

Two agromyzid species to look for in winter in gardens:

(i) *Phytomyza gymnostoma* Loew, 1858

This miner of species in the *Allium* genus, particularly leeks, first discovered in the Midlands in 2002, has had a good year, much to the dismay of gardeners.

The female fly feeds on the sap in the leaves by inserting her ovipositor and creating small punctures which look like small white dots.

The white larvae initially make small mines in the leaf and then tunnel into it, which causes splitting of the leaf. The external signs of an infestation are slight, with perhaps a slight discoloration of the leaf seen:



An infestation may initially be seen when the leeks are prepared for cooking and the tiny black puparia (3-4mm long) fall out of the leaf.

As a result of the tunnelling by the larvae, secondary bacterial and fungal infections may occur:



Photos ©Rob Edmunds

The puparia overwinter and adults emerge in the spring:



Photo ©Barry Warrington

In the National Agromyzidae Recording Scheme database there are 214 records of this species, covering 37 Vice Counties.

(ii) *Phytomyza hellebori* Kaltenbach, 1872:

The mines of this fly in Hellebores are very prominent in gardens at this time of year.

Initially the mines are black, turning brown as they mature.

The leaves look a dirty brown colour in heavy infestations as several mines may be formed in a leaf:



Photo ©Rob Edmunds

Pupariation occurs within the leaf and adults emerge next spring:



Photo ©Barry Warrington

In the National Agromyzidae Recording Scheme database there are 306 records of this species, from 41 Vice Counties.

Recording:

If you find either of these agromyzid miners then please photograph and iRecord for the National Agromyzidae Recording Scheme:

agromyzidaers@gmail.com

Rearing *Elachista* species:

A problem with rearing the *Elachistidae* is that they are found mining plants like grasses. So how do you keep the host alive, without it drying out or going mouldy, until the larva pupates?

Will Langdon and Ben Smart have elegant solutions to this dilemma.

Will Langdon uses large tubs:

"I usually rear them by taking as much of the plant I can (either with roots, or shoots cut right at the base), and then take a pot (about the size of a large yoghurt pot) with a hole in the centre, and stick the plant through that, so that the leaves are 'inside' the pot, and the roots/base of the stem are sticking out the bottom.



Photo ©Will Langdon

I block up the hole with a bit of tissue around the base of the plant so that there is no gap. The top of the pot is covered with cheesecloth/muslin/netting with an elastic band around, and then the pot is put inside another pot which is filled with water to a height that covers the roots/base of the stem.

The idea is basically that the plant is kept alive by the water for as long as possible (usually okay for 2-4 weeks depending on species), but the larvae won't escape and drown when they leave the mine.

I usually find larvae pupate on the leaves of the plant, or at the base of the pot, sometimes at the top too. I have reared about a dozen *Elachistid* species with this set up, and it seems to work well if mines are collected with reasonably well-developed larvae (most mines in spring).

I think even if larvae are quite small, keeping them indoors in this set up can speed things up sufficiently that you'll still be okay. I'm yet to have any failures due to plants drying out, the main problem has been parasitoids. If you need to keep plants alive for longer though, I guess you need to pot a live plant and sleeve it."

Ben Smart uses a large plastic drinks bottle:

"I cut a large pop bottle in half then place a small container inside with a bit of water in. Put in the original tenanted leaf and some fresh foodplant for the larva to move to should it choose. Put some tissue paper around the plant at the neck of the small container to reduce the chances of the larva falling in. Then replace the top half of the bottle.

Putting the lid back on the bottle will decrease the risk of escape but will increase the risk of mould. A bit of netting over the top should solve both problems.

Hopefully when full-fed it will go on to pupate on the stem, or perhaps the side or base of the bottle."



Photo ©Ben Smart

Finding *Elachista* species in winter and spring:

Some *Elachista* species may be found in the winter but the best time to search is in spring.

Will Langdon advises:

“The best time to look for most *Elachista* species is when they are nearly fully fed and their mines are largest and most conspicuous, and for most species that will be in spring (March-June).

The main one that I've found fairly easily at this time of year is *Elachista stabilella* on Tall Fescue (which is now pretty large).

I think *Elachista cinereopunctella* is also relatively easy to find now.

There are a few others that I've found recently – *E.regificella*, *obliquella*, *gangabella* and *adscitella*, but I think they'd be a lot easier to find later in the spring, except for *E.gangabella* which is a lot easier to find in the autumn!

One that should be fully fed now is *E.apicipunctella*, but I'm not sure that's a very easy one to find”

Ben Smart also recommends:

“I suggest looking for *Elachista atricomella* on Cock's-foot grass at this time of year.



Elachista atricomella Photo ©Ben Smart

There will be a number of fine greyish, lines heading down to the base of the plant and in one of the inner layers near the base of the plant you should be able to find the yellowish larva.



Photo ©Ben Smart

If you take the plant indoors and look after it, keeping the plant moist, ideally with roots intact, you should be able to rear it through - with a bit of luck.

This one is from Christmas Day 2018, from Chorlton, Manchester. The larva pupated 21.i.19. Adult emerged 08.ii.19.

There will be more options down south, such as *Elachista stabilella*.

Otherwise, the first ones I find are in late March / April, and would include *E.argentella*, *maculicerusella*, *albidella*, *adscitella*, *humilis* and *poae*.

Further information:

Emmet AM (1996) The Moths and Butterflies of Great Britain and Ireland 3: Yponomeutidae -Elachistidae

Traugott-Olsen E. & Schmidt Nielsen E. (1977)
The Elachistidae (Lepidoptera) of
Fennoscandia and Denmark, Fauna
Entomologica Scandinavica 6: 1-299.

lep:elachistidae (leafmines.co.uk)

New host plants:

(i) *Ectoedemia heringella* (Mariani, 1939)

Since its discovery on *Quercus ilex* (Holm Oak) in London in 1996 it has spread rapidly in the UK and, as it does so, has been found on a number of new hosts, by the people named:

(a) *Quercus x crenata* (Spanish Oak)



Photo ©Rob Edmunds

March 2018, Ely, Cambridgeshire.

(There is a debate as to whether this species of Oak is synonymised with *Quercus x hispanica*)

(b) *Quercus canariensis* (Algerian Oak)

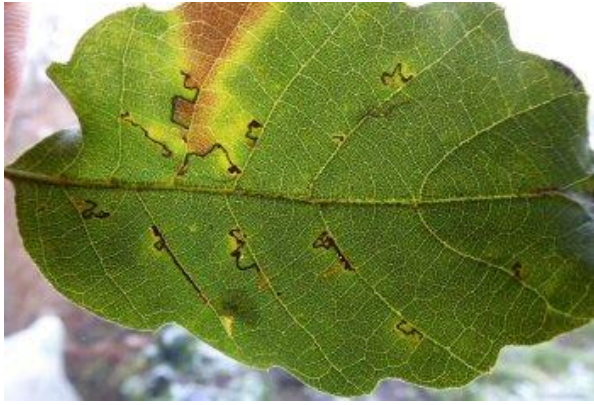


Photos ©Robert Homan

January 2021, Cheltenham, Gloucestershire

(c) *Quercus x hispanica* (Spanish Oak)





(a) *Polypodium vulgare* s.l. (Common Polypody)

Photos ©Robert Homan

January 2021, Cheltenham, Gloucestershire



(d) *Quercus suber* (Cork Oak)



Photo ©Trevor Codlin

December 2022, Nr Swanwick, Hampshire



Photos ©Annie Irving

December 2022, Cardiff, Glamorgan

(ii) *Psychoides filicivora*
(Meyrick, 1937)

The feeding signs for *Psychoides filicivora* and *Psychoides verhuella* are very similar but the larvae may be distinguished as *verhuella* has a dark head and black anal plate:

[Lep:Tineidae \(leafmines.co.uk\)](http://Lep:Tineidae(leafmines.co.uk))

(b) *Woodwardia radicans* (Chain Fern)

Sam Thomas , 2005, London

(c) *Polypodium interjectum* (Intermediate Polypody)

Sam Thomas, early 2000s, North Wales.