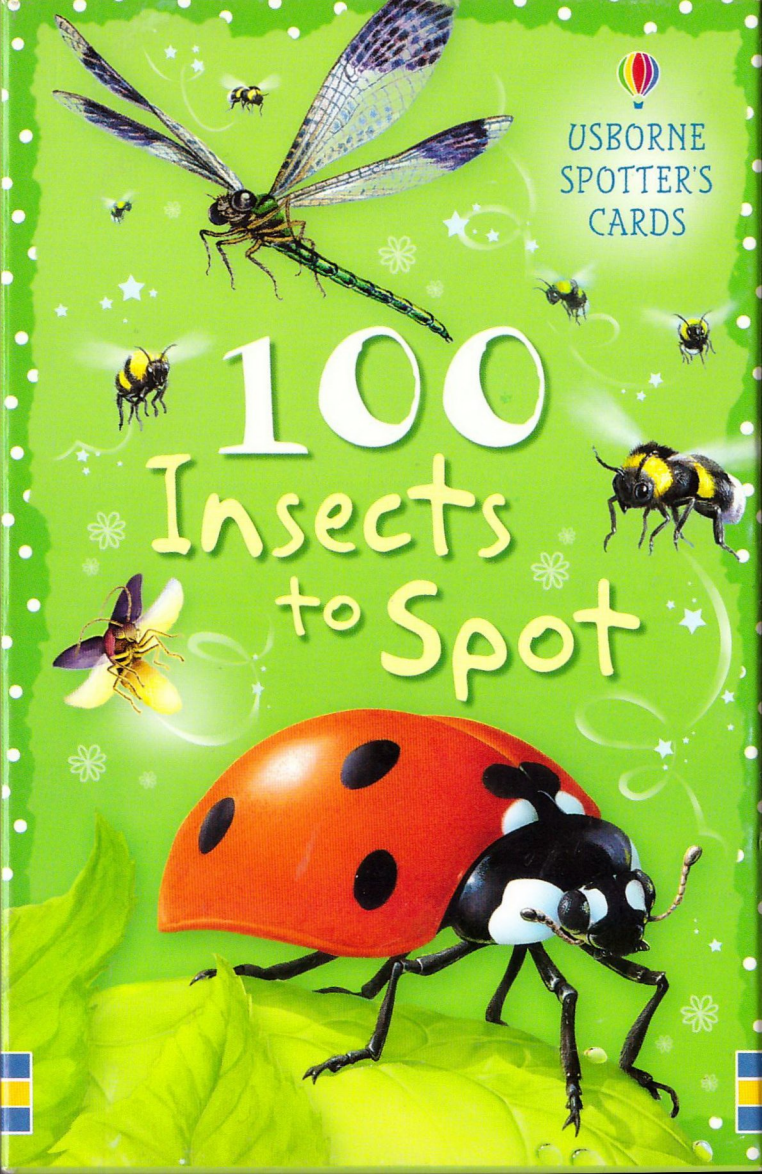
USBORNE
SPOTTER'S
CARDS
100
Insects
to Spot

USBORNE

Get a close-up view of the amazing world of insects with these colourful, information-packed cards.

Discover essential insect information: their size, diet and where and when to spot them.

Find descriptions and even more fascinating facts about the lives of insects.

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How to use these cards

These cards will help you identify insects you spot in Britain, Ireland and other parts of Europe. Each card has a number. Insects that are closely related to each other, for example all the butterflies, are grouped together.

Descriptive captions to help you identify the insect

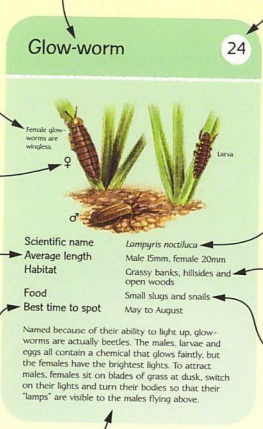
Insect's most common name

Card number

Male and female insects sometimes look different. Sex symbols show which is which:

♂ Male

♀ Female



A Latin or Greek name for an insect, used by insect experts all over the world

The best types of places to spot the insect

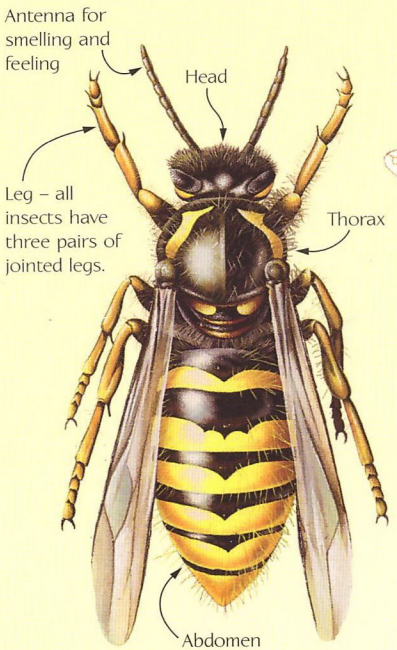
What the insect eats

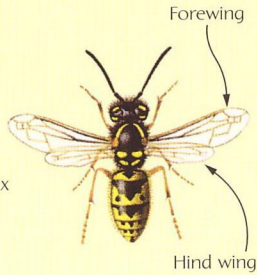
Average body length measurement from top of head to end of abdomen or average wingspan measurement from wingtip to wingtip

The best times of year to spot the insect

Details of features that help to identify the insect, and information about how it behaves

Parts of an insect





On these cards, the butterflies and some of the moths are drawn so you can see all of both forewings and hind wings. In nature, the forewings would cover part of the hind wings.

Internet links

For links to websites where you can find videos, photos and more information about insects, go to **www.usborne-quicklinks.com** and enter the keywords "100 insects".

Insect words

Bug An insect with sucking mouthparts, and forewings that are thickened and leathery at the base

Camouflage When an animal's colour makes it hard to spot against certain backgrounds

Cocoon A skin or case inside which some young insects pupate

Fungi Simple, plant-like living things that typically feed off dead or living animals and plants. Fungi include moulds, mushrooms and toadstools.

Herbivore An animal that eats only plants

Hibernation The sleepy state in which some insects spend the winter

Honeydew A sweet liquid that oozes out from the bodies of some insects

Host An animal that is fed on or lived on by others

Mimicry When an animal's shape or colour is similar to that of another species

Moult When an insect sheds its skin to grow

Nectar A sweet-tasting liquid produced by flowers

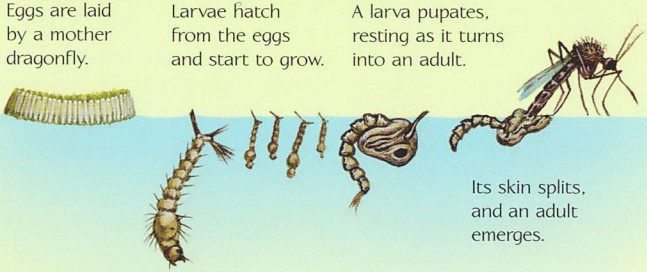
Predator An animal that hunts and eats other animals

Prey An animal that is hunted and eaten by others

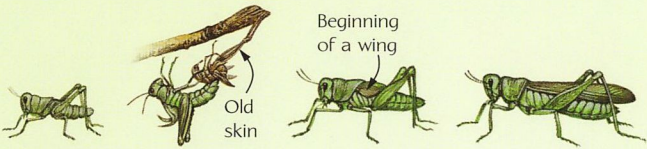
Species A group of living creatures that look similar and can reproduce with each other

Insect life-cycles

All insects go through several stages as they grow. Some hatch from eggs as wriggly, worm-like larvae, then completely change how they look as they transform into adults.



Other insects emerge from their eggs as miniature adults called nymphs, and simply grow bigger as they change into adults.



A grasshopper nymph emerges from an egg.

It moults, shedding its skin as it grows.

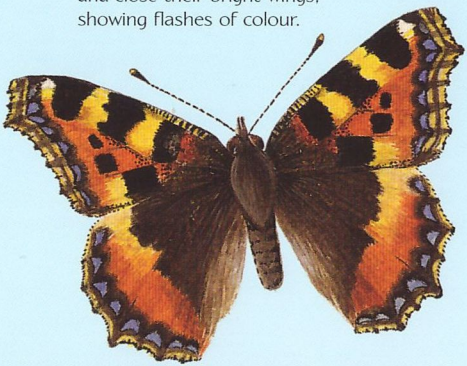
With each moult, it develops more adult features.

It emerges from the final moult as an adult.

Small tortoiseshell butterfly

1

To confuse and alarm predators, tortoiseshells rapidly open and close their bright wings, showing flashes of colour.

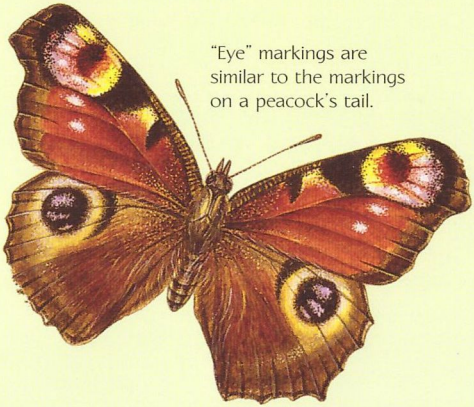


Scientific name	*Aglais urticae*
Average wingspan	53mm (2in)
Habitat	Gardens and farmland
Food	Nettle plants
Best time to spot	March to September

During winter, small tortoiseshells hibernate, resting in small groups in sheds, garages and even in houses. They wake in spring. Females lay eggs in big heaps on the underside of nettle leaves. When the caterpillars hatch, they spin a silk web around the leaves, in which they shelter at night and in bad weather.

Peacock butterfly

2



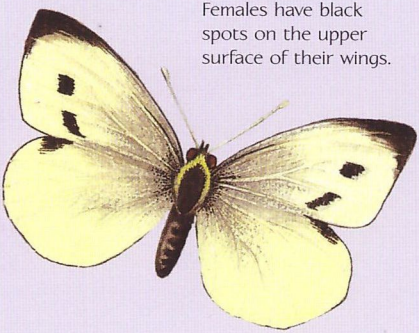
"Eye" markings are similar to the markings on a peacock's tail.

Scientific name	*Inachis io*
Average wingspan	65mm (2½in)
Habitat	Gardens, woods, riverbanks
Food	Fruit and nettle plants
Best time to spot	March to May, and July to September

Peacock butterflies have markings on their wings that mimic large eyes. They use these to scare off predators. In September, the butterflies settle down to hibernate, spending the winter in hollow tree trunks, farm buildings, and other outdoor places that are sheltered and dark.

Large white butterfly

3



Females have black spots on the upper surface of their wings.

Scientific name	*Pieris brassicae*
Average wingspan	63mm (2½in)
Habitat	Grassy areas, hedgerows
Food	Crucifer, cabbage, kale, Brussels sprout, nasturtium and wild mignonette plants
Best time to spot	April to October

Also known as cabbage whites, these butterflies often lay eggs on cabbage leaves. The caterpillars feed on the leaves, which damages the plants, so they are seen as pests by vegetable growers. In winter, the caterpillars pupate on fences or tree trunks, then emerge as butterflies in spring.

Large skipper

4

These butterflies have a faint chequered pattern on both sides of their wings.

Scientific name	*Ochlodes venatus*
Average wingspan	31mm (1in)
Habitat	Sheltered areas of grassland
Food	False brome, thistle and purple moor-grass plants
Best time to spot	June to August

On hatching, a large skipper caterpillar eats its eggshell, then spins together the edges of the leaf blade on which its egg was laid. This forms a protective tube where the caterpillar rests. In summer, you might see adult large skippers flying quickly with a buzzing sound, or perching on leaves in sunny spots.

Common blue butterfly 5

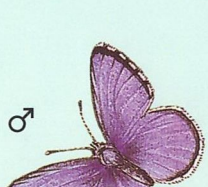
The upper side of females' wings can be blue or brown.

Scientific name	*Polyommatus icarus*
Average wingspan	32mm (1¼in)
Habitat	Grassy areas and sand dunes
Food	Bird's-foot trefoil, rest harrow, black medick and clover plants
Best time to spot	June to September

Common blue caterpillars produce a sticky liquid that ants feed on. In early spring, the caterpillars pupate, then emerge as butterflies just a few weeks later. The butterflies are active on sunny days but in cloudy or rainy weather they rest, perching head down on blades of grass.

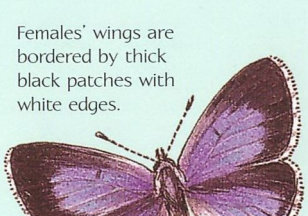
Holly blue butterfly

6



Males have thin black borders with white edges on their wings.

Females' wings are bordered by thick black patches with white edges.



Scientific name	*Celastrina argiolus*
Average wingspan	30mm (1in)
Habitat	Gardens, woods and parks
Food	Holly, ivy, bramble and gorse plants
Best time to spot	April to June, and August to September

In spring, holly blue butterflies usually lay their eggs on holly buds but in summer, they're more likely to lay them on ivy. When the caterpillars hatch, they feed by scraping grooves on the sides of the buds and flowers with their mouthparts. The adults appear in early spring, well before other blue butterflies.

Lime hawk moth

7

Male lime hawk moths, like this one, vary from olive-green to pink; females are light pink to reddish-brown.

Scientific name	*Mimas tiliae*
Average wingspan	70mm (2¾in)
Habitat	Gardens, woods and parks
Food	Lime, birch and alder leaves
Best time to spot	May to June

These dull-coloured moths are hard to spot against the walls, tree trunks and lime leaves where they rest during the day. After dusk, you might find them flitting around light bulbs or candles, as they are attracted to the light.

Poplar hawk moth

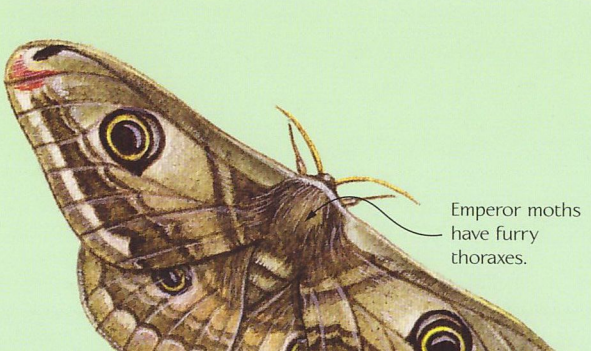
8

Scientific name	*Laothoe populi*
Average wingspan	75mm (3in)
Habitat	Gardens, woods and parks
Food	Poplar and aspen leaves
Best time to spot	June to July

Most moths have a tiny hook on the underside of their bodies to keep their wings in position. Poplar hawks don't have these hooks so, at rest, their hind wings stick out in front of their forewings. When disturbed, the moth flashes two bright orange patches on its hind wings. These patches are hidden when it's resting.

Emperor moth

9

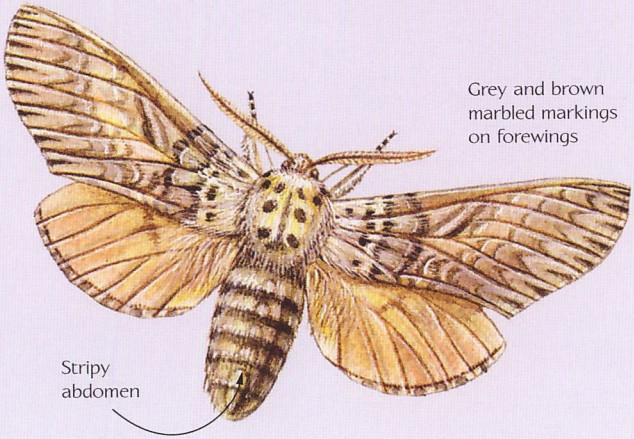


Scientific name	*Saturnia pavonia*
Average wingspan	70mm (2¾in)
Habitat	Moors, heaths and sand dunes
Food	Heather, bramble, sloe and purple loosestrife plants
Best time to spot	April to May

You can see emperor moths between April and June. Unlike most moths, the males fly around in daylight, searching for females, which are at rest during this time. When threatened, the moths vibrate their wings so that the moving "eye" markings startle predators.

Puss moth

10



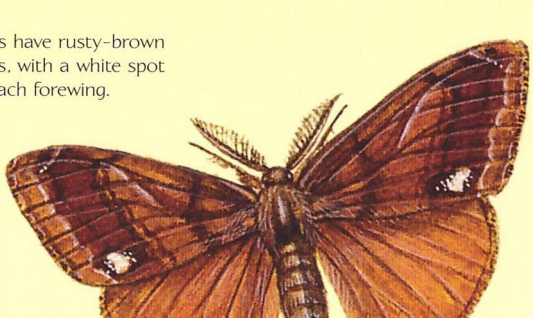
Scientific name	*Cerura vinula*
Average wingspan	70mm (2¾in)
Habitat	Woods, parks and gardens
Food	Aspen and poplar leaves
Best time to spot	May to July

This moth's name comes from the cat-like fur that grows over its body. A puss moth caterpillar has two tails growing from its rear. When threatened, it whips its tails around, rears up, and shoots a spray of acid from behind its head to fend off its attacker.

Vapourer moth

11

Males have rusty-brown wings, with a white spot on each forewing.

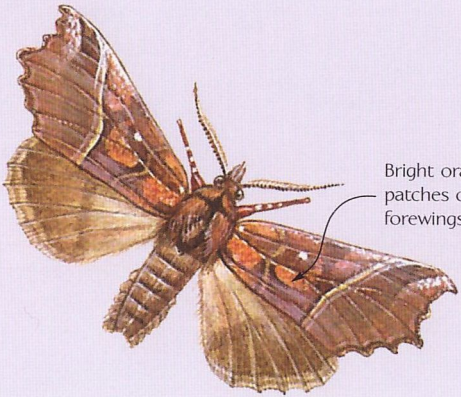


Scientific name	*Orgyia antiqua*
Average wingspan	35mm (1¼in)
Habitat	Woods, parks and gardens
Food	Leaves from most deciduous trees and shrubs
Best time to spot	July to September

After emerging from their cocoons in summer, male vapourer moths fly away – you might spot them flitting around grasses and flowers during the daytime between July and September. Females, on the other hand, are almost wingless, so stay in the same spot, waiting to attract a mate. Once they've found one, they lay eggs, then die immediately.

Herald moth

12

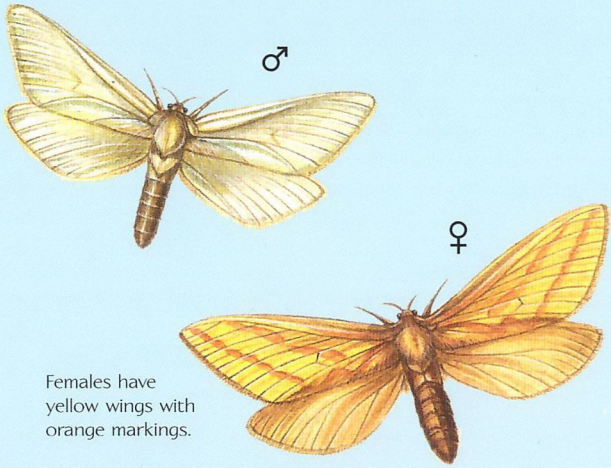


Scientific name	*Scoliopteryx libatrix*
Average wingspan	40mm (1½in)
Habitat	Gardens, woods and marshes
Food	Aspen and willow leaves
Best time to spot	March to November

During the winter, herald moths hibernate in dark, sheltered places such as barns, cellars and caves. For the rest of the year, they fly at night and spend their days resting among dead leaves, where they are camouflaged from predators.

Ghost moth

13



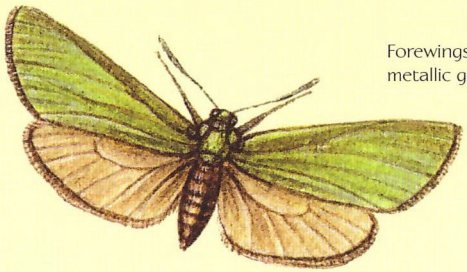
Females have yellow wings with orange markings.

Scientific name	*Hepialus humuli*
Average wingspan	45mm (1¾in)
Habitat	Gardens and grassy areas
Food	Plant roots
Best time to spot	June to July

Also known as "ghost swifts", these moths' name comes from the males, which have pure white wings and can sometimes be seen at dusk. When it's time to breed, the males attract females by hovering over open ground, sometimes slowly rising and falling.

Forester moth

14



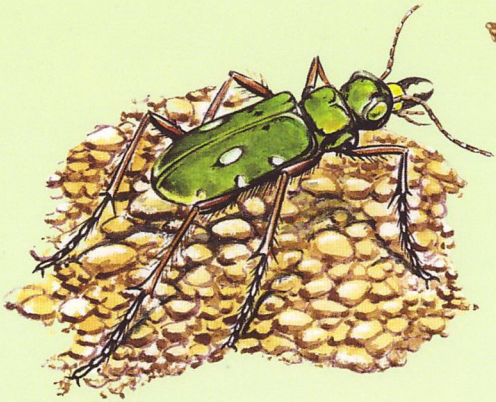
Forewings are metallic green.

Scientific name	Adscita statices
Average wingspan	26mm (1in)
Habitat	Parks, woods and meadows
Food	Sorrel plants
Best time to spot	June to July

Unlike most moths, foresters fly by day – you might spot them visiting flowers on sunny days in June and July. Their caterpillars feed in unusual ways. When it first hatches, a forester caterpillar burrows inside a leaf and munches its way out. It then moves from leaf to leaf, eating just the lower layer, so that only a thin, see-through top layer is left.

Green tiger beetle

15



Larva in burrow

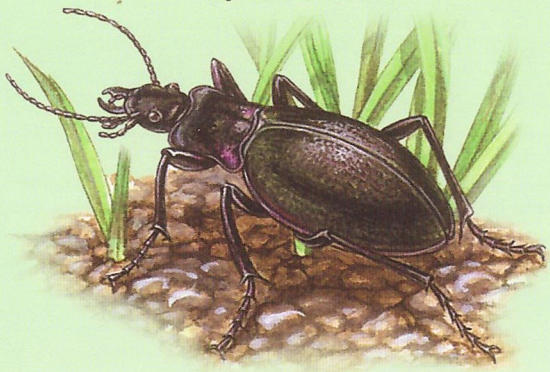
Scientific name	*Cicindela campestris*
Average length	14mm (½in)
Habitat	Heaths and sandy areas
Food	Smaller insects
Best time to spot	April to September

These long-legged beetles are active between April and September. They run quickly and can also make short, buzzing flights if disturbed. Their larvae dig tiny pits where they wait for small insects, such as ants, to fall in. Once their unlucky prey is trapped, the larvae capture it with their large jaws.

Violet ground beetle

16

This shiny, black beetle has violet edges to its wing cases and thorax.

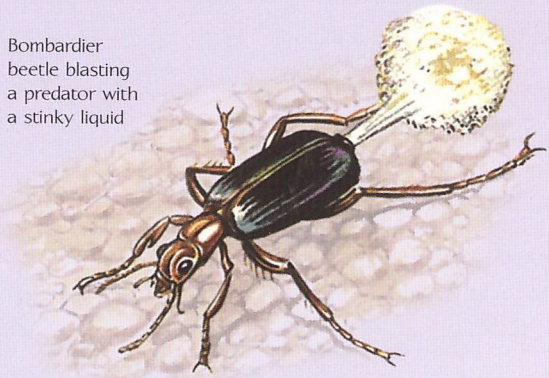


Scientific name	*Carabus violaceus*
Average length	25mm (1in)
Habitat	Gardens, hedges and woods
Food	Insects, slugs and worms
Best time to spot	March to October

Found under logs and stones during the day, these flightless beetles come out at night to hunt for food on the ground and also up mossy tree trunks. They are fast runners and chase after insects. When they catch their prey, they use their powerful jaws to crush it.

Bombardier beetle

17



Bombardier beetle blasting a predator with a stinky liquid

Scientific name	*Brachinus crepitans*
Average length	8mm (¼in)
Habitat	Open, chalky ground
Food	Rotting vegetation and dead animals
Best time to spot	March to October

When under attack, bombardier beetles spray a foul-smelling fluid from their abdomens. As it hits the air, the fluid makes a popping sound and turns into a boiling hot gas, which blinds any predator. The spray can be fired over a distance of up to 20cm (8in).

Devil's coach horse

18

To show aggression, a Devil's coach horse raises its tail, like a scorpion.

Scientific name	*Ocypus olens*
Average length	27mm (1in)
Habitat	Gardens, parks, meadows, hedges and woods
Food	Fly larvae, insects, spiders, slugs and dead animals
Best time to spot	April to October

Spending their days resting among decaying leaves or under stones, these ferocious-looking beetles come out at night to search for food. When threatened, they raise their tails and spread out their strong jaws. They attack by oozing poisonous liquid from the end of their abdomens or by giving painful bites.

Red and black burying beetle

19

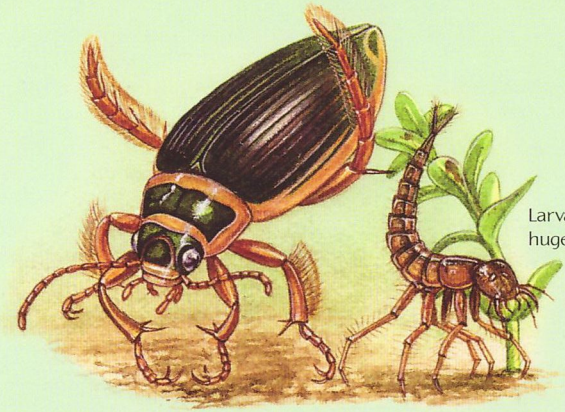
Wing cases are black with red bands.

Scientific name	*Nicrophorus investigator*
Average length	17mm (½in)
Habitat	Gardens and woods
Food	Dead animals
Best time to spot	April to October

These striking-looking insects get their name from the fact that they bury dead animals for their larvae to feed on. The females then lay eggs beside the body. When the larvae hatch, their mothers stay with them, feeding them partially digested food and biting holes in the buried corpse for them to crawl inside. These insects are also known as common sexton beetles. Sexton is an old word for a church caretaker, who was in charge of overseeing burials and digging graves.

Great diving beetle

20



Larvae have huge jaws.

Scientific name	*Dytiscus marginalis*
Average length	32mm (1¼in)
Habitat	Ponds and lakes
Food	Other insects, tadpoles and small fish
Best time to spot	March to May

This large water beetle has a streamlined body shape which helps it move easily through the water. Diving beetles regularly swim to the surface to collect air, storing it between their wing covers and the end of their abdomens. They then use this air to breathe under water.

Water beetle

21

This male beetle's wing cases are smooth; females have grooves on theirs.

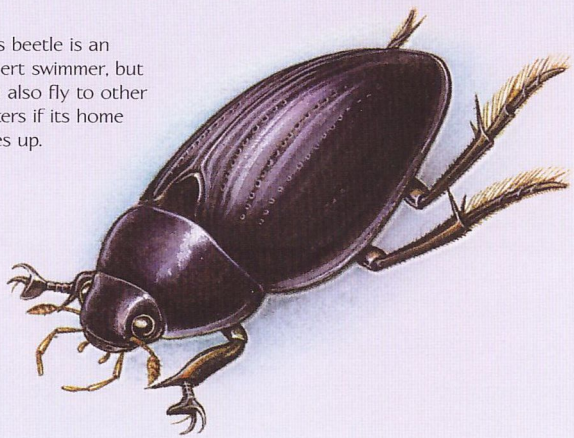
Scientific name	*Platambus maculatus*
Average length	7mm (¼in)
Habitat	Ponds, lakes and rivers
Food	Water insects, tadpoles and worms
Best time to spot	March to September

This underwater beetle lives among plants in still ponds and lakes, and in riverbeds. During the winter months, it hibernates in the soil on the bottom of the water, before becoming active again in spring. Its wing cases can be brown with dark patches, or black all over.

Great silver water beetle

22

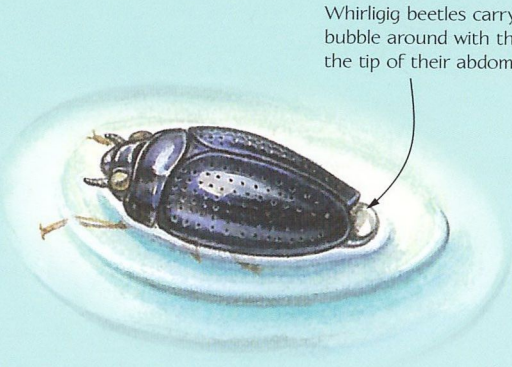
This beetle is an expert swimmer, but can also fly to other waters if its home dries up.



Scientific name	*Hydrophilus piceus*
Average length	42mm (1½in)
Habitat	Ditches and ponds
Food	Water plants
Best time to spot	May to September

Although they're not actually silver, these large beetles trap shiny air bubbles beneath their bodies, which make them look silvery. The bubbles help them breathe under water. Unusally for beetles, the females spin protective silk cocoons around their eggs.

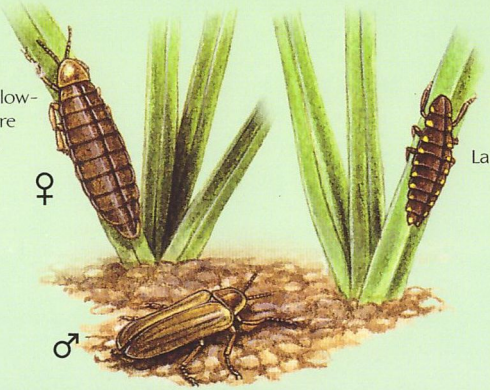
Whirligig beetle



Scientific name	*Gyrinus natator*
Average length	7mm (¼in)
Habitat	Ponds, ditches, lakes and rivers
Food	Small insects
Best time to spot	July to September

You might see these beetles in groups on the surface of still or slow-flowing water. Their name comes from their habit of swimming in often frantic circles on the surface. If disturbed, they dive under the water.

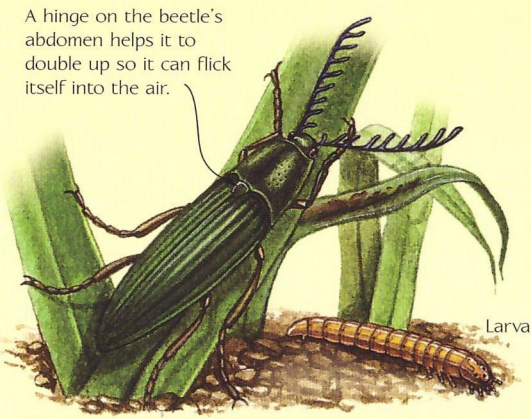
Glow-worm



Scientific name	*Lampyris noctiluca*
Average length	Male 15mm (½in), female 20mm (¾in)
Habitat	Grassy areas and open woods
Food	Small slugs and snails
Best time to spot	May to August

Named because of their ability to light up, glow-worms are actually beetles. The males, larvae and eggs all contain a chemical that glows faintly, but the females have the brightest lights. To attract males, females sit on blades of grass at dusk, switch on their lights and turn their bodies so that their "lamps" are visible to the males flying above.

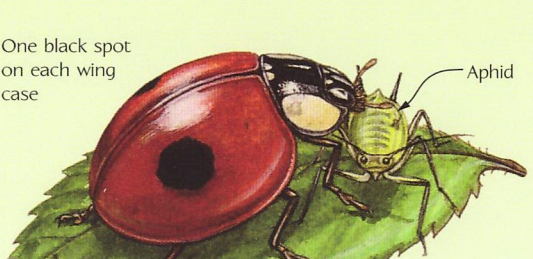
Click beetle



Scientific name	*Athous haemorrhoidalis*
Average length	16mm (½in)
Habitat	Hedges and meadows
Food	Flies, grasses, flowers, roots and rotting wood
Best time to spot	May to August

Also known as skipjacks, these bullet-shaped beetles can flick themselves into the air when threatened, attacked or overturned. As they somersault, they make a loud clicking sound, as their name suggests, jumping as high as 30cm (12in). Click beetle larvae feed on roots, so they are seen as pests by gardeners and vegetable growers.

Two-spot ladybird



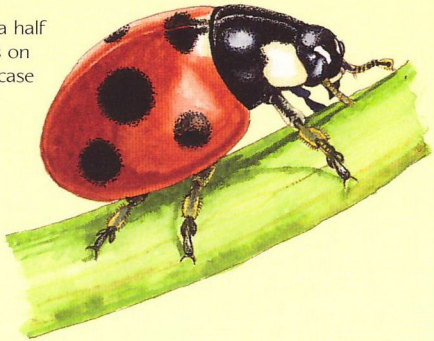
Scientific name	*Adalia bipunctata*
Average length	5mm (1/10in)
Habitat	Gardens, parks, fields and woods
Food	Mainly aphids, but also other small insects, mites and insect eggs
Best time to spot	March to October

These beetles' bright colours act as a warning to predators, telling them that they have a bitter taste. If disturbed, ladybirds ooze a smelly, orange liquid from their joints. Winter for ladybirds is spent huddling together in large groups under logs, leaves and bark. They sometimes even wander into buildings, looking for a sheltered place to hibernate.

Seven-spot ladybird

27

Three and a half black spots on each wing case

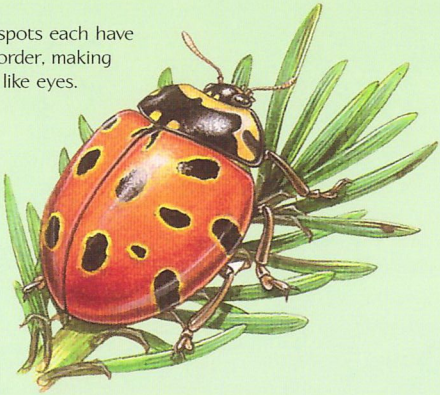


Scientific name	*Coccinella septempunctata*
Average length	7mm (¼in)
Habitat	Gardens, hedges, woods and meadows
Food	Mainly aphids, but also other small insects, mites and insect eggs
Best time to spot	March to October

These spotted beetles have big appetites, both as larvae and as adults. A seven-spot ladybird can gobble up over 5,000 aphids in its year-long life. Females lay orangey-yellow eggs in small batches on the underside of leaves. They usually choose leaves that are infested by aphids or other small insects, so the larvae have a meal ready for them when they hatch.

Eyed ladybird

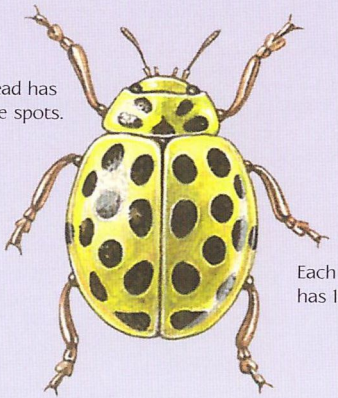
The black spots each have a yellow border, making them look like eyes.



Scientific name	*Anatis ocellata*
Average length	9mm (1/3in)
Habitat	Conifer forests
Food	Aphids, and other small insects and mites
Best time to spot	June to July

There are many forms of eyed ladybirds, which have different numbers of spots, with and without the rings around them. Their larvae need to eat a lot to grow into adults and they even feed on each other when no alternative food is available.

22-spot ladybird

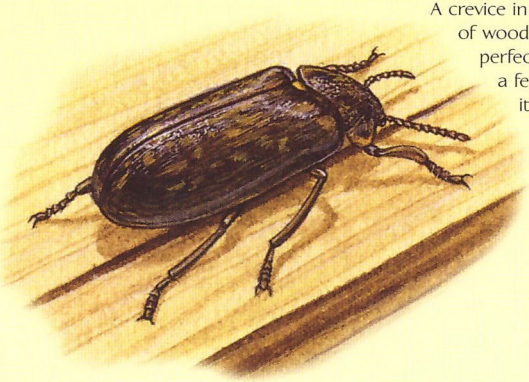


Scientific name	*Psyllobora vigintiduopunctata*
Average length	3mm (1/10in)
Habitat	Gardens, fields and meadows
Food	Mould
Best time to spot	April to August

Unlike most other ladybirds, these tiny beetles are herbivores: instead of eating other insects, they feed on mould that grows on plants. The larvae have the same markings and colour as the adults – both are bright yellow, covered with black spots.

Death watch beetle

30



A crevice in a plank of wood is the perfect spot for a female to lay its eggs.

Scientific name	*Xestobium rufovillosum*
Average length	8mm (1/3in)
Habitat	Dead branches of deciduous trees and old buildings
Food	Rotting wood
Best time to spot	March to June

Death watch beetle larvae tunnel into wood, eating it as they go. They can become serious pests, destroying furniture and timber in buildings. The name of this unpopular beetle comes from the tapping sound their heads make as they bang against the walls while the creatures scurry along. People used to believe this sound meant there would soon be a death in the area.

Stag beetle

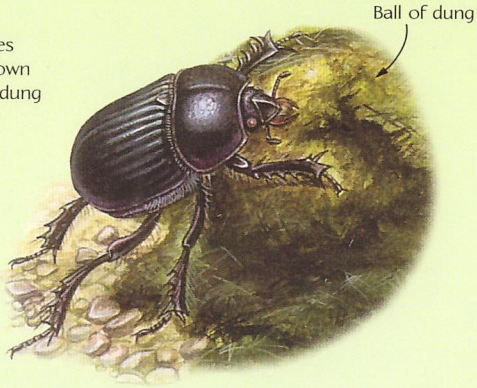
To impress a female, a male stag beetle walks around with its head lifted high and its "antlers", or jaws, opened wide.

Scientific name	*Lucanus cervus*
Average length	26mm (1in)
Habitat	Woods, parks and gardens
Food	Roots and rotting wood
Best time to spot	May to August

Male stag beetles have enormous jaws that look a little like the antlers on a stag's head. The jaws may look vicious, but are useless for biting – the males use them mainly to fight each other in breeding season. The females' jaws are much smaller but, despite their tiny size, can give a sharp bite.

Dor beetle

Dor beetles eat their own weight in dung every day.

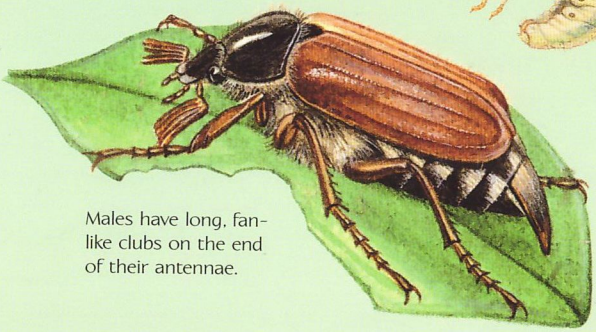


Scientific name	*Geotrupes stercorarius*
Average length	20mm (¾in)
Habitat	Woods, and fields and meadows where animals graze
Food	Animal dung
Best time to spot	April to October

Also known as dung beetles, these large insects eat animal droppings. To provide food for their larvae, they burrow down through dung and into the soil beneath, taking lumps of the droppings with them. The females then lay their eggs in the burrows. When the larvae hatch, they feed from their underground stores of dung.

Cockchafer

Larvae feed for three to four years before changing into adults.



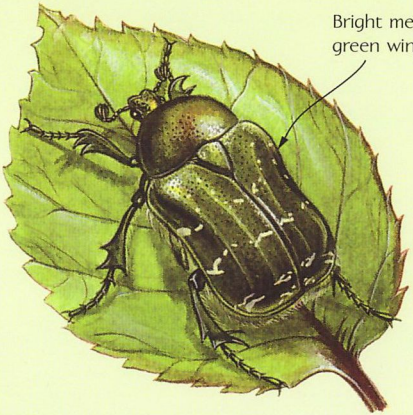
Males have long, fan-like clubs on the end of their antennae.

Scientific name	*Melolontha melolontha*
Average length	27mm (1in)
Habitat	Parks and woods
Food	Leaves, flowers and roots
Best time to spot	May to July

Cockchafer larvae live in the soil and feed on plant roots, so are regarded as pests by gardeners and farmers. The adults are also known as May bugs, as you can spot them flitting around tree tops in early summer. You might even see them flying down chimneys or banging against lighted windows in the evenings.

Rose chafer

34



Scientific name	*Cetonia aurata*
Average length	17mm (½in)
Habitat	Gardens and woods
Food	Leaves, fruits, flowers, roots and rotting wood
Best time to spot	May to October

In spring, female rose chafers lay eggs in the soil. When the larvae emerge, they feed on compost, rotting wood and leaf litter. It takes two to three years for them to grow into adults. You might find the adult beetles in summer, basking in the sunshine on flowers, particularly roses.

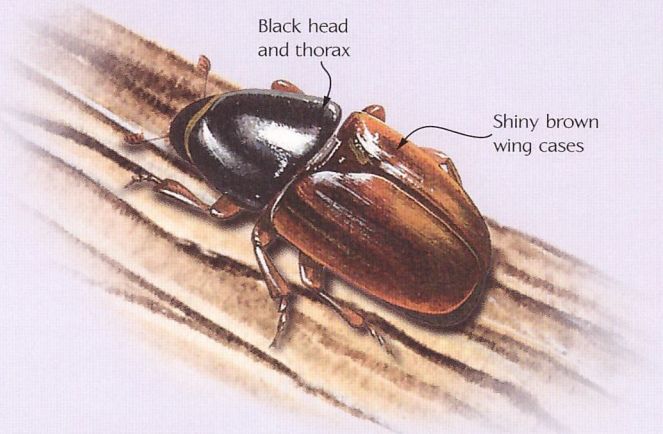
Wasp beetle

Unlike wasps, wasp beetles have hard forewings that form wing cases.

Scientific name	*Clytus arietis*
Average length	15mm (½in)
Habitat	Woods
Food	Pollen and rotting wood
Best time to spot	May to August

These beetles look and act like wasps – they have the same markings and colours, and move jerkily with rapid stops and starts, as wasps do. This mimicry helps protect the beetles, because predators mistake them for wasps and so leave them alone.

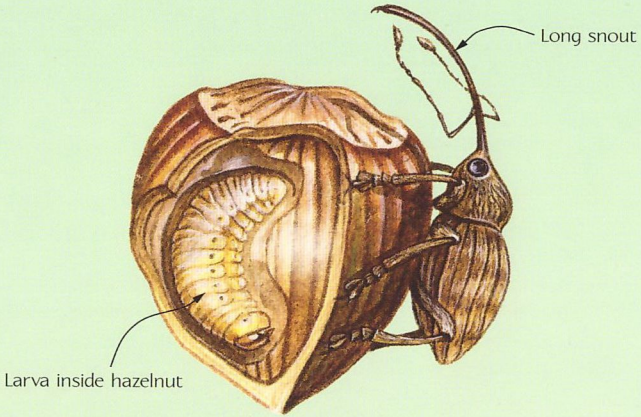
Bark beetle



Scientific name	*Scolytus intricatus*
Average length	3mm (1/10in)
Habitat	Woods, parks and gardens
Food	Wood and leaves
Best time to spot	June to October

A female bark beetle bores into a tree trunk to lay its eggs. When the larvae hatch, they make their own tunnels leading from their mother's chamber. At the end of its tunnel, each larva hollows out a "changing room", where it transforms into an adult. This burrowing can seriously damage the trees in which bark beetles live.

Nut weevil



Scientific name	*Curculio nucum*
Average length	10mm (1/3in)
Habitat	Woods, parks and gardens
Food	Hazelnuts
Best time to spot	April to July

In spring, a female nut weevil drills a hole into a hazelnut with its long snout, and lays an egg in the hole. After the larva hatches, it feeds on its hazelnut until autumn, when the nut falls to the ground. The larva gnaws its way out, then digs into the soil to spend the winter underground. When spring comes round again, the nut weevil surfaces as an adult.

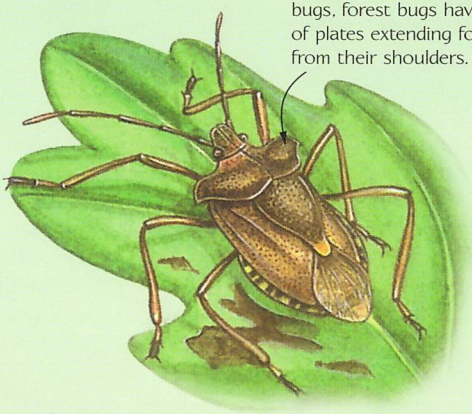
Green shield bug

Green shield bugs are bright green in spring and summer, but turn dark bronze over winter.

Scientific name	*Palomena prasina*
Average length	13mm (½in)
Habitat	Woods and hedges
Food	Plant sap and leaves
Best time to spot	May to October

You might spot these flat, shield-shaped bugs on plants, basking in late summer sunshine. The females lay clusters of eggs on the undersides of leaves in mid-summer, and these hatch into wingless nymphs a few days later. The nymphs moult and change colour five times before transforming into adults in September.

Forest bug



Scientific name	*Pentatoma rufipes*
Average length	12mm (½in)
Habitat	Woods
Food	Mostly sap, sometimes other insects
Best time to spot	June to October

Forest bugs use their mouthparts to pierce leaves and stems, and suck up sap. During the summer, females lay eggs in the cracks of tree bark, and the nymphs hatch out the following spring.

Water cricket

40

When standing on the water's surface, a water cricket uses its middle legs to make short rowing motions.

Scientific name	*Velia caprai*
Average length	7mm (¼in)
Habitat	Ponds, lakes and slow-moving rivers
Food	Water insects and spiders
Best time to spot	April to October

These long-legged bugs can walk on water. You might spot them scuttling over the surface or standing still, making short, jerky rowing movements to stop themselves sinking. Occasionally, they dive under the water: they are the only surface-walking bugs able to do this.

Water scorpion

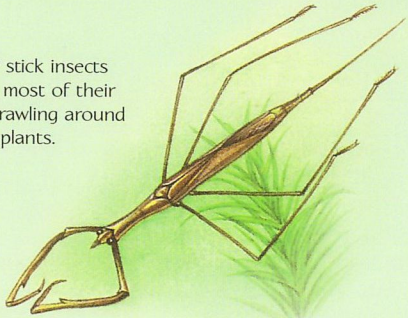
41

A water scorpion's tail is actually a tube, which the scorpion occasionally sticks out of the water to breathe through.

Scientific name	*Nepa cinerea*
Average length	20mm (¾in)
Habitat	Ponds and shallow lakes
Food	Small fish, tadpoles and insect larvae
Best time to spot	All year round

Water scorpions aren't really scorpions, but bugs. They're poor swimmers, and move around mainly by crawling along pond and lake beds. To catch food, a water scorpion grabs its prey with its front legs, which look like a scorpion's pincers. Then, it uses its tube-like mouthparts to suck up the victim's body fluids.

Water stick insect

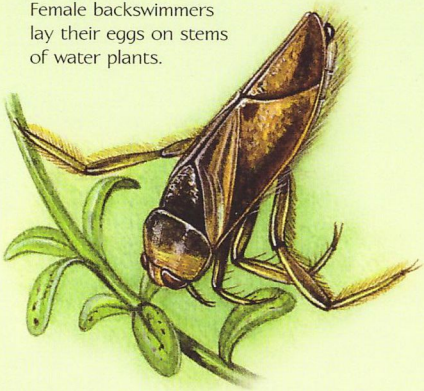


Water stick insects spend most of their time crawling around water plants.

Scientific name	*Ranatra linearis*
Average length	33mm (1¼in)
Habitat	Ponds and lakes
Food	Other water insects, water worms and larvae
Best time to spot	All year round

Although they're not related to true stick insects, these knobbly, thin bugs use camouflage in the same way, blending in with the plants on which they live, so they can sneak up on prey and hide from predators. Water stick insects spend most of their lives in the water, but are strong fliers and occasionally take to the air on hot, sunny days.

Backswimmer



Female backswimmers lay their eggs on stems of water plants.

Scientific name	*Notonecta glauca*
Average length	15mm (½in)
Habitat	Ponds, ditches and canals
Food	Tadpoles, small fish and water insects
Best time to spot	All year round

You might spot hungry backswimmers floating motionless on the surface of the water, lying in wait for their next meal. They kill prey by jabbing it with their feeding tubes, then injecting it with poisonous saliva. The name backswimmer describes the way they usually move through the water.

Pond skater

Scientific name	*Gerris lacustris*
Average length	9mm (1/3in)
Habitat	Ponds, ditches, lakes and slow-moving rivers
Food	Insects
Best time to spot	April to October

These long-legged bugs get their name from their ability to "skate" across the water's surface, but they can also jump and fly. Pond skaters use sensitive hairs on their bodies to feel the vibrations and ripples made by their prey – dead or dying insects that drop into the water.

New Forest cicada

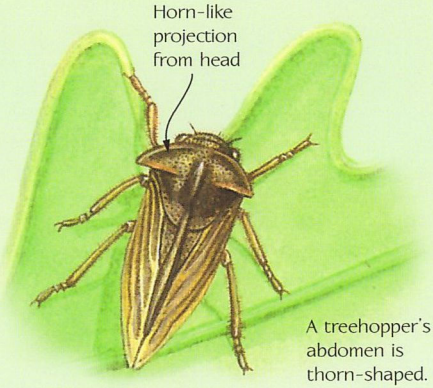
Adults suck sap from trees.

Scientific name	*Cicadetta montana*
Average length	25mm (1in)
Habitat	Grassy areas, heaths and open woods
Food	Leaves
Best time to spot	May to July

After hatching, New Forest cicada nymphs burrow into the soil and stay underground for an amazing six to ten years, feeding on sap from the roots of plants and trees. When they emerge, they turn into adults. The adult males call to females with high-pitched ringing sounds made by vibrating small flaps of skin on their abdomens.

Horned treehopper

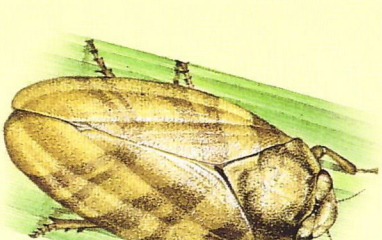
46



Scientific name	*Centrotus cornutus*
Average length	10mm (1/3in)
Habitat	Woods
Food	Leaves from trees and plants
Best time to spot	April to June

These thorny-looking bugs jump along plants and twigs, piercing leaves with their sharp mouthparts to suck up sap from inside. The females lay their eggs in cracks in tree branches and trunks.

Common froghopper



Adults are often patterned with shades of brown, but they can be anything from completely beige to black all over.

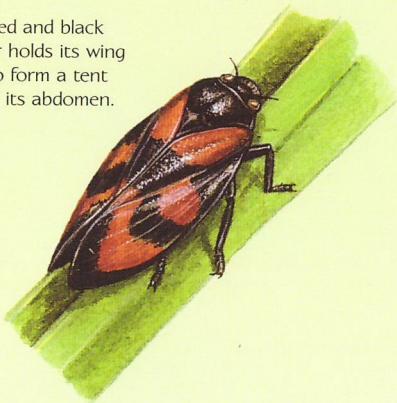
Nymphs ooze a froth known as cuckoo spit.

Scientific name	*Philaenus spumarius*
Average length	6mm (¼in)
Habitat	Meadows, parks and gardens
Food	Plant stems and leaves
Best time to spot	April to June

In May and June, you might spot clumps of froth clinging to plant stems. Inside these, sit common froghopper nymphs, sucking sap from the plant. The froth protects them from predators and stops them drying out. When disturbed, adult common froghoppers can jump with enormous force, using their powerful back legs to propel themselves up to 70cm (2ft) into the air.

Black and red froghopper

48



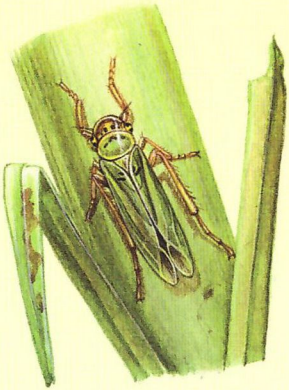
At rest, a red and black froghopper holds its wing cases up to form a tent shape over its abdomen.

Scientific name	*Cercopis vulnerata*
Average length	10mm (1/3in)
Habitat	Hedges, meadows and woods
Food	Plant stems, leaves and roots
Best time to spot	April to June

These froghoppers' striking black and red colours warn predators that they taste horrible. As nymphs, they live underground, sucking sap from plant roots. While they feed, they ooze a protective froth, which solidifies around them. Before turning into adults, the nymphs break out of their hardened frothy casing and crawl out of the soil.

Green leafhopper

Females are green, but males can be turquoise or black.



Scientific name	*Cicadella viridis*
Average length	7mm (¼in)
Habitat	Damp meadows, marshes and around ponds
Food	Plant stems, leaves and roots
Best time to spot	May to September

To communicate with each other, green leafhoppers make faint clicking sounds by vibrating two flexible panels called tymbals on the sides of their abdomens. To survive in the damp areas where they live, leafhoppers coat themselves with a waterproof powder produced from spines on their legs. They also cover their eggs with this substance to stop them from going mouldy.

Rose aphid

Rose aphids feed on roses in spring, then move on to other plants in summer.

Scientific name	*Macrosiphum rosae*
Average length	2mm (1/10in)
Habitat	Gardens and parks
Food	Flower buds, leaves and stems
Best time to spot	March to September

Also known as greenfly, these tiny green or pinkish bugs are mainly seen in spring and summer. Regarded as pests by gardeners, they drain sap from plants, leaving them floppy and misshapen. Rose aphids also ooze a sticky goo called honeydew, which they often leave on the surface of plants. A sooty mould soon grows on the honeydew, damaging the plant.

Bean aphid

Although they are black, bean aphids can sometimes appear to be dark green or purple in bright sunshine.

Scientific name	*Aphis fabae*
Average length	2mm (1/10in)
Habitat	Gardens and fields
Food	Flower buds, leaves and stems
Best time to spot	March to September

You might spot bean aphids gathering in large clusters on trees and plants, particularly bean and pea plants. Also known as blackflies, they attract black ants (57), which feed on honeydew – a sweet goo that oozes from the aphids' bodies. The ants "milk" the aphids, stroking them to draw out the honeydew.

Downy emerald dragonfly

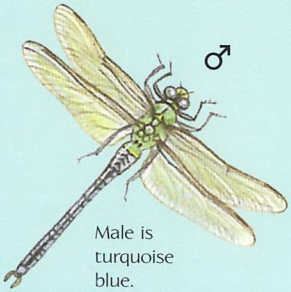
52

Body is metallic green with a copper sheen.

Scientific name	*Cordulia aenea*
Average wingspan	68mm (2½in)
Habitat	Trees beside ponds, lakes and slow-moving rivers
Food	Small insects
Best time to spot	May to August

These fast-flying insects zip along with the tips of their abdomens raised higher than their thoraxes in a unique, head-down flying position. Females repeatedly dip their abdomens through the water's surface to release their eggs. The nymphs stay on pond or lake beds for two to three years, then crawl out of the water before transforming into adults and soaring up into the trees using their newly developed wings.

Emperor dragonfly



Male is turquoise blue.

Female is dull green.

Scientific name	*Anax imperator*
Average wingspan	105mm (4in)
Habitat	Ponds, lakes and canals
Food	Small insects
Best time to spot	June to October

Emperor dragonflies chase smaller insects as they fly above areas of still water. In flight, their abdomens curve down slightly. Once females have caught their prey, they set down on grassy banks to eat it. Males, however, eat on the wing. Each male has its own territory, which it patrols by flying quickly over it for long periods of time, very rarely coming to a rest.

Ruddy darter dragonfly

This male is russet red; females tend to be more golden brown in colour.

Scientific name	*Sympetrum sanguineum*
Average wingspan	55mm (2in)
Habitat	Ponds, ditches and marshes
Food	Small insects
Best time to spot	July to October

Named because of their deep red colour and acrobatic flying techniques, ruddy darters can be seen later in the year than most other dragonflies, flying between July and October. They perch on reeds or sticks by the edge of the water, watching out for their next meal. When they spot their prey, they fly after it, then return to the same perch to eat it.

Blue-tailed damselfly

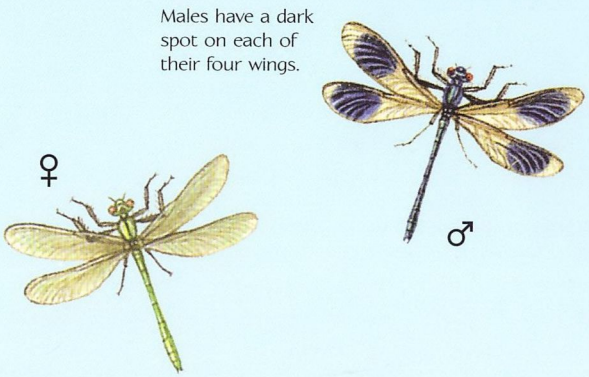
Males, like this one, are dark, but females may be green, orange or violet. Both sexes normally have a blue band on their tails.

Scientific name	*Ischnura elegans*
Average wingspan	35mm (1 1/3in)
Habitat	Beside ditches, ponds, canals, lakes and slow-moving rivers
Food	Small insects
Best time to spot	May to September

Also known as common ischnuras, blue-tailed damselflies aren't strong fliers, so tend to perch on plants at the edge of the water, resting or sunning themselves. When they leave their perches, they fly low over the water's surface to catch flying insects.

Banded demoiselle

56



Scientific name	*Calopteryx splendens*
Average wingspan	63mm (2½in)
Habitat	Canals and slow-moving rivers
Food	Small insects
Best time to spot	May to August

Banded demoiselles have a two-year lifespan but they spend most of their time as nymphs underwater, only living for a week or two as adults. When trying to find a mate, the males perch on plants beside the water and flutter their wings to attract a female's attention.

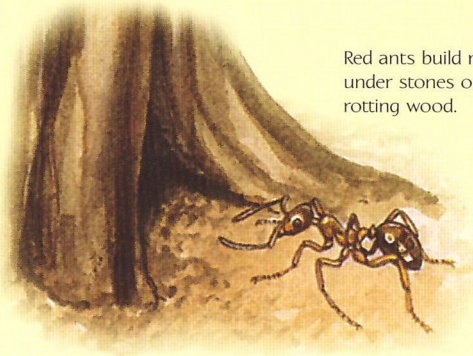
Black ant

Wingless ants like this one don't mate, but are "workers", collecting food and building nests.

Scientific name	*Lasius niger*
Average length	6mm (¼in)
Habitat	Gardens and waste grounds
Food	Seeds, nectar, honeydew and small insects
Best time to spot	June to August

Living together in huge colonies, these ants build nests in soil or tree stumps, under stones or logs, or even beneath paving stones. When one ant finds food, it lays a scent trail from the food back to the nest for the others to follow. Black ants "milk" aphids (51) for the sweet honeydew they produce and sometimes carry aphids back to their nest for the rest of the colony to feed from.

Red ant



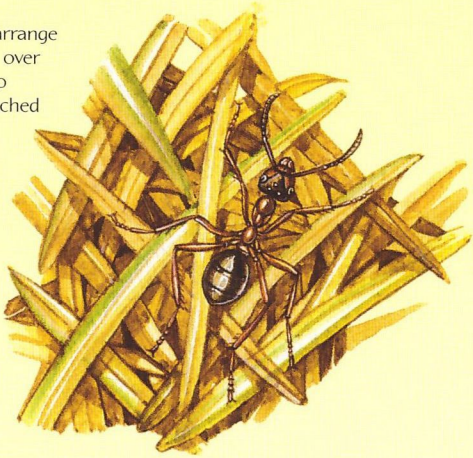
Red ants build nests under stones or in rotting wood.

Scientific name	*Myrmica rubra*
Average length	4mm (1/10in)
Habitat	Gardens and woods
Food	Nectar, honeydew, seeds and small insects
Best time to spot	June to August

Although they have a varied diet, red ants prefer sweet foods such as honeydew produced by the caterpillars of blue butterflies (5). They often carry the caterpillars into their nests so they can have a regular supply of the sugary liquid, and even provide the caterpillars with a few of their own larvae to eat. Red ants are sometimes known as fire ants because they spray predators with a stinging acid which burns painfully.

Wood ant

Wood ants arrange pine needles over their nests to make a "thatched roof" that is waterproof and keeps in the heat.



Scientific name	*Formica rufa*
Average length	8mm (1/3in)
Habitat	Woods
Food	Larvae and insects
Best time to spot	June to August

Living in huge colonies of up to half a million members, wood ants build massive, cone-shaped nests from twigs and pine needles. These can stretch over 2m (6½ft) across and reach up to 1m (3ft) tall. To protect their nests or to attack large prey, wood ants can spray a stinging acid from their abdomens.

Yellow meadow ant

60

Yellow meadow ants appear above ground for a brief time to breed between July and August.

Scientific name	*Lasius flavus*
Average length	5mm (1/10in)
Habitat	Meadows and grassy areas
Food	Honeydew and insects
Best time to spot	July to August

Yellow meadow ants are difficult to spot as they are usually underground among plant roots. They're useful to plants because their droppings act like fertilizer and, as they tunnel through the soil, they allow air to reach the roots. These ants also help chalkhill blue caterpillars: to feed on the sweet honeydew the caterpillars produce, the ants sometimes carry them underground where they are protected from predators.

Birch sawfly

61

Male sawfly

Birch sawfly larvae look very similar to moth caterpillars, but have more legs.

Scientific name	*Cimbex femoratus*
Average length	21mm (1in)
Habitat	Woods
Food	Birch leaves and pollen
Best time to spot	May to June

The name sawfly comes from the females, which have a saw-like extension on their abdomens. They use this tool to cut into leaves, so they can lay their eggs inside. When the larvae hatch, they feed voraciously, often eating up all the fleshy parts of the leaves until just the veins remain.

Oak apple gall-wasp

62

Oak apple galls can measure up to 4cm (1½in) across.

Scientific name	*Biorhiza pallida*
Average length	3mm (1/10in)
Habitat	Woods and parks
Food	Oak leaves
Best time to spot	December to March, and June to August

In spring, female gall wasps lay their eggs in the buds of oak leaves. When the larvae hatch out, they start feeding on the bud and this causes it to swell up around them, forming an apple-like gall. There can be up to 30 chambers inside a gall, each containing one wasp larva. As the larvae mature into adults, they chew their way out of the gall.

Oak marble gall-wasp

If you see a marble gall in winter, you might be able to spot the hole made when the young wasp chewed its way out.

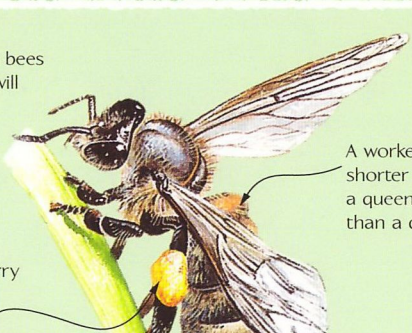
Scientific name	*Andricus kollari*
Average length	4mm (1/10in)
Habitat	Woods and parks
Food	Oak leaves
Best time to spot	December to March, and June to August

These wasps grow from larvae to adults inside galls – small swellings on the leaves and twigs of oak trees. The galls, which protect the larvae from predators and provide them with food, are green in summer but later ripen to brown. In winter, the galls stay on the branches, so are easy to spot when the trees are bare.

Honey bee

64

Most honey bees you'll spot will be worker bees, like this one.



A worker's abdomen is shorter and fatter than a queen's but thinner than a drone's.

Workers carry pollen from flowers in "baskets" on their back legs.

Scientific name	*Apis mellifera*
Average length	12mm (½in)
Habitat	Gardens, woods, meadows and parks
Food	Pollen and nectar
Best time to spot	March to October

Honey bees live in colonies, each made up of one queen and many female workers. The workers build the nest, called a hive, from wax that oozes from their abdomens. They also go out foraging for nectar and pollen. Most of this is eaten by the colony, but some is made into honey and stored in the hive to see the bees through the winter. Males, called drones, emerge at the end of the summer and their job is to breed with the queen.

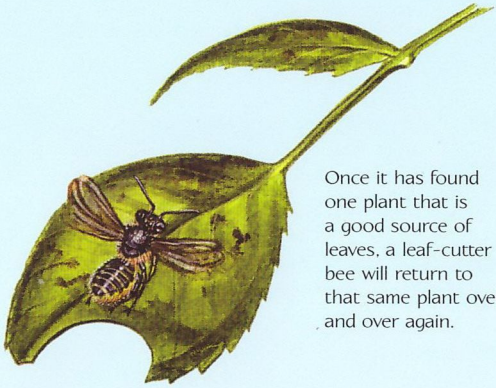
Buff-tailed bumblebee 65

Buff-tailed bumblebees are so named because they have a pale band on the end of their abdomens.

Scientific name	*Bombus terrestris*
Average length	20mm (¾in)
Habitat	Gardens, woods, meadows and heaths
Food	Pollen and nectar
Best time to spot	February to October

Over winter, queen buff-tailed bumblebees hibernate in holes in walls or in clumps of moss. They wake in spring and make pots of wax and pollen, into which they lay eggs. Female workers hatch out first to gather food and build nests. Later on, some of the larvae they produce become new queens and male drones. These leave the nest to breed. When winter comes again, the workers, drones and old queens die, while the new queens find cosy spots to hibernate.

Leaf-cutter bee

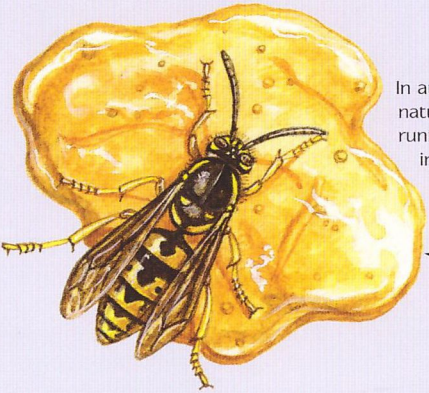


Once it has found one plant that is a good source of leaves, a leaf-cutter bee will return to that same plant over and over again.

Scientific name	*Megachile centuncularis*
Average length	10mm (1/3in)
Habitat	Gardens and meadows
Food	Pollen and nectar
Best time to spot	May to August

Female leaf-cutter bees bite off neat, semi-circular segments from leaves, particularly rose leaves. They carry the segments on their backs to their nesting sites, which are usually tunnels in the soil, or holes in walls or rotting wood. Then, using the leaf pieces, they build a series of cells. As they complete each cell, they lay an egg inside and pack the cell with food supplies for the larva to eat when it hatches.

Common wasp



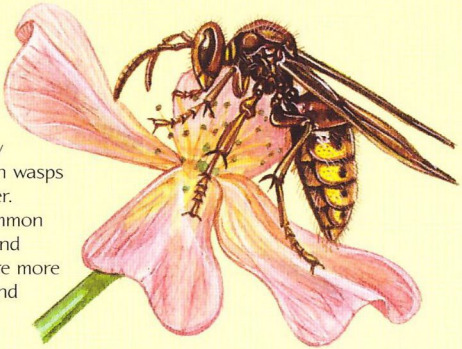
In autumn, when their natural food supplies are running low, wasps go into houses, looking for sugary foods to boost their energy stores.

Dollop of marmalade

Scientific name	*Vespula vulgaris*
Average length	17mm (2/3in)
Habitat	Gardens, woods and meadows
Food	Fruit, nectar, insects and dead animals
Best time to spot	April to October

Wasps build their nests from a papery substance that they make by chewing wood from trees, reeds and garden fences. They make the nests in dark, sheltered places, such as abandoned animal burrows, garden sheds and lofts. Wasps are very territorial – any person or animal disturbing a wasp nest is in danger of being stung by its angry inhabitants.

Hornet

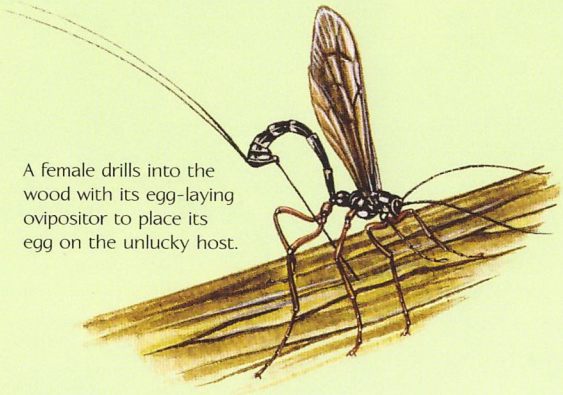


Hornets look very similar to common wasps (67), but are larger. Also, whereas common wasps are black and yellow, hornets are more orangey-yellow and chestnut brown.

Scientific name	*Vespa crabro*
Average length	26mm (1in)
Habitat	Woods, parks and gardens
Food	Nectar, sap and insects
Best time to spot	May to November

Hornets live in large groups called colonies. Most of the members of the colony are workers, whose job is to capture insects in spring and summer, and take them back to their nests as meals for the rest of the colony. But the workers themselves need more high-energy, sugary foods such as sap and nectar. To keep their workers fed, hornet larvae can ooze a sugary liquid for them to eat.

Ichneumon wasp



A female drills into the wood with its egg-laying ovipositor to place its egg on the unlucky host.

Scientific name	*Ophion luteus*
Average length	17mm (2/3in)
Habitat	Woods and meadows
Food	Larvae
Best time to spot	May to June, and November to December

Female ichneumon wasps crawl along the bark of old trees, using their antennae to sense any insect larvae that might be inside the wood. Once a female finds a larva, it lays an egg on it. When the ichneumon larva hatches, it burrows into its host and develops inside it, eating away at it from the inside. Eventually, the unfortunate host dies and the adult wasp emerges from the body.

Potter wasp

Scientific name	*Eumenes coarctatus*
Average length	13mm (½in)
Habitat	Heaths and gardens
Food	Nectar, larvae and spiders
Best time to spot	April to October

Using mud and water, potter wasps build tiny, pot-like nests in trees and other sheltered areas. Before laying their eggs in these nests, the wasps capture live prey, paralysing their victims with a poisonous sting. They drop the prey into the nests, then lay their eggs on them, so the doomed creatures can become a meal for the wasp larvae after they hatch out.

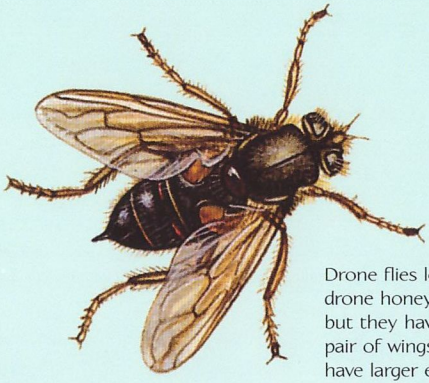
Housefly

Houseflies are covered in tiny hairs, and they taste and smell through the hairs on their legs.

Scientific name	*Musca domestica*
Average length	8mm (1/3in)
Habitat	Urban areas, houses and farm buildings
Food	Rotting waste, sugary foods, animal droppings and dead animals
Best time to spot	All year round

Houseflies can only eat liquid foods, so are attracted to bins and rubbish dumps, where there is plenty of squelchy, rotting waste to be eaten. They can also liquify some solid foods by vomiting on it. The vomit dissolves the food and the fly can then suck up the liquid with its sponge-like mouthparts. Regarded as pests worldwide, houseflies can carry and spread many disease-causing germs.

Drone fly

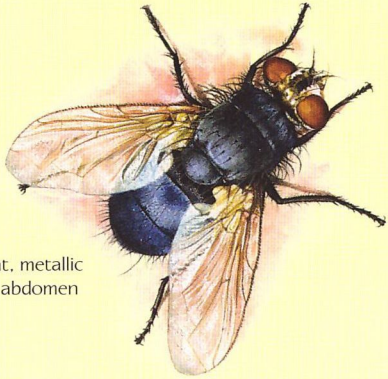


Drone flies look like drone honey bees (64), but they have only one pair of wings. Drone flies have larger eyes, too, and they do not sting.

Scientific name	*Eristalis tenax*
Average length	15mm (½in)
Habitat	Gardens, parks and meadows
Food	Pollen
Best time to spot	All year round

The larvae of drone flies begin life at the bottom of ponds, ditches and drains. They breathe through a long tube that extends from their rear ends up to the water's surface. In early spring, the larvae climb out of the water and find a warm, sheltered place, where they transform into adults.

Bluebottle



Bright, metallic blue abdomen

Scientific name	*Calliphora vomitoria*
Average length	12mm (½in)
Habitat	Gardens, parks and meadows
Food	Rotting plants, dead animals and animal droppings
Best time to spot	All year round

Also known as blowflies, bluebottles lay their eggs on a food source for their larvae – either on a dead animal, a patch of rotting plants or a pile of animal droppings. The eggs hatch quickly, usually in less than a day, and the emerging larvae burrow straight down into the food. In just a few days, the larvae are fully grown, and crawl away to a dry place where they can burrow into the soil. After two or three weeks, the adults emerge.

Hoverfly

These flies flap their wings rapidly to hover in the air as they feed from flowers.

Scientific name	*Episyrphus balteatus*
Average length	12mm (½in)
Habitat	Gardens, parks and meadows
Food	Nectar and pollen
Best time to spot	March to November

Named because of their ability to hover in the air, hover flies spend most of their time flitting from flower to flower, feeding on nectar and pollen. They are easily mistaken for wasps so predators avoid them, even though they don't sting. Females lay their eggs in aphid colonies. Newly hatched larvae are blind but this doesn't stop them from eating hundreds of aphids, much larger than themselves, over the 14 days it takes for them to grow into adults.

Bee fly

As this bee fly hovers near a sweet woodruff flower, it inserts a tube from the front of its head inside to suck up nectar.

Scientific name	*Bombylius major*
Average length	10mm (1/3in)
Habitat	Fields, gardens and woods
Food	Nectar, larvae and honey
Best time to spot	April to June

Bee flies have round, hairy bodies, and resemble bumblebees (65). The main way to tell a bee fly from a bumblebee is to look at the legs. Bumblebees' legs are short, but bee flies have long, spindly legs which trail underneath them as they fly. Females lay their eggs near bees' nests, then flick them inside so that, when the larvae hatch, they can eat the bees' larvae and stores of honey.

Horse fly

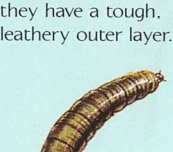
Horseflies have one of the most painful bites of any insect.

Scientific name	*Chrysops relictus*
Average length	13mm (½in)
Habitat	Wet heaths, moors and woods
Food	Nectar and blood
Best time to spot	May to September

Male horse flies are harmless, only feeding on nectar from flowers. But females are much more fierce, and use their sharp, piercing mouthparts to suck blood from mammals. The bites leave a triangular hole in the skin, which can swell up painfully. Females need blood to nourish the eggs developing inside their bodies. They lay their eggs in the mud of river banks or in damp earth.

Daddy-long-legs

Daddy-long-legs larvae are nicknamed "leatherjackets" because they have a tough, leathery outer layer.

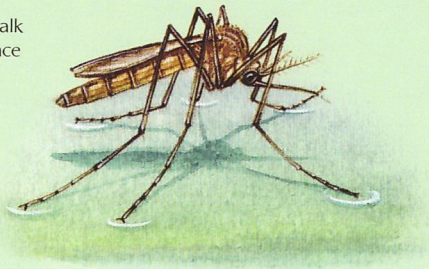


Scientific name	*Tipula paludosa*
Average length	35mm (1 1/3in)
Habitat	Grassy areas and gardens
Food	Larvae eat roots and rotting plants; adults not known to eat
Best time to spot	June to October

Also known as craneflies, these long-legged insects are weak fliers that wobble about in the air. The larvae spend most of the autumn and all of the winter and spring feeding on roots and rotting plants just below the soil surface. They are wrapped up inside cocoons throughout summer, then emerge as adults in early autumn. The adults only live for around two weeks, just long enough for them to breed and produce eggs.

Common gnat

Common gnats can walk on the surface of water.



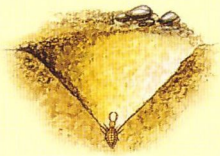
Scientific name	*Culex pipiens*
Average length	7mm (¼in)
Habitat	Ponds, ditches and marshes
Food	Nectar and blood
Best time to spot	June to October

On warm summer evenings, you might spot black clouds of common gnats flying together and making a loud droning sound. Females suck blood from animals, giving bites that can become inflamed and itchy. After feeding, they lay eggs in clusters on the surface of standing water. The larvae hang down beneath the water's surface, breathing through a tube that reaches up into the air. Common gnats are also known as mosquitoes. In some hot countries, close relatives of gnats carry and spread a dangerous disease called malaria.

Ant-lion

Adults look similar to dragonflies, but have small brown dots all over their wings.

Lurking at the bottom of its pit, an ant-lion larva waits for an unlucky ant to fall in.

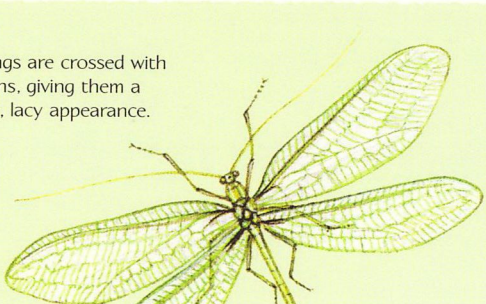


Scientific name	*Euroleon nostras*
Average length	35mm (1 1/3in)
Habitat	Dry, sandy areas and woods
Food	Small insects
Best time to spot	August to October

Ant-lions are so named because their larvae are ferocious predators, preying on ants and other small insects. They dig holes in sandy ground and hide at the bottom. When an unsuspecting insect walks past, the larva flicks sand at it until it falls into its waiting jaws. It takes over two years for a larva to grow into an adult, but the adults live for only around three weeks.

Green lacewing

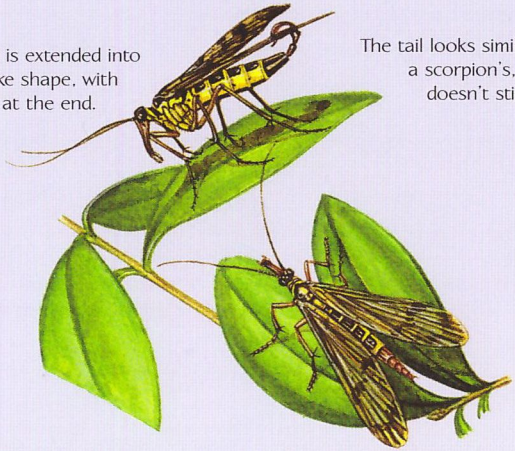
The wings are crossed with fine veins, giving them a delicate, lacy appearance.



Scientific name	*Chrysoperla carnea*
Average length	15mm (½in)
Habitat	Gardens, hedges and fields
Food	Nectar, pollen and honeydew
Best time to spot	April to October

During winter, green lacewings hibernate in sheltered places, often nestling in barns, garden sheds and even in houses. At this time, their bodies change from bluish green to brownish pink. In spring and summer, female green lacewings lay eggs on the tips of leaves infested with aphids and other leaf-eating insects. When the larvae hatch, they feast on the insects, each devouring as many as 300 before growing into adults.

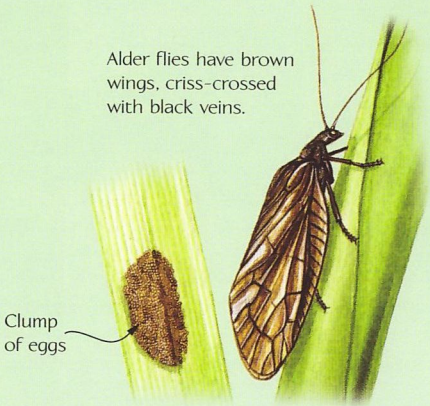
Scorpion fly



Scientific name	*Panorpa communis*
Average length	13mm (½in)
Habitat	Hedgerows and woods
Food	Dead animals, ripe fruit, aphids and other insects
Best time to spot	May to September

Named because of the male's scorpion-like tail, scorpion flies flutter close to the ground between May and August, looking for food in the soil and in spider webs. After attracting a mate, a male spits out a drop of saliva, which dries. The male then gives the saliva to the female as a gift for it to eat.

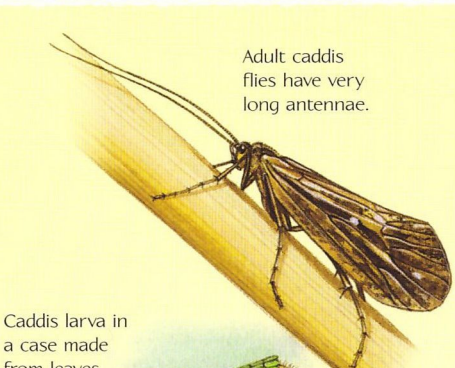
Alder fly



Scientific name	*Sialis lutaria*
Average length	13mm (½in)
Habitat	Ponds and canals
Food	Nectar and water insects
Best time to spot	May to June

Alder flies are poor, slow fliers that can be seen resting on plants beside still or slow-flowing water. They lay eggs in batches of 200 or more, on plants and rocks at the water's edge. On hatching, the larvae fall into the water, where they stay for one to two years. After crawling out, they dig into the soil beside the water. Two to three weeks later, they emerge as adults.

Caddis fly



Scientific name	*Limnephilus rhombicus*
Average length	17mm (2/3in)
Habitat	Lakes and slow-moving rivers
Food	Larvae eat water insects and algae; adults not known to eat
Best time to spot	May to July

Caddis fly larvae live under water encased in a protective layer made from silk and bits of plants. Inside the case, a larva transforms into an adult fly, and cuts through the case with its jaws. Then it swims to the water's surface, and flies up into the air. Most caddis flies only live as adults for about a week.

Mayfly

Mayflies are also known as upwing flies, because they hold their wings upright when at rest.

Scientific name	*Ephemera danica*
Average length	40mm (1½in)
Habitat	Rivers
Food	Nymphs eat water plants and algae; adults don't eat
Best time to spot	May

Mayflies live for only a few hours as adults. In that time, they mate and the females lay eggs on the surface of the water. As the eggs sink, the parents die. Mayfly nymphs live in the water for around two years, then emerge one day in May to live out their short adulthood.

Field cricket

A male field cricket rubs together the veins on its wings to produce a chirping sound.

Scientific name	*Gryllus campestris*
Average length	20mm (¾in)
Habitat	Grassy banks and meadows
Food	Seeds, leaves, dead and live insects, insect cocoons and grasshopper eggs
Best time to spot	May to September

These flightless crickets live in burrows, which they dig at the bottom of grassy mounds. To attract a female, a male field cricket clears a small platform in front of its burrow from which it performs a loud, chirping song.

House cricket

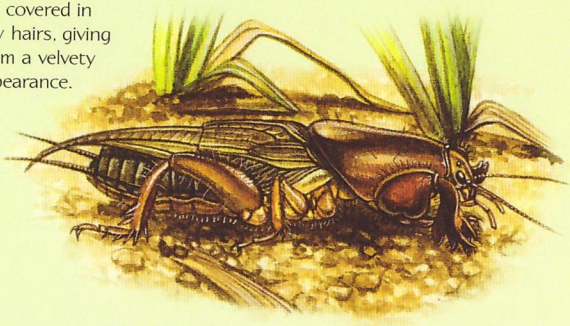
House crickets can spend the winter living under floorboards.

Scientific name	*Acheta domesticus*
Average length	16mm (2/3 in)
Habitat	Urban areas and gardens
Food	Plants and insects
Best time to spot	All year round

In winter, house crickets look for somewhere warm to escape the freezing temperatures. They can spend the winter in compost heaps, greenhouses or even in people's homes. Like their field cricket cousins (85), males use their wings to make a shrill, warbling sound, usually at night.

Mole cricket

Mole crickets are covered in tiny hairs, giving them a velvety appearance.



Scientific name	*Gryllotalpa gryllotalpa*
Average length	40mm (1½in)
Habitat	Meadows
Food	Insects and plant roots
Best time to spot	All year round

Using their spade-like front feet, mole crickets burrow into the soil, digging complex tunnel systems that can reach down over 1m (3ft). In spring and summer, females lay their eggs in the underground chambers. Nymphs hatch out just a few weeks later, but it can take up to three years for a nymph to mature into an adult.

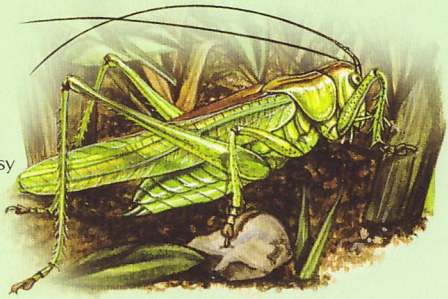
Wood cricket

This female wood cricket has a long tube at the end of its abdomen, through which it lays eggs.

Scientific name	*Nemobius sylvestris*
Average length	9mm (1/3in)
Habitat	Woods, ditches and riverbanks
Food	Rotting leaves and fungi
Best time to spot	July to August

Living in small groups among rotting leaves, these tiny crickets have powerful hind legs which they use to jump high into the air to escape from predators. They don't only use their legs for moving about, but for hearing, too. All crickets have very small eardrums just below their knees.

Great green bush cricket

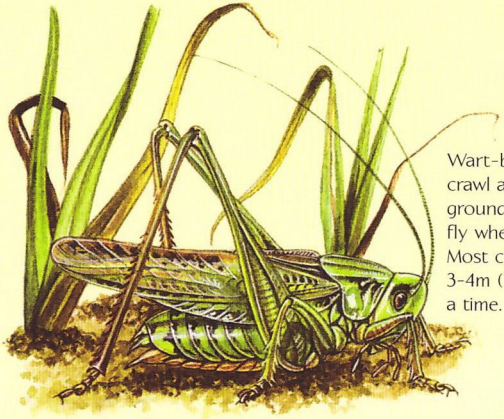


This cricket's green colour helps camouflage it against its grassy surroundings.

Scientific name	*Tettigonia viridissima*
Average length	46mm (2in)
Habitat	Meadows and hedgerows
Food	Insects and plants
Best time to spot	July to August

These large crickets have strong jaws and sharp mouthparts, and can give a nasty bite when threatened. In late summer, males call out to females by making very long, shrill, buzzing sounds that can carry over distances of up to 100m (330ft). They start their calls in the afternoons and can continue late into the night.

Wart-biter



Wart-biters normally crawl around on the ground; they only fly when frightened. Most can only fly 3–4m (10–13ft) at a time.

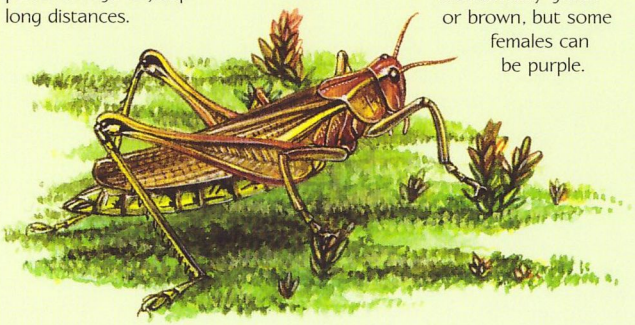
Scientific name	*Decticus verrucivorus*
Average length	35mm (1 1/3in)
Habitat	Grassy areas and heaths
Food	Insects and plants
Best time to spot	July to September

Wart-biters get their name from an old Swedish remedy for warts. These crickets may bite when handled, so people used to use them to bite warts off their skin. Female wart-biters lay eggs in the ground in August. The eggs stay in the soil for two or more years, until nymphs hatch out some time during May.

Large marsh grasshopper

A grasshopper uses its powerful legs to jump long distances.

Large marsh grasshoppers are normally green or brown, but some females can be purple.

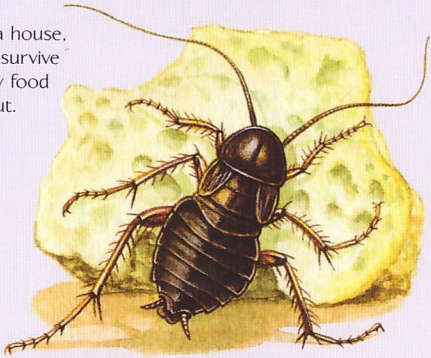


Scientific name	*Stethophyma grossum*
Average length	30mm (1in)
Habitat	Marshes, bogs and fens
Food	Plants
Best time to spot	July to November

Both the males and females of this species make ticking sounds when threatened. In late summer, females lay their eggs in batches of 10-14 at the bottom of grass blades. The nymphs emerge the following year during spring. They shed their skin four times in the few weeks it takes for them to grow into adults.

Common cockroach

92



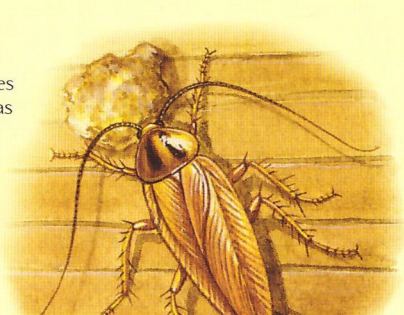
Once inside a house, cockroaches survive by eating any food that is left out.

Scientific name	*Blatta orientalis*
Average length	25mm (1in)
Habitat	Urban areas and gardens
Food	Insects, plants and rotting food
Best time to spot	All year round

Found all over the world, common cockroaches thrive in dark, damp conditions. In summer, you might see them amongst rotting plants and under stones; in winter they move inside, hiding in basements and near water pipes and leaky drains. Every month, females produce a reddish brown egg case, which contains 14-16 eggs. They carry the cases around for days until they find a safe spot near a food supply to set them down. Nymphs take two months to hatch out of the eggs and a further year to grow into adults.

German cockroach

German cockroaches are seen as pests, as they spread germs from the rotting waste and unclean water that they feed on.



Scientific name	*Blattella germanica*
Average length	13mm (½in)
Habitat	Urban areas
Food	Rotting waste
Best time to spot	All year round

Originally from North Africa, these insects are also known as steam flies, as they spend most of their time in warm, damp places, such as kitchens, bathrooms and laundries. They can swim, climb up walls and even crawl upside down across ceilings. After mating, females produce cases containing 18-50 eggs. They carry them around until the nymphs start hatching out, and sometimes help the nymphs to break out of the cases.

Dusky cockroach

94

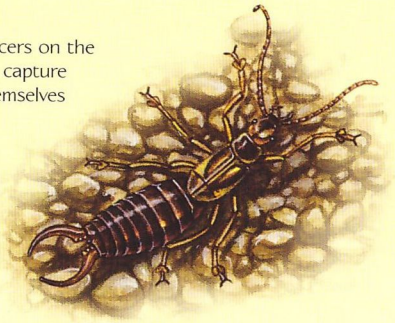
Unlike other cockroaches, this species doesn't move indoors over winter. After spending the warmer months outside, the adults die in early autumn.

Scientific name	*Ectobius lapponicus*
Average length	9mm (1/3in)
Habitat	Woods, heaths and grasslands
Food	Insects and rotting leaves
Best time to spot	June to August

Although these small cockroaches spend most of their time crawling around on woodland floors, camouflaged against the soil, you might spot them flying short distances on warm summer days. Females produce egg cases in late summer, but nymphs don't hatch from these until the following spring.

Common earwig

Earwigs use the pincers on the end of their tails to capture prey and defend themselves against predators.



Scientific name	*Forficula auricularia*
Average length	15mm (½in)
Habitat	Urban areas, gardens, parks and woods
Food	Dead and live insects, fruit, flowers and rotting plants
Best time to spot	All year round

During the day, earwigs rest in dark, damp places, such as crevices in bark or under rocks and stones. At night, they emerge to look for food. The name earwig comes from an old belief that these insects would burrow into people's ears at night and lay eggs in their brains. In fact, females lay their eggs in a nest in the ground. Earwigs are one of the few types of insects that guard their eggs and look after their nymphs until they're old enough to fend for themselves.

Lesser earwig

96

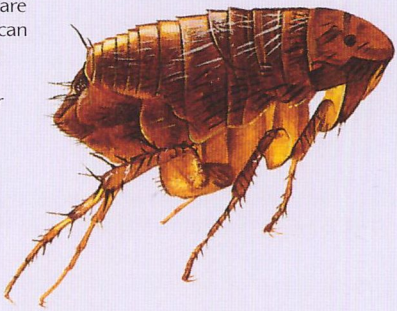
Lesser earwigs spend their days resting in crevices or amongst dense vegetation.

Scientific name	*Labia minor*
Average length	5mm (1/5in)
Habitat	Gardens, fields and meadows
Food	Dead and live insects, rotting plants and fruit
Best time to spot	All year round

These tiny earwigs are strong fliers and flit about at dusk, looking for food. You might spot them around light bulbs or candles, as they are attracted to light. Like common earwigs (95), females look after their newly hatched nymphs for a few weeks, and even feed them until they are strong enough find their own food.

Flea

Fleas' bodies are flat, so they can move around between the hairs on their hosts' skin.



Scientific name	*Ctenocephalides felis*
Average length	2mm (1/10in)
Habitat	Urban areas
Food	Blood and animal droppings
Best time to spot	All year round

Regarded as pests by pet-owners worldwide, these tiny insects breed on the bodies of cats, but can jump onto other animals and people, too, attaching themselves to skin or clothing. They can leap as high as 15cm (6in) and over a distance of 30cm (12in), which is the equivalent of a person jumping over London's St. Paul's Cathedral. They feed by piercing the skin and sucking blood from their hosts. Their bites cause the skin to swell up and itch.

Thrip

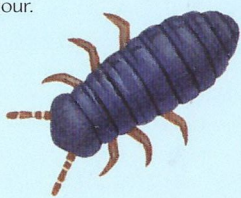
Male thrips are a very pale yellow colour; females, like this one, vary from yellow to brown.

Scientific name	*Frankliniella occidentalis*
Average length	2mm (1/10in)
Habitat	Gardens, parks and fields
Food	Plant sap and insect eggs
Best time to spot	March to August

You might see thrips resting on whitewashed walls or on pale clothing, as they are attracted to light-coloured objects. Also known as thunder flies, they are most active on hot summer days, and often swarm together during thunderstorms. They feed by piercing a leaf or flower bud with their mouthparts. This can damage the plant, causing it to tear and distort as it grows.

Water springtail

Water springtails can be dark blue to reddish brown in colour.

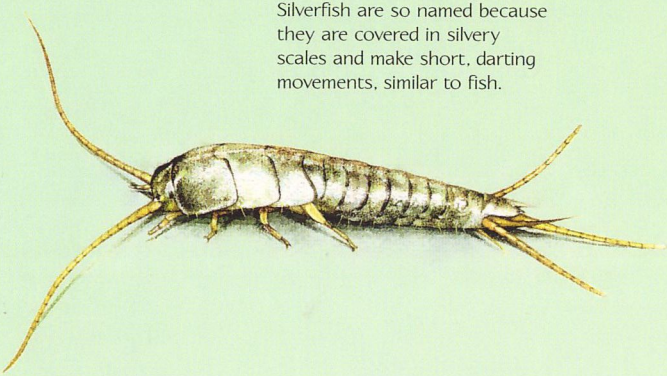


Scientific name	*Podura aquatica*
Average length	2mm (1/10in)
Habitat	Ponds and lakes
Food	Insects and rotting plants
Best time to spot	All year round

Water springtails float in large numbers on the surface of still water. They jump into the air using their forked tails as levers to flick themselves upwards. The tails curl down beneath their bodies, and are large and flattened, so they don't sink into the water when they push against the surface.

Silverfish

100



Silverfish are so named because they are covered in silvery scales and make short, darting movements, similar to fish.

Scientific name	*Lepisima saccharina*
Average length	10mm (1/3in)
Habitat	Urban areas
Food	Paper, food scraps and the dead bodies of other silverfish
Best time to spot	All year round

Silverfish thrive indoors in warm, damp places such as kitchens and bathrooms, underneath floors and sinks, in cupboards and along pipes. They hide during the day, but come out at night to look for food. They are extremely fast runners and you might spot them trying to scuttle up the slippery walls of sinks or baths, where they have fallen in and are unable to climb out.