

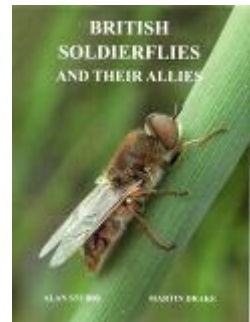
# Key to genus *Hybomitra* (Tabanidae)

Compiled by Martin C. Harvey at February 2018.

## Acknowledgments

The text of this key is very largely taken from the key in *British Soldierflies and their Allies* by Alan Stubbs and Martin Drake, which incorporated information from Andy Grayson. Any suggestions for further improving the keys will be gratefully received.

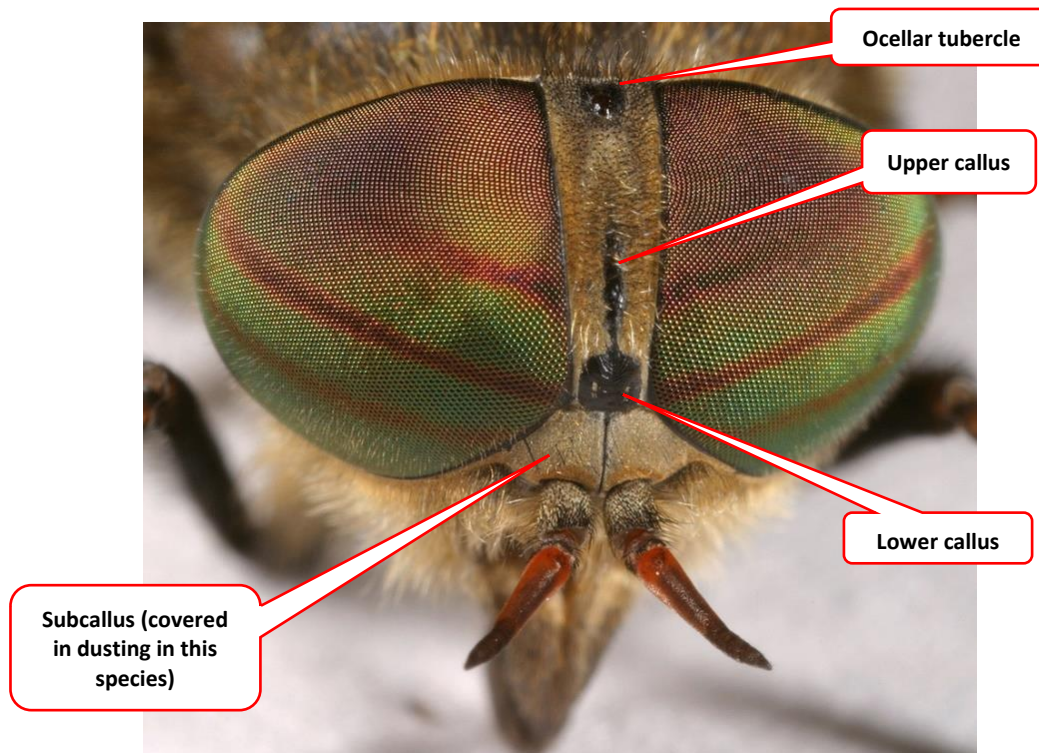
Most of the photos are of specimens from the Natural History Museum collections, taken by Martin Harvey using the photo-stacking system made available by the NHM's Angela Marmont Centre for UK biodiversity – thanks to Chris Raper for his assistance with the photography. Additional photos have been kindly provided by Malcolm Storey (via his Biolimages website).



Nine species of *Hybomitra* horseflies are known from the UK:

- *H. bimaculata*
- *H. ciureai*
- *H. distinguenda*
- *H. expollicata*
- *H. lurida*
- *H. micans*
- *H. montana*
- *H. muehlfeldi*
- *H. solstitialis*

*Hybomitra* species (in contrast to *Tabanus*) have at least a few hairs on the eyes (less obvious in the females, and *expollicata* can have very few hairs). Females have an ocellar tubercle on the top of the head – this is a pimple-like lump at the top of the frons (but lacking ocelli), which requires a hand lens to be seen. In live specimens, the eye bands also give a good lead. *Hybomitra* species have three eye bands (one or no bands in some *expollicata*), a pattern found otherwise only in *Tabanus glaucopis*. All other clear-winged horseflies have fewer bands.



*H. distinguenda* – female, fresh specimen showing eye stripes.

Photo: [Malcolm Storey/Biolimages](#)

***Hybomitra* – males (eyes touching)**

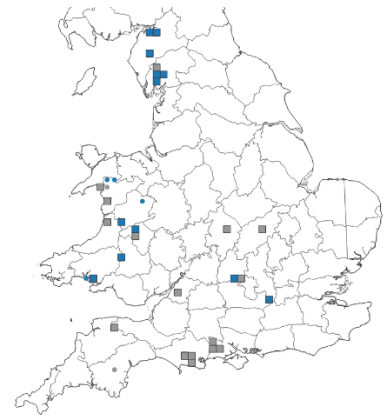
1. Legs entirely black. Front tarsi with very long hairs dorsally (view from side). (Abdomen black or with only a slight orange tinge or dusky orange patches on the flanks.) .....***H. micans***
- Legs with at least tibiae orange (can be quite dark orange in some *bimaculata*). Front tarsi with very short hairs. ....2



*H. micans* – male



*H. micans* – male, fore-tibia from side



***H. micans* (Black-legged Horsefly)**  
 Scattered in England and Wales, an old record for Scotland.  
 In wet grassland next to woodland.  
 • GB threat: Vulnerable  
 • GB rarity: Nationally Rare

2. Mid tibia without long anterior hairs (none longer than width of tibia). ....3



*H. montana* – FEMALE, right mid-tibia from above

- Mid tibia with many very long hairs on anterior side (fewer in *lurida*). ....4



*H. bimaculata* – FEMALE, right mid-tibia from above



3. Halteres whitish, orange or pale brown (some other *Hybomitra* and *Atylotus* are similar). Sternites with strong median stripe (as tergites). ..... ***H. expollicata***
- Halteres mainly dark brown or blackish. Sternite 3 entirely yellow, or at least with reduced stripe compared with tergites. (Abdomen can be more extensively darkened than shown.) ..... ***H. montana***

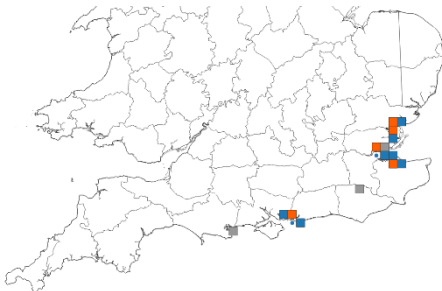


*H. expollicata* – male

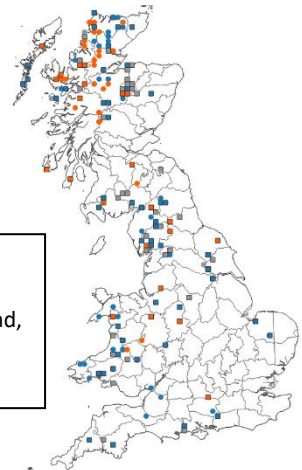


*H. montana* – male

***H. expollicata* (Striped Horsefly)**  
 Coastal, south-east, in brackish marshes  
 • GB threat: Near Threatened  
 • GB rarity: Nationally Rare



***H. montana* (Slender-horned Horsefly)**  
 Scotland, Wales, northern England, New Forest, Sussex  
 In bogs, mires, wet heaths



4. Tergite 3 with median stripe usually at least a quarter of the width of the tergite (occasionally narrower). Eye facets of equal size and basal antennal segments dark. .... 5



- Tergite 3 with a narrow median stripe, less than a quarter the width of the tergite. Eye facets grade from small below to large above (exceptionally, of equal size and first antennal segment pale). .... 6



5. Head very wide in front view, lower eye angle much more than 90° (unique within *Hybomitra*). Tergite 3 mid-line with hairs as long as maximum width of tibia (side view). Tergites with black areas mainly remaining shining black in hind view. Hind tibia with few ventral hairs as long as width of tibia (not to be confused with dense fringe of posteroventral hairs). .....***H. lurida***
- Head more rounded, lower eye angle about 90°. Tergite 3 on mid-line with hairs much shorter than maximum width of hind tibia. Tergites with most of black areas turning light grey in hind view. Hind tibia with long ventral hairs along virtually whole length, some slightly crinkly ones twice as long as width of hind tibia. .... ***H. bimaculata***



*H. lurida* – male (antennae broken)



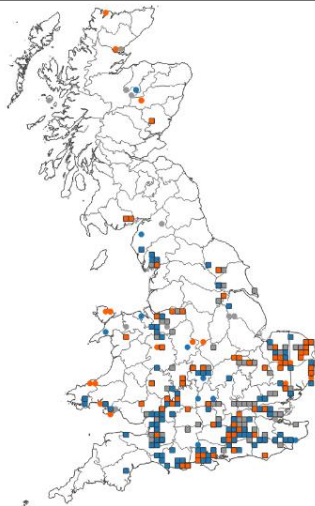
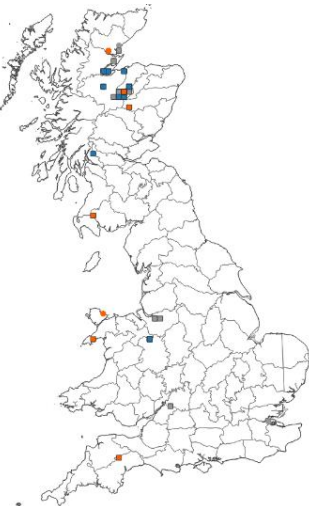
*H. bimaculata* – male

***H. lurida* (Broad-headed Horsefly)**

Scotland, north Wales,  
Cumbria, Shropshire/Cheshire  
In mires, mosses  
• GB threat: Vulnerable

***H. bimaculata* (Hairy-legged Horsefly)**

Scattered, mostly southern  
but north to Scotland  
In lowland woods on boggy  
heaths, fens and marshy  
grassland near woods



*H. bimaculata* – male, fresh specimen showing eye stripes.  
Photo: [Malcolm Storey/Biolimages](#)

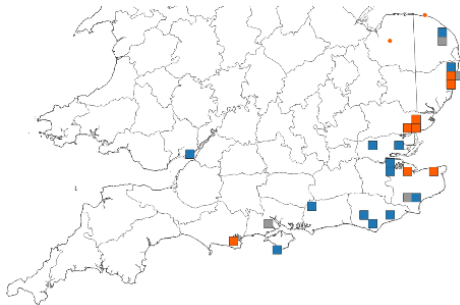
6. Eye facets of equal size (except for slight enlargement of facets adjacent to frons). Flanks of basal tergites typically very pale orange, almost whitish-yellow. ....***H. solstitialis***
- Eye facets gradually or sharply zoned (small below, large upper central). Flanks of basal tergites typically orange. ....7

***H. solstitialis* (Scarce Forest Horsefly)**  
 New Forest, Oxfordshire  
 In mires and fens  
**WARNING:** with the exception of the New Forest records, it is likely that all the dots on the map are erroneous; records from 2011 near Oxford are not yet mapped  
 • GB threat: Endangered  
 • GB rarity: Nationally Rare



7. Ground colour of antennal segment 1 orange but partly hidden by grey dusting on the dorsal and outer surfaces. Eye facets fairly sharply zoned, very large facets in upper central area. ....***H. ciureai***
- Antennal segment 1 completely dark (no orange tinge below grey dust). Eye facets grade in size, contrast in size weak. ....8

***H. ciureai* (Levels Yellow-horned Horsefly)**  
 Coastal, south-east, south Wales  
 In grazing levels, freshwater ditches  
 • GB rarity: Nationally Scarce



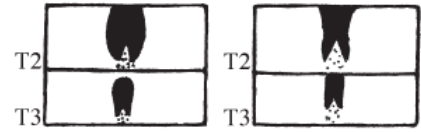


8. Tergites 2 and 3 turn strongly silver in hind view (as *ciureai*); the median stripe with long grey triangles. Sternite 2 with entirely yellow hairs. Upper central eye facets a little larger by comparison.



.....*H. muehlfeldi*

- Tergites 2 and 3 only weakly silver in hind view; median grey triangles less tall. Sternite 2 with black hairs in anterior median area. Upper central eye facets more weakly enlarged.



.....*H. distinguenda*



*H. muehlfeldi* – male



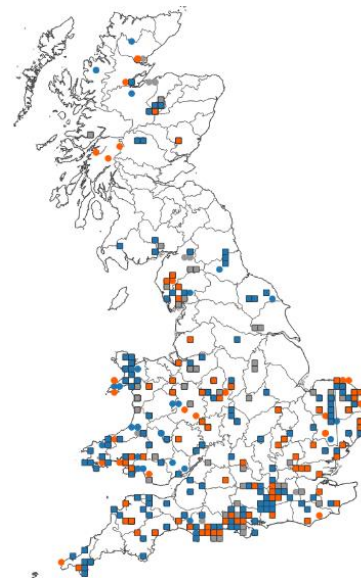
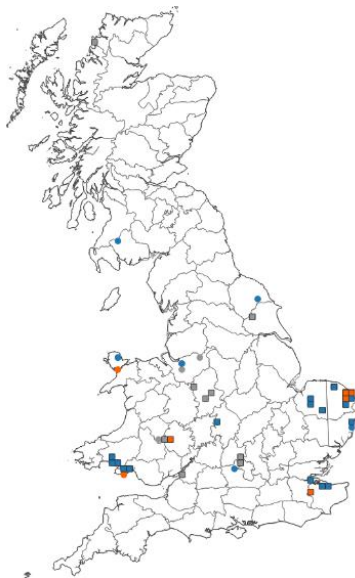
*H. distinguenda* – male

***H. muehlfeldi* (Broadland Horsefly)**

Norfolk, Wales, many unconfirmed records from elsewhere  
In fens, in conjunction with pingos and bogs  
• GB rarity: Nationally Scarce

***H. distinguenda* (Bright Horsefly)**

Widespread, scarcer in north  
In wet meadows and pastures, wet woods, heaths and bogs



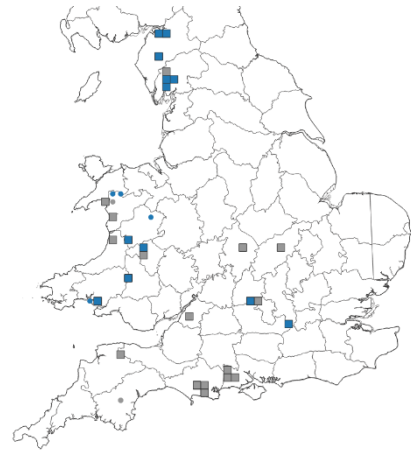
**Hybomitra – females (eyes separated)**

1. Legs completely black. ....***H. micans***  
 – Legs partially yellowish, especially the tibia (can be quite dark in some *bimaculata*). .....2



*H. micans* – female

***H. micans* (Black-legged Horsefly)**  
 Scattered in England and Wales, an old record for Scotland. In wet grassland next to woodland.  
 • GB threat: Vulnerable  
 • GB rarity: Nationally Rare



2. Subcallus partly bare and shining; head strongly transverse, lower angle between eyes greater than 90° (view head face-on). In hind view, tergites with broad median stripe remaining shining black, together with some more lateral areas. ....***H. lurida***

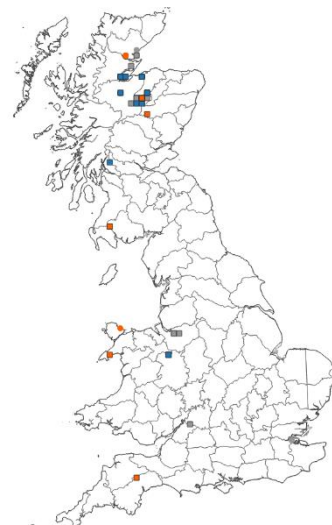


- Subcallus entirely dusted, like frons and jowls (take care with rubbed specimens; if in doubt check other characters). Head more rounded, lower angle between eyes about 90°. In hind view the tergite pattern often different. ....3



*H. lurida* – female

***H. lurida* (Broad-headed Horsefly)**  
 Scotland, north Wales, Cumbria, Shropshire/Cheshire  
 In mires, mosses  
 • GB threat: Vulnerable  
 • GB rarity: Nationally Rare





3. Abdomen with a continuous narrow parallel-sided median stripe (immediately flanked by black with black hairs). Typically with entirely black antennae and pale halteres. .... ***H. expollicata***



- Abdomen with median grey triangles, sometimes indicated by triangles of pale hairs only. Typically with some orange on antennae and at least partly dark halteres. ....4

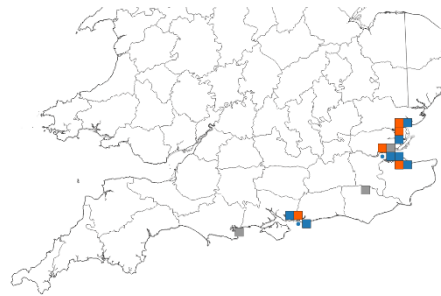


*H. expollicata* – female



*H. expollicata* – female – pale haltere

***H. expollicata* (Striped Horsefly)**  
 Coastal, south-east, in brackish marshes  
 • GB threat: Near Threatened  
 • GB rarity: Nationally Rare





4. Mid tibia normally with very long anterior hairs, some twice as long as width of tibia (rarely poorly developed). Abdomen generally very dark, or orange reduced to lateral spots on tergite 2, but occasionally with orange more extensive. In hind view, tergite 2 turns strongly silver. .... *H. bimaculata*



*Hybomitra bimaculata* – female, right mid tibia from above



*Hybomitra bimaculata* – female, second and third tergite patterns

- Mid tibia with short anterior hairs, or a few about as long as width of tibia. Abdomen normally with extensive orange or murky orange flanks, the median stripe being narrow in some species. In hind view, tergite 2 usually shows a weak sheen of faint silver or murky yellow (although more silver in *solstitialis*). .....5

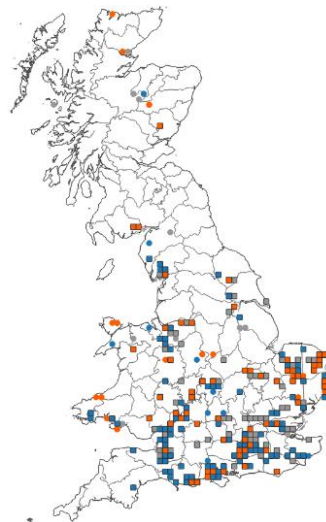


*Hybomitra montana* – female, right mid-tibia from above



*Hybomitra bimaculata* – female

***H. bimaculata* (Hairy-legged Horsefly)**  
Scattered, mostly southern but north to Scotland  
In lowland woods on boggy heaths, fens and  
marshy grassland near woods



- 5. First antennal segment orange (visible beneath any grey dust, at least on inside and beneath). .....6
- First antennal segment entirely dark (no orange visible beneath grey dust). .....7

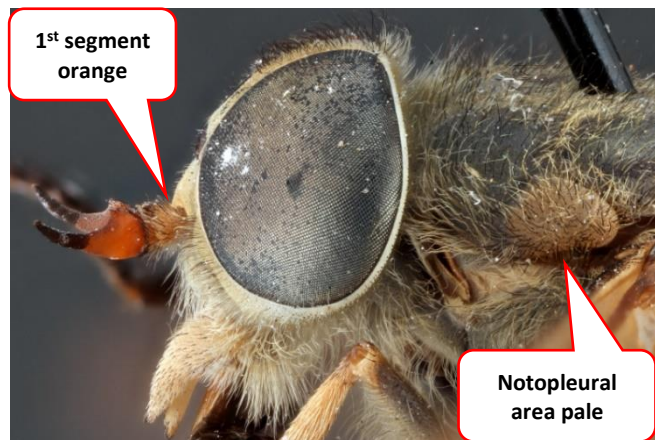
6. First antennal segment visibly orange even dorsally. Notopleural area orange, in sharp contrast to adjacent areas of the thorax. Sternite 8 and dorsal lamellae – see figure at end of key. (Some specimens of *muehlfeldi* run to here and are very difficult to separate – see text; in *ciureai* tergite 2 in hind view turns only weakly yellow-silver, but more strongly silver in *muehlfeldi* and *solstitialis*.) ..... *H. ciureai*



– First antennal segment usually completely grey dorsally, but can be orange as in *ciureai*. Notopleural area dark. Sternite 8 and dorsal lamellae similar to those of *bimaculata* – see figure at end of key. .... *H. solstitialis*

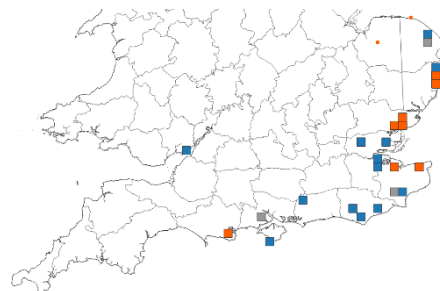


*H. ciureai* – female



*H. ciureai* – female

***H. ciureai* (Levels Yellow-horned Horsefly)**  
 Coastal, south-east, south Wales  
 In grazing levels, freshwater ditches  
 • GB rarity: Nationally Scarce



***H. solstitialis* (Scarce Forest Horsefly)**  
 New Forest, Oxfordshire  
 In mires and fens  
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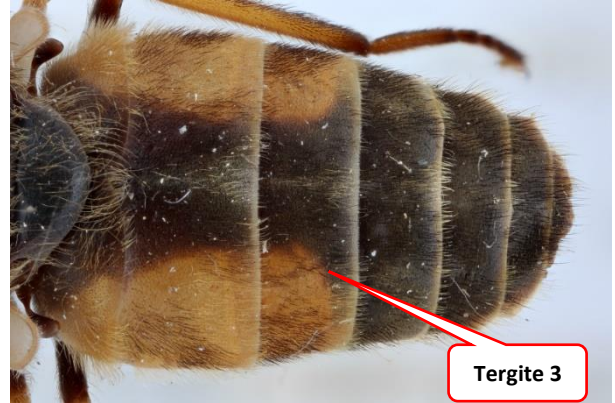




- 7. Tergites 1–4 broadly orange on the flanks (rarely restricted on 4), with virtually all hairs on the lateral third orange, at least on tergite 2 (ignore the few scattered black hairs). Tergite 3 normally with the central stripe narrow along entire length. ....***H. distinguenda***
- Tergites 4 with orange flanks not well developed. Orange flanks with black hairs, at least as well developed patches, even on tergite 2. Tergite 3 normally with central stripe splaying out towards posterior margin. ....8



*H. distinguenda* – female, showing yellow hairs over orange at sides of abdomen. Photo: [Malcolm Storey/Biolimages](https://www.biolimages.com/)



*H. muehlfeldi* (*H. montana* is similar) – female, showing black hairs over orange colour at sides of abdomen

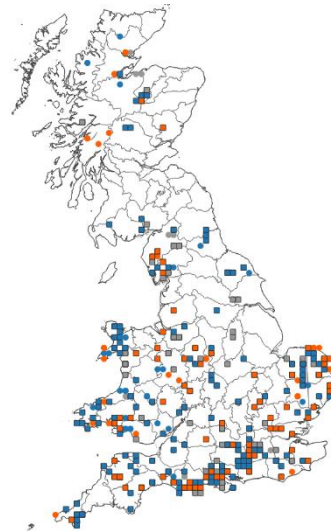


*H. distinguenda* – female

***H. distinguenda* (Bright Horsefly)**

Widespread, scarcer in north

In wet meadows and pastures, wet woods, heaths and bogs





8. Mid tibia anteriorly with only very short hairs. Third antennal segment narrow, often mainly or entirely dark. Frons broad. Tergites 2 and 3 with broad median stripe occupying one third of its width black dominant over median grey; in hind view tergites with scarcely any dusting so pattern still obvious. (Ln life: eyes vivid green (roughly like the green of *Chrysops*), noticeable from a distance.)

..... *H. montana*

- Mid tibia anteriorly with long hairs about as long as width of tibia. Third antennal segment broad with strong crest, usually mainly orange. Frons narrow. Tergites 2 and 3 with narrow median stripe less than a quarter of its width, dominated by median grey; in hind view all tergites with strong silver or yellow dust obscuring the pattern. (*H. solstitialis* with dark first antennal segments run to here, but shape of sternite 8 and dorsal lamellae in *solstitialis* are like those of *bimaculata* (see figure below).

..... *H. muehlfeldi*

*H. montana* – female, right mid-tibia from above



*H. muehlfeldi* – female, right mid-tibia from above



*H. montana* – female showing third antennal segment narrower and mainly dark



*H. muehlfeldi* – female showing third antennal segment broader and mainly orange



*H. montana* – female showing broader frons



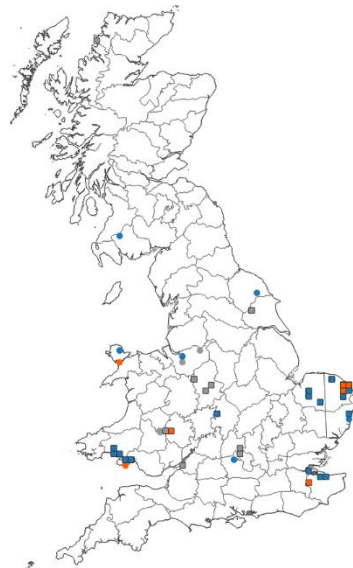
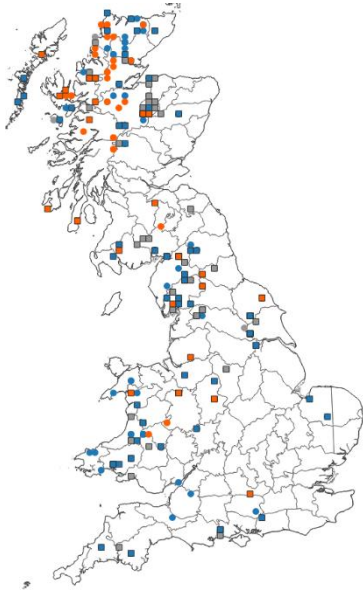
*H. muehlfeldi* – female showing narrower frons

***H. montana* (Slender-horned Horsefly)**

Scotland, Wales, northern England, New Forest, Sussex  
In bogs, mires, wet heaths

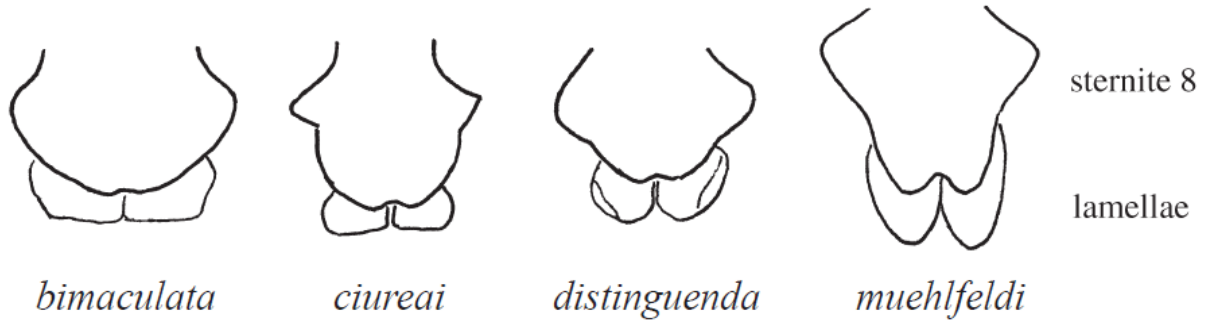
***H. muehlfeldi* (Broadland Horsefly)**

Norfolk, Wales, many unconfirmed records from elsewhere  
In fens, in conjunction with pingos and bogs  
• GB rarity: Nationally Scarce

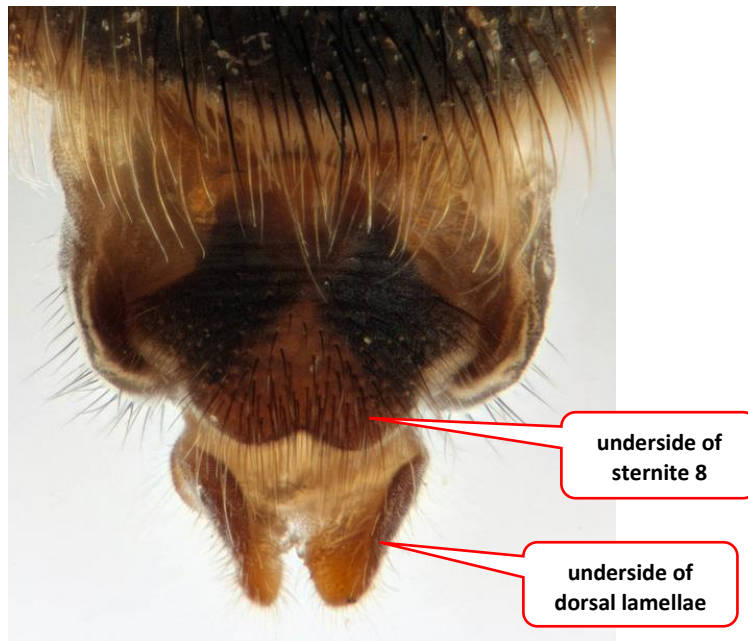


The shape of sternite 8 and the accompanying pair of dorsal lamellae can assist identification (see diagrams below). These structures lie hidden beneath the last visible sternite (7) and are revealed either by pulling them out whilst the specimen is fresh or by breaking off sternite 7 with fine forceps (taking care to lift the sides first so as to avoid damage to the central structures).

*H. ciureai* can be very difficult to separate using the key. However, note the short square-ended lamellae compared with the long rounded lamellae of *muehlfeldi*; the latter also has the apex of sternite 8 narrower and with a more distinct apical notch.



Apex of abdomen at bottom of figures, ventral view. After Oldroyd (1969).



*H. distinguenda* – female, ventral view of tip of abdomen, showing sternite 8 and the dorsal lamellae.

Photo: [Malcolm Storey/BiolImages](#)