

AGROMYZIDAE NEWSLETTER

LATEST NEWS FROM THE NATIONAL AGROMYZIDAE RECORDING SCHEME



A BRIEF UPDATE

Since the National Recording Scheme (NRS) was officially launched in November 2016, to date over 15,000 records have been added to the NRS database. Around a third of these have been received through iRecord. Another large contributor has been the Essex Field Club, with the charity kindly passing on 3,000 records to the NRS.

Local Record Centre's continue to support the NRS with many records been received through LRC's. As only a small percentage of LRC's have been contacted so far, there is great scope for many more records to be collated and added to the NRS database.

Despite Agromyzidae been very much under-recorded, it is encouraging to know that there are folk taking an interest and recording this family, with records being received almost every day.

The vast majority of records are based on the larval mines, however, there are quite a few people who are going to the 'next level' and dissecting collected/reared adults to reach a determination.

Even though the NRS is still very much in its infancy, the early signs are positive. The number of records received, both historical and current, certainly suggest that setting up the NRS was an excellent, albeit rather daunting, decision.

To keep up to date with the scheme or to send any queries you may have, follow @AgromyzidaeRS on Twitter!

The newsletter will be produced monthly and will hopefully appeal to people with a general interest in Agromyzidae. The aim is to provide information, tips and advice for anyone interested in recording Agromyzidae.

WHAT'S ABOUT.....

JUNE

Now is the time when most Agromyzidae mines start to become obvious. Mines on Hogweed, Nettle and Cow Parsley are clear to see and will most likely form the majority of records which the scheme will receive this month.

Please be aware though that certain mines on Hogweed are formed by either *Phytomyza pastinacae* or *Phytomyza spondylii*. The only way to determine the causer is to dissect the adult males. The image below shows the linear mines caused by either *P.pastinacae* or *P.spondylii*.



Mines on Cow Parsley are particularly abundant this time of year, which are caused by *Phytomyza chaerophylli*. This species forms mines which usually follows the leaf margin, as seen here;



Another common mine seen this time of year is that of *Agromyza anthracina*, which forms distinctive mines on Common Nettle.

The mine, shown below, usually starts with an 'intestine-like' pattern, followed by a large blotch. Feeding lasts for around 7-10 days but the mine will remain obvious for several weeks after the larva have left the mine.



June is the month when the mines of *Agromyza demeijerei* can be found on Laburnum. Although a relatively common species, the scheme does not hold many records of this species.

Hopefully, with greater awareness, more records will be received during June. The typical mine formed by this species is shown below.



There are many more mines to be found on plants such as Buttercup, Honeysuckle and Snowberry. If you are unsure of the causer, please don't hesitate to get in touch and we will do our best to help out.

We received over 100 records during April, with May looking like being a similar total. With mines becoming more apparent and abundant during June, we hope to receive more records than ever so please keep looking and submitting those sightings!

USEFUL RESOURCES

WEBSITES

There are two UK websites which provide excellent information relating to leaf-miners as a whole, including Coleopteran, Hymenopteran and Lepidopteran as well as Dipteran.

To visit the sites, please click on the logos.



A superb site, run by Rob Edmunds, which illustrates over 500 species of leafminers and provides an extremely useful key for Lepidoptera miners.

The website is frequently updated with additional images and a newsletter is published periodically.

Rob is the organiser of the Leaf-mining Moths Recording Scheme, details of which can be found on the website.

The leaf and stem mines of British flies and other insects

A detailed website by Brian Pitkin, Willem Ellis, Colin Plant and Rob Edmunds, which includes a very useful key based on the host plant.

Another extremely informative website is that by Dr. Willem Ellis, based in the Netherlands. This site includes many of the species encountered in the UK and can be found [here](#).

LITERATURE

Unfortunately, most of the books covering Agromyzidae are purely concerned with the identification of adult material based on genitalia features.

If anyone is considering undertaking genitalia preparations, the following publications are essential;

The Agromyzidae (Diptera) of Fennoscandia and Denmark (Fauna Entomologica Scandinavica 5) by Spencer, K.A

RES Handbook – Agromyzidae by Spencer, K.A (which can be found [here](#))

Agromyzidae (Diptera) of Hungary. Vol.1: Agromyzinae by Papp, L.; Cerny, M.

Agromyzidae (Diptera) of Hungary. Vol. 2: Phytomyzinae I by Papp, L.; Cerny, M.

The Hungarian publications are part of a four-book series, two of which are, as yet, unpublished.

RECORDS REQUEST UPDATE

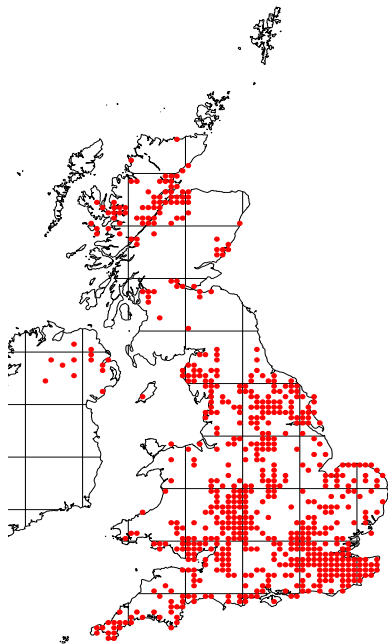
PHYTOMYZA ILICIS

A request for records of the Holly leaf-miner, *Phytomyza ilicis*, was put out via the schemes Twitter account in December 2016.

Within just seven days, around 100 records were received, which was fantastic and exceed expectation.

Records were received from all over the country, although there remains several areas within the UK where no records have been received.

This map shows the current distribution of *Phytomyza ilicis* based on all records held by the NRS;



It is hoped that as more records are collated from LRC's, these 'white holes' will soon become filled. In the meantime, please keep submitting records of this species and hopefully, one day, the distribution map will be more dots than gaps!

REARING AGROMYZIDAE

METHODS



During the past few weeks, several people have contacted the scheme to enquire about the methods involved when rearing Agromyzidae.

Although there are several ways of rearing through collected mines, the method described below (pers comms Dr M. von Tschirnhaus) seems to work well and is relatively straightforward.

The process starts by simply collecting a portion of the stem which contains mined leaves and placing in an air-tight plastic bag. If single leaves are removed, these will quickly desiccate and lead to the larva(e) perishing in most cases.

Some species vacate the mine to form their puparium, whilst others pupate within the leaf. For species which pupate internally, it is best to carefully remove the puparium from the leaf as mould can quickly develop and kill the transforming larva.

A glass jar (apple sauce, jam, marmalade work well) should be filled with 2" of gypsum and left to dry. This medium retains enough moisture to keep the puparium at the right humidity.

Once the gypsum is dry, using a soft, damp brush, carefully place the puparium in the jar. Two or three small drops of water should be added to the gypsum and the jar then closed. Any excess moisture which forms within the jar should be removed periodically.

Setting aside usual mortality rates, adults should emerge within 2-3 weeks.

Inevitably, sometimes parasitic wasps will emerge. There is a recording scheme for parasitic wasps, details of which can be found [here](#).

If anyone is successful in rearing adults and would like their specimens determining, please send them, either pinned or in alcohol, to the scheme organiser, details can be found [here](#)

Examining the male's genitalia, is the only reliable method of identifying most Agromyzidae. The subject of genitalia preparation and identification will be covered in next month's newsletter.



The image above shows the genitalia of *Cerodontha atra*, a widespread species which feeds on *Poaceae*.

NEWSLETTER

SUGGESTIONS

As this is the first newsletter, we would really like to hear your thoughts. If there are any improvements or subjects you'd like to see in the next issue, please do let us know.

Also, if you would like to write a piece for the newsletter, on any Agromyzidae related issue, please do, we would love to include it!

You have received this newsletter as you have either subscribed to it or have contacted the scheme in the past.

If you would like to unsubscribe, please contact us by email and you will be removed from the mailing list.

If you know anyone who might be interested in receiving the newsletter, please do pass on the scheme's details!

CONTACT

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



[@AgromyzidaeRS](#)



agromyzidaeRS@gmail.com

Finally, a big thank you to everyone who is contributing and supporting the scheme, each and every record is greatly appreciated and really does help build a greater understanding of these fascinating little flies.