

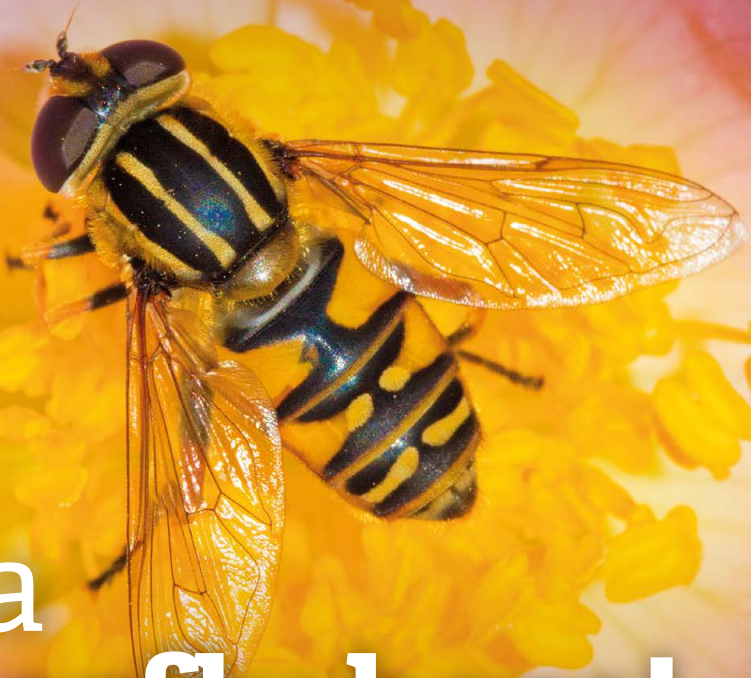


Wild About Gardens

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Be a hoverfly hero!

How to help these precious pollinators



The
Wildlife
Trusts



RHS

Pollinators in peril

Hoverflies are a delight to watch as they zig-zag between flowers, bask on leaves or hover in shafts of sunlight. They are also brilliant pollinators and a vital part of our ecosystem. However, like other pollinators, they are in trouble.

Hoverflies are known to visit at least 52% of global food crops.

According to citizen science survey Bugs Matter, led by Kent Wildlife Trust and Buglife, the number of flying insect samples on vehicle number plates has decreased by 78% since 2004. A UK Government report echoes this loss, stating that hoverfly distribution has seen a 44% decline between 1980 and 2022.

Hoverflies regularly visit flowers for pollen and nectar. Without them and other pollinators, biodiversity would decrease, our food crops and wildflowers would be at risk and our gardens would be less productive. We'd have fewer berries, seeds and fruits such as apples and strawberries.

Often underappreciated as pollinators, hoverflies help to maintain a healthy garden. The larvae of some species feed on aphids, whilst others are detritivores, which means they break down organic waste material. Two very important jobs.

We need to help our hoverflies!

Tapered dronefly © Janet Packham

Cover image: footballer hoverfly © Rod Williams /Naturepl.com

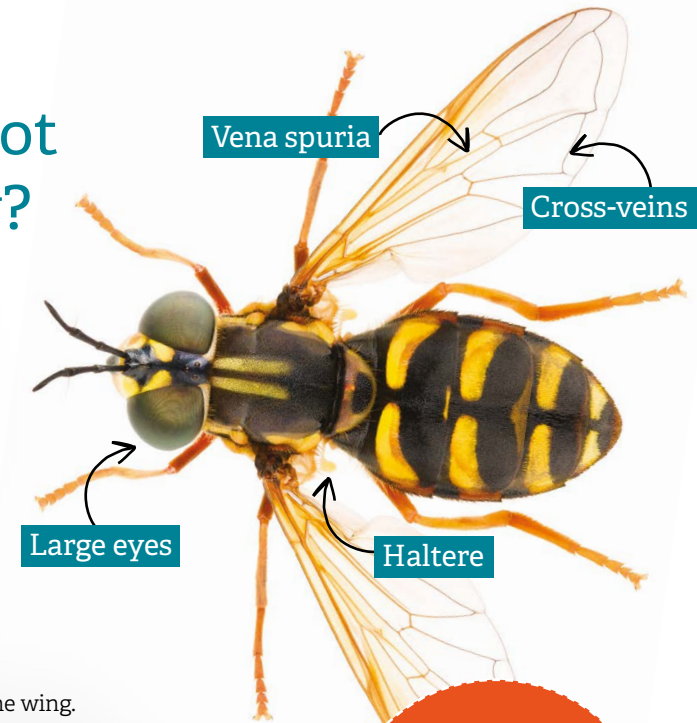
What is a hoverfly?

Hoverflies belong to an order of insects called 'Diptera', otherwise known as the true flies. True flies have a single pair of wings, whereas most other flying insects, like bees and butterflies, have two pairs. True flies have two little drumstick-shaped sensory structures called halteres instead of a second pair of wings. These act as gyroscopes, helping flies judge their movements and expertly manoeuvre in the air.

How to spot a hoverfly?

So how do you tell a hoverfly from other true flies? Many hoverflies are black and yellow, with a fairly broad, oval body. But they can also be long and thin, dark, shiny or even furry. To be certain, you can study the wings.

The wings of flies are crossed by dark lines known as veins. These help support the shape of the wing. Hoverflies have an extra line, called the 'vena spuria'. It's not always easy to see, but this is one of the best indicators that you're looking at a hoverfly. Another good sign is the presence of two veins running across the wing, near the tip.



There are around 6,000 species of hoverfly in the world, with more than 280 recorded in the UK.

Variable spearhorn © Shutterstock

The hoverfly life cycle

Hoverflies have a four-stage life cycle, like a butterfly or moth: egg, larva, pupa, adult.

1 Egg

Hoverfly eggs often look a bit like a tiny grain of rice. They can be laid singly or in batches and normally hatch after just a few days. Where the eggs are laid depends on what the hoverfly larvae feed on. Some feed on plants, so eggs are laid on their favourite plant species. The eggs of aphid-eating hoverflies are usually laid near aphid colonies.



2 Larva

Hoverfly larvae are generally maggot-like, with no legs or obvious head. Their most distinctive feature is a single breathing tube at the rear of the body – other fly larvae usually have two tubes.

Around 40% of the UK's hoverflies are predators of aphids and other insects, including leaf beetles. They search for prey by using touch and chemical signals. When they find a target, they stab it with mouth hooks and suck out the body contents. Predatory larvae often have camouflage patterns to keep them from becoming prey themselves. The markings of triangle-

spotted meligramma larvae make them look like bird droppings!

A few larvae feed on fungi and plants, like the greater spring blacklet, which tunnels through the stems of thistles. Some even live within wasp or ant nests, scavenging or eating the larvae of the host. *Microdon* larvae look like slugs and crawl into ant nests, where they feed on young ants. They produce chemicals to help them hide from the ants, as well as having a tough body to protect them from bites and stings.

However, most hoverfly larvae feed on dead or decaying matter. They can be found living in rotting wood, compost, pools or anywhere that wet, rotting vegetation builds up. Those that live in water can have a breathing tube longer than their body, which they use as a snorkel. They're often known as 'rat-tailed maggots'. These scavengers play an important role in breaking down garden waste.



A single marmalade hoverfly larva can eat hundreds of aphids during its development!

Hoverfly larvae aren't alone in eating aphids. Lacewing and ladybird larvae also feed on them.

3 Pupa

When larvae are fully grown, they undergo an incredible transformation to become a flying adult. The pupa itself is hidden from sight as it forms within the skin of the larva, which shelters it like the chrysalis of a butterfly. This sheltering skin is known as a puparium. It's often pear-shaped, with the colour varying from whitish brown to green or orange. Once the transformation is complete, the adult emerges.



Did you know?

4 Adult

Adult hoverflies come in a range of shapes and sizes. Whilst many resemble bees and wasps with their black and yellow patterns, others can be all black, have white markings, or even a metallic sheen.

 A few hardy hoverflies can even be found in winter, but things really start to pick up from March when blossom coats the trees. By May and June, there are more than 200 species to spot across the UK.

 Searching for hoverflies can be as simple as watching the flowers in a garden or local park. Most only have short mouthparts that dab up nectar like a sponge, so they prefer open flowers. On a warm day, you'll soon spot a wide variety visiting for a snack. It's also worth looking for patches of sunlight on tree trunks or leaves, where hoverflies are fond of sunbathing.

The colour of some hoverflies can vary depending on the temperature at which the pupae develop. Cooler conditions produce darker adults.

Predatory hoverfly larvae will sometimes resort to cannibalism, eating the eggs and smaller larvae of their own species.

Some male hoverflies defend a patch of sunlight, claiming it as their territory. Male pied plumehorns hover at head height in beams of sunlight, chasing off other males and waiting for passing females.

The UK's largest hoverfly, the hornet mimic, is around 2 cm long.

The batman hoverfly is named for the dark marking on its thorax, which often looks remarkably like the logo of its superhero namesake.

You can tell the sex of most hoverflies by looking at the eyes. If they meet in the middle of the head, it's a male. If there's a gap between them, it's a female. There are some exceptions, such as the footballer hoverfly – both sexes of this species have a gap between the eyes.

A hoverfly's large eyes are made up of thousands of individual hexagonal units called ommatidia. Each ommatidium is like a little eye with its own lens.

Masters of mimicry

When is a bee not a bee? When it's a fly!

Hoverflies are masters of disguise. Although hoverflies are stingless, to deter predators some species have evolved to look more like those animals that pack a punch: bees, wasps and hornets. Their yellow and black stripes are designed to signal danger, making a bird or other predator think twice before trying to eat them!

From the fluff of a bumblebee to the mahogany of a hornet thorax, hoverflies are

sheep in wolves' clothing, masquerading as more dangerous insects. This is known as Batesian mimicry. Some species do an impressive job, but there's no need to be fooled – look at the eyes and the antennae. Hoverflies have large eyes and often short antennae, bees and wasps have smaller eyes and longer antennae.

Can you spot the differences between these hoverfly mimics and the real thing?

Red-tailed bumblebee



© Brian Eversham

German wasp



© Vaughn Matthews

European hornet



© Frank Porch



© Frank Porch

Bumblebee mimic
(*Volucella bombylans*)



© Jon Hawton/Surrey Hills

Wasp mimic
(*Volucella inanis*)



© Frank Porch

Hornet mimic
(*Volucella zonaria*)

Migration magic

When birds migrate, it's a two-way trip. A swallow might fly from the UK to South Africa in autumn and come back the following spring. But insects don't tend to live that long – for many adult flies it's a matter of weeks.

Instead, insect migrations are generational journeys. An adult might fly from continental Europe to the UK in summer, where it lays eggs and lives out the rest of its life. Its offspring could then grow up and make their own migration, heading south across the sea.

Fly highway

A study published in 2024* counted migrant insects passing south through the Pyrenees in autumn. They recorded 17 million insects heading south through a single 30-metre-wide gap each year. Almost 90% of the recorded insects were flies! Many of them were pollinators or predators of aphids and other plant-eating invertebrates, so these movements are internationally important.

Common migrants



© James Adler

Migrant field syrph

Eupeodes corollae

Numbers of this migratory hoverfly peak in mid-summer. It's often found visiting garden flowers or even urban window boxes. Its larvae feed on a wide range of aphids.



© Brian Eversham

Marmalade hoverfly

Episyrphus balteatus

Britain's most common hoverfly, which can migrate from continental Europe in huge numbers. It overwinters as an adult so can be seen at any time of year. Its larvae feed on a variety of aphids, including species that cause problems for crops.

Common twist-tail

Sphaerophoria scripta

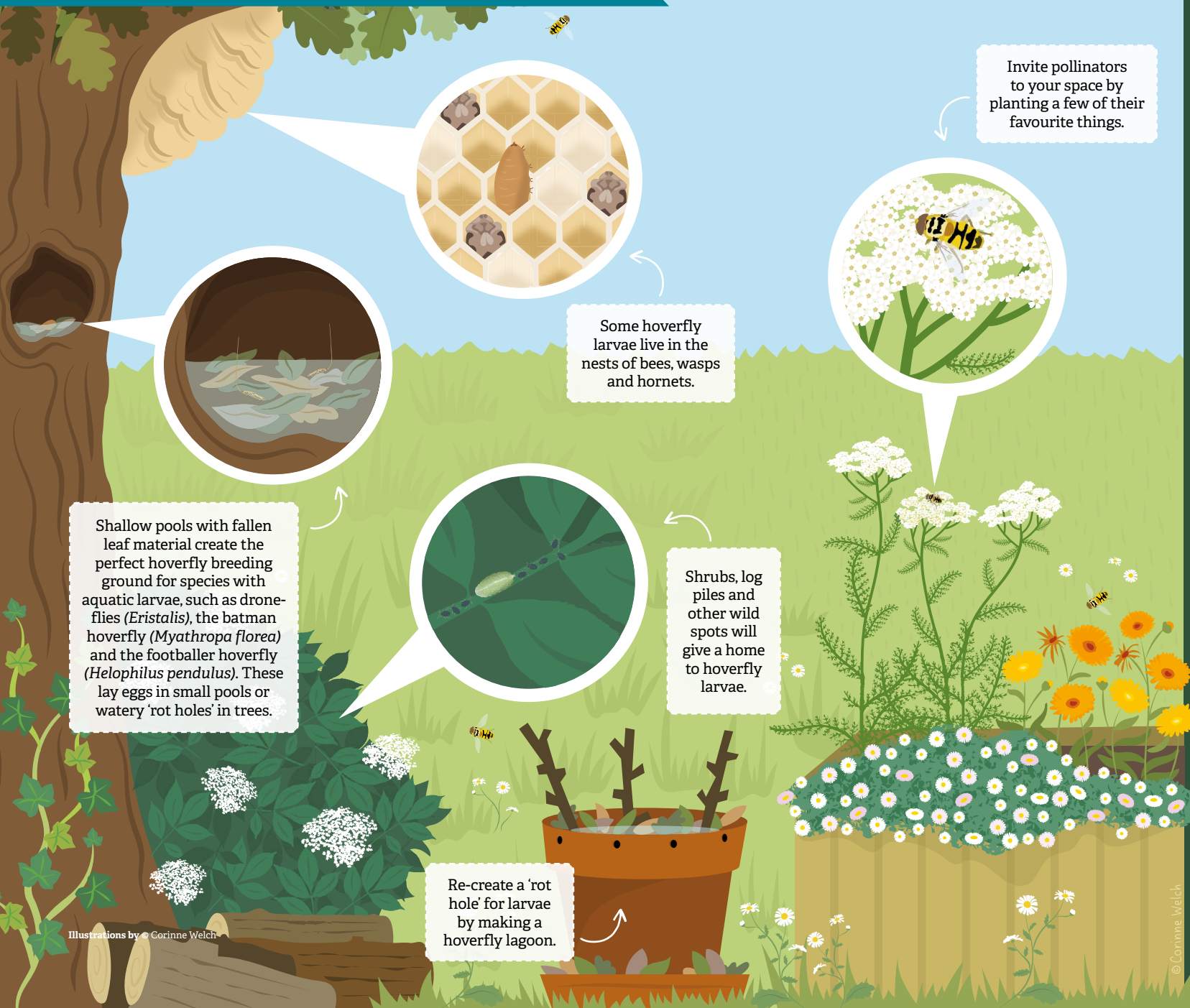
This distinctively long-bodied hoverfly is a common migrant from Europe. Its larvae hunt aphids on low-growing plants, including crops.



© Frank Porch

*Hawkes et al. 2024. The most remarkable migrants – systematic analysis of the Western European insect flyway at a Pyrenean mountain pass.

Hoverflies in the garden



Invite pollinators to your space by planting a few of their favourite things.

Some hoverfly larvae live in the nests of bees, wasps and hornets.

Shallow pools with fallen leaf material create the perfect hoverfly breeding ground for species with aquatic larvae, such as droneflies (*Eristalis*), the batman hoverfly (*Myathropa florea*) and the footballer hoverfly (*Helophilus pendulus*). These lay eggs in small pools or watery 'rot holes' in trees.

Shrubs, log piles and other wild spots will give a home to hoverfly larvae.

Re-create a 'rot hole' for larvae by making a hoverfly lagoon.

Pollinator planting

There are plenty of ways you can support hoverflies in your outdoor space, whether you have a window box, pots on a balcony or beds to spare. Here are some popular plants that will be in flower each season:

	SPRING	SUMMER	AUTUMN
Aubretia	🌸		
Guelder rose (<i>Viburnum opulus</i>)	🌸		
Cow parsley	🌸		
Erigeron		🌸	
English marigold*		🌸	
Fennel		🌸	
Ox-eye daisy		🌸	
Wild Carrot		🌸	
Hemp agrimony		🌸	
Field poppy		🌸	
Yarrow		🌸	
French marigold*		🌸	
Sweet marjoram		🌸	
Blackberry/bramble		🌸	
California poppy*		🌸	🌸
Morning glory (<i>Convolvulus tricolor</i>)		🌸	🌸
Heather		🌸	🌸
Echinacea purpurea*			🌸
Aster* (<i>Symphyotrichum</i>)			🌸
Common ivy			🌸

*Single-flowered forms, not double

Make a hoverfly lagoon



You will need

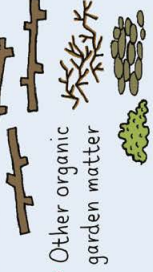
- A container (try to recycle or upcycle something) With no holes in the bottom
- A tray that fits generously underneath your container



- A drill or piercing tool



- Dried leaves
- Sticks

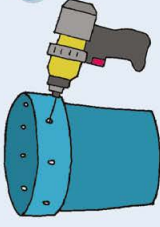


- Water

A little water can go a long way in helping hoverflies! The larvae of several species live in leaf-filled pools.

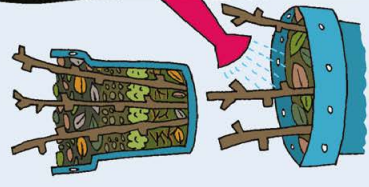
1

Drill or pierce holes in the side of your container about an inch from the rim, to allow drainage.



4

Add a few sticks pushed down so they touch the bottom of the container but still poke out above the top.



2

Drill or pierce holes in your tray to allow for drainage, then place your container in the tray.



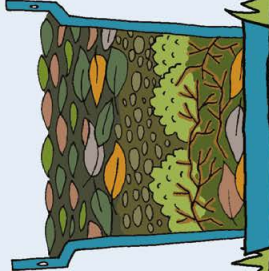
5

Add water to the container, filling it up to the drainage holes.



3

Fill your container up to the drainage holes with leaves and organic garden matter, compacting the contents as you go.



6

Add a layer of loose leaf litter to the top of the water and to any free space on the tray.



Illustration: Corinne Welch © Copyright Royal Society of Wildlife Truists 2025

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Make a pollinator planter



You will need

- Container with holes in the base for drainage



- Peat-free compost



- A watering can or hosepipe



- Mulch (optional)



- Plants or seedlings (start off tender plants on a sunny windowsill or greenhouse)



1

Place your planter in a sunny, sheltered location to maximise its appeal to hoverflies.



2

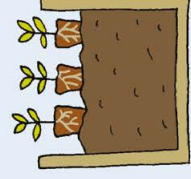
Place compost in your container.



If planting seedlings or mature plants, fill to about 5cm below the rim.

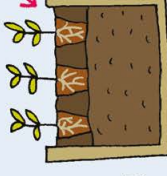
3

Remove plants from their nursery pots and position them on top of the compost, or sow seeds as instructed on the seed packet.



4

Fill the gaps around your plants with compost, gently firming it down.



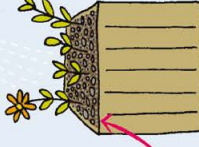
Leave a slight gap at the top.

Water slowly and thoroughly to soak the compost.



6

If using plants, not seeds, cover bare layer of mulch.



Conserves moisture and suppresses weeds.

Some suggested plants (choose plants with an open flower, making sure you can see the centre)



English marigold*



French marigold*



Corn marigold



Poached-egg plant



California poppy



Annual poppy



Cosmos



Phacelia tanacetifolia



Rudbeckia hirta



Ammi majus



Viper's bugloss

* Single forms

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Hoverfly identification








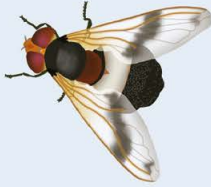

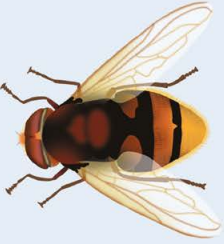


 <input type="checkbox"/> Marmalade hoverfly <i>Episyrphus balteatus</i>	 <input type="checkbox"/> Batman hoverfly <i>Myathropa florea</i>	 <input type="checkbox"/> Common dronefly <i>Eristalis tenax</i>	 <input type="checkbox"/> Common snout <i>Rhingia campestris</i>	 <input type="checkbox"/> Common tiger hoverfly <i>Helophilus pendulus</i> <small>Also known as the footballer</small>
 <input type="checkbox"/> Pied plumehorn <i>Volucella pellucens</i>	 <input type="checkbox"/> Thick-legged hoverfly <i>Syritta pipiens</i> <small>Also known as compost hoverfly</small>	 <input type="checkbox"/> Hornet plumehorn <i>Volucella zonaria</i>	 <input type="checkbox"/> Bumblebee plumehorn <i>Volucella bombylans</i> <small>Has several colour forms to match different bumblebees!</small>	 <input type="checkbox"/> Long-winged duskyface <i>Melanostoma scalare</i>

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Hoverflies can be difficult to identify. This is a rough guide to some common species.

Hoverfly larvae identification



 <input type="checkbox"/> Common dronefly <i>Eristalis tenax</i> <small>In water</small>	 <input type="checkbox"/> Yellow-girdled fleckwing <i>Dasyrphus tricinctus</i> <small>On trees and shrubs</small>	 <input type="checkbox"/> Early epistrophe <i>Epistrophe elegans</i> <small>On trees and shrubs</small>	 <input type="checkbox"/> Marmalade hoverfly <i>Episyrphus balteatus</i> <small>On shrubs and crops</small>	 <input type="checkbox"/> Humming syrphus <i>Syrphus ribesii</i> <small>On trees, shrubs and crops</small>
Lookalikes!				
 <input type="checkbox"/> Wasp plumehorn <i>Volucella inanis</i> <small>In wasp nests: sometimes enters houses</small>	 <input type="checkbox"/> Lacewing larva	 <input type="checkbox"/> Kidney-spot ladybird larva	 <input type="checkbox"/> Mosquito larva	
 <input type="checkbox"/> Common copperback <i>Ferdinandea cuprea</i> <small>In sap runs</small>				

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Many larvae can be very difficult to identify!

About us



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The Wildlife Trusts and the RHS created Wild About Gardens to celebrate wildlife gardening and to encourage people to act for nature. Over the past 50 years, we've seen declines in two thirds of the UK's plant and animal species. Many of our common garden visitors – including hedgehogs, house sparrows and starlings – are increasingly under threat, but collectively gardens can make an incredible difference. To discover more about wildlife gardening and for more resources, visit our website. You can also sign up to our monthly newsletter to receive updates and ideas on all things Wild About Gardens.



The Wildlife Trusts

The Wildlife Trusts is on a mission to restore a third of the UK's land and seas for nature by 2030. We believe everyone, everywhere, should have access to nature and the joy and health benefits it brings. No matter where you are in the UK, there is a Wildlife Trust empowering people to take action for nature and standing up for wildlife and wild places. Each Wildlife Trust is an independent charity formed by people getting together to make a positive difference for wildlife, climate and future generations. Together we care for 2,600 diverse and beautiful nature reserves. You can help us bring wildlife back in abundance by becoming a member of your Wildlife Trust today.

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The Royal Horticultural Society


For more than 210 years, the RHS has been the force behind gardening in the UK. Our aim is to enrich everyone's life through plants, and to make the UK a greener and more beautiful place. We believe everyone in every village, town and city should benefit from growing – for stronger, healthier and happier communities. Our work in education, science and communities is only possible thanks to the generous support of our visitors, members, partners, donors and sponsors. With your help we can harness the power of horticulture, one gardener at a time.


Email: membership@rhs.org.uk

Website: rhs.org.uk

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Pledge to help hoverflies at wildaboutgardens.org.uk

Migrant field syrph © Chris Lawrence

Illustrations by Corinne Welch



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