

all about...midges

Have you ever sat outside on a warm summer evening, enjoying the good weather? Perhaps having a picnic? The sun sets gradually with beautiful colours but as soon as the sun is below the horizon you feel something crawling over your eyelid: it stops and then suddenly it bites. Soon you are covered in tiny black biting midges, they crawl inside your clothes and continue the onslaught where they are protected from your swiping hands.

This is a story that is heard all over Scotland. Not just in the highlands. Midges live in gardens and parks in cities too. There are actually around 35 species of midge in Scotland, although only 5 of these will bite humans. The most famous Midge is the Highland Midge, or Scottish Biting Midge, which lives mainly in upland areas and the Highlands, but there is a midge that is found in cities and towns. This is the Garden Midge. It has a less painful bite than the Highland Midge but is even more persistent.

What is a midge?

- A midge has no internal skeleton like we do. • This means that it is an **INVERTEBRATE**.
- A midge has an external hard skeleton. • This means that it is an **ARTHROPOD**.
- A midge has 6 jointed legs. • This means that it is an **INSECT**.
- A midge has just one pair of wings. • This means that it is a **FLY...**

...But not all flies are midges.

What makes a midge special?

← Midges are very small – they only have a wingspan of 1.4mm

Midges also have a very specialised way of feeding

**WARNING!
GORY BIT**

Mosquitoes pierce the skin with mouthparts like a syringe and suck up the blood. Midges, however, **cut the skin** with **sharp mouthparts like a pair of scissors** and then **suck up the pool of blood** that forms by rolling its mouth into a short feeding tube.

Meanwhile, the midge's saliva **stops the blood in the wound from clotting** (forming a scab) so it can keep drinking to its heart's content. It is this **saliva that irritates the body** and causes us to get **itchy lumps and bumps** where we have been bitten

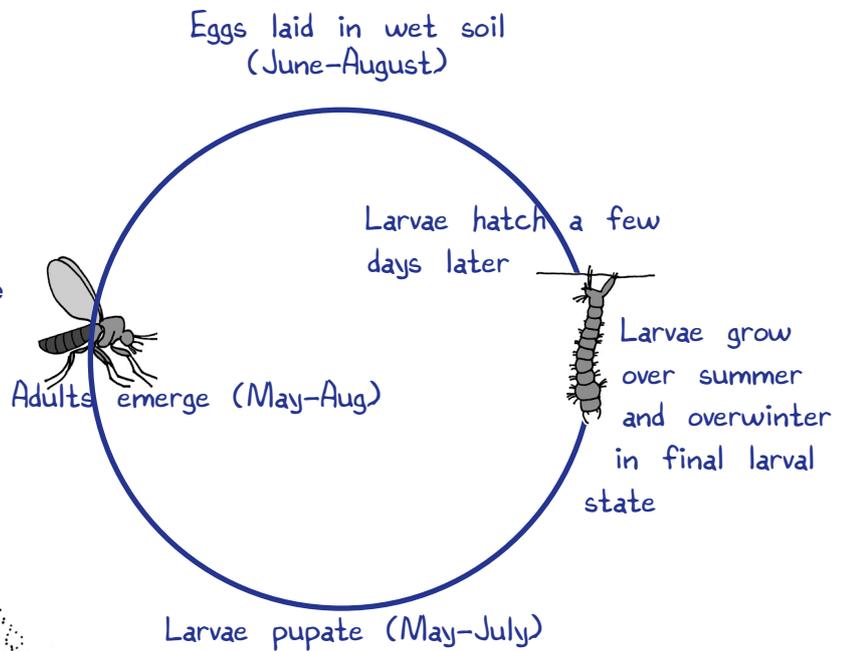
An interesting fact:

Only the **females bite**. Males' mouthparts are not strong enough to pierce skin and they feed on **rotting plants** or nectar from flowers. Females need the blood to form eggs although some species of midge can lay their first batch of eggs without feeding, but **need blood** to lay any further batches.



Midges are only around in summer. What do they do for the rest of the year?

Midges have a very interesting **Life Cycle**. Like butterflies and moths they have three very different forms after they hatch. Firstly the **larvae** (a wiggly worm-like creature with a big head), then the **pupa** where the larvae's body parts turn to mush and reorganise in a completely different pattern, then finally the **adult midge**.

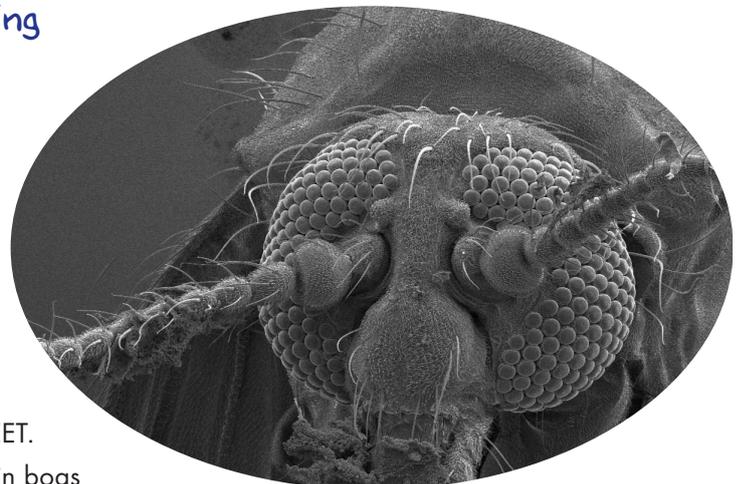


Midges seem to be such a pain. Can't we just get rid of the lot of them?

People who work in jobs outside (for example forestry) can lose many work-days because of midges. The tourist industry can also be affected if people have a bad midge experience on their holiday. But aside from the fact that it would be almost impossible to control populations of the midge (each square metre of soil can contain up to 700 larvae), midges are an important part of the Scottish ecosystem. They provide **food** for **bats**, other **invertebrates**, **birds** and also **carnivorous plants** like sundews and butterworts. If you visit a bog, look out for midges stuck to the sticky hairs of the sundews.

What is the best way of avoiding being bitten?

Midges are **sensitive to light** and only come out during the day if it is cloudy or shaded. They **do not like wind, low temperatures or very dry conditions**. To avoid being bitten, go inside around sunrise and sunset and when it is cloudy and still. If you find yourself attacked by midges then **cover your exposed skin**, wear a **midge head net** and use **repellents** that contain the chemical DEET. In the past Scots used Bog Myrtle, a plant that grows in bogs and on moorland.



An interesting historical fact

Midges have no respect for royalty. After going on a picnicking trip in Sutherland in 1872 Queen Victoria wrote in her diary that she was half devoured by midges.



Midge Facts

- Only the female midges bite. It gives them energy to produce their eggs.
- Researchers have estimated that in an hour, up to 40 000 midges can land on an unprotected person.
- There are around 35 species of midges in Scotland but only 5 species bite humans. Nearly all the attacks are made by the Scottish biting midge *Culicoides impunctatus*.
- The female Scottish biting midge can lay her first batch of eggs without feeding but she needs a blood meal before laying any further eggs.

For more information read *Midges in Scotland* by George Hendry

Activities and Games

How will Hamish avoid being bitten?

Read each of the phrases in each pair and then **circle the one that Hamish should avoid**.

- | A | B |
|----------------------------------|-------------------------------------|
| 1 on top of a m ountain | in a b og |
| 2 w indy | sheltered |
| 3 wearing s horts | wearing l ong trousers |
| 4 using insect r epellent | d oing exercise and sweating |
| 5 m idday | d usk |
| 6 s ummer | winter |
| 7 i n the house | in a t ent |
| 8 s hady | s unny |
| 9 l ying on the ground | up a tree |

The letters in bold should spell **something that the female midge needs before she can lay her eggs**.

Answer: B B A B B A B A A

