

Bloody Spider-hunting Wasp

Homonotus sanguinolentus

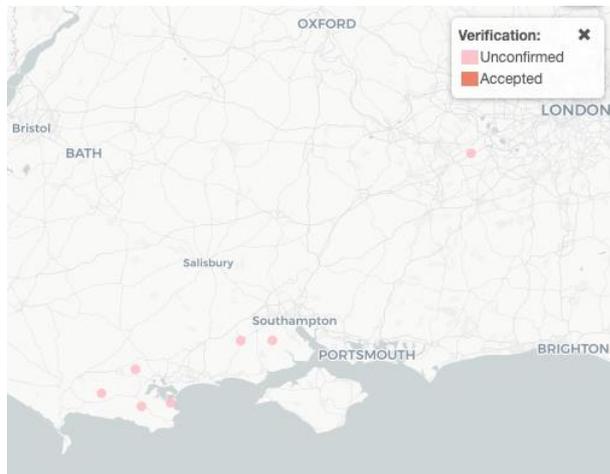


© Jeremy Early

The Bloody Spider-hunting Wasp is part of the Pompilidae family of slender, markedly active wasps that are often seen examining sandy slopes. Of c.40 family members in GB, this is the only species in the genus *Homonotus*. It is a rather strangely shaped, almost torpedo-like, pompilid with a shield-shaped head and flattened thorax. Measuring 7–9 mm, males are wholly black and females mostly likewise, but some have the pronotum and mesosoma (i.e. the thorax plus the first abdominal segment) blood-red – which explains the '*sanguino*' element of its scientific name, meaning 'bloody'. Most recent records are of larvae, which develop exclusively in the egg-laying retreat of the spider *Cheiracanthium erraticum* (family Clubionidae). The whitish larvae are initially found attached to the front of the abdomen of a gravid female spider, before spinning a greyish or light brown papery cocoon, 7–10 mm long. Larvae and cocoons of Ichneumon wasps have been found in this spider's retreat, so confirming the identification may necessitate rearing suspected *Homonotus* to adulthood.

Lifecycle

Adults fly from June to August, nectaring on umbellifers and crawling or walking with slightly jerky movements. The wasp's lifecycle is wholly contingent on that of the spider *Cheiracanthium erraticum*. The female spider spins together flowering grass stems, feather heads and leaves of small bushes into a purse-like web, a conspicuous structure that serves as an egg-laying retreat. A hunting female wasp forces her way into this retreat, swiftly paralyses the gravid (pregnant) spider with a sting, then lays her own egg on the front of the spider's abdomen. Although the spider revives, it neither lays eggs nor leaves the web. The wasp egg hatches within three days, and the larva feeds on the spider's body fluids for c.10 days until the arachnid dies. The larva then spins a cocoon within the spider's web, in which it remains until emerging the following summer.



Bloody Spider-hunting Wasp distribution across Britain and Ireland.

The data used to create this map has been provided under OGB license from the National Biodiversity Network (NBN) and accessed from the Society's online database. Map data © [OpenStreetMap](#)

Habitat

In Britain, the Bloody Spider-hunting Wasp has been found exclusively on lowland heathland, being particularly associated with wet heath dominated by tall, ungrazed Purple Moor-grass *Molinia caerulea* and with valley mire. On heathland, at least, these are the favoured habitats of the host spider *Cheiracanthiym erraticum*. In Dorset, the spider's egg-retreats have been observed in 14+ plant species, most numerous in Cross-leaved Heath *Erica tetralix* and Ling *Calluna vulgaris* but also in cotton-grass *Eriophorum* sp. Adult wasps have been recorded on a sandy path, in low vegetation, and feeding on Wild Carrot *Daucus carota* and Yarrow *Achillea millefolium*.



(l-r) *Homonotus* larva on host spider *Cheiracanthiym erraticum*; egg-retreat of host spider; spider and wasp habitat, Creech Heath, Dorset.

Distribution

This wasp is restricted to southern England's lowland heathlands, specifically the Dorset Heaths (most recently found at three sites in 2011), Hampshire's New Forest (two possible larval records in 2010, but otherwise apparently unrecorded since 2000) and Surrey's Thames Basin heaths (a 2011 record was seemingly the first confirmed encounter for c.70 years). The difficulty of encountering this wasp suggests that it remains present at low density on lowland heathland throughout its historical range.

GB status and rarity: Endangered.

Protection under the law

The Bloody Spider-hunting Wasp is included in Section 41 (England) of the National Environment and Rural Communities Act (2006) as a species "of principal importance for the purpose of conserving biodiversity".

Survey method

The adult wasp is elusive, with records stemming from chance direct observations. The best hope may be to survey flowering umbellifers and Asteraceae near *Cheiracanthiym erraticum* egg-retreats. It is more efficient to survey suitably damp habitat with tall vegetation for spider nests, in July or August. When a nest is found, use fine forceps to make a small hole then check whether a *Homonotus sanguinolentus* larva is attached to the abdomen of any female spider present. If a larval cocoon is encountered, this may need to be taken for rearing to confirm the identification as *H. sanguinolentus* rather than an ichneumon wasp.

Reasons for decline

The main limiting factor is the availability of the host spider on remnant lowland heathlands. Heavy grazing by deer or domestic animals removes rank vegetation on which *Cheiracanthiym erraticum* depends. Other threats include the loss of damp heathland to development or forestry; scrub and pine encroachment; the deliberate burning of bogs to provide grazing; and accidental fire. Cool weather may also adversely impact populations.

Habitat management

This wasp needs a large population of the spider *Cheiracanthiym erraticum*, with webs persisting until the following summer. Accordingly, grazing needs to be managed such that tall grass remains intact in damp areas, but active management (e.g. rotational cutting/mowing) is needed to prevent scrub or pine encroachment. Firebreaks help mitigate accidental burning.

Sources and further information

Much of the text is based on original research by the Aculeate Research Group/Hymettus Ltd., e.g. Hymettus Ltd (2009) [Aculeate information sheets. 4: Homonotus sanguinolentus, a spider-hunting wasp of southern heathlands](#). Hymettus Ltd, Midhurst.

Falk, S. (1991) [A review of the scarce and rare bees, wasps and ants of GB](#). *Research and Survey in Nature Conservation* 35. JNCC, Peterborough.

<https://www.bwars.com> – species profile and map.

Version: V1 2020 (JL)