

Heath Bee-fly

Bombylius minor



Sophie Lake



Heath Bee-fly distribution across Britain and Ireland.

The data used to create this map have been provided under license from the National Biodiversity Network (NBN)

The Heath Bee-fly is a bee mimic. As with all *Bombylius* species, the Heath Bee-fly has a long spear-like proboscis (tongue) which is non-retractable and is used to feed on the nectar from flowers while hovering over them. It is smaller (7-8.5mm) than the more common Dotted Bee-fly *Bombylius discolor* and Dark-edged Bee-fly *Bombylius major*, and unlike these species has clear, unmarked wings. The furry body is dull gold. In contrast to the Western Bee-fly *Bombylius canescens* (which is also small and uncommon, but more widely distributed), it does not have dark bristles among the pale hairs on the top of the head behind the eyes and the femora (third segment) of the legs are pale yellow rather than dark.

Bee-flies are most easily identified when basking. They are fast fliers and generally hover over flowers without settling. They can fly backwards as well as forwards, and have a distinctive high-pitched buzz which often draws the observer's attention before the bee-fly is seen. They feed on nectar and pollen.

Lifecycle

Heath Bee-flies are nest parasites of solitary mining bees e.g. *Colletes succinctus*. However, unlike other parasitoids (such as the wasp-like Nomad bees), they do not enter the burrows. Instead, the bee-flies collect sand and dust in small pouches at the end of their brush like abdomens to coat their eggs before flicking the eggs towards the entrance of the burrows of the host bee. Once hatched, the bee-fly larvae make their way into the nest of the host species and prey on the bee larvae within the burrow. Once fully grown the larvae pupate and then emerge the following year as the nectar feeding fly. In males, the eyes are larger and meet on the top of the head. The eyes of females are smaller and separated by a small furry patch. Heath Bee-flies are on the wing from July to late-August.

Habitat

A specialist of lowland heaths, the Heath Bee-fly is generally seen along sandy paths, south-facing banks and slopes, often where dense aggregations of the host bee are found. It can also be found nectaring on flower-rich habitat adjacent to heathland.

Adults visit Bell Heather *Erica cinerea* and have also been observed nectaring on other flowering plants such as the yellow flowers of the daisy family *Asteraceae* associated and Wild Thyme *Thymus polytrichus* associated with trackways. It has also been seen nectaring on Sea-lavender *Limonium* spp. on the edge of saltmarsh adjacent to heathland.



Distribution

It now appears to be confined to the heaths of East Dorset but has previously been recorded in the New Forest, the Isle of Wight, the Isle of Man and the coast of West Wales

GB status and rarity

Vulnerable and Nationally Rare

Protection under the law

This insect is included as a species “of principal importance for the purpose of conserving biodiversity” under Section 41 (England) of the Natural Environment and Rural Communities Act 2006.

Survey method

Surveys involve locating suitable habitat and searching around areas of bare ground on warm, sunny days within the flight period. How this is undertaken depends on the shape and size of habitat patches; walking slowly along sandy tracks and pausing at likely sites for the host species such as sandy banks and cliffs can be effective.

Reasons for decline

Decline is probably due to overall heathland habitat loss and the fragmentation and urbanisation of remaining habitat. The Heath Bee-fly is vulnerable to the surfacing of sandy tracks, stabilisation of natural erosion features and loss of sandpits

Habitat management for Heath Bee-fly

Habitat management needs to incorporate the needs of the host species in addition to the bee-fly. Bare sand features should be maintained and additional features created. In addition, heathland vegetation should be managed to prevent the loss of Bell Heather and encourage flower-rich trackside vegetation.

Sources and further information

Soldierflies and Allies Recording Scheme: Identifying bee-flies in genus *Bombylius* Martin C. Harvey, 2014

Heath Bee-fly *Bombylius minor* an album on Flickr Steven Falk.



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