

# Introduction to Leaf Miners



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# Four orders of insects make mines in Ireland:



**Moths**



**Flies**



**Sawflies**



**Beetles**



Mines are categorised as:



Gallery (or corridor)



Blotch

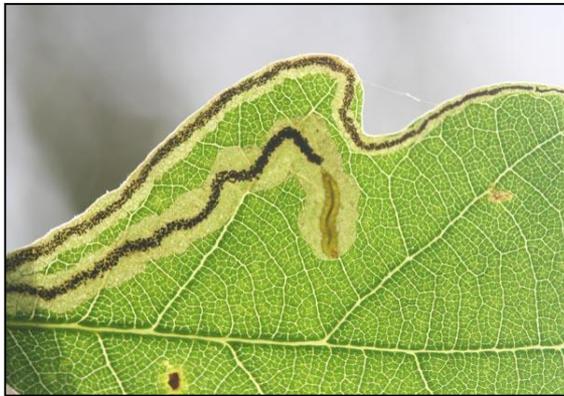


Blister

Note: some mines can be a combination of more than one category



Frass (dung) patterns are important:



Single line  
(Moth)



Multiple lines  
(Fly)



Distributed  
(Sawfly)



## Host plant is extremely important

- Most miners mine either a single family or single species of plant
- When trying to identify a mine, host plant is the first consideration



Shape of larva can also be used to assist with identification:

Bullet-shape = Fly:



'Round-shouldered', with or without pro-legs = Sawfly:



Note: head is to the upper left  
in both cases



## Identification method:

- 1) Identify host plant
- 2) Visit reference website (see final page for references) and select host plant
- 3) Try most likely order, comparing subject mine with reference image(s) and text
- 4) Try next most likely order if required



## Mines to start off with

These mines are easily found, and are distinctive:



*Phytomyza ranunculi*  
(fly) on Buttercups  
and Celandine



*Phytomyza ilicis* (fly)  
on Holly



*Orchestes fagi*  
(beetle) on Beech



# Sample mines



*Stigmella aurella*, Moth, corridor mine on Bramble



## Sample mines



*Fenusa dohrnii*, Sawfly, blotch mine on Alder



## Sample mines



*Agromyza anthracina*, Fly, short corridor (top right)  
leading to blotch mine on Nettle



## Sample mines



*Agromyza alnivora*, Fly, corridor mine with two rows of frass, on Alder

## Sample mines



*Phyllonorycter maestingella*, Moth, creased blister mine  
on Beech



# Sample mines



*Orchestes fagi*, Beetle, corridor leading to blotch  
mine on Beech



## Worked example #1

Plant: Rosebay Willowherb

Mine:



- Only one mine is listed for Rosebay Willowherb: *Mompha raschkiella*
- Description: A narrow gallery, often following the midrib, occasionally tinged red at the edges. This leads to a yellowish blotch containing dispersed frass.

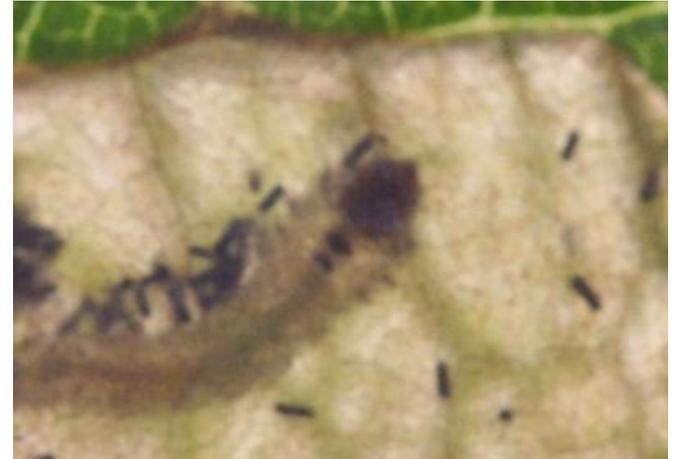
Note: this mine has not yet formed a yellowish blotch, but the early part of the description is correct.



## Worked example #2

Plant: Raspberry

Mine:



- Larva is round-shouldered, indicating Sawfly. Mine is a blotch
- Two blotch mines are listed for Raspberry:
- *Metallus albipes* has 3 dots on the thorax of the larva
- *Metallus pumilus* has 4 dots
- Our specimen has 3 dots, so the identification is *Metallus albipes*



Web references:

<http://www.leafmines.co.uk/index.htm>

<http://www.bladmineerders.nl/>

<http://www.ukflymines.co.uk/>

Also

<http://donegalwildlife.altervista.org/leaf-miners.htm>