

Conopidae in the Wyre Forest

MICK BLYTHE

The Conopidae is a small family of flies which are usually seen nectaring on flowers during the summer. They have long forward-jutting antennae and proboscis and an abdomen which curls down beneath the body. They tend to have a "hymenopteran" appearance and many of them are convincing black and yellow wasp mimics.

Conopids are parasitoids of Hymenoptera, most commonly bumblebees. An adult worker bumblebee is a formidable insect, large, powerful, thickly armoured and with a dangerous sting. However the conopid grapples it, often in mid-air, levers apart the sclerites of its abdomen and inserts an egg. The resulting maggot feeds inside the body of the bee, eventually killing it. The infected bee may respond by staying out of the nest during the night, and the consequent chilling is thought to slow the growth of the parasitoid and so extend the bee's working life (Müller and Schmid-Hempel, 1993). In 2008 several Conopids were observed from an elevated

platform resting on leaves and twigs high in flowering apple trees in Bowcastle Far Orchard, presumably waiting to ambush the nectaring bumblebees.

Conopids have a relatively short adult life of a few days only, and this makes them appear less numerous than they actually are. They are in fact significant controls on the life and health of bumblebee colonies. For an excellent account of the biology of the Conopidae see David Clements' review article in *British Wildlife*, June 1997.

REFERENCES

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CONOPID FLIES RECORDED IN WYRE



Conops flavipes

Kevin McGee



Conops quadrifasciatus

Kevin McGee



Physocephala rufipes

Kevin McGee

Conops flavipes

This is one of the commoner species in the Wyre Forest, regularly seen nectaring on roadside flowers in July and August. It usually has yellow patches on the sides of the frons in front of the eyes. Notice also the yellow spot on the scutellum at the back of the thorax, the black rings on the femora of the legs and the darkened leading edge of the wing. It has been recorded as parasitizing the bumblebee *Bombus lapidarius*, solitary bees (*Osmia spp.*) and colonial wasps (*Vespa rufa*). (Smith, 1969).

Conops quadrifasciatus

Another common and widely distributed species. It can be identified from *C. flavipes* by the absence of the yellow patches on the sides of the frons in front of the eyes, the all-black scutellum at the back of the thorax and the legs with not more than a faint dark ring on the femora. The leading edge of the wing is usually less darkened. Smith records it parasitizing the bumblebee *Bombus lapidarius* from June to September.

Physocephala rufipes

This is a common species, usually seen nectaring on thistles or Ragwort from June to September. Compared with the *Conops* species it is darker with fewer yellow markings, and the second segment of the abdomen is slender and elongated, giving it a pronounced "wasp waist". Smith lists a large number of bumblebee host species and also the social wasp *Vespa rufa*.

Conops vesicularis

This is a notable species usually associated with ancient woodlands in the southern half of England and Wales. It is significantly larger than the other *Conops* species; the legs and thorax are marked with red-brown rather than yellow and the abdomen has fewer distinctive black bands. The overall appearance is more like a Hornet than a wasp, and Falk suggests that this is likely to be the usual host in its ancient woodland habitat. Smith records it parasitizing the bumblebee *Bombus muscorum*, but this is an uncommon bee of wet meadows and unlikely to be a regular host. (However it has to be said that the pinned specimen in the photograph was taken from a hogweed inflorescence in a wet meadow beside Dowles Brook in June!)



Conops vesicularis Rosemary Winnall

Conops strigatus

This is another notable species resembling *C. flavipes* but with a black streak below the eyes ending in a large spot. There are two records from Ragwort flowers in Wimperhill (Kevin McGee, August 2005 and July 2007). The hosts are unknown. *No photograph shown.*



Conops vesicularis Mick Blythe

Sicus ferrugineus

This is the most commonly encountered conopid species in the Wyre Forest, and one of the easiest to identify. It is a rather glossy chestnut-brown fly with a bright yellow head. It is normally seen nectaring on low-growing wayside flowers between May and September. Females are often seen with a guarding male riding on her back, and sometimes with more than one! It parasitizes a wide range of bumblebee species.



Sicus ferrugineus Kevin McGee

Myopa testacea

Kevin McGee has recorded this species from Sallow catkins along the Dowles footpath on 30th March 2004, where it was presumably attacking visiting solitary bees.



Myopa testacea Kevin McGee



Myopa buccata

Kevin McGee

Myopa buccata

There are several *Myopa* species found in Britain and they are not easy to identify. They are brownish, resembling *Sicus*, but the head is only yellow below and there is a deeper jowl line below the eyes. They emerge as early as April and are suspected of parasitizing spring breeding solitary bees. In Wyre this species is recorded visiting Wood Spurge in May, where they were either feeding on nectar or attacking nectaring bees.



Thecophora atra

Kevin McGee

Thecophora atra

A small dark inconspicuous species. Its hosts are unknown, but it is generally associated with the nest burrows of ground-nesting solitary bees such as *Halictus*. It has been recorded from low vegetation on a sandy path side of the Dowles footpath in Chamberline (Kevin McGee, August 2005) and from a Malaise trap in the Far Orchard in Bowcastle Farm (MEB, July 2004).

OTHER CONOPID FLIES RECORDED IN WORCESTERSHIRE, BUT NOT YET IN WYRE



Conops ceriaeformis

Kevin McGee



Leopoldius brevisrostris

Kevin McGee



Leopoldius signatus

Kevin McGee



Myopa extricata

Kevin McGee