

**A REARING OF *HELCON CLAVIVENTRIS* WESMAEL,
A RARE BRITISH BRACONID WASP (HYMENOPTERA:
BRACONIDAE: HELCONINAE), WITH ADVICE ON LABELLING
SUBSTRATE REARINGS**

MARK R. SHAW¹ & HOWARD MENDEL²

¹National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF, UK

²Natural History Museum (Life Sciences), Cromwell Road, London SW7 5BD, UK

ABSTRACT

The second British record of *Helcon claviventris* Wesmael is a female specimen reared from a fallen *Fagus* branch. Notes are given for its identification. The melandryid beetle *Phloiotrya vaudoueri* was also reared and is likely to have been the host. Advice is given on the labelling of parasitoids reared from substrates when host identity is not proved by the isolation of parasitoid cocoons and host remains.

INTRODUCTION

The braconid subfamily Helconinae, now restricted to just the tribe Helconini with the transfer of Diospilini to the subfamily Brachistinae (Sharanowski, Dowling & Sharkey, 2011), contains five British species, two each in the genera *Helcon* Nees, and *Helconidea* Viereck, and one species of *Wroughtonia* Cameron (Broad, Shaw & Godfray, 2016). They are all rather large braconids (body length usually at least approaching 10 mm, sometimes more). They develop as endoparasitoids (probably with a final ectophagous feeding phase, although this is not known for sure) of beetle larvae living in wood. Van Achterberg (1987) revised the European fauna, and was able to cite records of apparently using Cerambycidae as hosts for four of the five British species (although none of the British species is common). However, he was unable to suggest a host for *Helcon claviventris* Wesmael, the rarest species that in fact he recorded as British for the first time on the basis of a specimen in the Natural History Museum (hereafter BMNH) from Oxford.

MATERIAL

The material in BMNH referred to by van Achterberg (1987) has been examined, in the hope of recovering more information from its labelling. In fact two such specimens are present, both labelled “Oxford, England” and “CSIRO Sirex project BM 1971-132”. One specimen (lacking its head) has the further labels “Exp 748 date 17.6.69 Frank Wilson”; “C.I.E. COLL A3567”; and “Gymnoscelus claviventris Wesm R.D. Eady det 1970”. The other has slightly different additional labels: “Exp 748 date 21–23.6.69 Frank Wilson”; “Sp 108”; and “C.I.E. COLL 3399”. Since it is possible that “Oxford” relates to the place of the rearing rather than the origin of the tree, and also in pursuit of the tree’s identity (despite being involved in the *Sirex* project it was not necessarily a conifer) and names of possible host beetles, attempts were kindly made on our behalf to trace information associated with these codes through CSIRO in Canberra, but unfortunately without success. No response was received from an enquiry made to CABI, which is believed to hold relevant files in the U.K. Thus at least for now no further information could be obtained on the provenance of these specimens.

It is pleasing to be able to record a further British specimen of *H. claviventris*, reared in the period 9.v–18.vi.2016 from a section of a dead beech *Fagus* branch picked up by HM at Mallard Wood, New Forest, Hampshire (V.C. 11, SU3108) on 27.vi.2015, and hung in a sleeve emergence trap (Mendel & Hatton, 2014). The specimen is now in the National Museums of Scotland. The piece of branch was dry, but still with bark, and would have been high in the canopy of the tree when it was standing – a fact that might provide an explanation for the apparent rarity of *H. claviventris*. The only beetles large enough to represent a possible host that were also reared were about four specimens of *Phloiotrya vaudoueri* Mulsant (Melandryidae), widely distributed in England, becoming very local and more confined to ancient woodland sites in the north. It breeds in the sapwood of many tree species, often in beech or oak *Quercus*, and it seems likely that *Ph. vaudoueri* was the host; however, as with all substrate rearings, some doubt must be attached to this.

IDENTIFICATION

In the British fauna *Helcon claviventris* is not difficult to recognise from literature available as free downloads from the www. It will key to Helconinae in Shaw and Huddleston (1991), a work whose classification is now rather out of date (cf. Broad, Shaw & Godfray, 2016) but is otherwise still useful and can be downloaded from the Royal Entomological Society's website ([royensoc.co.uk/out of print handbooks](http://royensoc.co.uk/out_of_print_handbooks)). From there, the genus *Helcon* can be further recognised by the combination of its fairly large size (fore wing about 6–9 mm), the trapezoid second submarginal cell in fore wing, the presence of rough sculpture towards the distal end of the lower edge (ridge) of the hind femur but lack of a ventral tooth, and the hind wing with the radial cell not narrowed towards its distal apex (distinctly widening in *H. claviventris*). Van Achterberg's 1987 key is also available as a free download (repository.naturalis.nl) and *H. claviventris* is anyway further recognisable by its 34–37 segmented antenna which is paler brown apically.

DISCUSSION

If coleopterists or others rear such an insect (or indeed any parasitoid) from dead wood it would be well worth recording on its data label the taxa and number of suitably sized beetles that accompany it, in the form “reared ex dead [tree] with x [numbers and names of possible host beetles]”. This is a generally suitable way to record substrate rearings of parasitoids (i.e. under circumstances in which cocoons and host remains are not recoverable to be preserved with the adult parasitoid). Such a system for distinguishing uncertain associations from verified ones is essential if the host-ranges of parasitoids are ever to become clearly understood, and the legacy from the past has proved to be a spectacularly dismal failure in this respect (Shaw, 1994, 2017).

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