

Moths new to Essex 2023

Having experienced significant difficulty over the verification of some past moth records, the Essex Moth Group verification panel thought would be a good plan to prepare a paper documenting the evidence for all additions to the Essex moth list from 2023 onwards.

12 Lepidopteran species made their first appearance in Essex during 2023. They are listed in the table below. The evidence for each species is then provided together with some additional information that may help readers hoping to find these species for themselves.

			Finder	Gen.det.			Grade
15.012	<i>Caloptilia fidella</i>	Hop Stilt	Bill Crooks		19/05/2023	UV light	3
15.013	<i>Caloptilia hemidactylella</i>	Scarce Maple Stilt	Simon Wood	Chris Lewis	11/09/2023	MV light	3
28.005	<i>Denisia albimaculea</i>	Pied Concealer	Alec Undrill	Chris Lewis	10/06/2023	Light	3
37.001	<i>Augasma aeratella</i>	Knotgrass Gall Moth	Graham Ekins	Chris Lewis	27/06/2023	Light	4
38.046	<i>Elachista albidella</i>	Cottongrass Sedge-miner	Chris Lewis	Chris Lewis	07/07/2023	Light	4
49.0388	<i>Clepis peritana</i>	Garden Tortrix	Daniel Blyton	Chris Lewis	07/09/2023	Light	?
49.093	<i>Phtheochroa schreibersiana</i>	Gold Cloak	Bill Crooks		19/06/2023	Actinic	3
49.336	<i>Cydia pactolana</i>	Scarce Spruce Bark Moth	Roberta Legg	Chris Lewis	23/05/2023	STR	4
52.004	<i>Paranthrene tabaniformis</i>	Dusky Clearwing	Bill Crooks		10/07/2023	TAB	3
62.018	<i>Sciota rhenella</i>	Poplar Knot-horn	Dougal Urquart		18/07/2023	Light	3
70.164	<i>Eupithecia egenaria</i>	Pauper Pug	Daniel Blyton, David Cousins	Daniel Blyton, David Cousins	09/06/2023	Light	3
73.0301	<i>Aedia funesta</i>	Druid	Bill Crooks		10/06/2023	MV light	3

1. *Caloptilia fidella* (Hop Stilt), Dagenham, 19/05/2023



Figure 1: *Caloptilia fidella*. Image posted on Essex Moth Group Facebook page by Bill Crooks 20/05/2023

The first British record was an adult in July 2020 in Suffolk. It is now spreading through South East England. It probably flies all year, overwintering as an adult.

It resembles *C. falconipennella* in forewing markings but is smaller (fw: 5-6mm vs 6-7mm) and has predominantly white labial palps and frons (brown in *C. falconipennella*). *C. azaleella* is small (fw: 5-5.5mm) and also has predominantly white labial palps and frons; its general colour is not chestnut-brown (mottled brownish-yellow to blackish yellow) and it often has a yellowish base to the dorsum; its costal blotch is yellow and extends broadly almost to the apex. The costal blotch of *C. fidella* may be whitish or yellowish, though most web images show it as white, and it tapers well before the apex. It is verification grade 3 – a good quality image of a moth in good condition should permit reliable identification – and it is hard to envisage a better image than the one Bill has provided.



Figure 2: *Caloptilia fidella* leaf-mines. Image posted on Essex Moth Group Facebook page by Simon Wood 19/08/2024

Subsequently on 18/08/2023 Simon Wood found *C. fidella* leaf-mines on Common Hop (*Humulus lupulus*) in Heybridge; and on 27/08/2023 leaf-mines were also found by Jack Oughton in Dagenham. Hence the species is confirmed to be breeding in Essex.

2. *Caloptilia hemidactylella* (Scarce Maple Stilt), Hazeleigh, 11/09/2023

A rare species that may now be spreading through East Anglia and South East England. It feeds on Field Maple, Norway Maple and Sycamore and flies June to May, overwintering as an adult. It is verification grade 3, but it is very similar to *C.honoratella* and, even with a very good image, some specimens will require genital determination for confident identification. In both species the forewing has a yellow median costal blotch extending distally along the costa, with a red-brown fascia at its proximal margin. In *C.honoratella* the forewing base is yellow proximal to the red-brown fascia, similar in colour to the costal blotch; in *C.hemidactyla* this area is a shade of brown paler than the fascia but not as pale as the costal blotch. I have also observed that *C.honoratella* has a bicoloured mid-femur (blackish distally, brown proximally) while in *C.hemidactylella* the mid-femur is almost unicolorous (same brown colour as the forewing ground colour), only the area immediately around the spur pair being darker. The European species *C.fribergensis* can appear externally identical to *C.hemidactylella* (possibly it has an unmarked yellow 2nd segment of the labial palps) and given the way *Caloptilia* species are spreading it may well appear in Britain soon.



Figure 3: *Caloptilia hemidactylella*. Image provided by Simon Wood



Figure 4: *Caloptilia hemidactylella* - male genitalia from the Hazeleigh specimen, with 3 views of the diagnostic arrangement of cornuti in the ductus ejaculatorius. Image © Chris Lewis

3. *Denisia albimaculea* (Pied Concealer), Colchester, 10/06/2023



Figure 5: *Denisia albimaculea*. Left - image of the live moth supplied by Alec Undrill; right - image of the dead moth © Chris Lewis

A rarely seen moth of English woodland, parks and gardens. It feeds on the bark of various trees and flies May to June. It superficially resembles *Oegoconia* species but its wings are wrapped around the body (tent-like) rather than held over the body (roof-like) and the most proximal pale band is subbasal rather than thoracic. It is verification grade 3 (assuming *D.augustella* is extinct – see below) and a good quality image should show the following features: the forewing is blackish with white markings and some yellow scales, mainly associated with the white markings; a broad subbasal fascia, narrower at the costa; a median fascia which may be partially interrupted in the middle; a tonal spot, sometimes merged with the median fascia; a larger preapical spot.

D.augustella was split from *D.albimaculea* in 1979, though no paper supporting this split was published (ref: MBGBI4.1 p76). It is said to have a purplish tinge to the ground colour; broader yellower forewing fasciae; the subbasal fascia about the same width at the costa as the dorsum and the median fascia confluent with the tonal spot. Web images labelled as *D.augustella* suggest that it would be identifiable from a good quality image based on these features. However *D.augustella* is grade 4 requiring genital determination. MBGBI4.1 states that in the male genitalia “the anellus lobes are shorter and more tapering” in *D.albimaculea* and that they “tend to point posteriorly”, whereas in *D.augustella* “they point laterally”. The genital drawings (fig.8 p47) and the few web images of the male genitalia of *D.albimaculea* suggest that these descriptions have been transposed. There is only one web image (Lepiforum) of the male genitalia of *D.augustella* and that shows more abrupt tapering of the anellus lobes with one of them pointing posteriorly – but it is a poor preparation with the genitalia outlined in ink or pencil. The figures of the female genitalia (fig 17, p56) show a more obvious difference (in the pattern of small signa in the corpus bursae) – but there are no web images of female genitalia of either species that allow assessment of the reliability of these drawings.



Figure 6: *Denisia albimaculea*. Male genitalia of the Colchester specimen. Image © Chris Lewis

4. *Augasma aeratella* (Knot-grass Gall Moth), Boreham, 27/06/2023



Figure 7: *Augasma aeratella*. Left - image of the live moth supplied by Graham Ekins; right - image of the dead moth © Chris Lewis

Although this is not the first for Essex (two records (1880 and 1934) are listed in Goodey, 2004), it warrants its place in this article as it was considered extinct in Britain, the last record prior to this specimen occurring in 1956. Subsequently there were several further British records in 2023, and while Graham's specimen came to light, all the others came to the NI pheromone. It is the only British Coleophorid that is not a *Coleophora* – being placed in a separate genus due to the larval feeding habit. It induces the host plant to produce a gall in which it feeds, while *Coleophora* species make themselves a case from host plant material. It is generally metallic with bronzy-green and purple reflections; a short fuscous antenna; porrect labial palps; broad neck tufts, overlapping the junction of head and thorax; forewing unmarked with the costa shallowly concave.



Figure 8: *Augasma aeratella*. Male genitalia © Chris Lewis

The identification was confirmed by genital determination: Sacculus bowed with a slight apical projection; valvula short, not extending much beyond apex of sacculus; tunica simple; vesica with a long sclerotisation of the curve; no cornuti.

5. *Elachista albidella* (Cottongrass Sedge-miner), Foulness, 07&08/07/2023



Figure 9: *Elachista albidella*. Left - 07/07/2023. Right - 08/07/2023

This is a common species on wet bogs and acid heaths throughout Britain. Its previous absence as an Essex species is presumably due to lack of suitable habitat. There are 3 *Elachista* species that show a prominent short black plical streak. Other markings are quite variable in all three species, and specimens with few other dark markings provide little clue as to which species it will be. For specimens with other dark markings the following trends may be helpful. An arc of brownish scales around a rounded white pre-apical costal spot is a good feature for *E.albidella* in my experience and on comparison of images. In *E.utonella* this white spot is more angular and in *E.eleochariella* the appearance is more of a white arc around a coloured pre-apical costal spot. In *E.utonella* the dark plical streak interrupts a white streak extending from the forewing base towards the tornus. In *E.albidella* this white streak passes on the costal side of the plical streak. In *E.eleochariella* any white streak in this area is much more restricted and may just be a small spot distal to the plical streak. The dark terminal line (at the base of the cilia) of *E.utonella* tends to be broader and more complete than in the other two species.

I have to confess that the first specimen was identified based on these external features and my familiarity with this species from fenland trapping sites in Norfolk – I did not realise it was first for Essex until I submitted the record at the end of the year. The second, less well-marked, specimen was confirmed by gen. det. I think there can be little doubt that both specimens are the same species.



Figure 10: *Elachista albidella*. Female genitalia from the 08/07/2023 specimen

The female genitalia of all three species are very similar and the signa are essentially indistinguishable. In *E.albidella* the signum is placed at the extreme posterior pole of the corpus bursae, it is placed further anteriorly in the other two species.

6. *Clepsia peritana* (Garden Tortrix), Earls Colne, 07/09/2023



Figure 11: *Clepsia peritana*. Image provided by Daniel Blyton

This species is widespread in North America and was accidentally introduced to Europe in the 1980s, and it has been spreading through Western Europe since then. Its native larval foodplants are chrysanthemum, artichoke thistle (*Cynara cardunculus*), ragwort (*Senecio jacobaea*), woundworts (*Stachys* spp), strawberry (*Fragaria* spp), citrus fruit trees, California figwort (*Scrophularia californica*), turkey berry (*Solanum torvum*). The first British record was in Staffordshire, July 2023, so Daniel's record is the **2nd for Britain**.

Its small size (fw: 4.5-7.5mm) and distinctive forewing markings should be sufficient to identify this species. The forewing is brown with a darker brown median fascia and pre-apical costal spot. The proximal border of the median fascia is well-marked, straight and oblique (extending distally from costa to dorsum) and is edged proximally by a whitish line; its distal border is more diffuse. A partial subbasal fascia is indicated by a variable dark brown subdorsal streak. There is a variable degree of reticulation of the remainder of the forewing with narrow transverse/oblique dark brown lines. Females have less distinct markings than males.

In the male genitalia, *Clepsia* species are characterised by a bulbous spined transtilla and for *C.peritana* the elongate spatulate uncus is diagnostic.

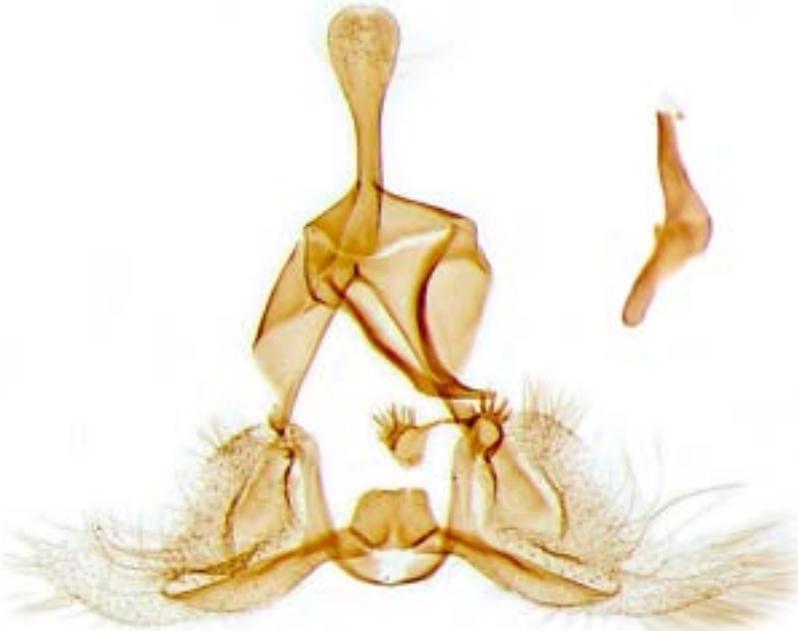


Figure 12: *Clepsia peritana*. Male genitalia. Image © Chris Lewis

7. *Phtheochroa schreibersiana* (Gold Cloak), Dagenham, 19/06/2023



Figure 13: Phtheochroa schreibersiana. Image posted on Essex Moth Group Facebook page by Bill Crooks 20/06/2023

This species was rare and had declined in Britain but has shown a resurgence in recent years, possibly due to the supplementation of the resident population with migrants. It feeds on Black-poplar, Bird-cherry and Elms and flies May-June. It is grade 3, but once the species is considered, identification is fairly straightforward.

8. *Cydia pactolana* (Scarce Spruce Bark Moth), Shenfield, 23/05/2023

This specimen came to the STR (*Cydia strobilella*) pheromone hung in a Norway Spruce plantation. It is a rare species that has been found in Hampshire, Buckinghamshire and Hertfordshire – and now Essex. It feeds on Norway Spruce and Larch and flies May to July. It is listed as verification grade 3 but there are several very similar *Cydia* species such that confident identification on external features would require a reasonable amount of familiarity with all of them and their range of variation (for me it is grade 4).

The forewing is brown, irrorate yellow in the apical $\frac{1}{3}$; without a pale dorsal blotch; with paired white costal dashes the most proximal pair usually extended into a paired angular antemedian line; the ocellus has some short black streaks, bordered proximally and distally by plumbeous lines.



Figure 14: *Cydia pactolana*. Image © Chris Lewis

The Shenfield specimen shows more striking yellow irroration and much less well-marked antemedian lines than is seen on web images labelled as this species. Note also that the number of pairs of white costal dashes varies, with most web images and the illustration in Sterling and Parson showing 4 pairs, while this specimen and the one at Norfolk Moths show 5 pairs.



Figure 15: *Cydia pactolana*. Male genitalia © Chris Lewis

Two *Cydia* species have a deeply notched saccular margin and multiple small needle cornuti.

In *C.pactolana* the distal side of the valval notch is much shallower than the proximal side; and the aedeagus is relatively long and tapered to a point. In *C.conicolana* both sides of the valval notch are steep and the aedeagus is relatively short and truncate.

(*C.corollana* (for which there is a single British record in 1850) may also have similar genital features (judging from the illustration in British Tortricoid Moths, Olethreutinae, p252), but it has a sufficiently different external appearance that it can be readily excluded).

9. *Paranthrene tabaniformis* (Dusky Clearwing), Dagenham, 10/07/2023



Figure 16: Dusky Clearwing. Image posted on Essex Moth Group Facebook page by Bill Crooks 10/07/2023

This is another species that was considered extinct in Britain until several were found in 2023. All those found came to the TAB pheromone. The feature that gives it its vernacular name is a dark clouding of most of the forewing. Unfortunately, this feature cannot be seen well in the image – but the pattern of abdominal banding with yellow rings on segments 2,4,6&7 and a black apex is diagnostic (note that the drawing in Waring and Townsend is female, lacking the ring on A7). It also has strikingly bipectinate antennae – only Raspberry Clearwing having a somewhat similar antennal appearance.

10. *Sciota rhenella* (Poplar Knot-horn), West Mersea, 18/07/2023



Figure 17: *Sciota rhenella*. Image posted on Essex Moth Group Facebook page by Dougal Urquart 19/07/2023

A rare migrant. Specimens in good condition should be identifiable from a good quality photograph showing the main identification features: a peachy-orange basal patch; a strongly contrasting black antemedian fascia with a partial narrow white antemedian line running through its dorsal half; a broad pale median+postmedian area containing 2 black discal spots; a variably expressed dentate postmedian line, edged black proximally and distally; a paler grey subterminal area; a narrow black terminal line; pale grey cilia – all of which can be seen in Dougal's image. The main confusion possibilities are the other two *Sciota* species. *S. adelphella* should be readily separated by its bright salmon-pink basal patch and dorsum. *S. hostilis* is a darker species with a less contrasting black antemedian fascia and stronger white antemedian and postmedian lines.

11. *Eupithecia egenaria* (Pauper Pug), Chalkney Wood, 09/06/2023



Figure 18: Pauper Pug. Image posted on Essex Moth Group Facebook page by David Cousins, 16/06/2023

A local species that may be spreading. It feeds on limes and flies May to June. A large pug with a general colour range from pale to mid-grey; an oblique elongated central spot; paired antemedian and postmedian lines; a pale postmedian fascia contrasting with a darker subterminal area. It is verification grade 3 and well-marked specimens probably are identifiable from good images once familiarity with the species is gained. This was clearly not a well-marked specimen, and the finders are to be congratulated for their optimism in finding such a grotty specimen of interest. Two specimens were found on the same night, one was male and the other female; both were confirmed by genital examination.

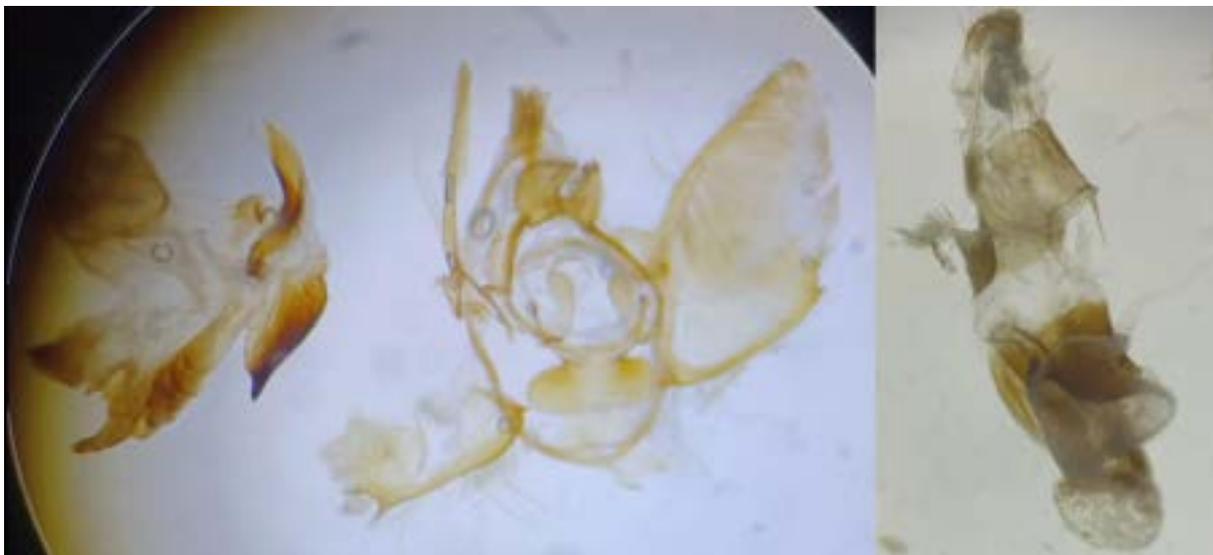


Figure 19: Pauper Pug. Left - male genitalia (image by Daniel Blyton), right - female genitalia (image by David Cousins). Images posted on Essex Moth Group Facebook page by David Cousins, 16/06/2023

12. *Aedia funesta* (Druid), Dagenham, 10/06/2023



Figure 20: Druid. Image posted on Essex Moth Group Facebook page by Bill Crooks 11/06/2023

A rare migrant, first recorded in Britain in 2014. According to Atropos there had been 18 records by April 2022.

The picture says it all – well done Bill!

Chris Lewis 15/04/2024

On behalf of the Essex Moth Group verification panel