an uncommon migrant that had a bumper year in 2105



Figure 9: *Acrobasis tumidana*, Foulness, 14/08/2021

Red Data Book species (Nationally Endangered, Vulnerable or Rare)

35.082 *Oxypteryx immaculatella* – 1 on 05/08/2012 – S England & N Scotland – FIRST FOR ESSEX. 1 on 09/05/2020, 1 on 31/07/2020 (3rd and 4th Essex records)

37.047 *Coleophora amethystinella* – 1 on 08/05/11 – previously only known to occur in North Essex (and 1 record from Hampshire), this was the first Essex record South of the Blackwater. Has now spread into much of Essex and South Suffolk. At least 10 netted by day from grasses in the Bennets Butt rides on 22/05/2016 and at least 20 on 04/06/2016; 6 on 27/05/2017; 1 to light on 20/05/2018, 1 netted at dusk and 1 to light on 02/06/2018; 70 netted in the Bennets Butt rides on 25/05 and 40 on 01/06/2019. 20 on 16/05/2020, 3 on 30/05/2020.

37.079 *Coleophora aestuariella* – 1 on 01/08/2015 (3rd record for Essex). 1 on 08/08/2020 (4th record for Essex) – saltmarsh in SE.England

37.091 *Coleophora deviella* - 1 on 23/07/11; 1 on 19/07, 1 on 26/07/2014; **3 on 14/08/2021** – saltmarsh in SE England

49.271 *Eucosma rubescana* – 1 on 08/06/2008. 1 on 30/05/2020 – saltmarsh in Kent, Essex & Suffolk

49.274 *Eucosma metzneriana* – 1 on 27/06/2015 (possibly 7th record for Essex); 1 on 11/06/2016; 1 on 24/06/2017. 1 on 13/06/2020, 1 on 20/06/2020 – recent colonist, possibly breeding in Kent

49.369 *Pammene agnotana* - 1 on 12/05/2012 – recent colonist with few British records – First for Essex

70.003 *Idaea ochrata* (Bright Wave) – 1 on 20/06/2020 – first Essex record this century; breeds very locally in Kent

70.296 *Aplasta ononaria* (Rest Harrow) – 1 on 09/08/2015 (possibly 5th record for Essex); 9 on 03/08/2018, 1 on 11/08/2018, 1 on 18/08/2018; 7 on 24/08/2019; 2 on 15/08/2020; **1 on 14/08/2021** - breeds very locally in Kent, occasional migrant

73.027 *Deltote bankiana* (Silver Barred) – 1 on 13/06/2009; 1 on 10/07/2010; 2 on 30/06/2013; 1 on 07/06/2014; 1 on 04/07/2015; 3 on 20/07/2020, 2 on 04/07/2020

73.059 *Calophasia lunula* (Toadflax Brocade) – 1 on 31/07/2020



Figure 10: Rest Harrow, Foulness, 14/08/2021

Nationally Scarce A (found in 30 or fewer 10km squares of the National Grid)

07.004 *Nemophora fasciella* – 1 on 11/06/2016 (potted by day on New England Island at ~TQ973906) – S&E.England

35.113 *Scrobipalpa salicorniae* – 1 on 11/09/2021 - saltmarsh

35.029 *Brachmia inornatella* – 1 on 13/06/2015 – fens & marshes in SE.England

37.075 *Coleophora salinella* – 2 on 14/08/2011; 4 on 03/08/2018; 1 on 14/08/2021

37.082 *Coleophora asteris* – 1 on 02/09/2012, 1 on 09/09/2012; 1 on 08/09/2018; 1 on 04/09/2021

38.043 *Elachista scirpi* 1 on 14/07/2013 – saltmarsh in England and Wales

45.022 *Cnaemidophorus rhododactyla* 1 on 21/07/2018 – hedgerows with rose in SE England

66.004 *Malacosoma castrensis* (Ground Lackey) – 1 on 10/07 and 31/07/2010; 1 on 19/08/2012; 2 on 14/08/2021 - Saltmarsh in SE England

70.201 *Trichopteryx polycommata* (Barred Tooth-striped) – 1 on 03/04/10; 5 on 07/04/2018, 1 on 14/04/2018 - prefers areas with chalky soils.

73.132 *Luperina nickerlii* (Sandhill Rustic) – 2 on 15/08/2015; 2 on 13/08/2016; 1 on 26/08/2017; 6 on 03/08/2018, 4 on 11/08/2018, 5 on 18/08/2018; 6 on 08/09/2018; 4 on 24/08/2019; 1 on 15/08/2020; 1 on 04/09/2021



Figure 11: *Coleophora asteris*, Foulness, 04/09/2021

Nationally Scarce B (31-100 10km squares of the National Grid)

12.040 *Monopis imella* - 1 on 01/06/2019

14.003 *Bucculatrix maritima* -1 on 26/07/2014; 1 on 13/08/2016; 1 on 21/07/2018; 1 on 01/06/2019; 1 on 14/08/2021

27.002 *Oegoconia caradjai* - 1 on 28/07/2018; 1 on 04/07/2020, 1 on 31/07/2020

32.044 *Depressaria douglassella* - 2 on 26/08/2017

35.073 *Monochroa palustrellus* - 3 on 14/07/2013, 1 on 21/07/2013; 2 on 12/07, 1 on 19/07/2014, 2 on 27/06/2015, 2 on 04/07/2015, 2 on 15/08/2015, 1 on 16/07/2016

35.114 *Scrobipalpa instabilella* – 1 on 19/07/2014; 1 on 04/07/2015; 2 on 13/08/2016; 4 on 10/07/2021

35.115 *Scrobipalpa nitentella* – 1 on 19/07/2014; 1 on 01/08/2015; 1 on 21/07/2018; 1 on 25/05/2019, 1 on 10/08/2019; 2 on 31/07/2020; 40 on 14/08/2021, 12 on 21/08/2021

35.117 *Scrobipalpa atriplicella* – 1 on 25/05/2019; 2 on 11/09/2021

37.003 *Coleophora limoniella* - 1 on 14/07/2013 – saltmarsh in SE England

37.095 *Coleophora trochilella* – 1 on 06/07/2009; 1 on 18/08/2018; 3 on 08/08/2020; 2 on 07/08/2021

37.104 *Coleophora adspersella* - 1 on 05/08/2012; 1 on 03/08/2018; 1 on 14/08/2021

37.108 *Coleophora salicorniae* – 1 on 01/08, 1 on 08/08/2010; 3 on 14/08/2011; 4 on 19/08/2012; 1 on 26/07/2014; 1 on 01/08/2015; 3 on 03/08/2018; 1 on 14/08/2021

49.112 *Eupoecilia ambiguella* (Vine Moth) – 2 on 09/08/2009; 1 on 20/07/2014; 1 on 21/07/2018; 1 on 01/06/2019; 2 on 16/05/2020; 1 on 29/05, 1 on 21/08/2021

49.116 *Aethes williana* - 1 on 25/05/2019

49.122 *Aethes dilucidana* - 2 on 03/08/2018, 1 on 11/08/2018; 1 on 25/05/2019; 8 on 31/07/2020; 10 on 14/08, 4 on 11/09/2021

49.219 *Thiodia citrana* - 2 on 28/06/2008, 1 on 01/07/2008, 2 on 04/07/2009, 4 on 14/07/2013, 2 on 21/07/2013, 2 on 27/06/2015; 1 on 13/06/2020, 15 on 20/06/2020, 2 on 04/07/2020; **10 on 10/07, 1 on 14/08/2021**

49.278 *Gypsonoma minutana* - 1 on 21/07/2018

49.327 *Cydia microgrammana* - 2 on 13/06/2020

49.380 *Pammene gallicana* - 1 on 19/07/2014

52.002 *Sesia apiformis* (Hornet Moth) - 1 on 25/07/09 to HOR lure; 1 on 11/06/2011 on poplar trunk; 1 on 06/07/2019 to HOR lure – SE England

52.014 *Bembecia ichneumoniformis* (Six-belted Clearwing) - 2 on 06/07/2019 to API lure

62.010 *Elegia similella* - 1 on 13/06/2020

62.021 *Oncocera semirubella* (NS-B) 1 on 04/07/2009; 1 on 10/07, 1 on 17/07, 1 on 31/07, 3 on 07/08/2010; 1 on 06/08/2011; 1 on 20/07/2013; 4 on 12/07, 2 on 19/07, 4 on 26/07/2014; 1 on 27/06, 1 on 14/07, 1 on 01/08, 1 on 15/08/2015; 2 on 13/08/2016; 6 on 24/06, 2 on 29/07, 10 on 26/08/2017; 4 on 21/07, 10 on 03/08, 10 on 18/08, 20 on 08/09/2018; 2 on 24/08/2019; 2 on 13/06/2020, 20 on 20/06/2020, 6 on 04/07/2020, 12 on 31/07/2020, 10 on 08/08/2020, 2 on 15/08/2020, 1 on 12/09/2020; **6 on 10/07, 2 on 07/08, 10 on 14/08, 1 on 21/08, 1 on 11/09/2021**

62.053 *Ancylosis oblitella* - 1 on 31/07 and 07/08/10; 1 on 06/08/2011; 1 on 26/08/2017; 20 on 03/08/2018, 2 on 11/08/2018; 3 on 18/08/2018; 3 on 08/09/2018; 4 on 24/08/2019; **1 on 14/08/2021** - Saltmarsh

63.014 *Sitochroa palealis* - 1 on 23/07/06, 1 on 05/08/07, 1 on 12/08/07, 1 on 20/07/08, 2 on 19/08/2012; 3 on 19/07, 3 on 26/07/2014; 2 on 08/08/2020, 1 on 15/08/2020 – S England and East Anglia

63.109 *Pediasia contaminella* - 1 on 30/07/11, 1 on 01/08/2015; 1 on 28/07/2018; 2 on 31/07/2020, 1 on 08/08/2020 – S England

63.110 *Pediasia aridella* - 1 on 27/06/2015; 1 on 13/06/2020 – saltings S&E England

63.112 *Platytes alpinella* - 2 on 19/07/2014 – coastal dunes and shingle beaches S&E England

70.028 *Scopula emutaria* (Rosy Wave) – 1 on 13/06/09; 2 on 03/07/10; 2 on 03/09/2011; 2 on 30/06/2013, 1 on 14/07/2013; 1 on 30/08/2014; 1 on 13/06/2015, 2 on 27/06/2015, 1 on 04/07/2015; 1 on 29/07/2017, 2 on 26/08/2017; 3 on 03/08/2018, 3 on 18/08/2018; 1 on 25/05, 6 on 24/08/2019; 2 on 30/05/2020, 4 on 13/06/2020, 1 on 20/06/2020, 1 on 08/08/2020, 3 on 15/08/2020; **1 on 10/07, 2 on 21/08/2021**

70.057 *Catarhoe rubidata* (Ruddy Carpet)- 1 on 27/06/2015

70.186 *Eupithecia millefoliata* (Yarrow Pug) - 1 on 26/07/2014; 1 on 16/07/2016; 1 on 03/08/2018; 3 on 31/07/2020– coastal from Dorset to Essex

70.232 *Ennomos autumnaria* (Large Thorn) - 2 on 01/09/08, 1 on 13/09/2008, 1 on 02/09/2012 – SE England

72.021 *Spilosoma urticae* (Water Ermine) - 1 on 21/06/08; 1 on 30/05/2020 - coastal areas in SE England

72.030 *Euplagia quadripunctaria* (Jersey Tiger) – 1 on 11/08/2018; 3 on 31/07/2020; 1 on 21/08/2021

73.035 *Simyra albovenosa* (Reed Dagger) - 2 on 26/07/08; 1 on 31/07 & 07/08/10; 2 on 21/07/2018 - reeds

73.055 *Cucullia asteris* (Star-wort) - 1 on 30/06/07, 1 on 05/07/08, 2 on 26/07/08, 1 on 04/07/09; 1 on 22/05, 10/07 & 17/07/10; 1 on 30/07/2011, 2 on 05/08/2012; 10 on 14/07/2013, 6 on 21/07/2013; 1 on 12/07, 8 on 19/07, 4 on 26/07, 2 on 16/08/2014; 2 on 27/06/2015; 1 on 16/07/2016; 3 on 24/06/2017, 2 on 29/07/2017; 6 on 21/07/2018; 1 on 10/08/2019; 1 on 16/05/2020, 1 on 20/06/2020, 3 on 31/07/2020; **1 on 14/08, 1 on 04/09/2021** – saltmarsh

73.151 *Globia sparganii* (Webb's Wainscot) - 1 on 07/09/2008; 1 on 21/07/2018, 1 on 03/08/2018 – S&E coasts

73.161 *Apamea oblonga* (Crescent Striped) - 1 on 05/07/08, 1 on 04/07/09; 1 on 10/07/10; 3 on 23/07, 1 on 30/07/2011; 1 on 21/07/2013; 1 on 12/07, 2 on 19/07, 2 on 26/07/2014; 4 on 27/06/2015, 10 on 04/07/2015; 3 on 21/07/2018; 2 on 04/07/2020, 1 on 31/07/2020– saltmarsh

73.197 *Conistra rubiginea* (Dotted Chestnut) - 1 on 07/04/2018

73.292 *Mythimna favicolor* (Mathew's Wainscot) - 1 on 28/06/08 – saltmarsh; 1 on 03/07/10, 2 on 10/07/10; 2 on 27/06/2015; 1 on 03/08/2018, 1 on 11/08/2018, 1 on 18/08/2018; **3 on 10/07/2021**

73.300 *Mythimna l-album* (L-album Wainscot) - 1 on 15,22,29/09/07, 3 on 21/06/08, 2 on 05/07/08, 2 on 20/09/08, 1 on 13/06/09, 1 on 19/09/09; 1 on 03/07, 17/07, 31/07, 18/09, 02/10/10 and 3 on 09/10/10; 1 on 11/06, 03/09, 10/09, 2 on 17/09/2011, 12 on 16/09/2012; 1 on 22/09/2013; 2 on 03/10/2015; 2 on 24/09/2016; 2 on 24/06/2017; 1 on 08/09/2018; 1 on 01/06/2019; 1 on 30/05/2020, 1 on 13/06/2020, 1 on 12/09/2020; **4 on 10/07/2021**

73.316 *Agrotis cinerea* (Light Feathered Rustic) – 1 on 20/06/2020

74.002 *Meganola albula* (Kent Black Arches) - 1 on 07/07/07; 3 on 04/07/09; 2 on 26/06/10, 3 on 03/07/10, 2 on 10/07/10; 6 on 14/07/2013; 1 on 12/07, 1 on 20/09/2014; 1 on 27/06/2015, 6 on 04/07/2015; 4 on 16/07/2016; 3 on 24/06/2017; 2 on 13/06/2020, 4 on 20/06/2020, 2 on 04/07/2020, 1 on 19/09/2020; **4 on 10/07/2021** - S&SE coasts

Status Uncertain:

35.0191 *Anarsia innoxia* – 1 on 24/06/2017

73.082 *Cryphia algae* (Tree-lichen Beauty) (Formerly a rare migrant, currently breeding in SE.England) 1 on 13/08/2011, 2 on 18/08/2012, 3 on 26/07/2014; 10 on 21/07/2018, 10 on 28/07/2018, 2 on 03/08/2018; 4 on 10/08/2019; 3 on 31/07/2020, 4 on 08/08/2020; ; **2 on 07/08/2021**

More common species new to Foulness in 2021

14.012 *Bucculatrix bechsteinella*

15.008 *Caloptilia alchimiella*

32.036 *Depressaria radiella*

45.012 *Stenoptilia pterodactyla*

49.354 *Grapholita jungiella*

70.150 *Eupithecia linariata* (Toadflax Pug)

71.005 *Furcula furcula* (Sallow Kitten)

73.107 *Mormo maura* (Old Lady)

73.276 *Sideridis rivularis* (Campion)



Figure 12: *Depressaria radiella*, Foulness, 14/08/2021

In 2021 I did 11 nights of trapping, mainly in similar parts of the wood to those used in 2019 and 2020. On most occasions I set 2x 135W mercury vapour Robinson traps, 2x 15W actinic Heath traps and a funnel trap with a circular 22W synergetic bulb, but towards the end of the year this last trap packed up and I replaced it with a 3rd 135W MV Robinson.

Trapping dates, moth counts and species counts were as follows:

Date	29/01	19/02	24/03	31/03	09/05		
Moths	22	220	117	200	59		
Species	5	8	13	25	25		

Date	02/06	16/07	20/07	25/08	09/09	12/11	
Moths	151	597	292	727	363	30	
Species	58	96	97	88	71	8	

2748 moths of 299 species were obtained, 7 of which were new for me.

Combining the 3 years of trapping 2019 - 2021 the total number species found is now **592** 35 species having been added in 2021.

The additional species include 2 national RDB species, 1 of which is a 1st for Essex (*Lampronia flavimitrella*); and 3 species that have formerly been regarded as scarce migrants but are probably now resident: 28.008 *Metalampra italica*, 72.076 *Catocala fraxini* (Clifden Nonpareil) and 73.093 *Caradrina kadenii* (Clancy's Rustic).

Also note 13 Gypsy Moths on 25/08 – another former scarce migrant, now resident.



Figure 13: *Catocala fraxini* (Clifden Nonpareil); Pound Wood; 09/09/2021

Scarcer species recorded so far are as follows (2021 records in bold):

National RDB: 5; Nationally Scarce A: 4; Nationally Scarce B: 28; Essex RDB only: 20

02.002 *Paracrania chrysolepidella* (Essex RDB) 4 on 24/03, 8 on 31/03/2021 (gen.det.)

04.033 *Stigmella carpinella* (RDB) 1 on 09/09/2021 (gen.det.)



Figure 14: *Stigmella carpinella*; Pound Wood; 09/09/2021

04.062 *Stigmella samiatella* (Essex RDB) 2 on 20/05, 1 on 22/07, 1 on 13/08/2020 (gen.det.); 1 on 02/06/2021 (gen.det.)

09.005 *Lampronia flavimitrella* (RDB) – 1st Essex Record 1 on 02/06/2021 (gen.det.) (unfortunately a very worn specimen, only identifiable after genital dissection)

See <https://britishlepidoptera.weebly.com/005-lampronia-flavimitrella.html>

10.006 *Coptotriche angusticolella* (NS-B) 1 on 11/07/2019; 1 on 20/05/2020

12.008 *Stenoptinea cyneimarmorella* (RDB) 1 on 11/07/2019, 2nd Essex record

12.017 *Nemapogon koenigi* (NS-B) 1 on 01/06/2020 (gen.det.)

12.021 *Nemapogon clematella* (Essex RDB) 1 on 05/08/2020

15.001 *Parectopa ononidis* (NS-B) 2 on 20/05/2020, 1 on 05/08/2020

15.002 *Caloptilia cuculipennella* (NS-A) 1 on 23/07/2019, ?4th Essex record

15.027 *Parornix carpinella* (NS-A) 1 on 01/05, 1 on 23/07, 2 on 17/08/2019; 1 on 22/07/2020 (all gen.det.)

15.045 *Phyllonorycter mespilella* (NS-B) 1 on 27/08/2019; 1 on 05/08/2020 ?4th + Essex records (gen.det.); 1 on 25/08/2021

17.006 *Ypsolopha horridella* (NS-B) 1 on 13/08/2020

17.008 *Ypsolopha alpella* (Essex RDB) 1 on 27/08/2019 (gen.det.); 1 on 25/08, 2 on 09/09/2021

20.005 *Argyresthia trifasciata* (Essex RDB) 1 on 20/05/2020

21.002 *Lyonetia prunifoliella* (making a comeback from presumed extinction) 1 on 27/08/2019, ?1st Essex record

28.001 *Bisigna procerella* (RDB) 1 on 30/06, 4 on 11/07, 3 on 23/07/2019; 1 on 13/07/2020, 1 on 05/08/2020 ?3rd+ Essex records

28.020 *Dasycera oliviella* (NS-A) 1 on 30/06, 2 on 11/07, 4 on 23/07/2019; 1 on 26/06/2020, 1 on 05/08/2020

30.002 *Agnoea subochreella* (NS-B) 1 on 17/05/2020 (netted by day), 2 on 20/05/2020, 3 on 01/06/2020

34.014 *Sorhagenia janiszewskae* (NS-A) 1 on 05/08/2020 (gen.det.) 2nd Essex record (last pre-1990)

35.003 *Syncopacma larseniella* (Essex RDB) 1 on 11/07/2019, 1 on 23/07/2019; 10 on 13/07/2020, 2 on 22/07/2020 (gen.det.); 2 on 20/07/2021 (gen.det.)

35.0191 *Anarsia innoxia* (status uncertain) 1 on 23/07/2019

35.073 *Monochroa palustrellus* (NS-B) 1 on 30/06/2019

35.081 *Oxypteryx atrella* (Essex RDB) 1 on 13/07/2020, 4 on 22/07/2020, 1 on 05/08/2020, 2 on 13/08/2020 (gen.det.)

35.099 *Gelechia senticetella* (NS-B) 3 on 05/08/2020

35.107 *Psoricoptera gibbosella* (Essex RDB) 1 on 23/07, 1 on 17/08/2019; 1 on 22/07/2020, 3 on 05/08/2020, 1 on 13/08/2020

35.133 *Caryocolum blandella* (NS-B) 1 on 22/07/2020 (7th Essex record); 1 on 25/08/2021 (gen.det.)

35.152 *Pseudotelphusa scalella* (NS-B) 1 on 20/05/2020

37.017 *Coleophora prunifoliae* (NS-B) 1 on 13/07/2020 (gen.det.)

37.039 *Coleophora hemerobiella* (Essex RDB) 1 on 05/08/2020

37.058 *Coleophora conspicuella* (RDB) 2 on 13/07/2020 (gen.det.)

37.077 *Coleophora lasella* (NS-B) 1 on 23/05/2019 (gen.det.)

37.108 *Coleophora salicorniae* (NS-B) 3 on 05/08/2020 (gen.det.)

38.017 *Elachista adscitella* (NS-B) 1 on 13/08/2020 (gen.det.)

38.022 *Elachista gleichenella* (Essex RDB) 1 on 30/06/2019 (gen.det.)

37.077 *Coleophora lasella* (NS-B) 1 on 23/05/2019 (gen.det.)
 37.108 *Coleophora salicorniae* (NS-B) 3 on 05/08/2020 (gen.det.)
 38.017 *Elachista adscitella* (NS-B) 1 on 13/08/2020 (gen.det.)
 38.022 *Elachista gleichenella* (Essex RDB) 1 on 30/06/2019 (gen.det.)
 42.002 *Stathmopoda pedella* (NS-B) 1 on 23/07/2019
 49.014 *Archips crataegana* (Essex RDB) 1 on 30/06/2019
 49.122 *Aethes dilucidana* (NS-B) 1 on 05/08/2020

49.087 *Acleris literana* (Essex RDB) 2 on 23/05, 1 on 23/07/2019; 1 on 24/03, 1 on 31/03/2021

49.256 *Epinotia cinereana* (status uncertain due to relatively recent split from *E. nisella*, not yet recorded on Essex Field Club site) 1 on 27/08/2019; 1 on 09/09/2021

49.362 *Pammene giganteana* (NS-B) 2 on 31/03/2021 (gen.det.)



Figure 15: *Pammene giganteana*; Pound Wood; 31/03/2021

49.363 *Pammene argyrana* (Essex RDB) 4 on 01/05/2019; 1 on 09/05/2021

49.382 *Strophedra nitidana* (Essex RDB) 1 on 13/07/2020

53.001 *Apoda limacodes* (Festoon) (NS-B) 10 on 30/06, 20 on 11/07, 10 on 23/07/2019; 2 on 26/06/2020, 10 on 13/07/2020; 8 on 16/07, 2 on 20/07/2021

62.010 *Elegia similella* (NS-B) 1 on 11/07/2019; 2 on 15/06/2020, 1 on 26/06/2020

62.021 *Oncocera semirubella* (NS-B) 1 on 23/07, 1 on 27/08/2019; 1 on 22/07/2020

62.022 *Pempelia genistella* (NS-B) 1 on 23/07/2019; 1 on 22/07/2020, 1 on 05/08/2020

63.020 *Anania perlucidalis* (Essex RDB) 1 on 20/07/2021

63.075 *Eudonia pallida* (Essex RDB) 1 on 13/07/2020

63.102 *Catoptria falsella* (Essex RDB) 1 on 05/08/2020, 1 on 13/08/2020

63.103 *Catoptria verellus* (formerly rare migrant, probably now resident, Essex RDB) 2 on 11/07, 1 on 23/07/2019

63.109 *Pediasia contaminella* (NS-B) 1 on 09/09/2021

63.112 *Platytes alpinella* (NS-B) 1 on 23/07/2019

63.120 *Schoenobius gigantella* (Essex RDB) 1 on 26/06/2020

70.031 *Cyclophora annularia* (Mocha) (NS-B) 1 on 20/05/2020

70.153 *Eupithecia plumbeolata* (Lead-coloured Pug) (NS-B) 1 on 23/05, 2 on 11/07/2019; 1 on 20/05/2020, 1 on 15/06/2020, 3 on 26/06/2020, 4 on 13/07/2020 (most gen.det.); 5 on 16/07, 2 on 20/07/2021

72.011 *Lymantria dispar* (Gypsy Moth) (Vagrant) 3 on 05/08/2020, 1 on 13/08/2020; 13 on 25/08/2021

72.030 *Euplagia quadripunctaria* (Jersey Tiger) (NS-B) 1 on 13/08/2020

72.042 *Atolmis rubricollis* (Red-necked Footman) (Essex RDB) 1 on 26/06/2020

72.069 *Laspeyria flexula* (Beautiful Hook-tip) (Essex RDB) 1 on 01/06/2020, 2 on 15/06/2020, 2 on 13/07/2020, 4 on 22/07/2020

73.197 *Conistra rubiginea* (Dotted Chestnut) (NS-B) 2 on 14/03/2020

73.300 *Mythimna l-album* (L-album Wainscot) (NS-B) 2 on 30/06/2019; 2 on 26/06/2020, 1 on 13/07/2020, 1 on 23/08/2020, 1 on 15/09/2020

74.002 *Meganola albula* (Kent Black Arches) (NS-B) 1 on 23/07/2019, 1 on 13/07/2020; 1 on 16/07, 1 on 20/07/2021

On 28/03/2020 I noted the presence of mines in broom for 04.068 *Trifurcula immundella* and 21.005 *Leucoptera spartifoliella*. Despite much searching I was unable to find any larvae or adults to confirm these species.

I moved house in November 2020, so 2021 was a blank canvas – a case of discovering what species my new Benfleet garden held. In total I managed 219 species across 117 nights, highlights including **Rose Plume** on 18th July, **Marbled Green** and **Dewick’s Plusia** on 27th July, 6 **Wainscot** species including **Twin-spotted Wainscot** on 10th August, **Gem** on 18th August, *Caloptilia cuculipenella* on 7th September (almost overlooked as something commoner!) and **Clay-triple Lines** and *Palpita vitrealis* on 9th September. A single **Merveille du Jour** on 13th October was my only one of the year. I deployed a variety of new pheromone lures (I bought the complete set from ALS) in suitable weather. Very pleasingly, I attracted four species: **Emperor Moth** on 17th April along with **Lunar Hornet** on 13th July, **Red-belted Clearwing** on 18th July and **Six-belted Clearwing** on 21st July.



LUNAR HORNET MOTH



SIX-BELTED CLEARWING



DEWICK’S PLUSIA



MERVEILLE DU JOUR



CLAY TRIPLE LINES



ROSE PLUME



Caloptilia cuculipenella



GEM



MARBLED GREEN (TL)

FIELD TRAPPING

Early in the year I decided to invest in a leisure battery which enables me to make my trapping setup portable without the need for a lot of new equipment. This opened up a whole new realm for me in terms of habitat types, bringing with it moths that are unlikely to find their way to my garden. Every field trap during the year yielded at least one ‘new for me’ with several on many occasions; indeed even commoner species such as **Yellow Horned** or **Coxcomb Prominent** produced great personal satisfaction. Throughout the year I recorded at three local sites: Hadleigh Great Wood (Belfairs NR), Benfleet Downs, and, with big thanks to Graham Bailey for inviting me, the excellent RSPB Canvey Wick.



Agrotora nemoralis



Palpita vitrealis



Musotima nitidalis

BELFAIRS NR

I made 13 visits to Belfairs Nature Reserve between 17th March and 11th November, recording 133 species to my twin Actinic setup. I was pleased to record commoner woodland species such as **Frosted Green**, **Streamer**, **Chocolate-tip**, **Sprawler** and **Green Silver-lines** across the year. The 2nd June produced just the third Essex record of Red Data Book micro *Agrotora nemoralis* – this species seems to be expanding its range in Essex and Kent. Also notable on the micro front was *Musotima nitidalis*, a species which was particularly common during recording sessions towards the end of the season, presumably using Bracken as a host plant. Lastly, a large triangle on the sheet can only mean one thing – **Clifden Nonpareil!** A single of these visited one of Graham’s traps in the vicinity of Aspen on 4th September. This was new for both of us and hopefully the recent upward trend for this species continues.



CLIFDEN NONPAREIL



SPRAWLER

(TL)

CANVEY WICK

I first recorded at Canvey Wick across National Moth Night, with a re-visit the following week. It would be impossible for me list all the highlights but stand-outs for me were **Leopard Moth**, **Kent Black Arches**, **Blackneck**, **Fen Wainscot**, **Star-wort**, *Oncocera semirubella* and, last but not least, **Lappet**. This beast of a moth was one which sparked my interest as a child and was top of my wish list. It was also great to survey with other Essex Moth Group Members for the first time and receive I.D tips and advice. I have since upgraded my net to a much larger version!



LAPPET



Oncocera semirubella



LEOPARD MOTH

BENFLEET DOWNS

It wasn't until 7th October that I had my first trapping evening on Benfleet Downs, a superb area of thick Hawthorn, Blackthorn and Elm scrub interspersed with meadows and wide grassy rides, dropping down to grazing marsh and saltmarsh beyond. Plentiful **Figure-of-Eight** and 3 **Autumnal Rustics** were highlights from a promising first survey, adding to some torchlight finds including a **Water Carpet** on 21st March, **Cream-spot Tiger** on 10th June and **Shark** on 27th June. I look forward to affording this area some more thorough surveying in 2022, and with the site undergoing gradual removal of scrub and subsequent grassland restoration it will be interesting to see how this affects species diversity.



EMPEROR MOTH



AUTUMNAL RUSTIC



CREAM-SPOT TIGER



WATER CARPET



FIGURE OF EIGHT



SHARK (TL)

As always, I would like to thank the very knowledgeable community on the Essex Moth Group Facebook page for assistance with I.D, recording and general mothing advice; it is absolutely invaluable to be able to feed off the wealth of experience we have in Essex and beyond and improve my own knowledge.

Overall, I recorded 4426 moths of 409 species throughout the year, of which 208 were new for me. I look forward to recording in 2022!

In a complete contrast to the previous year, the spring of 2021 was not helpful to those of us who were eager to re-start moth recording in earnest after the long winter break. There were few suitable evenings where mild weather prevailed and I expect that must have subsequently impacted the local moth populations to some extent. One of the best was probably 31st March, and I ventured out to Canvey Wick to hopefully discover some new species for the site. I was rewarded with five new macros, including **Dotted Chestnuts**, **Pine Beauty**, **Early Tooth-striped** and an impressive 28 **Sloe Carpets**. The following morning in the garden I found my first ever **Blossom Underwing**, so certainly a worthwhile night do some moth trapping!

It seems the rest of the season was fairly average weather wise, with some very warm days and nights in mid-June and also some very mild evenings in July. One unexpected arrival to my garden trap was a **Grass Rivulet** on 16th June, not an insect I would think of in Rayleigh, although Graham Ekins and I had noted one each a few evenings earlier at Canvey Wick. The late summer and autumn had some unseasonably mild days and nights, and the highlight for me occurred on the night of 29th October when a **Radford's Flame Shoulder** graced my garden trap, although I almost missed it as this rare migrant had taken refuge under the carrying handle of the trap!

As usual, I made a number of excursions to local sites in SE Essex that I know to have an excellent moth fauna. I continue to record at a section of Hockley Woods that I have access to and I'm still astounded at the new species that I note there. Unfortunately no **Dark Crimson Underwings** in 2021, but it appears **Beautiful Pearl *Agrotera nemoralis*** is establishing itself in the woodland as well as elsewhere in Essex. **Plumed Fan-foot** and **Buttoned Snout** were also new, along with a handful of micro species and this after well over a hundred visits to the site. I managed to record at three different locations for each of the National Moth Nights in early July, with the second of these to Stanford Warren Essex Wildlife Trust (EWT) reserve close to the Thames. The reedbeds here are one of the most extensive in Essex and as the target habitats were of this nature I had decided to make plans to do a trapping session there. Having previously arranged permission from the warden to carry out the moth recording, I arrived at the reserve well before dusk so I could re-familiarise myself with the area which I last moth-trapped back in late August 2012 with Don Down. The only positions where I could place the traps was on the public footpath that bisects the site, but that proved satisfactory and thankfully nobody came along to wonder what on earth I was up to! Having set up three lamps I was all ready to go, but the generator had other ideas and it took me well over forty minutes before it eventually behaved itself and roared into action. In the meantime I wandered along the path and observed a number of moths feeding on the reed flowers, with species such as Southern and **Obscure Wainscots** and **Dotted Fan-foot** all seen, along with an *Agonopterix kaekeritziana*, apparently a seldom seen moth at light but here resting on the herbage. The evening produced well over 120 species which I considered a superb total – my notes might otherwise only have the moths seen by torchlight, and certainly would not have included the likes of **Lappet**, **Eyed** and **Small Elephant-hawks** or the **Rose Plume**. Thankfully it was worth all the effort in the end!

Several trips were made to Canvey Wick, sometimes with other members of the Essex Moth Group who would bring their own trapping equipment to help maximise our recording effort. Many new species are still being added to our list for this superb site, with at least 43 more from last year alone. I'm sure there still many more still to find, the majority of which are likely to be micros that require a very close scrutiny or 'gen det' to assess them to a species level.

I'm hoping to be going away this year at long last, but all being well there should still be ample opportunities for me to maintain my recording impetus, not just in the garden but also to other areas locally that harbour some wonderful fauna of the Lepidoptera variety.



RADFORD'S FLAME SHOULDER



BLOSSOM UNDERWING



MERVEILLE DU JOURS

(GB)

Rayleigh Garden

Caloptilia azaleela – 1st June, 19th November

Caloptilia honoratella – 26th October (GD C. Plant)

Yponomeuta plumbella – 5th August

Ypsolopha horridella – 30th August

Ypsolopha sylvella – 9th and 25th September (2)

Argyresthia pygmaeela – 24th June

Argyresthia curvella – 5th June

Promolactis procerella – 18th July

Luquetia lobella – 17th June

Pexicopia malvella (**Hollyhock seed moth**) – 14th June, 16th June, 2nd July

Monochroa lucidella – 18th July (photo ID by S. Palmer)

Gelechia senticetella – 19th July

Carpatolechia fugitivella – 8th July (photo ID by S. Palmer)

Pseudotelphusa paripunctella – 28th June

Recurvaria nanella – 15th, 17th, 18th and 19th July

Coleophora conspicuella – 26th July

Coleophora albicosta – 14th May, 5th June (both GD)

Coleophora saxicolella – 10th July (GD)

Spuleria flavicaput – 1st June

Marasmarcha lunaedactyla (**Crescent plume**) – 24th June

Choristoneura hebenstreitella – total of 28 between 9th June and 2nd July with max of 10 noted on 16th June.

Acleris bergmanniana – 13th June

Acleris kochiella – 31st July

Acleris literana – 21st February, 20th and 31st March, 26th July, 8th September

Epinotia signatana – 26th June

Bactra furfurana – 26th July

Pammene rhediella – 28th May (GD)

Yellow-legged Clearwing – 15th June (found dead in conservatory)

Elegia similella – 16th and 24th June, 2nd July

Vitula biviella – 21st July, 10th August

Palpita vitrealis - 19th October

Pale Eggar – 13th, 21st and 25th August and 5th September (2)

Lime Hawkmoth – Noted from 11th May to 18th July with a total of 13 moths recorded. Three moths noted on each of the nights 14th June and 1st July, making this easily the largest number of this species I have seen in the garden. Long may it continue!

Small Elephant Hawkmoth – 26th June. First garden record.

Gem – 13th and 21st August, 3rd September

Brown Scallop – 6th July

Dark Umber – 24th July, 13th August

Small Waved Umber – 11th August

Grass Rivulet – 16th June

Haworth's Pug – 24th June

September Thorn – 13th August

Sloe Carpet -31st March (5), 8th April

Buttoned Snout – 5th June, 2nd July

Black Arches – 7th August. A rarely seen female

Gypsy Moth – 9th August to 1st September, total of 21 males to trap, with max of seven on 17th August.

Jersey Tiger – 13th and 25th August

Plumed Fan-foot – 3rd July to 1st September – total of 20 noted.

Blackneck – 29th June, 9th and 18th July

Dark Spectacle – Total of eight noted between 9th June and 10th September – easily the most I've seen in one year.

Dewick's Plusia – 30th September

Figure of Eight – 16th September to 6th November, with total of 55 recorded. Maximum of ten seen on both 10th and 14th October. A declining moth in many parts of the country.

Star-wort – 13th August

Clancy's Rustic – 28th June to 23rd October, with total of 17 to garden trap. Max of four on 25th Sept.

Crescent – 17th August

Twin-spotted Wainscot – 13th August

Dusky-lemon Sallow – 19th October

Blossom Underwing – 31st March

Dog's Tooth – 5th August

Radford's Flame Shoulder – 29th October (confirmed by Essex Moth Group Facebook site)

		
ACROBASIS TUMIDANA	AGONOPTERIX KAEKERITZIANA	AGROTERA NEMORALIS
		
ARGYRESTHIA CURVELLA	ARGYRESTHIA PYGMAEELLA	ARGYRESTHIA RETINELLA
		
BACTRA FURFURANA	BLACK ARCHES	COLEOPHORA ALBICOSTA
		
LEAD-COLOURED PUG	MONOCHROA CYTISELLA	MONOCHROA LUCIDELLA
		
OLINDIA SCHUMACHERANA	PROMOLACTIS PROCERELLA	PSEUDOSCIPHILA BRANDERIANA

Canvey Wick SSSI

Luquetia lobella – 13th June (4)
Carpatolechia alburnella – 10th July
Stenoptilia zophodactylus – 10th July and 17th July (2). Confirmed by C. Hart by photo ID.
Cnaemidophorus rhododactyla (**Rose plume**) – 10th July (6) and 17th July (4)
Acrobasis marmorea – 17th July (55)
Acleris bergmanniana – 13th June
Platytes alpinella – 17th July (3)
Acleris kochiella – 10th July (GD)
Cochylidia heydeniana – 10th July (3) and 17th July (3)
Epinotia demarniana – 13th June
Red-belted Clearwing – 15th June (to lure)
Evergestis extimalis – 13th June, 10th July
Lappet – 17th July (3)
Fox Moth – 13th June (2 females)
Grass Rivulet – 13th June
Early Tooth- striped – 31st March
Grey Birch – 2nd June
Sloe Carpet – 31st March (28)
Cream-spot Tiger - 2nd June (8) and 13th June (20)
Star-wort – 13th June, 17th July (2)
Bordered Sallow – 17th July (10)
Crescent – 17th July
Dotted Chestnut – 31st March (3)
Pine Beauty – 31st March
Obscure Wainscot – 2nd June, 13th June (5), 10th July (2)



CLIFDEN NONPAREIL



CREAM-SPOT TIGER



CRESCENT



LAPPET



**SMALL ELEPHANT
HAWKMOTH**



SLOE CARPET (GB)



DASYCERA OLIVIELLA



EARLY TOOTH STRIPE



EVERGESTIS LIMBATA



GEM



GRASS RIVULET



HAWORTH'S PUG (GB)

Hockley Woods (privately owned section)

Argyresthia retinella – 2nd July, *Metalampra italica* – 2nd July and 20th July (2); *Ypsolopha sylvella* – 7th September; *Agnoea josephinae* – 2nd July (2); *Olindia schumacherana* – 2nd July (2); *Pseudosciaphila branderiana* – 2nd July; *Epinotia demarniana* – 2nd July; *Oncocera semirubella* – 20th July; *Agrotera nemoralis* (**Beautiful Pearl**) - 10th June (2), 2nd July (2); *Evergestis limbata* – 2nd July; *Catoptria verellus* – 20th July (2); **Oak Lutestring** – 7th September; **Lunar Thorn** – 10th June; **Grey Birch** – 10th June; **Buttoned Snout** – 2nd July; **Red-necked Footman** – 2nd July; **Plumed Fan-foot** – 20th July.

Stanford Warren EWT Reserve (9th July 2021 – second National Moth Night)

Agonopterix kaekeritziana; *Cnaemidophorus rhododactyla* (**Rose plume**); *Recurvaria nanella*; **Festoon** – 3; *Pempelia genistella* (2); *Anania perlucidalis* (5); *Schoenobius gigantella* (2); **Lappet**; **Small Elephant Hawk**; **Bordered Pug**; **Dotted Fan-foot** (15); **Silky Wainscot** (30); **Obscure Wainscot** (30).



ROSE PLUME



SEPTEMBER THORN



SPULERIA FLAVICAPUT



YPONOMEUTA PLUMBELLA



YPSOLOPHA SYLVELLA



PSEUDOTELPHUSA PARIPUNCTELLA (GB)

Brett's Meadows, Hadleigh (private Nature Reserve)

Dasycera oliviella - 8th July; *O. lithodactyla* - 8th July; *Choristoneura hebenstreitella* - 24th June; *Epinotia demarniana* - 24th June; *Elegia similella* – 8th July (3); **Ruddy carpet** - 8th July; **Lead-coloured Pug** – 24th June (3).

Belfairs Nature Reserve (part of Hadleigh Great Wood)

Ypsolopha alpella - 3rd September; *Monochroa cytisella* - 24th July – GD; *Elegia similella* - 24th July; *Acrobasis tumidana* – 3rd September (2); *Musotima nitidalis* - 24th July and 3rd September (2); **Clifden Nonpareil** – 3rd September.

2021 was my first full year of mothing. The year took a while to get going but it has proved to be fascinating and eventful and left me enthused with what 2022 and the coming years may bring.

I have had a passion for natural history my whole life, initially with reptiles and amphibians, joining the British Herpetological Society in 1964 then expanding my interest and joining the Zoological Society of London in 1967. My specific interest in moths began in the Summer on 2019 whilst on holiday in Dorset but it was not until the pandemic and lockdown of 2020 prompted me to make the most of my urban garden that I started trapping. I wanted to photograph as many living species of wildlife as I could in my garden and create a Garden Wildlife photobook. Starting early April 2020, I had to trap initially using a large cardboard box with the top flaps folded inward and a UV bulb suspended over it, as moth traps were out of stock wherever I tried. I managed to purchase a double 20W actinic Skinner trap mid-May and things then started to take off.

In April 2021 I built a 125W MV Robinson trap, which I usually ran along with the Skinner trap either at opposite ends of the garden or together under a 2m x 2m gazebo at the back of the house. The gazebo offered protection from the weather and the lights could still be easily seen to attract moths. The back wall of the house also offered a resting place for moths that didn't end up in the traps. I also used three pheromone traps with a variety of lures to trap several species I would not have seen otherwise.

Being in an urban location, I realised that I was unlikely to get the variety and numbers of species that I would were I located somewhere more rural but I was amazed by just how many I have encountered so far and the fact that nearly a hundred of the species only paid a single visit that I was aware of leads me to believe there were probably many more that I hadn't observed and may well turn up during 2022.

We have tried to make the garden as wildlife friendly as possible but most of our neighbours are not of the same mind, with lawns, sometimes artificial predominating and few or no plants. However, some gardens have been left to run wild, which may have had a beneficial impact on some species. With so many houses around, light pollution is a problem, but it also means temperatures are a couple of degrees higher than open areas. We have a park a few streets away with several species of mature trees and a wild area.

As I'm retired, I have had the time to count, photograph, identify (often with the help of others) and record the moths I've seen, though at one point I was about six weeks behind with processing the photos.

2021 SUMMARY

Number of times trapped	257
Total moths either trapped or observed	9552
Total micro species recorded 2021	223
Total macro species recorded 2021	178
New for garden this year	202
Total garden species to date	435
Species from 2020 year not seen 2021	29
Species trapped or observed only once during 2021	98
Highest number of moths in one night	203
Highest number of different species in one night	66

TOP 10 SPECIES IN 2021 BY NUMBERS

Pale Mottled Willow	434
Common Plume	415

TOP 10 RECORDED SPECIES IN 2021

Light Brown Apple Moth	115
Common Plume	114

Ruddy Streak (<i>Tachystola acroxantha</i>)	406
Light Brown Apple Moth	341
Double-striped Pug	295
Uncertain/Rustic agg.	268
Vine's Rustic	247
Willow Beauty	215
Garden Carpet	214
Box-tree Moth	210

Double-striped Pug	105
Pale Mottled Willow	96
Ruddy Streak (<i>Tachystola acroxantha</i>)	90
Garden Carpet	83
Willow Beauty	71
Box-tree Moth	70
Beautiful Plume	67
Vine's Rustic	60

There have been several highlights for me in 2021. The first being recording *Cydia interscindana* on numerous occasions. I had trapped a single individual in September 2020, and this proved to be the first Essex record. Between mid-June and late October 2021 nineteen individuals were trapped, with a pheromone trap using a POM lure being the most productive having three individuals trapped on three occasions. With a Cypress tree in my garden, I think they may well be breeding there.

A second 'first' for Essex was a *Choreutis nemorana*, trapped on the 22nd July. Initially misidentified by me as *Choreutis pariana*, it wasn't until the 12th August, after seeing a couple of reports from the south of the country that I rechecked and had confirmation of the i.d. from Ben Sale.



Cydia interscindana



Choreutis nemorana



Caloptilia honoratella



Cosmopterix pulchrimella



Lyonetia prunifoliella



Pammene suspectana



Zelleria oleastrella



Scythris limbella (BC)

I thought I had a third 'first' for Essex after getting GD confirmation from Graeme J. Smith that a moth I'd trapped 1st August was *Caloptilia honoratella*. There were no Essex records shown on the EFC database at the time, but it later transpired that Robin Barfoot had trapped an individual in 2020 but it had not been submitted until later.

On 8th November I recorded a *Lyonetia prunifoliella*, a scarce moth on the Red Data Book list.

I recorded my first *Cosmopterix pulchrimella* on 21st August, a diminutive micro and difficult to pick out against the tiny flies that inherently litter the bottom of the moth trap. As a Nationally Scarce A moth I didn't expect any more but over the next few weeks I recorded 27 individuals over 20 sessions, the last being on 17th December.

A really unusual micro I recorded on the 6th September is **Zelleria oleastrella**. I initially thought it had been squashed against the side of the trap and I thought an apt common name for it would be Crash Landing.

One RDB micro that seemed to be recorded around Essex in 2021 was **Pammene suspectana** and I recorded 3 individuals over 2 sessions. Thanks to Ben Sale for the identification.

Looking at the national status of some of the moths I've recorded during 2021, it's clear these need to be revised. Many deemed migrant are now most likely resident and some 'scarce' species seem no longer to be. There are also species are still awaiting a status category. However, using the current guidelines, here are statistics for the less common and migrant species I recorded during 2021.

MIGRANTS, VAGRANTS AND ADVENTIVES

Taxon	Common Name	Status	Records	Individuals
<i>Zelleria oleastrella</i>	Olive Ermine	Migrant	1	1
<i>Plutella xylostella</i>	Diamond-back	Migrant	32	51
<i>Prays peregrina</i>	London Ermel	Adventive	1	1
<i>Cydia interscindana</i>	Juniper Piercer	Adventive	12	18
<i>Cydia amplana</i>	Vagrant Piercer	Migrant	1	1
<i>Udea ferrugalis</i>	Rusty-dot Pearl	Migrant	9	12
<i>Udea fulvalis</i>	Fulvous Pearl	Migrant	1	1
<i>Cydalima perspectalis</i>	Box-tree Moth	Adventive	70	210
<i>Musotima nitidalis</i>	Golden-brown Fern Moth	Adventive	3	3
<i>Macroglossum stellatarum</i>	Humming-bird Hawk-moth	Migrant	1	1
<i>Thaumetopoea processionea</i>	Oak Processionary	Vagrant/Accidental	4	5
<i>Lymantria dispar</i>	Gypsy Moth	Vagrant/Accidental	10	18
<i>Pechipogo plumigeralis</i>	Plumed Fan-foot	Vagrant/Accidental	21	38
<i>Macdunnoughia confusa</i>	Dewick's Plusia	Rare migrant	5	5
<i>Autographa gamma</i>	Silver Y	Migrant	35	55
<i>Cryphia algae</i>	Tree-lichen Beauty	Rare migrant	15	34
<i>Caradrina kadenii</i>	Clancy's Rustic	Migrant	5	6
<i>Mythimna albipuncta</i>	White-point	Migrant	22	45
<i>Agrotis ipsilon</i>	Dark Sword-grass	Migrant	1	1

ESSEX RED DATA BOOK SPECIES

Taxon	Common Name	Records	Individuals
<i>Argyresthia trifasciata</i>	Triple-barred Argent	5	6
<i>Recurvaria leucatella</i>	White-barred Groundling	2	2
<i>Synanthedon formicaeformis</i>	Red-tipped Clearwing	3	3
<i>Synanthedon andrenaeformis</i>	Orange-tailed Clearwing	1	4
<i>Synanthedon myopaeformis</i>	Red-belted Clearwing	1	28

<i>Eudonia pallida</i>	Marsh Grey	1	1
<i>Eupithecia millefoliata</i>	Yarrow Pug	3	3
<i>Hypena rostralis</i>	Buttoned Snout	3	5
<i>Eilema caniola</i>	Hoary Footman	1	1
<i>Laspeyria flexula</i>	Beautiful Hook-tip	2	2
<i>Globia sparganii</i>	Webb's Wainscot	1	1
<i>Mythimna l-album</i>	L-album Wainscot	18	31

NATIONALLY SCARCE AND RED DATA BOOK

Taxon	Common Name	Status	Records	Individuals
<i>Caloptilia cuculipennella</i>	Feathered Slender	Nationally Scarce A	2	2
<i>Lyonetia prunifoliella</i>	Striped Bent-wing	pRDB1	1	1
<i>Cosmopterix zieglerella</i>	Hedge Cosmet	Nationally Scarce B	1	2
<i>Cosmopterix pulchrimella</i>	Pellitory Cosmet	Nationally Scarce A	20	27
<i>Platyedra subcinerea</i>	Mallow Crest	Nationally Scarce B	17	28
<i>Gelechia senticetella</i>	Cypress Groundling	Nationally Scarce B	7	7
<i>Recurvaria nanella</i>	Brindled Groundling	Nationally Scarce B	11	20
<i>Scythris limbella</i>	Goosefoot Owlet	pRDB3	1	1
<i>Cydia servillana</i>	Sallow-shoot Piercer	Nationally Scarce B	2	2
<i>Grapholita lobarzewskii</i>	Kent Fruit Piercer	Nationally Scarce A	1	7
<i>Pammene suspectana</i>	Ash-bark Piercer	pRDB2	2	3
<i>Mecyna flavalis</i>	Yellow Pearl	pRDB3	1	1
<i>Calophasia lunula</i>	Toadflax Brocade	RDB3	4	5
<i>Hecatera dysodea</i>	Small Ranunculus	RDBK	3	3

2021 was a good year for me for Hawk-moths. After getting just a single **Privet Hawk-moth** in 2020 I had assumed that my location wasn't suitable for these impressive moths, so I was delighted to get multiple visits from **Privet Hawk-moths**, **Lime Hawk-moths**, **Poplar Hawk-moths**, **Elephant Hawk-moths** and a **Small Elephant Hawk-moth** during 2021.

During the Summer months I often spent an hour or two at night sitting out near the traps and I was surprised by the number of species that visited once, did not enter the traps and were gone by the following morning. Had I not observed them that night I would not have known they had visited.

Among such visitors were a **Miller** on the 5th June, **Blackneck** on the 27th June, **Bird's Wing** on the 28th June, **Blotched Emerald** on the 29th June, **Scarce Silver-lines** on the 8th July, **Short-cloaked Moth** on the 15th July and **Swallow-tailed Moth** on the 18th July. All of which stayed around for a couple of hours then left and did not return.



Privet Hawk-moth
(*Sphinx ligustri*)



Elephant Hawk-moth
(*Deilephila elpenor*)



Lime Hawk-moth
(*Mimas tiliae*)



Poplar Hawk-moth
(*Laothoe populi*)



Small Elephant Hawk-moth
(*Deilephila porcellus*)



Miller
(*Acronicta leporina*)



Swallow-tailed Moth
(*Ourapteryx sambucaria*)



Blotched Emerald
(*Comibaena bajularia*)



Blackneck
(*Lygephila pastinum*)



Bird's Wing
(*Dypterygia scabriuscula*)



Scarce Silver-lines
(*Bena bicolorana*)



Short-cloaked Moth
(*Nola cucullatella*)

(B.C.)

I deployed three pheromone traps around the garden throughout the Spring, Summer and Autumn months using a variety of lures. The results are shown below.

PHEROMONE LURE RECORDS

Taxon	Common Name	Lure	Records	Individuals
<i>Cydia nigricana</i>	Pea Moth	POM	1	2
<i>Cydia ulicetana</i>	Grey Gorse Piercer	FAG	1	1
<i>Cydia interscindana</i>	Juniper Piercer	POM	6	12
<i>Grapholita lobarzewskii</i>	Kent Fruit Piercer	SKI	1	7
<i>Pammene suspectana</i>	Ash-bark Piercer	MOL	2	3
<i>Synanthedon formicaeformis</i>	Red-tipped Clearwing	FOR	3	3
<i>Synanthedon andrenaeformis</i>	Orange-tailed Clearwing	VES	1	4
<i>Synanthedon myopaeformis</i>	Red-belted Clearwing	MYO	1	28
<i>Saturnia pavonia</i>	Emperor Moth	EMP	3	3
<i>Autographa gamma</i>	Silver Y	NIG	1	1

The MV trap that I built measures 55 x 55 x 45cm and has proved its worth as I've had almost double the moths that I had over the same period during 2020. The MV light does seem to be more effective than the actinic, but I've noticed that some species seem to prefer the actinic, especially during Winter and early Spring.



I'm grateful for the support and identification skills of others, especially within the Essex Moth Group Facebook page who have made my mothing year so enjoyable and rewarding.

Another year has passed with plenty of moths and a few new species for my site with mostly similar trends in numbers of individual sp.

Cydia interscindana was perhaps the most interesting in that I think it may be only the 2nd Essex record and was trapped on 26 July at similar date to a Herts and Suffolk records. The moth has been retained.

Chamomile shark Several recoded for first time in my garden 1 May, although they were quite common when I lived in Walthamstow some years ago.



CYDIA INTERSCINDANA



CYDIA INTERSCINDANA



CHAMOMILE SHARK

Other new sp positively identified were **H.nebulella**, **Paranorix torruilella**, **Phyllonorycter Esperella**, **Monopis crocicapitella** and **Bucc. Ulmella** although I have a large number of micros stored to dissect.

Small elephant Hawk-moth on 18 June only the 2nd one to visit my site in 28yrs of trapping here made an exciting appearance but in general Hawk moths were bit of a rarity this year with just **Privet, Lime, Poplar and Large Elephant Hawk-moths** appearing.

Jersey Tigers again great to see with similar numbers to last few years.

Box Moth – have increased to 131 from 104 last year while **Gypsy** and **Oak Processionary** have maintained their low levels 19 and 14 respectively

Tachystoma acroxantha This little moth has increased dramatically over the last few year with 328 taken last year from middle of May until mid December. ***Acleris literana*** has only appeared here in the last few years.

Other moths on the increase here are **Merville du Jour**, **L-album wainscot** and new here only a couple of years ago the **Rosy rustic**.



JERSEY TIGER



ACLERIS LITERANA

SMALL ELEPHANT HAWK-MOTH
(R.B)

I have been studying and recording moths in and around Magdalen Laver, near Harlow, Essex since we moved to the village in 1996. The garden is not very large but is quite wild with a good variety of plants and trees and is surrounded by arable farmland. There are a few small woods in the area, mostly managed as game cover or shelter belts. Many hedgerows are still present and these have large mature trees including oak and ash. Most recording has taken place in the garden where light traps have been operated on the majority of nights of the year since 2004 and casual recording of daytime observations, early stages and leaf mines has been carried out. Altogether, a total of 908 species have been identified from the garden. For the second year running an extensive regime of pheromone trapping was undertaken with lures deployed with varying numbers from the end of February to early November.

Using all recording methods and all life stages, 501 species of moth were recorded in 2021. This was down on 2020 (588 species).

Light Trapping

Light traps (MV Skinner with either or both MV Robinson and Actinic Skinner) were operated in the garden on 294 nights, ranging between 1 and 3 traps per night to give a total of 846 trap-nights. Missing nights were mostly during the height of the season in June, July and September which probably accounts for the reduced number of total moths and species compared to 2020. Altogether, 14,213 moths of 414 species were recorded in light traps. From the light trapping activities, there were 11 species new for the garden, although 3 were also recorded in pheromone traps for the first time in 2021.

Table 1 – Light Trapping regime and summary results

Month	Days trapped	Days missed	Traps x Days	Species recorded	Total Moths
January	31	0	93	8	36
February	28	0	84	21	137
March	31	0	93	22	319
April	30	0	90	24	171
May	31	0	93	82	450
June	12	18	36	145	1,594
July	9	22	18	192	2,207
August	29	2	62	245	5,096
September	14	16	40	115	3,080
October	31	0	93	79	1,158
November	20	10	60	26	82
December	28	3	84	8	24
Total	294	71	846	414	14,213



Bucculatrix ulmifoliae



Cydia amplana



Pammene splendidulana



Prays ruficeps (TG)

Pheromone Trapping

Encouraged by the positive results from this exciting technique in 2019 & 2020, I added to my arsenal of pheromone lures quite significantly over the winter and deployed 82 different lures over the course of the year. I also experimented with these over a longer period than in previous years. All were used in the commercially available funnel traps, so that some of the moths attracted were held captive in the traps and could be examined and released. Some lures were left out for months at a time and 24 hours per day whilst others were only used for shorter periods, but still 24 hours per day. The first lures were put out very much in the hope of seeing early *Pammene giganteana* on 25th February and the last lure was brought on 20th November having recently successfully attracted a series of **Vapourer Moth** during October and November. The choice of lures and the time of year to deploy them is very much hit and miss because many of them attract species other than the main target species. These non-target species are a subject of great interest for me, so I have been trying many random lures at sites and times where the target species is very improbable.

During 2021, trapping was carried out on 217 days with 6,358 'trap-days' (traps x days). A total of 705 individual moths of 71 species were recorded in pheromone traps and a monthly summary is shown in Table 2. Six new species for the garden visited the pheromone traps, although 3 of these were also recorded in light traps for the first time in 2021.

Table 2 - Pheromone Trapping regime and summary results

Month	Days Trapped	Traps x Days	Species recorded	Total Moths
February	4	28	0	0
March	31	354	2	69
April	30	1186	11	106
May	31	1898	16	87
June	13	885	29	98
July	6	282	18	49
August	31	1457	29	245
September	10	210	10	26
October	31	38	6	24
November	20	20	1	1
Total	217	6358	71	705

Of the casual records and observations made during the year, one, *Nemapogon granella*, was a new species for the garden. This was netted in the late afternoon whilst observing *Dichrorampha spp.* in the newly established wild 'meadow' area.

2021 wasn't the most productive of years and was slow to start with very cold nights right into May. Missing a large chunk of the summer whilst away must also have had more impact on totals recorded. The total of 14,885 adult moths and 482 species recorded in the garden was similar to the 10-year average (2011-2021), but both were less than the record results achieved in 2020. The 15 new species added to the garden list is a similar result to the 10-year average and less than 2020 when 49 new species were recorded. No analysis has yet been carried out of the species **NOT** recorded during 2021, but only around half of the site list were seen.



Antispila petryi



Coleophora albicosta



Coleophora betulella



Coleophora violacea (TG)

Table 3 - Adult Moths recorded in the Garden

Year	Species recorded (All methods)	Total Moths	New species for garden	New species from lures	Lure % of additions
2021	482	14,885	15	3	20%
2020	572	20,494	49	20	41%
2019	432	14,270	17	7	41%
2018	461	17,032	18	5	28%
2017	414	10,943	6	0	
2016	381	13,597	11	0	
2015	418	12,173	10	0	
2014	420	13,942	2	0	
2013	519	19,435	21	0	
2012	400	9,993	11	0	
2011	494	18,849	39	0	
Average 2011-2020	451	15,073	18		

New Species

Of the new species for the garden, 4 were macro moth species and 11 were micros. Quantities, dates and methods are shown for all the new species in Table 4 below.

Table 4 – New species recorded in the garden for the first time in 2021.

Code	New species	Qty	Dates	Method
6.002	<i>Antispila petryi</i> *	3	26-Jul	PROLE lure (<i>Prays oleae</i>)
12.015	<i>Nemapogon granella</i> *	1	28-May	Netted at 20:00
14.011	<i>Bucculatrix ulmifoliae</i> *	2	9-Jun, 18-Aug	Light trap
22.003	<i>Prays ruficeps</i>	1	11-Jun	Light trap
34.009	<i>Cosmopterix pulchrimella</i> *	3	18-Aug – 7-Oct	Light trap
35.127	<i>Tuta absoluta</i> *	48	2-Jun – 7 Oct	Light trap
		24	6-Jun – 7-Sep	ABS lure (<i>Tuta absoluta</i>)
37.026	<i>Coleophora violacea</i> *	3	7-Jun, 11-Jun	GAM lure (Silver Y)
37.063	<i>Coleophora albicosta</i> *	1	6-Jun	Light trap
		1	6-Jun	ORA lure (<i>Adoxophyes orana</i>)
38.047	<i>Elachista freyerella</i> *	2	9-May, 24-Sep	Light trap
49.343	<i>Cydia amplana</i>	2	6 -Sep, 7-Sep	Light trap
49.360	<i>Pammene splendidulana</i>	1	24-Apr	SUS lure (<i>P. suspectana</i>)
70.018	Plain Wave	1	1-Aug	Light trap
71.016	Great Prominent	1	12-May	Light trap
73.093	Clancy's Rustic	1	24-Oct	Outside Light
73.347	Langmaid's Yellow U'wing	2	5-Aug, 15-Aug	Light trap

Species marked with * have had at least one example confirmed by GD.



Cosmopterix pulchrimella



Cydia servillana



Elachista freyerella



Eriocrania unimaculella (TG)

Three specimens of *Antispila petryi* were recorded overnight on 26th July in a pheromone trap baited with a lure for *Prays oleae*. This leaf-mining species of dogwood was previously known as *A. treitschkiella* until 2018 when the pair were split with *petryi* being the common species on dogwood and *treitschkiella* less common and known only from Cornelian Cherry. All three specimens were dissected and confirmed as *A. petryi* and there are several large dogwood trees in the garden. There are no records of either species in the EFC database, but this may be due to the recent split. In the 'Moths of Essex' (Goodey, 2004), there are records of *treitschkiella* in the north of the county, but it is referred to as scarce.

A single *Nemapogon granella* was netted in the garden during the evening of 28th May and was confirmed by dissection. This appears to be only the third recent Essex record and site and is the 6th member of the genus to be recorded in the garden.

Bucculatrix ulmifoliae was recorded on two occasions (9th June and 18th August) when suspected *Bucculatrix bechsteinella* were retained and dissected. Both males turned out to be *B. ulmifoliae*. This elm-feeding leaf-mining species was first discovered in Britain in Surrey in 2006 and was recorded in Essex by Graham Ekins and by me for the first time in 2021.

I was pleased to record my first *Prays ruficeps* in the garden on 11th June. I had recorded this species the previous year when sweeping ash branches on the local farm. This species was only recognised as a species separate from *Prays fraxinella* in 2013 and appears to be quite widespread but scarce in the county and throughout East Anglia. The orange-brown head and the complete lack of markings separate this from the frequent dark forms of *P. fraxinella*.

I nearly missed the tiny *Cosmopterix pulchrimella* in my light trap on 18th August but spotted it when it moved amid the mix of other small insects in the bottom of the trap. This leaf-mining species on Pellitory-of-the-wall is another recent colonist to the UK, having been first recorded in Britain in Dorset in 2001. Two more specimens were recorded in garden traps in each of Sep. and Oct. and join a long series recorded by Bill Crooks in Dagenham between Aug. and Dec. 2021 as being the only Essex records of this species. I have searched for the foodplant locally to see if I could find evidence of mines but could only find one plant in the local churchyard some 300m distant which had no signs of the species.

Another new species for me, the garden and also for Essex was the **Tomato Leaf-miner, *Tuta absoluta***. This tiny gelechiid moth first recorded on 2nd June in a garden light trap. 4 days later another was recorded in a pheromone trap with the ABS (*T. absoluta*) lure. Further specimens came to both light and pheromone traps in June, August and September with a total of 72 during the year (48 light, 24 lures). The only other Essex record that I'm aware of is one to light in Graham Ekins' Boreham garden in June. This species is a continuously brooded adventive species and probably only capable of year-round survival in glasshouse environments where it is a pest of tomatoes. The origin of my specimens may well be on potted tomatoes grown in either my garden or a neighbour's garden. Several searches of my tomato plants failed to find any mines which are apparently quite obvious.

Three specimens of *Coleophora violacea* were recorded on 7th and 11th June in pheromone traps baited with the lure for Silver Y moth. This appears to be a scarce or under-recorded moth in the county with only a handful of records mainly from coastal sites. My records are the first in the west of the county, although it is known from Hertfordshire. Unusually for a *Coleophora* species it is polyphagous feeding on a wide range of trees and shrubs. The attraction to the Silver Y lure is backed up by 4 specimens that I recorded to the same lure in France in 2019. All specimens were dissected to confirm.

Two specimens of *Coleophora albicosta* on 6th June were a surprise to find in the garden as there is no gorse to my knowledge in the area. Although a widespread species in Essex and throughout the UK, most records are near the foodplant. A female was trapped overnight in a pheromone trap baited with Summer Fruit Tortrix (*Adoxophyes orana*) lure and the second, a male, was in a light trap. With two specimens in one night, this may well represent a dispersal event from a distant colony. Both were confirmed by dissection.

Probably a species I have overlooked in previous years in garden traps is *Elachista freyerella*. Two specimens of this species (one dissected) were identified from light trap catches on 9th May and 24th Sep. The much greyer head also confirms the identification compared to the similar *E. stabilella* which has a white head and has been identified frequently in recent years in the garden.

Cydia amplana is an increasingly commonly recorded migrant tortricid which may now be resident in the county. Singles were recorded at light on 6th and 7th Sep. which were new for the garden. Most Essex records are in the east, so these are amongst the first records in the west of the county.

A single *Pammene splendidulana* was attracted to the *Pammene suspectana* (SUS) lure in the morning of 24th April. This represents the 4th recent site in Essex. Two more specimens were recorded on 6th and 11th May to the SKI lure in a small wood some 200m from the garden.

A **Plain Wave** (*Idaea straminata*) on 1st August was a first record for the garden. This is a seemingly common and widespread species in the county and one that I have recorded many times in Epping Forest, but never anywhere else.

Great Prominent (*Peridea anceps*) seems to have had a good year and is maybe expanding its range, having been recorded at several new sites in 2021. A single specimen recorded at light in the garden on 12th May was a welcome addition to the site list.

My first **Clancy's Rustic** (*Caradrina kadenii*) was spotted on the wall by an outside light on 24th October. Another species that seems to be recorded more frequently in recent years having recently colonised southern coastal areas.

I have checked numerous candidates for **Langmaid's Yellow Underwing** (*Noctua janthina*) for many years and failed to find this species. However, two specimens trapped on 5th and 15th August were critically examined and confirmed as this species and were new for the garden. There appear to be very few confirmed records of this species in the county, although in some areas of Kent it is now considered to be resident.

A further 8 species that I have not seen in Essex before were recorded in 2021 and are detailed in Table 5.



GREAT PROMINENT



Mompha langiella



PLAIN WAVE



Stigmella lapponica



CLANCY'S RUSTIC



LANGMAID'S YELLOW UNDERWING (TG)

Table 5 – New species recorded elsewhere in Essex for the first time in 2021.

Code	New species	Qty	Dates	Method
Epping Forest, Theydon Bois				
2.003	<i>Eriocrania unimaculella</i>	3	22-May	Leafmines on Birch
4.002	<i>Stigmella lapponica</i> *	1	20-Apr	Swept from Birch
37.053	<i>Coleophora betulella</i> *	2	28-May	Larval cases on Birch
40.011	<i>Mompha langiella</i>	1	20-Apr	Netted by day
Holybred Wood, Little Baddow				
8.005	<i>Phylloporia bistrigella</i>	1	10-May	Light trap (Field Survey)
32.002	<i>Semioscopis steinkellneriana</i>	2	10-May	Light trap (Field Survey)
Magdalen Laver				
12.011	<i>Triaxomera fulvimitrella</i>	1	27-May	NEGRA lure (<i>Nem. granella</i>)
49.339	<i>Cydia servillana</i>	1	7-Jun	CYSER lure (<i>Cydia servillana</i>)

Species marked with * have had at least one example confirmed by GD.

Three visits to the Theydon Bois area of Epping Forest during April and May added 4 new species to my Essex list. Three leafmines of *Eriocrania unimaculella* were found on Birch. The larvae were examined and confirmed from photos as this species by Andy Banthorpe. There are only three other records of this species in the Essex database, all being recorded as mines.

A single *Stigmella lapponica* was swept from sapling birches and identified by dissection. Although a generally well distributed and widespread species, this is the only record away from the north-east of the county and the only adult record.

Three dark ‘pistol-shaped’ Coleophora cases thought to be *Coleophora betulella* were found on sapling birch on 28th May and retained to rear. Two adult females emerged in June and were dissected to confirm identity. This is only the second recent record from the west of the county.

A small moth flying in afternoon sun around a pheromone trap hanging on a Scots Pine on 20th April was netted and turned out to be a very worn *Mompha langiella*. Apparently not a common moth in the county with only 3 other sites in the database. The larvae feed on Enchanters Nightshade, not a plant I’ve ever knowingly seen



Triaxomera fulvimitrella



Tuta absoluta



Phylloporia bistrigella



Nemapogon granella (TG)

On 10th May, I spent an evening in the company of Graham Ekins, Simon Wood and Dougal Urquhart at Holybred Wood in Little Baddow to assist with a moth survey of the wood. I was rewarded with two new species for me. The first was ***Semioscopis steinkellneriana***, two specimens of which were seen on the sheets during the evening. On packing up my traps at the end of the night, an unfamiliar small black & white moth was spotted. After a lot of searching the next day, it was identified as the birch-feeding Incurvariid, ***Phylloporia bistrigella***. Graham had potted one too. Another scarce moth in the county with only a handful of known sites.

During the spring and early summer, Pheromone traps were tried at several local sites in the Magdalen Laver area. The lure for *Nemapogon granella* attracted a single rather worm specimen of ***Triaxomera fulvimitrella***. This is only the second record in the Essex database. The appearance of this species at lures is known, but the other records that I'm aware of have been to either CUL or SCO lures. The same lure at the same site also attracted 2 specimens of ***Nemapogon clematella***.

I had been trying the lure for ***Cydia servillana*** for several weeks at different sites where willow was present and was finally rewarded on 7th June with a specimen of this very attractive moth at a local farm reservoir in Magdalen Laver. This is the 6th site for the moth in the Essex database.

If any recorders have any data on non-target captures at lure traps that they are willing to share, I would be most grateful. Ideally, this would include species, recorder, date, site, number recorded etc., but any records would be useful as I am trying to collate as much of this as I can so that it can be published. The more data that is available will help build a better picture of how many of these findings are being repeated at other sites. Please contact me by email if you can help and thanks to all who have already supplied data: timgreen2201@outlook.com.

THRIFT WOOD, BRENTWOOD

ANNE JACOBS

This moth was my most unusual visitor in 2021. It visited my garden on 07, 14 and 15th of June 21, and I identified it as *Pseudotelphusa paripunctella*. I have a wood at the bottom of my garden which has many oak and birch trees which provide food for its caterpillars. Its common name is **Tawny Groundling**.



The next most unusual specimen was a **Light Orange Underwing** which was flying in my wood on 30 03 21. It had come down to the ground to drink and I managed to trap it in a pot and take it home for pictures, before releasing it back to its home. It was a glorious warm day with many overwintering butterflies on the wing, but the trees not yet in leaf. Later in the year I was able to identify several clusters of aspen scattered throughout the wood which is its food plant, but I had never seen it before and I have walked in that wood for 25 years!

(Pics – AJ)

The male has feathered antennae which separate it from the male of the **Orange Underwing**, which has finely serrated antennae. I hope I have my identification correct! My wood is Thrift Wood in Brentwood which is a private Scouts Camp site. It is about 100 acres of mixed deciduous woodland with oak, birch, beech, chestnut, poplar and aspen. There are also about 10 Scots pine. Undergrowth includes blackberry, raspberry, hawthorn, holly, laurel and hazel. There is a small area where chalk is near the surface supporting a colony of early purple orchid.

This **Slender Brindle** *Apamea scolopacina* was such a colourful moth. I was thrilled to trap it on 15 07 21. It has a richer colour than those in Manley's new book, so much so that I had difficulty identifying it! It feeds on different grasses and has a local distribution.



I have trapped **Poplar Hawk-moth** on several occasions. I include this one trapped 20 07 21 because it has the most amazing colour

This little beauty *Musotima nitidalis*, or **Golden Brown Fern Moth** was on my kitchen window on 07 10 21. It is a micro which feeds on the undersides of fern fronds. Because my garden is so shaded by Thrift Wood trees I have planted a fernery at the bottom of my garden with many different species, and have retained most of the leaf litter as well.



Having retained the leaf litter at the bottom of the garden, I usually get a colony of Fairy Moths most years. So called Fairy Moths because the males fly in a flock together up and down over shrubs and look like miniature fairies. This species is *Nemophora degeerella* aka **Yellow-barred Long-horn** and was trapped in my garden on 21 06 21. I have also seen them in 2 different locations in Thrift Wood as well. The only place I have seen females is in Panshanger Park in Hertfordshire.

Site

Bigods Bungalow (grid ref TL627245) lies to the north of Great Dunmow and is situated 1 mile from the B1057 along a single-track lane. It has 6 properties in the immediate vicinity which contribute minimum light pollution, although there is some light input from Bigods Hall (adjacent) and this has increased in recent years. The hall now has 4 LED security lights that operate throughout the night all year round. There is significant light pollution in the general area, notably from the town of Great Dunmow (residential street lighting predominantly) and Stansted Airport. Although the airport is 9 miles away it is clearly visible as a glow on the horizon. This is significantly increased if there are low clouds.

The bungalow itself sits in approximately ½ acre of garden which is predominantly rough grass or bramble thicket, with about 30% laid to cultivated flower or vegetable gardens, shrubs and mature trees. There is a small pond which is managed as a natural pond with no fish present. Throughout the garden no artificial fertilizers, herbicides or pesticides are routinely used except for occasional spot applications of Glyphosate. There is a wide range of wildflowers present in the garden which is managed to be sympathetic to wild plant species.

The surrounding countryside is predominantly intensively managed arable fields with small margins. Any wider tracks that are present are mown regularly throughout the year and support only limited floral diversity. All hedgerows are mechanically cut annually.

There is a small area of woodland adjacent to the property which is unmanaged.

Tree species present in the garden are: Blackthorn, Broad Leaf Lime, Hawthorn, Apple, Pear, Plum, Fig, Cherry, Spindle, Elder and Oak. In the vicinity of the garden a wider range of species is found with Maple, Sycamore, Ash, Beech, Scotts Pine, Cyprus, Poplar, Hornbeam, Horse Chestnut, Sallow and Willow all found within a few hundred meters.

**Trapping methods**

Most of the trapping is carried out using a Robinson moth trap fitted with a 125w white MV bulb. The trap is placed at ground level under several mature Broad Leaf Lime trees and has rough grass and bramble thicket immediately adjacent. The site is largely protected from early morning sun but if adversely affected by strong winds, particularly from the south. This is especially notable in the cooler months when a fairly light wind can significantly reduce moth numbers captured.

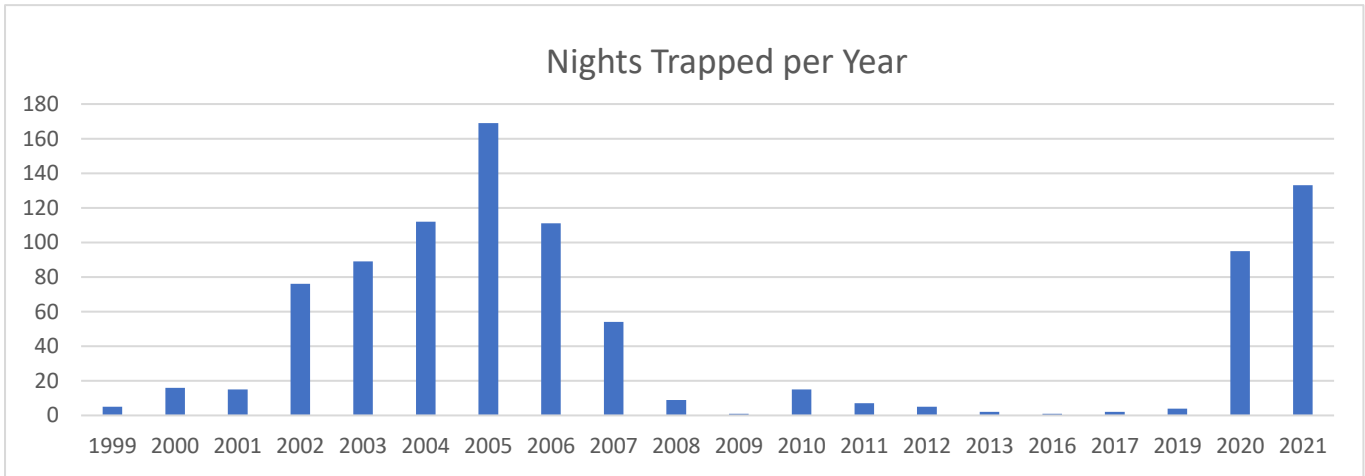
Occasionally a portable nylon NHBS trap fitted with a Sylvania coiled fluorescent 20w black light is run as second light trap.

Other observations from nectaring, sugaring and field observations are also recorded.

Records.

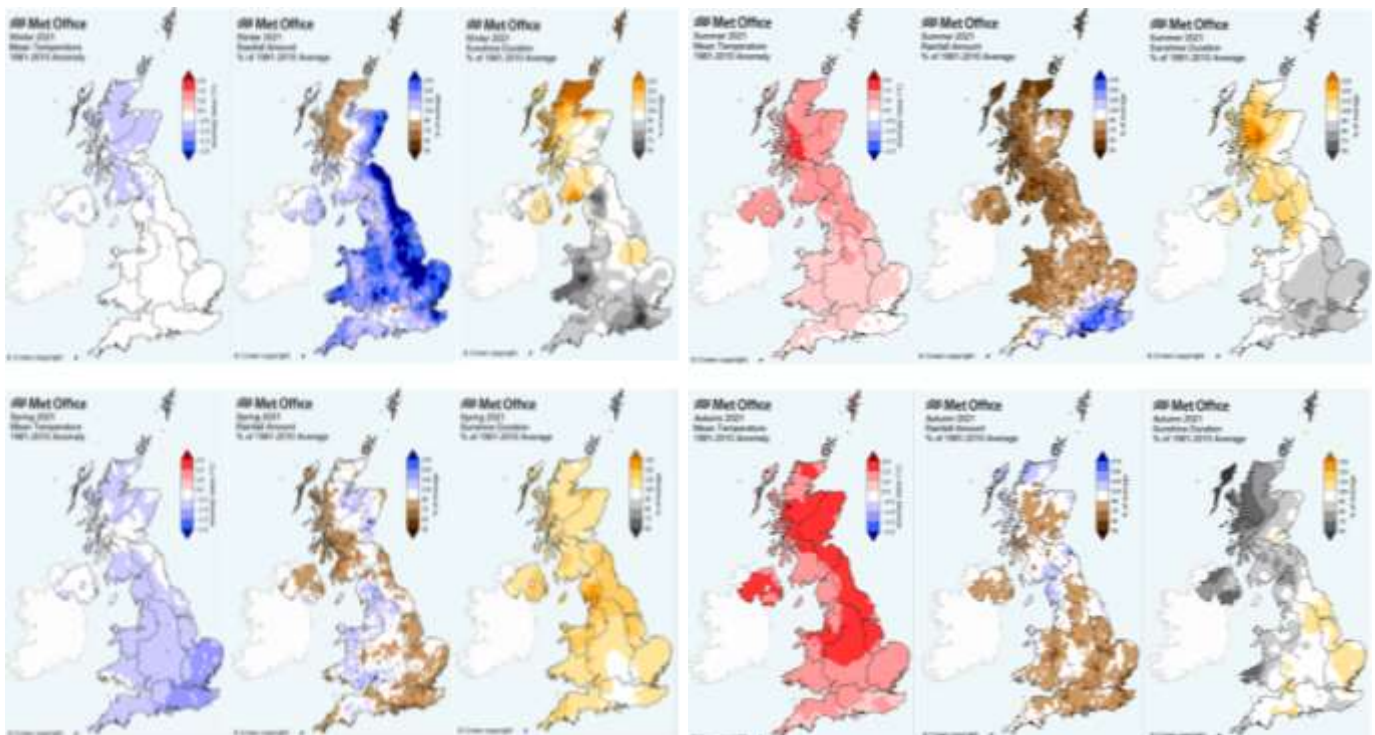
Daily records are initially recorded onto paper and then transferred to Mapmate for recording and analysis. Detailed analysis is then carried out using Mapmate queries and by extracting the data to Excel and analyzing using pivot tables.

The site has been surveyed since 1999, although annual trapping effort has been variable due to work and family (small children!) commitments. Some years there were no light trap sessions carried out.



2021 Season Weather

Generally 2021 was average when viewed as a year and compared to the 1981-2010 average. There was some variation season by season, along with some short lived extreme events.



	Winter	Spring	Summer	Autumn
Temperature	<0.5°C below average	1-1.5°C below average	0.5-1°C above average	1-1.5°C above average
Rainfall	50% above average	20-30% below average	10% above average	10-30% below average
Sunshine	5-15% below average	5-10% above average	5-15% below average	5-15% above average
Extreme events	Cold snap Jan-Feb. Jan coldest since 2013	April most air frosts for 60 years.	Hot spell in July	

Mothing

Summary for 2021:

- 133 trapping sessions were carried out
- 421 species were trapped in total
- 50 new species recorded (reflection of ID effort)
- Species total for the site now stands at 644 species (subject to approval by the ID panel)
- 11,660 individual moths were recorded
- Setaceous Hebrew Character was the most numerous species with 2039 individuals recorded
- Common Wainscot was the most frequently recorded, occurring on 80 occasions

New Species

2021 added 50 new species to the species list for the site. The largest contribution came from the increased effort taken to identify micro species during 2021. However, it is possible that some of these species should have had a Gen.Det confirmation and so may need to be removed pending GD (if the specimen was retained), or another record that can then be confirmed.

It was pleasing to see the addition of 16 macro species, some more expected than others.

Although common The **Puss Moth** is a species that I have been expecting to see as there are significant numbers of Poplar, Willow and Sallow trees nearby which the caterpillars will feed on and this year saw a single specimen arrive on 23rd June.

Both **Jersey Tiger** and **Oak Processionary Moth** are species that have been extending into the area and have been trapped by others in Essex, but had eluded me. Both arrived this year on 14th August and 1st September respectively. Although I only recorded single specimens of both species there were other sightings in Great Dunmow of **Jersey Tiger** flying during the day on the same day. The **Oak Processionary** is an invasive species and as Great Dunmow is in the control zone for the species the record was reported to the Forestry Commission. I am hoping to take part in some pheromone trapping in 2022 as part of the OP monitoring programme.

Water Ermine(24th July), **Blackneck** (17th July), **Dewick's Plusia** (10th September and 7th October), **Currant Clearwing** (13th July) and especially the **Beautiful Marbled** (17th September) were unexpected, and pleasing additions to my species list



Beautiful Marbled (*Eublemma purpurina*) was a great surprise



Dewick's Plusia (*Macdunnoughia confusa*). 2 records were added in 2021, one of which was an emerging adult.



Oak Processionary (*Thaumetopoea processionea*) is a less welcome addition to the list.



A single **Currant Clearwing** (*Synanthedon tipuliformis*) was observed at a house window



Jersey Tiger (*Euplagia quadripunctaria*) has been extending its range across Essex



The Vestal (*Rhodometra sacrararia*) is a relatively common migrant, but one I have not recorded before

New Species observed in 2021		
Taxon	Vernacular	Records
Ectoedemia lousisella		1
Tischeria ekebladella		1
Psyche casta		1
Monopis weaverella		2
Monopis crociacapitella		1
Caloptilia populetorum		2
Caloptilia robustella		1
Calybites phasianipennella		1
Parornix anglicella		1
Phyllonorycter harrisella		1
Synanthedon tipuliformis	Currant Clearwing	1
Argyresthia semifusca		1
Yponomeuta malinellus	Apple Ermine	1
Coleophora hemerobiella		1
Borkhausenia fuscescens		1
Semioscopis steinkellneriana		1
Ethmia dodecea		1
Acleris bergmanniana		1
Acleris rhombana	Rhomboid Tortrix	2
Epinotia nisella		2
Thiodia citrana		1
Cydia fagiglandana		1
Pammene aurana		1
Dichrorampha petiverella		1
Agriphila selasella		3

Other Species

Taxon	Vernacular	Records
Evergestis limbata		1
Sitochroa verticalis		2
Dioryctria schuetzeella		1
Dioryctria simplicella		1
Nephoterix angustella		1
Amblyptilia acanthadactyla		1
Platyptilia gonodactyla		1
Platyptilia pallidactyla		1
Polyploca ridens	Frosted Green	3
Rhodometra saccharia	Vestal	1
Mesoleuca albicillata	Beautiful Carpet	4
Philereme transversata	Dark Umber	1
Lobophora halterata	Seraphim	2
Macaria liturata	Tawny-barred Angle	1
Cerura vinula	Puss Moth	1
Thaumetopoea processionea	Oak Processionary	1
Spilosoma urticae	Water Ermine	1
Euplagia quadripunctaria	Jersey Tiger	1
Euxoa nigricans	Garden Dart	2
Hecatera dysodea	Small Ranunculus	1
Eublemma purpurina	Beautiful Marbled	1
Macdunnoughia confusa	Dewick's Plusia	2
Lygephila pastinum	Blackneck	1
Eulamprotes atrella		1
Scoparia basistrigalis		4

As with most years the moths recorded during the year had mixed fortunes. **Beautiful Hook Tip**, a species I usually record in single figures, were abundant in 2021 (and in 2020) with 22 observed in both years. Its possible that this has been undergoing a general increase in abundance but this would have been masked by my low trapping effort between 2008 and 2019.

Mullein Moth was another species that had a good year with caterpillars decimating all of the Mullein plants in the garden. An unknown pupae collected whilst weeding later turned out to be a Mullein. This is the first time I have seen the pupae. A typical Noctuid pupae in appearance, it was encased in a thick, untidy silk case which was incredibly tough and well camouflaged.



Mullein plants were universally decimated



Pupae collected while gardening later turned out to be a Mullein (*Shargacucullia verbasci*)

Hawk moths generally had a mixed year. The usually common species like **Poplar** and **Privet Hawk-moth** were scarcer than usual. This was especially noticeable with **Privet Hawk** with only 4 recorded in 2021 (11 in 2020). Previously it would be usual to have 50-80 visit the trap during a year.

Conversely, the newer additions to the lists such as **Pine** and **Small Elephant Hawk-moth** were present in larger numbers. 2021 saw 10 records of **Pine Hawk-moth**, up from 6 in 2020 and the singles observed in 2004 to 2007. **Small Elephant Hawk-moth** also continued their increase in abundance from their first appearance in 2006. This species has only recorded single figures until 2021 when numbers jumped to 17.



Clifden Nonpareil (*Catocala fraxini*)

20th September saw a single **Clifden Nonpareil** (*Catocala fraxini*) in the trap. This is only the second record for the site, and seems to reflect the general establishment of this species in Essex over recent years.

During August the Prickly Lettuce plants in the garden had large numbers of **Small Ranunculus** caterpillars feeding on them, sometimes over 100 per plant. The moth has not been recorded previously and it will be interesting to see if this is a new arrival in the area, and if moths will be recorded next year.



Small Ranunculus Larvae (*Hecatera dysodea*)

White Point (*Mythimna albipuncta*) has historically been regarded as a migrant and occurred sporadically in low numbers any time between June and October. 2010 and 2021 has seen a steep increase in this species with 20 recorded in 2020 and 123 in 2021. These occurred as a small spike in numbers in June and then a larger spike in August and September. This may indicate successful breeding from adults arriving as migrants earlier in the season, favourable migration conditions or a double brood from a now resident population. The species was generally abundant across Essex during 2021 and it would be interesting to know if the same pattern has been observed by others, and if it will repeat in 2022 given the mild winter.

Tree Lichen Beauty (*Cryphia algae*) continued to appear regularly in the trap between July and September. I first recorded the species in 2019 with 14 records, and then again in 2020 and 2021 with 23 and 15 recorded respectively.

Least Carpet (*Idaea rusticata*) continue to increase since they first appeared in 2002. 2021 was the highest catch recorded so far at 107.

Setaceous Hebrew Character (*Xestia c-nigrum*) and **Common Wainscot** (*Mythimna pallens*) both had very good years with abundance almost double the previous highest numbers recorded back in 2005



Pine Beauty (*Panolis flammea*) has been recorded in 2007 & 2021



Semioscopis steinkellneriana was new for 2021



Lozotaeniodes formosana is another occasional Pine feeding visitor seen in 2005, 2020 & 2021



Chrysoesthia drurella larvae mine Goosefoot



Coleophora conspicuella or *vibicella* (awaiting GD)



Epiblema foenella is another occasional visitor (seen 2008, 2020 & 2021)



Coronet (*Craniophora ligustri*) appeared in 2019 and is increasing year on year



Having had a female **Yellow Belle** (*Aspitates ochrearia*) deposit eggs the larvae were reared using Yarrow and Teasel.



Pinion Streaked Snout (*Schrankia costaestrigalis*) first appeared in 2020, with single specimens taken in 2020 and 2021

Checklist of species recorded in 2021 at Bigods Bungalow, Bigods Lane, Great Dunmow

Scientific Name	Common Name	Status
<i>Abraxas grossulariata</i>	Magpie Moth	Common
<i>Abrostola tripartita</i>	Spectacle	Common
<i>Acentria ephemerella</i>	Water Veneer	Common
<i>Achroia grisella</i>	Lesser Wax Moth	Common
<i>Acleris bergmanniana</i>		
<i>Acleris emargana</i>		
<i>Acleris ferrugana/notana</i>		
<i>Acleris forsskaeana</i>		
<i>Acleris laterana/comariana</i>		
<i>Acleris rhombana</i>	Rhomboid Tortrix	
<i>Acleris sparsana</i>		
<i>Acleris variegana</i>	Garden Rose Tortrix	
<i>Acronicta leporina</i>	Miller	Common
<i>Acronicta megacephala</i>	Poplar Grey	Common
<i>Acronicta rumicis</i>	Knot Grass	Common
<i>Acronicta tridens/psi</i>	Grey Dagger / Dark Dagger	
<i>Aethes cnicana</i>		
<i>Aethes rubigana</i>		
<i>Aethes smeathmanniana</i>		
<i>Agapeta hamana</i>		
<i>Agapeta zoegana</i>		
<i>Aglossa pinguinalis</i>	Large Tabby	Local
<i>Agonopterix alstromeriana</i>		
<i>Agonopterix heracliata</i>		
<i>Agonopterix liturosa</i>		
<i>Agriopis aurantiaria</i>	Scarce Umber	Common
<i>Agriopis marginaria</i>	Dotted Border	Common
<i>Agriphila geniculea</i>		Common
<i>Agriphila selasella</i>		Local
<i>Agriphila straminella</i>		Common
<i>Agriphila tristella</i>		Common
<i>Agrochola circellaris</i>	Brick	Common
<i>Agrochola lota</i>	Red-line Quaker	Common
<i>Agrochola lychnidis</i>	Beaded Chestnut	Common
<i>Agrochola macilenta</i>	Yellow-line Quaker	Common
<i>Agrotis clavis</i>	Heart and Club	Common
<i>Agrotis exclamationis</i>	Heart and Dart	Common
<i>Agrotis ipsilon</i>	Dark Sword-grass	Migrant
<i>Agrotis puta</i>	Shuttle-shaped Dart	Common
<i>Agrotis segetum</i>	Turnip Moth	Common
<i>Alicis repandata</i>	Mottled Beauty	Common
<i>Aleimma loeflingiana</i>		
<i>Allophyes oxyacanthae</i>	Green-brindled Crescent	Common
<i>Alsophila aescularia</i>	March Moth	Common
<i>Amblyptilia acanthadactyla</i>		
<i>Amphipyra berbera</i>	Svensson's Copper Underwing	Common
<i>Amphipyra pyramidea</i>	Copper Underwing	Common
<i>Amphipyra tragopoginis</i>	Mouse Moth	Common
<i>Angerona prunaria</i>	Orange Moth	Local
<i>Anthophila fabriciana</i>		
<i>Anticlea badiata</i>	Shoulder Stripe	Common
<i>Anticlea derivata</i>	Streamer	Common
<i>Apamea anceps</i>	Large Nutmeg	Local
<i>Apamea lithoxylaea</i>	Light Arches	Common
<i>Apamea monoglypha</i>	Dark Arches	Common
<i>Apamea sordens</i>	Rustic Shoulder-knot	Common
<i>Apamea unanims</i>	Small Clouded Brindle	Common
<i>Aphomia sociella</i>	Bee Moth	Common
<i>Aplocera plagata</i>	Treble-bar	Common
<i>Aporophyla lutulenta</i>	Deep-brown Dart	Common
<i>Aporophyla nigra</i>	Black Rustic	Common
<i>Archanara sparganii</i>	Webb's Wainscot	Nb
<i>Archips podana</i>	Large Fruit-tree Tortrix	
<i>Archips xylosteana</i>	Variiegated Golden Tortrix	
<i>Arenostola phragmitidis</i>	Fen Wainscot	Local
<i>Argyresthia goedartella</i>		
<i>Argyresthia pruniella</i>	Cherry Fruit Moth	
<i>Argyresthia semifusca</i>		
<i>Argyresthia spinosella</i>		
<i>Aspilapteryx tringipennella</i>		
<i>Atethmia centrigo</i>	Centre-barred Sallow	Common
<i>Autographa gamma</i>	Silver Y	Migrant

Scientific Name	Common Name	Status
<i>Hedya pruniana</i>	Plum Tortrix	
<i>Hedya salicella</i>		
<i>Helcystogramma rufescens</i>		
<i>Hemistola chrysoprasaria</i>	Small Emerald	Local
<i>Hemitea aestivaria</i>	Common Emerald	Common
<i>Hepialus humuli</i>	Ghost Moth	Common
<i>Hepialus lupulinus</i>	Common Swift	Common
<i>Hepialus sylvina</i>	Orange Swift	Common
<i>Hofmannophila pseudospretella</i>	Brown House Moth	
<i>Homoosoma sinuella</i>		Common
<i>Hoplodrina alsines/blanda</i>	Uncertain/Rustic ag.	
<i>Hoplodrina ambigua</i>	Vine's Rustic	Local
<i>Horisme tersata</i>	Fern	Common
<i>Horisme vitalbata</i>	Small Waved Umber	Common
<i>Hydraecia micacea</i>	Rosy Rustic	Common
<i>Hydriomena furcata</i>	July Highflyer	Common
<i>Hyloicus pinastri</i>	Pine Hawk-moth	Local
<i>Hypena proboscidalis</i>	Snout	Common
<i>Hypomecis punctinalis</i>	Pale Oak Beauty	Common
<i>Hypsopygia costalis</i>	Gold Triangle	Common
<i>Idea aversata</i>	Riband Wave	Common
<i>Idea biselata</i>	Small Fan-footed Wave	Common
<i>Idea dimidiata</i>	Single-dotted Wave	Common
<i>Idea emarginata</i>	Small Scallop	Local
<i>Idea fuscovenosa</i>	Dwarf Cream Wave	Local
<i>Idea rusticata</i>	Least Carpet	Local
<i>Idea seriata</i>	Small Dusty Wave	Common
<i>Idea trigeminata</i>	Treble Brown Spot	Local
<i>Ipimorpha subtusa</i>	Olive	Local
<i>Lacanobia oleracea</i>	Bright-line Brown-eye	Common
<i>Lacanobia w-latinum</i>	Light Brocade	Local
<i>Loathoe populi</i>	Poplar Hawk-moth	Common
<i>Larentia clavaria</i>	Mallow	Common
<i>Lasiocampa quercus</i>	Oak Eggar	Common
<i>Laspeyria flexula</i>	Beautiful Hook-tip	Local
<i>Leucoma salicis</i>	White Satin	Local
<i>Ligdia adustata</i>	Scorched Carpet	Local
<i>Limnaecia phragmitella</i>		
<i>Lobophora halterata</i>	Seraphim	Local
<i>Lomaspiis marginata</i>	Clouded Border	Common
<i>Lomographa temerata</i>	Clouded Silver	Common
<i>Lozotaeniodes formosanus</i>		
<i>Luperina testacea</i>	Flounced Rustic	Common
<i>Lygephila pastinum</i>	Blackneck	Local
<i>Lymantria dispar</i>	Gypsy Moth	Vagrant/Accidental
<i>Lymantria monacha</i>	Black Arches	Local
<i>Macaria liturata</i>	Tawny-barred Angle	Common
<i>Macdunnoughia confusa</i>	Dewick's Plusia	Rare migrant
<i>Macroglossum stellatarum</i>	Humming-bird Hawk-moth	Migrant
<i>Meganola albula</i>	Kent Black Arches	Nb
<i>Melanchnra persicariae</i>	Dot Moth	Common
<i>Mesapamea secalis agg.</i>	Common Rustic agg.	
<i>Mesoleuca albicillata</i>	Beautiful Carpet	Common
<i>Mesoligia furuncula</i>	Cloaked Minor	Common
<i>Metzneria lappella</i>		
<i>Metzneria metzneriella</i>		
<i>Mimas tiliae</i>	Lime Hawk-moth	Common
<i>Monochroa palustrella</i>		
<i>Monopis crocipitella</i>		
<i>Monopis obviella</i>		
<i>Monopis weaverella</i>		
<i>Myelois circumvoluta</i>	Thistle Ermine	Local
<i>Mythimna albipuncta</i>	White-point	Migrant
<i>Mythimna comma</i>	Shoulder-striped Wainscot	Common
<i>Mythimna conigera</i>	Brown-line Bright Eye	Common
<i>Mythimna ferrago</i>	Clay	Common
<i>Mythimna impura</i>	Smoky Wainscot	Common
<i>Mythimna pallens</i>	Common Wainscot	Common
<i>Nemapogon cloacella</i>	Cork Moth	
<i>Nematopogon metaxella</i>		
<i>Nematopogon swammerdamella</i>		
<i>Nephoterix angustella</i>		Nb

<i>Autographa jota</i>	Plain Golden Y	Common
<i>Autographa pulchrina</i>	Beautiful Golden Y	Common
<i>Axylia putris</i>	Flame	Common
<i>Batia lunaris</i>		
<i>Batia unitella</i>		
<i>Biston betularia</i>	Peppered Moth	Common
<i>Blastobasis adustella</i>		
<i>Blastobasis lacticolella</i>		
<i>Borkhausenia fuscescens</i>		
<i>Brachmia blandella</i>		
<i>Brachylomia viminalis</i>	Minor Shoulder-knot	Common
<i>Cabera exanthemata</i>	Common Wave	Common
<i>Cabera pusaria</i>	Common White Wave	Common
<i>Calamotropha paludella</i>		Nb
<i>Calliteara pudibunda</i>	Pale Tussock	Common
<i>Caloptilia populetorum</i>		
<i>Caloptilia robustella</i>		
<i>Calybites phasianipennella</i>		
<i>Campaea margaritata</i>	Light Emerald	Common
<i>Camptogramma bilineata</i>	Yellow Shell	Common
<i>Caradrina morpheus</i>	Mottled Rustic	Common
<i>Carcina quercana</i>		
<i>Cataclysta lemnata</i>	Small China-mark	Common
<i>Catocala fraxini</i>	Clifden Nonpareil	Migrant
<i>Catoptria falsella</i>		Local
<i>Catoptria pinella</i>		Common
<i>Celypha lacunana</i>		
<i>Celypha rosaceana</i>		
<i>Celypha striana</i>		
<i>Cerastis rubricosa</i>	Red Chestnut	Common
<i>Cerura vinula</i>	Puss Moth	Common
<i>Charanyca trigrammica</i>	Treble Lines	Common
<i>Chiasmia clathrata</i>	Latticed Heath	Common
<i>Chloroclysta siterata</i>	Red-green Carpet	Common
<i>Chloroclysta truncata</i>	Common Marbled Carpet	Common
<i>Chrysoesthia drurella</i>		
<i>Chrysoeteuchia culmella</i>	Garden Grass-veneer	Common
<i>Cidaria fulvata</i>	Barred Yellow	Common
<i>Cilix glaucata</i>	Chinese Character	Common
<i>Clepsis consimilana</i>		
<i>Clepsis spectrana</i>	Cyclamen Tortrix	
<i>Clostera curtula</i>	Chocolate-tip	Local
<i>Cnephasia longana</i>		
<i>Cochylimorpha straminea</i>		
<i>Cochylis atricapitana</i>		
<i>Cochylis hybridella</i>		
<i>Cochylis molliculana</i>		
<i>Coleophora conspicuella</i>		Nb
<i>Coleophora hemerobiella</i>		Nb
<i>Colocasia coryli</i>	Nut-tree Tussock	Common
<i>Colostygia pectinataria</i>	Green Carpet	Common
<i>Colotois pennaria</i>	Feathered Thorn	Common
<i>Comibaena bajularia</i>	Blotched Emerald	Local
<i>Conistra ligula</i>	Dark Chestnut	Common
<i>Conistra vaccinii</i>	Chestnut	Common
<i>Cosmia pyralina</i>	Lunar-spotted Pinion	Local
<i>Cosmia trapezina</i>	Dun-bar	Common
<i>Cosmorrhoe ocellata</i>	Purple Bar	Common
<i>Crambus lathoniellus</i>		Common
<i>Crambus perlella</i>		Common
<i>Craniophora ligustri</i>	Coronet	Local
<i>Crocallys elinguaris</i>	Scalloped Oak	Common
<i>Cryphia algae</i>	Tree-lichen Beauty	Rare migrant
<i>Cyclophora punctaria</i>	Maiden's Blush	Local
<i>Cydia fagiglandana</i>		
<i>Cydia pomonella</i>	Codling Moth	
<i>Cydia splendana</i>		
<i>Deilephila elpenor</i>	Elephant Hawk-moth	Common
<i>Deilephila porcellus</i>	Small Elephant Hawk-moth	Local
<i>Diachrysis chrysitis</i>	Burnished Brass	Common
<i>Diaphania perspectalis</i>	Boxworm	Adventive
<i>Diaphora mendica</i>	Muslin Moth	Common
<i>Diarsia rubi</i>	Small Square-spot	Common
<i>Dichonia aprilina</i>	Merveille du Jour	Common
<i>Dichrorampha petiverella</i>		
<i>Dioryctria schuetzeella</i>		Naturalised, alien host
<i>Dioryctria simplicella</i>		Naturalised, alien host
<i>Dipleurina lacustrata</i>		Common

<i>Noctua comes</i>	Lesser Yellow Underwing	Common
<i>Noctua fimbriata</i>	Broad-bordered Yellow Underwing	Common
<i>Noctua janthe</i>	Lesser Broad-bordered Yellow Underwing	Common
<i>Noctua orbona</i>	Lunar Yellow Underwing	Nb
<i>Noctua pronuba</i>	Large Yellow Underwing	Common
<i>Nola cucullatella</i>	Short-cloaked Moth	Common
<i>Nomophila noctuella</i>	Rush Veneer	Migrant
<i>Nonagria typhae</i>	Bulrush Wainscot	Common
<i>Notodonta dromedarius</i>	Iron Prominent	Common
<i>Notodonta ziczac</i>	Pebble Prominent	Common
<i>Ochropleura plecta</i>	Flame Shoulder	Common
<i>Oegoconia quadripuncta</i>		
<i>Oligia fasciuncula</i>	Middle-barred Minor	Common
<i>Oligia latruncula</i>	Tawny Marbled Minor	Common
<i>Oligia strigilis agg.</i>	Marbled Minor agg.	
<i>Omphaloscelis lunosa</i>	Lunar Underwing	Common
<i>Operophtera brumata</i>	Winter Moth	Common
<i>Opisthograptis luteolata</i>	Brimstone Moth	Common
<i>Orthonama obstipata</i>	Gem	Migrant
<i>Orthopygia glaucinalis</i>		Common
<i>Orthosia cerasi</i>	Common Quaker	Common
<i>Orthosia cruda</i>	Small Quaker	Common
<i>Orthosia gothica</i>	Hebrew Character	Common
<i>Orthosia gracilis</i>	Powdered Quaker	Common
<i>Orthosia incerta</i>	Clouded Drab	Common
<i>Orthosia munda</i>	Twin-spotted Quaker	Common
<i>Ostrinia nubilalis</i>	European Corn Borer	Local
<i>Ourapteryx sambucaria</i>	Swallow-tailed Moth	Common
<i>Pammene aurana</i>		
<i>Pammene aurita</i>		
<i>Pammene regiana</i>		
<i>Pandemis cerasana</i>	Barred Fruit-tree Tortrix	
<i>Pandemis corylana</i>	Chequered Fruit-tree Tortrix	
<i>Panolis flammea</i>	Pine Beauty	Common
<i>Paradrina clavipalpis</i>	Pale Mottled Willow	Common
<i>Paraponyx stratiotata</i>	Ringed China-mark	Common
<i>Parastichtis ypsilon</i>	Dingy Shears	Local
<i>Paraswammerdamia albicapitella</i>		
<i>Parornix anglicella</i>		
<i>Parornix scoticella</i>		
<i>Pasiphila rectangularata</i>	Green Pug	Common
<i>Peribatodes rhomboidaria</i>	Willow Beauty	Common
<i>Perizoma affinitata</i>	Rivulet	Common
<i>Perizoma alchemillata</i>	Small Rivulet	Common
<i>Phalera bucephala</i>	Buff-tip	Common
<i>Pheosia gnoma</i>	Lesser Swallow Prominent	Common
<i>Pheosia tremula</i>	Swallow Prominent	Common
<i>Phigalia pilosaria</i>	Pale Brindled Beauty	Common
<i>Philereme transversata</i>	Dark Umber	Local
<i>Phlogophora meticulosa</i>	Angle Shades	Common
<i>Phlyctaenia coronata</i>		Common
<i>Phlyctaenia perlucidalis</i>		Local
<i>Phragmatobia fuliginosa</i>	Ruby Tiger	Common
<i>Phtheochroa rugosana</i>		
<i>Phycita roborella</i>		Common
<i>Phycitodes binaevella</i>		Common
<i>Phyllonorycter harrisella</i>		
<i>Plagodis dolabraria</i>	Scorched Wing	Local
<i>Platyptilia gonodactyla</i>		
<i>Platyptilia pallidactyla</i>		
<i>Plemyria rubiginata</i>	Blue-bordered Carpet	Common
<i>Pleuroptya ruralis</i>	Mother of Pearl	Common
<i>Plutella porrectella</i>		
<i>Plutella xylostella</i>	Diamond-back Moth	Migrant
<i>Poecilocampa populi</i>	December Moth	Common
<i>Polyplocia ridens</i>	Frosted Green	Local
<i>Pseudargyrotoza conwagana</i>		
<i>Pseudoips prasinana</i>	Green Silver-lines	Common
<i>Pseudoips prasinana britannica</i>	Green Silver-lines	Common
<i>Psyche casta</i>		
<i>Pterostoma palpina</i>	Pale Prominent	Common
<i>Pyralis farinalis</i>	Meal Moth	Common
<i>Pyrausta aurata</i>		Local
<i>Pyrausta despicata</i>		Local
<i>Pyrausta purpuralis</i>		Common
<i>Rhodometra saccharia</i>	Vestal	Migrant
<i>Rivula sericealis</i>	Straw Dot	Common
<i>Rusina ferruginea</i>	Brown Rustic	Common

<i>Discestra trifolii</i>	Nutmeg	Common
<i>Ditula angustiorana</i>	Red-barred Tortrix	
<i>Dryobotodes eremita</i>	Brindled Green	Common
<i>Earias clorana</i>	Cream-bordered Green Pea	Nb
<i>Ecliptopera silaceata</i>	Small Phoenix	Common
<i>Ectoedemia louisella</i>		
<i>Ectropis bistortata</i>	Engrailed/Small Engrailed	Common
<i>Eilema complana</i>	Scarce Footman	Local
<i>Eilema depressa</i>	Buff Footman	Local
<i>Eilema griseola</i>	Dingy Footman	Common
<i>Eilema lurideola</i>	Common Footman	Common
<i>Eilema sororcula</i>	Orange Footman	Local
<i>Elophila nymphaeata</i>	Brown China-mark	Common
<i>Emmelina monodactyla</i>		
<i>Endotricha flammealis</i>		Common
<i>Ennomos alniaria</i>	Canary-shouldered Thorn	Common
<i>Ennomos fuscantaria</i>	Dusky Thorn	Common
<i>Epiblema costipunctana</i>		
<i>Epiblema cynosbatella</i>		
<i>Epiblema foenella</i>		
<i>Epiblema roborana</i>		
<i>Epiblema uddmanniana</i>	Bramble Shoot Moth	
<i>Epinotia nisella</i>		
<i>Epinotia tenerana</i>	Nut Bud Moth	
<i>Epiphyas postvittana</i>	Light Brown Apple Moth	
<i>Epirrhoe alternata</i>	Common Carpet	Common
<i>Epirrita dilutata agg.</i>	November Moth agg.	Common
<i>Erannis defoliaria</i>	Mottled Umber	Common
<i>Eremobia ochroleuca</i>	Dusky Sallow	Common
<i>Ethmia dodecea</i>		Nb
<i>Eublemma purpurina</i>	Beautiful Marbled	Migrant
<i>Eucosma cana</i>		
<i>Eucosma conterminana</i>		Nb
<i>Eucosma hohenwartiana</i>		
<i>Eucosma obumbratana</i>		
<i>Eudonia angustea</i>		Common
<i>Eudonia mercurella</i>		Common
<i>Eudonia pallida</i>		Local
<i>Eulamprotes atrella</i>	a moth	Local
<i>Eulithis pyraliata</i>	Barred Straw	Common
<i>Eupithecia abbreviata</i>	Brindled Pug	Common
<i>Eupithecia centaureata</i>	Lime-speck Pug	Common
<i>Eupithecia dodoneata</i>	Oak-tree Pug	Common
<i>Eupithecia icterata</i>	Tawny Speckled Pug	Common
<i>Eupithecia vulgata</i>	Common Pug	Common
<i>Euplagia quadripunctaria</i>	Jersey Tiger	Nb
<i>Euproctis chrysorrhoea</i>	Brown-tail	Local
<i>Euproctis similis</i>	Yellow-tail	Common
<i>Eupsilia transversa</i>	Satellite	Common
<i>Eurrhyncha hortulata</i>	Small Magpie	Common
<i>Euxoa nigricans</i>	Garden Dart	Common
<i>Euzophera pinguis</i>		Local
<i>Evergestis forficalis</i>	Garden Pebble	Common
<i>Evergestis limbata</i>		Vagrant/Accidental
<i>Furcula furcula</i>	Sallow Kitten	Common
<i>Gortyna flavago</i>	Frosted Orange	Common
<i>Gymnoscelis ruffasciata</i>	Double-striped Pug	Common
<i>Habrosyne pyritoides</i>	Buff Arches	Common
<i>Hadena bicruris</i>	Lychnis	Common
<i>Hecatera dysodea</i>	Small Ranunculus	RDBK
<i>Hedya nubiferana</i>	Marbled Orchard Tortrix	

<i>Saturnia pavonia</i>	Emperor Moth	Common
<i>Schrankia costaestrigalis</i>	Pinion-streaked Snout	Local
<i>Scoliopteryx libatrix</i>	Herald	Common
<i>Scoparia ambigua</i>		Common
<i>Scoparia basistrigalis</i>		Common
<i>Scoparia pyralella</i>		Common
<i>Scoparia subfusca</i>		Common
<i>Scopula imitaria</i>	Small Blood-vein	Common
<i>Scythropia crataegella</i>	Hawthorn Moth	
<i>Selenia dentaria</i>	Early Thorn	Common
<i>Selenia tetralunaria</i>	Purple Thorn	Common
<i>Semiaspilates ochrearia</i>	Yellow Belle	Local
<i>Semioscopia steinkellneriana</i>		
<i>Sitochroa verticalis</i>		Local
<i>Smerinthus ocellata</i>	Eyed Hawk-moth	Common
<i>Sphinx ligustri</i>	Privet Hawk-moth	Common
<i>Spilonota ocellana</i>	Bud Moth	
<i>Spilosoma lubricipeda</i>	White Ermine	Common
<i>Spilosoma luteum</i>	Buff Ermine	Common
<i>Spilosoma urticae</i>	Water Ermine	Nb
<i>Stenoptilia bipunctidactyla</i>		
<i>Synanthedon tipuliformis</i>	Currant Clearwing	Nb
<i>Tethea ocellaris</i>	Figure of Eighty	Common
<i>Thalophila matura</i>	Straw Underwing	Common
<i>Thaumetopoea processionea</i>	Oak Processionary	Vagrant/Accidental
<i>Thera britannica</i>	Spruce Carpet	Common
<i>Thiodia citrana</i>		
<i>Thumatha senex</i>	Round-winged Muslin	Local
<i>Timandra comae</i>	Blood-vein	Common
<i>Tinea trinotella</i>		
<i>Tischeria ekebladella</i>		
<i>Tortrix viridana</i>	Green Oak Tortrix	
<i>Trachycera advenella</i>		Common
<i>Tyria jacobaeae</i>	Cinnabar	Common
<i>Udea ferrugalis</i>	Rusty-dot Pearl	Migrant
<i>Udea olivalis</i>		Common
<i>Udea prunalis</i>		Common
<i>Watsonalla binaria</i>	Oak Hook-tip	Common
<i>Xanthia aurago</i>	Barred Sallow	Common
<i>Xanthia citrigo</i>	Orange Sallow	Common
<i>Xanthia icteritia</i>	Sallow	Common
<i>Xanthorhoe fluctuata</i>	Garden Carpet	Common
<i>Xanthorhoe montanata</i>	Silver-ground Carpet	Common
<i>Xanthorhoe spadicearia</i>	Red Twin-spot Carpet	Common
<i>Xestia c-nigrum</i>	Setaceous Hebrew Character	Common
<i>Xestia sexstrigata</i>	Six-striped Rustic	Common
<i>Xestia triangulum</i>	Double Square-spot	Common
<i>Xestia xanthographa</i>	Square-spot Rustic	Common
<i>Xylocampa areola</i>	Early Grey	Common
<i>Yponomeuta evonymella</i>	Bird-cherry Ermine	
<i>Yponomeuta malinellus</i>	Apple Ermine	
<i>Yponomeuta plumbella</i>		
<i>Ypsolopha dentella</i>	Honeysuckle Moth	
<i>Ypsolopha scabrella</i>		
<i>Ypsolopha sequella</i>		
<i>Zanclognatha tarsipennalis</i>	Fan-foot	Common
<i>Zeiraphera isertana</i>		
<i>Zelotheres paleana</i>	Timothy Tortrix	Common
<i>Zeuzera pyrina</i>	Leopard Moth	Common
<i>Zygaena filipendulae</i>	Six-spot Burnet	Common