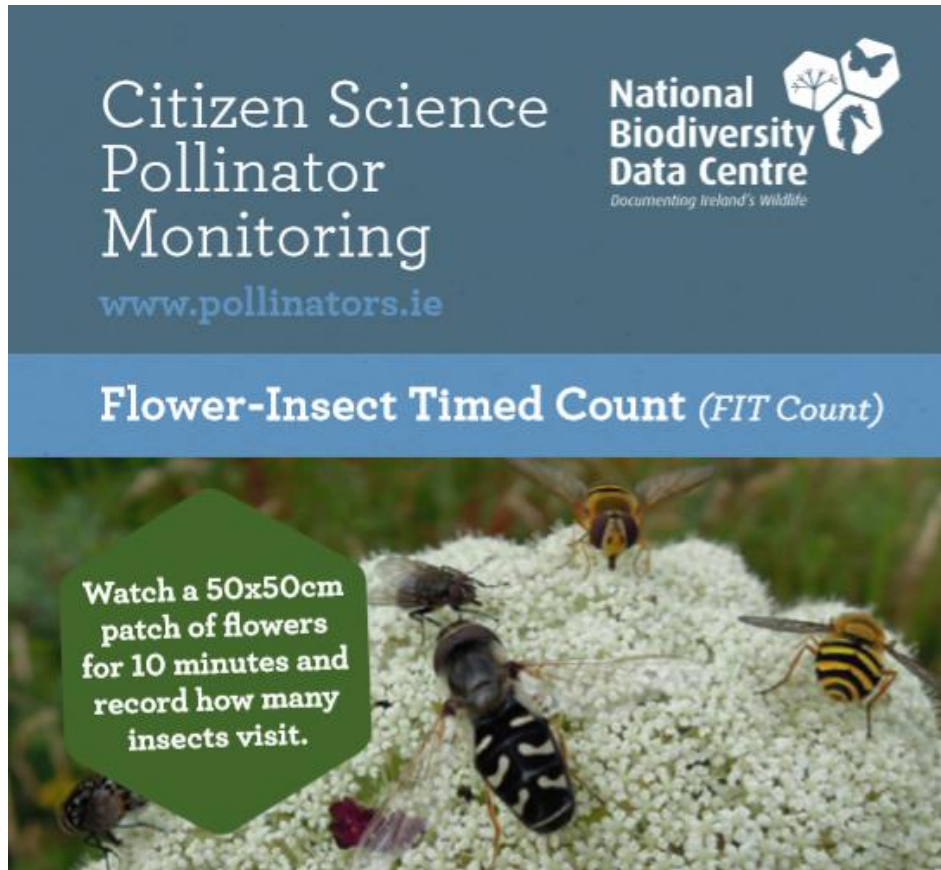


IDENTIFYING DIFFERENT INSECT GROUPS

This guide has been put together to support a citizen science survey called
Flower-Insect Timed Counts (FIT Counts)



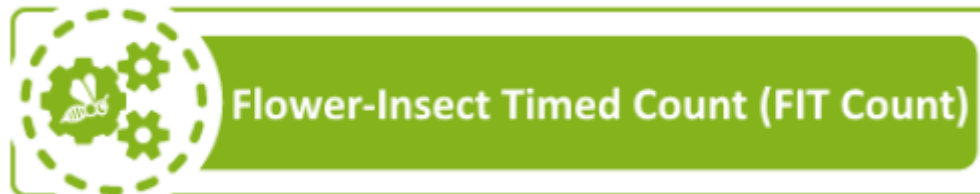
There are concerns that the numbers of pollinating insects are declining, but we need more data to be able to track changes in abundance.

You can help by doing a **FIT Count**. You simply need to watch a 50x50cm patch of flowers for 10 minutes and record how many insects visit.


FIT Counts can be carried out from 1st April until the 30th September.

For more information visit:

<https://pollinators.ie/fit-count>



When you do a FIT Count you are asked to count how many insects visit your patch of flowers and to record them within these 10 broad groups. You do not have to identify the insects to species level.

Insect group	Tally of number seen:  = 7, etc.
Bumblebees	
Honeybees	
Solitary bees	
Wasps (<i>including ichneumon wasps</i>)	
Hoverflies (<i>including 'non-typical' hoverflies</i>)	
Other flies	
Butterflies and moths	
Beetles (<i>larger than 3mm</i>)	
Small insects (<i>such as pollen beetles</i>) less than 3mm long	
Other insects	

Ten broad insect groups

Bumblebees



Solitary bees



Honeybee



Wasps



Hoverflies



Other flies



Butterflies & Moths



Beetles (>3mm)



Small insects (<3mm)



Other insects



If you're new to recording insects it can be difficult to distinguish between the broad groups. We simply ask that you read through this guide and try your best

Some counts will have lots of insects and others very few. Both are equally important. We need you to submit what you find so that we can accurately begin to track changes. Where you carry out a count and no insects visit, you should also submit this.

1. BUMBLEBEES

- ✓ **Very hairy**
- ✓ Long antennae that are often elbowed
- ✓ Have bands of distinct colours
- ✓ Eyes at the side of the head
- ✓ May have a pollen basket on back leg
- ✓ Two pairs of wings - this is difficult to see as hind wings are smaller and underneath the main wings

Remember not all bumblebees are black and yellow striped



Photos © Steven Falk

Don't confuse with:

Hoverflies that mimic bumblebees – they will be less hairy; have short stubby or feathery antennae; very large eyes that cover most of head; one pair of wings; will be able to hover in the air; never have a pollen basket on back legs



2. SOLITARY BEES

- ✓ Ireland's 77 solitary bee species come in all types and **will be the most difficult for beginners to distinguish**
- ✓ Vary from 5-20mm long
- ✓ Much less hairy than bumblebees but most have some hairs
- ✓ Long antennae that are straight
- ✓ Females may have a pollen basket on the back leg or under their abdomen
- ✓ Two pairs of wings - this is difficult to see as hind wings are smaller and underneath the main wings



Don't confuse with:

Hoverflies - short stubby or feathery antennae, very large eyes that cover most of head, will be able to hover in the air, never have a pollen basket, one pair of wings

Honeybees – usually larger with a distinctive dark or orange striped abdomen

Solitary wasps – not hairy, more rectangular head

Bumblebees – very hairy, bands of distinct colours

3. HONEYBEE

- ✓ Only one species of honeybee occurs in Ireland, but there are different subspecies
- ✓ Depending on the subspecies, the abdomen colour varies from bright orange striped to nearly all black (Northern dark bee)
- ✓ Eyes at the side of the head
- ✓ May have a pollen basket on back leg
- ✓ Two pairs of wings - this is difficult to see as hind wings are smaller and underneath the main wings



Northern dark bee

It is generally considered that the darker honey bee is the native form, *Apis mellifera mellifera*. Lighter coloured honey bees tend to be thought of as either a different introduced sub-species such as *Apis mellifera ligustica* or a hybrid form between the two types.

Don't confuse with:

Hoverflies - short stubby or feathery antennae, very large eyes that cover most of head, one pair of wings, will be able to hover in the air, never have a pollen basket, less hairy



Solitary bees – usually smaller and do not match honeybee banding pattern



4. WASPS

- ✓ The common social wasp will be easy to spot but some of the solitary wasps will be more difficult to distinguish
- ✓ Much less hairy than bees and will never have a pollen basket
- ✓ Long antennae
- ✓ Have a distinct waist
- ✓ Solitary wasps often have a more rectangular head than solitary bees
- ✓ Ichneumon wasps are long and narrow. They have narrow waists and very long antennae

Don't confuse:

Solitary wasps with solitary bees – more hairy, less rectangular head

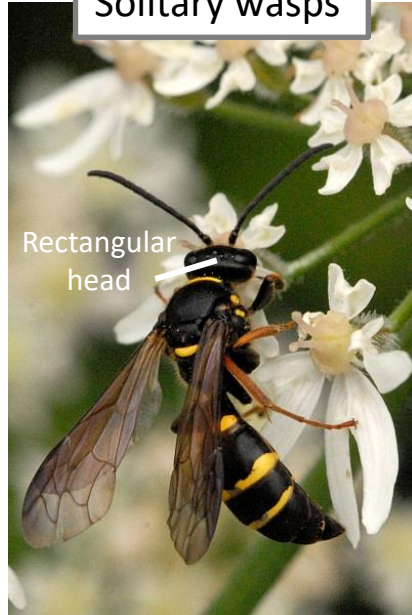
Wasps with sawflies – sawflies don't have a waist. They will be in the 'other insects' category

Social wasps



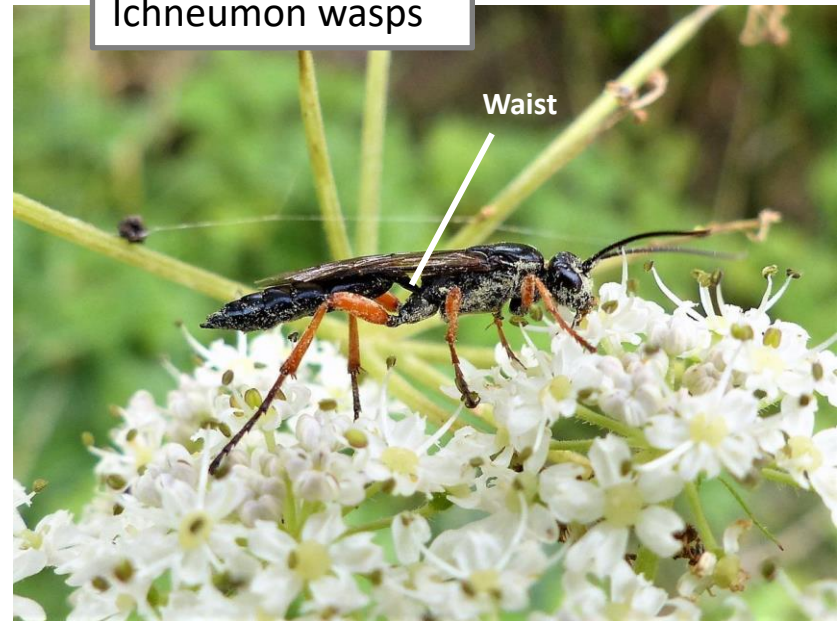
© Trounce/Wikimedia Common

Solitary wasps



© James Lindsey/Wikimedia Common

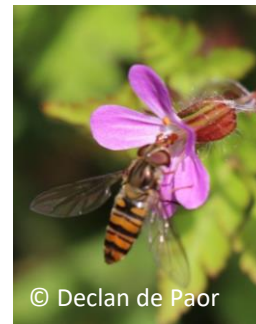
Ichneumon wasps



© Nick Larter

5. HOVERFLIES

- ✓ Ireland's 180 species of hoverfly also come in lots of different types and might be difficult for beginners to distinguish
- ✓ **Fast fliers and can hover in the air**
- ✓ Large eyes covering most of head
- ✓ Antennae short and stubby, sometimes feathered (bees and wasps have long antennae)
- ✓ Many are shiny & black with yellow or other pale markings
- ✓ One pair of wings
- ✓ Will never have a pollen basket



Don't confuse with:

Bumblebees – very hairy, long antennae, smaller eyes to side of head, can't hover, two pairs wings

Honeybees – long antennae, smaller eyes to side of head, can't hover, two pairs wings

Solitary bees - long antennae, smaller eyes to side of head, can't hover, two pairs wings

6. OTHER FLIES

There are many, many other types of flies that you might see. The key thing is to try to separate hoverflies from the rest. Many of our common hoverflies have some sort of striped markings. The easiest is to watch for hoverfly's fast flight and ability to hover in the air above flowers.



© Kevin Murphy



© AJC1/Wikimedia Common



© Line Sabroe/Wikimedia Common

7. BUTTERFLIES & MOTHS

Within your FIT Count you don't need to distinguish butterflies from moths



8. BEETLES (LARGER THAN 3MM)

There are lots of different types of beetles that you might see on your FIT Count. Some of the more common types are below



Beetles have hard wing cases that join in a straight line down the middle of the insect



9. SMALL INSECTS (LESS 3MM LONG)

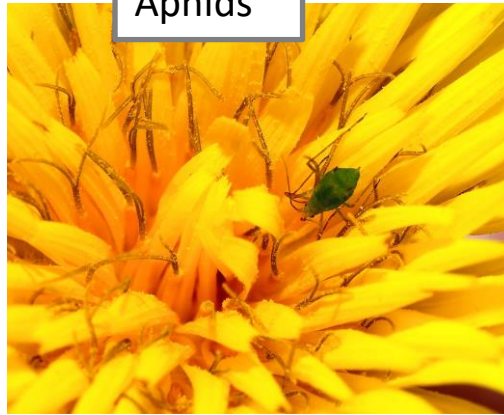
The small insects you are most likely to see will be pollen beetles, aphids or other tiny flies. You don't have to tell them apart – just count how many tiny insects there are. Look carefully – there might be more than you first think.

Pollen beetles



© Ian Kirk/Wikimedia Common

Aphids



© Alvesgaspar/Wikimedia Common

Tiny flies



© Janet Whelehan

Pollen beetles are less than 3mm so **don't** put in the beetle category

10. OTHER INSECTS

The most likely other insects you see will be shieldbugs and sawflies.

Shieldbug



© Liam Lysaght

Shieldbugs have a scutellum and more leathery wing cases that do not meet in the middle like beetles

Sawfly



© gailhampshire/Wikimedia Common

Sawflies are weaker fliers than bees/wasps and do not have a waist



Flower-Insect Timed Count (FIT Count)

<https://pollinators.ie/fit-count>



FIT Counts are used to generate important data to track changes in insects as part of the All-Ireland Pollinator Plan.

In Northern Ireland, FIT Counts should be submitted to the UK Pollinator Monitoring Scheme:

<https://www.ceh.ac.uk/our-science/projects/pollinator-monitoring>



We follow the FIT Count methodology developed by the UK Pollinator Monitoring Scheme (PoMS). We thank them for their generosity and support. They have also produced an excellent guide to distinguishing between different insect groups which you can access here:

<https://www.ceh.ac.uk/sites/default/files/FIT%20Count%20insect%20guide%20v4.pdf>

We do not need you to record particular species for the FIT Count itself, the focus here is on the species groups.

If you have identified any insects to species level, either during the count or at any time while you have been at your location, then we would encourage you to submit those records to the National Biodiversity Data Centre here: <https://records.biodiversityireland.ie/start-recording>

Thanks to all those who have generously allowed their
photographs to be used in this guide