

## Sawflies

This is a group that has received little attention in Wiltshire. Most of the records held by the Biological Records Centre having been submitted by the late Sir Christopher Andrewes between the late 1940s and the 1970s, with the majority of these relating to the southern half of Wiltshire. Interest has been rekindled during 1997, with the discovery of sawflies by two observers whilst studying other groups of insects. Of even greater significance was Henry Edmund's encounter on 29 July with a species of sawfly, *Cimbex connatus*, thought to be extinct in the country. More will be detailed later.

Sawflies are considered to be the most primitive members of the insect order Hymenoptera, which includes the bees, ants and wasps (Apocrita). The sawflies form a complete sub-order, the Symphyta. There are 109 genera of sawflies on the British list and more than 500 species. Many of the species are quite similar in appearance and identification at this level is not for the novice. There is, however, a key to the genera (Wright 1990) which will enable us to get started locally. Identification to species level will continue to be carried out by one of the national experts who has agreed to help. The works of Benson (1951, 1952 and 1958) prepared for the Royal Entomological of London are the standard keys for the identification of British sawflies to species level. Quinlan and Gauld (1981) updated the first of these, dealing with families other than the Tenthredinidae. The latter is still available but the Benson keys are now out of print. The lack of detailed identification literature is probably the main reason for the neglect of the Symphyta by observers.

Notwithstanding the difficulties of identification many of the species are colourful and quite striking in appearance and it is relatively easy to decide whether you are looking at an adult sawfly. The first impression is of a wasp-like insect with long antennae but lacking a "wasp waist" constriction between the thorax and abdomen, which is a feature of the Apocrita. All adult sawflies, except those of the family Cephidae, possess a pair of "cenchri", small roundish bumps, behind the scutellum at the hind end of the thorax. The cenchri make contact with a scaly area on the underside of the forewings, holding them in place when the insect is at rest. Both of these characters can be seen in the sketch of *Cimbex connatus* below. If the sawfly is one of the Cephidae the first abdominal segment will appear divided on the mid-dorsal line.

The following key taken from Wright (1990) will determine whether the creature is a sawfly. If the answers to Questions 1 and 2 are NO the creature is not an adult sawfly. If the answer to Question 3 is YES the creature is an adult sawfly but if the answer is NO go to Question 4. If the answer to Question 4 is YES the creature is an adult sawfly.

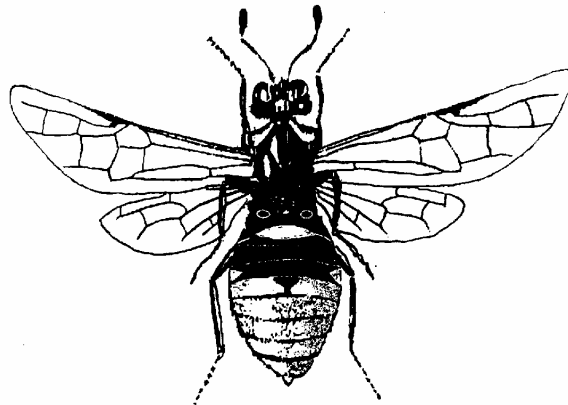
- Q1. Has the animal got THREE PAIRS OF LEGS? (If YES, go to Q2)
- Q2. Has it got TWO PAIRS OF MEMBRANOUS WINGS? (If YES, go to Q3)
- Q3. Are there CENCHRI PRESENT ON THE THORAX? (If NO, go to Q4)
- Q4. Is the 1st ABDOMINAL SEGMENT DIVIDED ON THE MID-DORSAL LINE? (If NO, the creature is not an adult sawfly)

It is thought that the Cephidae (which also have signs of a constricted waist) form a link between the primitive Symphyta and the more advanced Apocrita (all of which lack cenchri). In most female sawflies the genitalia possess the "saws" which are used to cut through plant tissue in order to lay their eggs. In the family Siricidae, the "wood wasps", the female must bore through bark in order

to lay her eggs and has evolved a needle-like ovipositor rather than a saw for this purpose. Unlike many of their relatives in the Apocrita, sawflies cannot sting, although apparently they will bite. Sawflies vary in length from 2 mm to 28 mm, measured from the front of the head to the end of the abdomen. Each species tends to utilise a single species of larval host plant and recording this will aid identification. Adult sawflies are mainly found in spring and early summer, favouring sheltered situations in a variety of habitats. Waterside, woodland and garden sites are productive and the adult insects feed on nectar and pollen at flowers. Some species are voracious carnivores and you should never keep two sawflies together in one container otherwise one of them is likely to be eaten by the other.

### Rare Find of Spectacular Sawfly

Henry Edmunds found the spectacular sawfly depicted below on 29 July 1997, in a water meadow in one of the river valleys near Salisbury. It had settled in short grass and when disturbed, adopted a threatening posture, buzzing with its wings in complete mimicry of a Hornet, *Vespa crabro*. The sawfly was identified with the assistance of Dr David Sheppard of English Nature (National Symphyta Recorder) and is the first record for Wiltshire and apparently the first in the UK since 1904. The English records for this species are mainly from the 19th Century (Cornwall, Devon, Surrey, Kent, Suffolk, Cambridgeshire and Yorkshire) and the most recent record was from Freston Wood, Suffolk in August 1904. It was also found in Ireland where it was taken in Kerry in 1894 and Lough Corrib, Galway, in 1943.



*Cimbex connatus*

The larvae of *C. connatus* feed on Alder (*Alnus*) which is common through the whole valley. Henry remarks that it is extraordinary that such a large and colourful insect (25 mm long and yellow and black in colour) has remained unidentified for so long. Another specimen flew past him, about 16 feet in the air and in direct flight, appearing more yellow than a Hornet. It is probable that a colony persists in this location and individuals must have been seen, but the close resemblance to a Hornet may have caused confusion. Further research will be carried out next summer to assess the size of the population and recommend measures for conservation.

I hope this article will stimulate further interest in sawflies in the county. There have been no records in the North of the county prior to 1997. It would be of interest to establish whether the

species seen in the south by Sir Christopher Andrewes are still present. In view of the difficulties of identification, it is important that experts validate records until we can gain some expertise locally. Observers may either obtain validation themselves from existing sources before sending me records or, alternatively, send me specimens for which I will arrange validation. Please send specimens or records with details of location, OS reference, date, number seen, habitat type, behaviour and the plant on which the insect was found. For validated records please state the name of the referee.

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