

The National Biodiversity Data Centre has set a challenge for farmers to record some of the amazing biodiversity found on your farm during the year. We have 40 species for you to record.

Are you up for the challenge?

## Species: Agromyzid Fly larvae or the Holly Leaf Miner

Scientific Name: *Phytomyza ilicis*

### Group

Belong to the Mining Fly family (*Agromyzidae*) for the feeding habitats of their larvae, most are leaf-miners of various plants.

The Agromyzid Fly is 1 of 123 in the genus *Phytomyza*, in Ireland and Britain.

### How common on farms

Biodiversity surveys were carried out across 40 farms within the National Biodiversity Data Centre's 'Protecting Farmland Pollinators' EIP project (<https://biodiversityireland.ie/projects/protecting-farmland-pollinators/>). The 40 farms were chosen to reflect farms of differing types and intensity levels. The Holly Leaf Miner was present on some of the 40 farms.



© Ruth Wilson

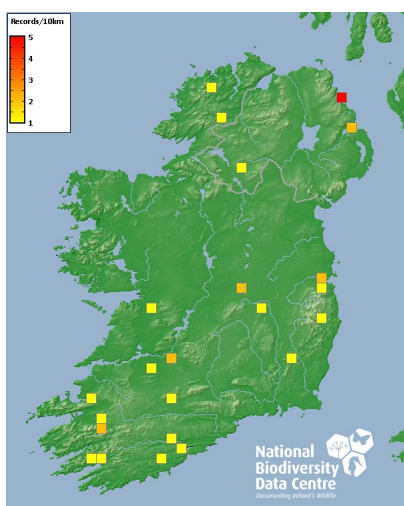
Holly leaf miner: Note: Irregular linear-blotch mines on the upper leaf of Holly leaves.

### Identification Tips

- This leaf mine is easy to recognise, as it is the only species to mine Holly (*Ilex aquifolium*).
- The small adult leaf mining fly lay their eggs at the base of the midrib on the underside of a Holly leaf in June.
- Larvae initially feeds in the mid rib of Holly leaves.
- The upper leaf has an irregular linear-blotch.
- Yellowish-white or yellowish-purple blotches occur on the upper surface of older leaves.

### Distribution

Common and widespread, probably under-recorded.



Source: The Holly Leaf Gall Fly records as viewed on Biodiversity Maps, 2023.

### Biodiversity Tip

#### Plant some Holly.

They can be included in a native hedgerow or planted as an individual tree.



## Conservation Status

Red Lists are an internationally recognised methodology for assessing conservation status.

There is no complete Irish checklist for flies or a national conservation assessment.

## Management Tips

### On the farm:

- If creating a new hedge, include a mixture of native species, including Holly.
- Retain, restore and manage native species hedgerows, if gap filling, why not add a Holly.
- Allow a Holly bush to develop into a small tree on the farm, either in the farmyard or in a field corner or hedgerow.

### In the farm garden:

- Retain or plant a Holly bush in a hedge or as an individual tree in the garden.



Holly Leaf-miner.

## Similar species

No other leaf miner lives on Holly.

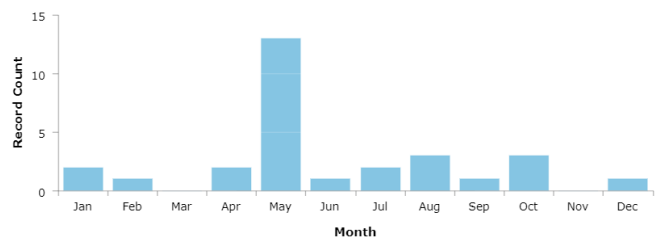
## Need some help with identification?

Just drop us a line, we'll be happy to help:  
[pollinators@biodiversityireland.ie](mailto:pollinators@biodiversityireland.ie)

## When?

Can be seen all year round.

### Records per month across all datasets



National Biodiversity Data Centre, Ireland, Holly Leaf Gall Fly  
*Phytomyza ilicis*, image, accessed August 2023.

## Where on the farm?

Hedgerows, woodland edges, individual Holly trees and in the garden.

## Value

- The Holly leaf miner Fly, has little impact of the Holly.
- The larvae is a host for some parasitic wasps and a food supply for some bird species.



Holly Leaf-miner.

## Further Info

The Holly leaf miner is the larvae of the Agromyzid fly *Phytomyza ilicis*. It is the only species mining Holly. The small fly whose larvae cause discoloured blotches by feeding inside Holly leaves.

There is one generation a year, and the adult flies lay eggs on the new foliage in May to June. When the larvae have completed their feeding in the following spring, they pupate inside the leaf mines.

Holly has protected itself with chemical repellents, so it will try to repair any damage, by making new tissue and trying to 'fill the gaps' in. This deters slow moving miners. The Holly miner larvae moves quickly enough to avoid being squeezed to death.

The larvae (miners) are parasitized by a number of parasitic wasps, e.g. *Chrysocharis gemma*, they have not been recorded in Ireland to date,

[\*Chrysocharis gemma\* - Detail - Biodiversity Maps \(biodiversityireland.ie\)](#)

They are also fed on by birds, such as blue tits (*Parus caeruleus*).

## Affected by a change in climate?

It is unknown how climate change may impact this species.

## Useful Links

Details of a National Biodiversity Data Centre leaf miners survey in 2016:

[\*Leaf Miners - National Biodiversity Data Centre \(biodiversityireland.ie\)\*](#)

A profile on the National *Agromyzidae* of Britain and Ireland:

[\*Phytomyza ilicis\* \[Curtis, 1846\] \(myspecies.info\)](#)

Leaf miners of the UK:

[\*The leaf and stem mines of British flies and other insects - includes illustrated keys by host genus \(ukflymines.co.uk\)\*](#)

'Donegal Wildlife' details on the Holly Leaf miner:

[\*Phytomyza ilicis\* \(donegalwildlife.altervista.org\)](#)

British Leafminers

[\*Dip: Agromyzidae \(leafmines.co.uk\)\*](#)

## Record here

Your records will help us build a picture of farmland biodiversity in Ireland. If you're happy with your identification, you can submit your record.

- On the National Biodiversity Data Centre website:

<https://records.biodiversityireland.ie/record/biodiversity-on-your-farm#7/53.455/-8.016>

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