# AGROMYZIDAE NEWSLETTER

***LATEST NEWS FROM THE NATIONAL AGROMYZIDAE RECORDING SCHEME***

## A BRIEF UPDATE

### RECORDS

Firstly, apologies for there been no newsletter produced last month, this was due to holidays and a busy few weeks collecting!

The summer months have resulted in a fantastic number of records been received by the scheme. In July, the scheme received 172 records whilst August resulted in 168 records been submitted.

The schemes Twitter account (@AgromyzidaeRS) is also proving a success, with many of its followers sending in ID requests and queries. With social media been so prevalent, it comes as no surprise that this seems to be the preferred method of contact with the scheme.

James Emerson sent in a nice record of two species, both on the same leaf! James says "As I have been paying more attention to leaf mines recently, I decided I should start to build up a collection of labelled photos of the species I have found as a sort of reference collection.

Whilst at my local patch (Whitlingham C.P.) I decided to look for a good example of the distinctive spiral *Liriomyza eupatorii* mine, which is numerous here in Hemp Agrimony leaves.

This extra scrutiny paid off when I found a leaf that not only held the mine I was looking for, but also a second mine along the midrib.

Using the ukflymines site, I was able to identify the second mine as the highly polyphagous *Liriomyza strigata*". James' photograph of the two mines is shown below;

## WHAT'S ABOUT.....

### OCTOBER

This is one of the best months to find the mine of *Phytomyza agromyzina* on Dogwood (*Cornus*).

The mine is a long, upper surface, gradually widening corridor with broad, black frass which partly liquifies, therefore, almost filling the entire width of the corridor;

The larva vacates the mine to pupate via an exit slit at the end of the mine. However, sometimes the puparium can be found within the mine.

Another miner which becomes more obvious this time of year is *Chromatomyia aprilina*, which feeds on Honeysuckle and Snowberry.

This species initially mines in the mid-rib. Long corridors are then made into the leaf, with frass in very long strings, along the edge of the corridor, as shown below;

The start of Autumn is a good time to look for the several species which mine Buttercup.

One of which been *Phytomyza fallaciosa*. This species creates a blotch mine that forms at the apex of the leaf, often resembling a decaying segment, which can make it difficult to locate.

Primary and secondary feeding lines are obvious and the frass is in strings or rather coarse grains.

Pupation takes place in a pupal chamber, which is lower-surface and often away from the mine itself. The puparium can be seen in the above image, in the lower lefthand corner.

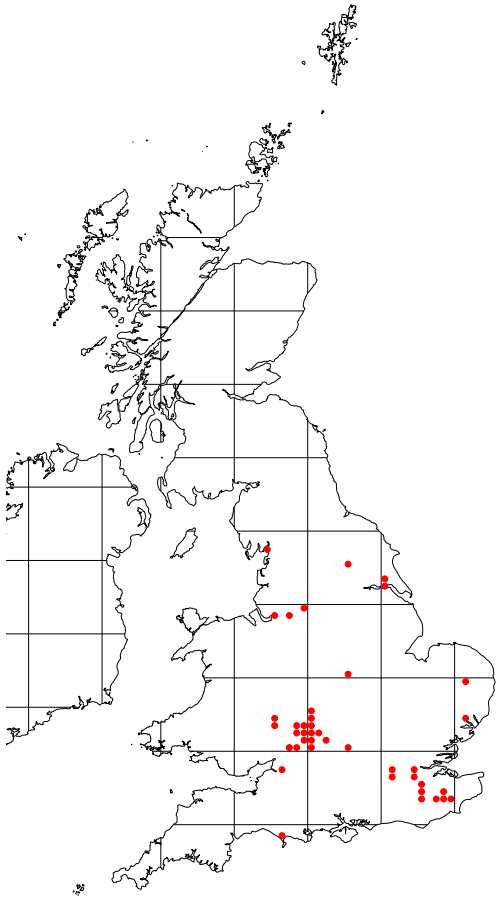
The scheme is also keen to receive records of *Aulagromyza luteoscutellata*, which feeds on Honeysuckle and Snowberry.

*A.luteoscutellata* forms a rather cryptic, upper surface, corridor, which is filled, centrally, with dark green frass. As the mine ages, this corridor turns much paler.

The larva leave the mine to pupate via an exit slit in the upper epidermis of the leaf, which can be clearly seen in the image below;

This species was first discovered in the UK back in 2007 by Rob Edmunds, in Hants.

Since then, the species has been recorded from various parts of the UK, although the most northerly record which the scheme holds is from Arnside, Cumbria. The distribution of this species is shown below (based on records held by the scheme;



The phenology of *A.luteoscutellata* is interesting as it was initially thought that it was univoltine. However, Homan (2013) found fresh mines in August and November (Homan 2015). In October 2016, fresh mines were found by Warrington (Warrington 2016), which reinforces Homans conclusion that this species is in fact bivoltine.

Any records would greatly increase our knowledge of this species so please do keep your eyes peeled!

**References**;

Edmunds & Ellis (2008), Aulagromyza luteoscutellata (de Meijere, 1924) Dip:Agromyzidae); new to Great Britain – Ent Rec J Var 120:21-24

Homan (2013), the distribution and phenology of Aulagromyza luteoscutellata (de Meijere)(Diptera, Agromyzidae) – Dipterists Digest 20:100-102

Homan (2015) Aulagromyza luteoscutellata (de Meijere, 1924) Dip:Agromyzidae) and Leycesteria Formosa (Wall.) – Ent Rec J Var 127:44

Warrington (2016), Late records of Aulagromyza luteoscutellata (de Meijere, 1924), (Dip:Agromyzidae) and first records for Yorkshire – British Leafminers Newsletter 31:Nov 2016

## AGROMYZID NEW TO WALES

### PHYTOMYZA ASTRANTIAE HENDEL 1924 RECORDED FOR THE FIRST TIME IN WALES

On 24th August 2017, the distinctive mines of *Phytomyza astrantiae* were recorded on *Astrantia major* at Bodnant Gardens, Tal-y-Cafn, North Wales. Although the gardens cover approximately 80 acres, only a handful of plants were found, in close proximity, all of which were mined.

Based on records held by the scheme, local record centres and the NBN, this represents the first known record for Wales.

This species was first discovered in the UK by Robert Homan in 2005 on *Astrantia major* in Cheltenham, Gloucestershire (Homan, 2009). In the years since, *Ph.astrantiae* has been recorded from several localities in England, with records also coming from Scotland.

Brown galleries/blotches are made on the upper surface, although fresh mines appear much paler. The image below shows both old and fresh mines (note the larva at the bottom of the fresh mine);

The frass is in scattered grains and several larvae may occupy a single mine with pupation taking place externally.

In terms of phenology, its true status is not really known, although mines may be found from April through to November.

At present, this species is not known from Northern Ireland. However, due to the popularity of the host plant in both private and public gardens, it would be no surprise to see this species been recorded from NI very soon – if anyone does record it from NI, please do let us know!

**References**;

Homan R, 2009, Phytomyza astrantiae (Hendel, 1924) (Diptera, Agromyzidae), New to Britain. Dipterists Digest 16: 183-84

## CONFUSION SPECIES

### OTHER MINERS TO BE AWARE OF WHEN RECORDING AGRO'S

Over the past few days, several images of mines have been sent in which are not caused by *Agromyzidae*.

At this time of year, the lepidopteran mines of *Scrobipalpa acuminatella* may be found on Thistles (*Carduus, Cirsium* spp.).

This species forms a mine over the mid-rib, with lateral off-shoots into the leaf blade, which is very similar to those of *Liriomyza strigata*. The mine of *Sc.acuminatella* is shown below;

The mines of *L.strigata* will usually show plentiful frass along the corridors, something that *Sc.acuminatella* does not.

A second miner which may cause confusion is that of *Trypeta zoe* (Tephritidae). Again, this species forms mines, on a wide range of plants, which may be confused with *L.strigata*!

The mines of *T.zoe* show clear secondary feeding lines (see pic below), something not seen in *L.strigata*;

Finally, *Trypeta artemisiae (*Tephritidae), a miner which can be confused with the Agromyzid, *Calycomyza artemisiae*.

Both species form blotch-like mines on a leaf segment on Mugwort. However, in *T.artemisiae*, this is usually much darker in colour (greenish with dark centre/ or reddish-black) compared to the much paler mines (white when fresh, slightly darker when old) of *Calycomyza artemisiae*. To complicate matters, the two often mine the same leaf!

The images below show the mines of *T.artemisiae* and *C.artemisiae* respectively;

Hopefully, by highlighting the subtle differences between these often misidentified miners, any confusion has been cast aside but as always, please do get in touch if you have any queries.

There are Recording Schemes for other mine-causing orders, so please do let them know if you gather any records, they'll be very grateful indeed!

## 'HOP-ORTUNITY' KNOCKS….

### BIRD RINGING LEADS TO CHANCE DISCOVERY OF LOCAL AGROMYZID

Jacob Everitt sent in a record of the locally distributed *Agromyza flaviceps*, a species which uses Hop (*Humulus lupulus*) as its host.

Jacob writes;

"Whilst carrying out a morning's bird-ringing at Charleston Reedbed in the Cuckmere Valley, I often find myself looking for the leafmines of moths and various flies. I have been looking for a number of years at the numerous banks of Hop in the hope of finding the mines of the Nationally Scarce micro moth *Cosmopterix* zieglerella but to no avail.

On 6th August, I was searching the vast amounts of Hop on site when I noticed several mines, sadly not of the target moth but what looked like an Agromyzid. I have looked at a lot of Hop in the past but never seen any other mine except C.zieglerella so I was surprised to find a Diptera mine.

A little research showed it was that of Agromyza flaviceps, which was fantastic. Barry Warrington, the National Agromyzidae Recording Scheme Organiser later confirmed my ID.

The mine starts off very narrow with a central green line of frass. The mine gradually widens towards the end of the mine, keeping the frass in a central column as my photograph below shows;

After a good search, I found it to be abundant in one particular spot which was shaded by tall Sallow (Salix caprea) on a number of Hop plants but I could not find it in more open, shade-free areas".

## RECORDS REQUEST

### IMPACT OF ASH DIEBACK ON AULAGROMYZA HERINGII

During the upcoming weeks, the Scheme would be extremely grateful for any records of Aulagromyza heringii, which forms mines on Ash (*Fraxinus*).

This species is unusual in that mines can only be found during October and November. The irregularly shaped corridor mines are initially greenish, which later turn dark brown/black. Primary and secondary feeding lines are present. Pupation can occur both externally and internally.

The image below shows a typical mine, with the larva pupating within the leaf;

*A.heringii* is a rather local species, as shown on the distribution map (based on records held by the scheme) opposite.

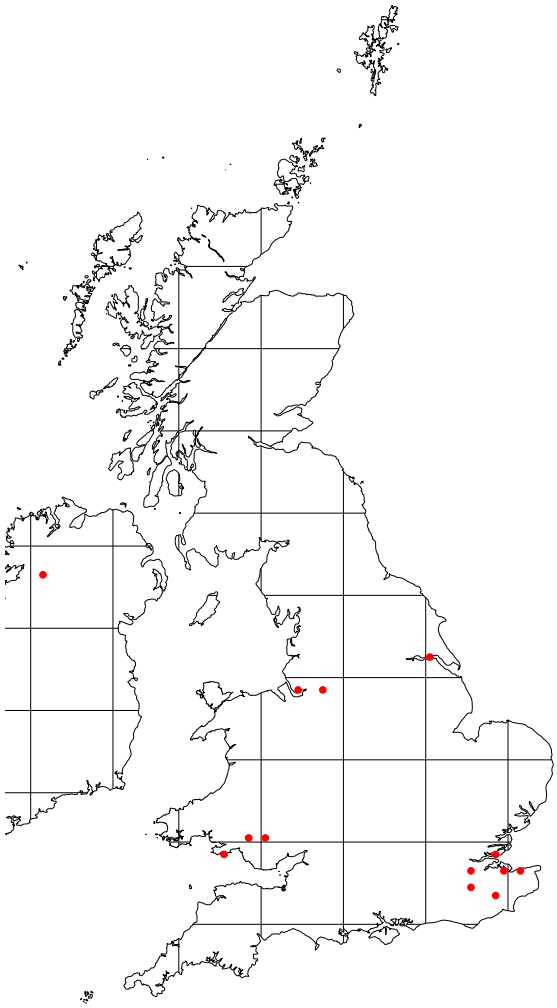
It is highly probable that this species will be effected by Ash dieback, therefore, the scheme is very keen to collate records of this species to ascertain how severe it is impacted.

Chalara dieback of Ash was first confirmed in Britain in February 2012. This disease is caused by a fungus, *Hymenoscyphus fraxineus*, which causes bark lesions, the loss of leaves and crown dieback.

A recent inspection of trees which hosted *A.heringii* last year, indicated that some were infected with Chalara. It will be very interesting to see if *A.heringii* can be found on these trees during the next few weeks.

So please do keep an eye out for this miner and send in your records, along with notes on the condition of the host tree.

Many thanks.



Finally, a big thank you to everyone who is contributing to the scheme. Thanks also to James Emerson and Jacob Everitt for taking the time to write their pieces. Happy mining!

## CONTACT

### IF YOU HAVE ANY QUESTIONS OR WOULD LIKE TO KNOW MORE ABOUT THE SCHEME, PLEASE DO GET IN TOUCH WITH US;

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