

Identifying soldierflies and allies: soldierflies in subfamily Pachygastrinae

Compiled by Martin C. Harvey for the Soldierflies and Allies Recording Scheme

Version 1 at 9 February 2020

These guides are only possible thanks to the generosity of the brilliant photographers who have allowed their images to be used. Special mention must be given to Malcolm Storey and Steven Falk, whose photo collections form the backbone for most of the species guides:

Malcolm Storey's [BioImages website](#) – Steven Falk's [photo collections on Flickr](#)

Other photographers included in this guide are Allan Burrows, Arnold Wijker, Dick Belgers, Jeremy Early, Jeremy Richardson, John Bingham and Martin Harvey.

Males are shown first, one page for each species, then females. The pages for males include distribution maps taken from the recording scheme's [provisional atlas](#) (Harvey 2017).

As far as possible, these guides show features that can be seen on live insects in the field, or are likely to be visible in photographs. For comprehensive identification keys and species accounts see [British soldierflies and their allies](#), by Alan Stubbs and Martin Drake. See also the recording scheme's [additional notes](#) to accompany the Stubbs and Drake keys.

For lots more information on soldierflies and allies go to the recording scheme [website](#), [Twitter](#) page or [Facebook](#) group.

For lots more information and events, and to support the study and conservation of flies, please consider joining [Dipterists Forum](#).

Records wanted!

Once you have identified your fly, please let the recording scheme have the details! Add to [iRecord](#) or send to the [recording scheme](#) so that we can share the records for conservation and research.

The Soldierflies and Allies Recording Scheme is part of Dipterists Forum



The Soldierflies and Allies Recording Scheme is supported by the UKCEH Biological Records Centre



Recognising the subfamily: Pachygastrinae

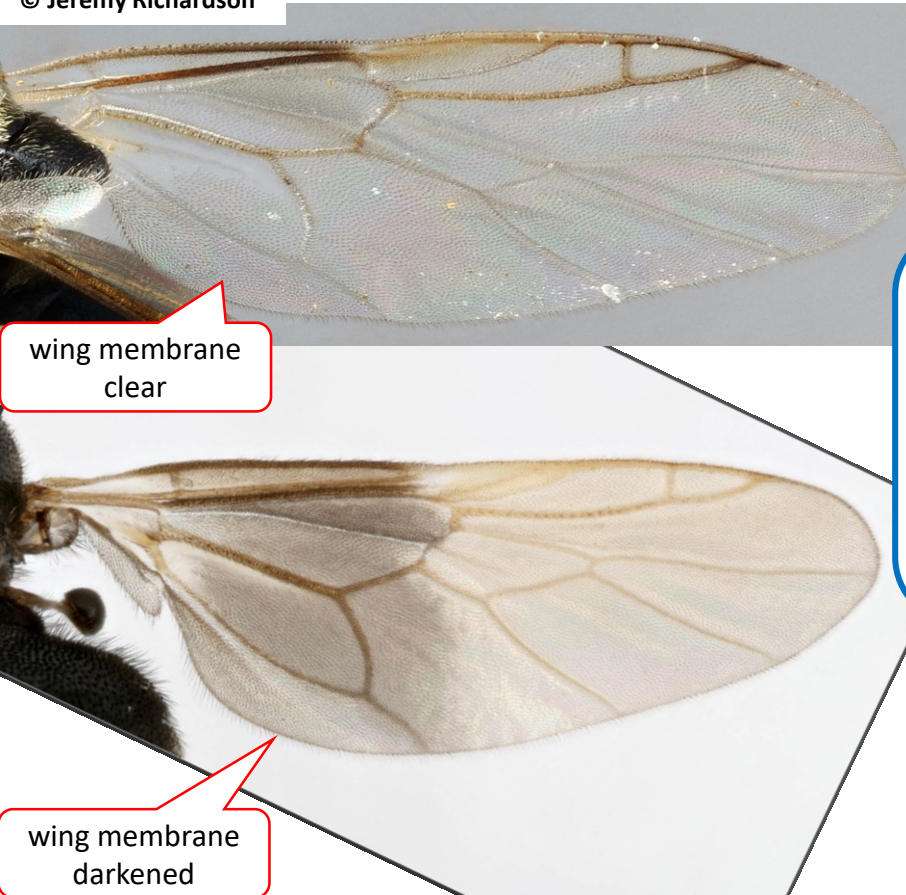
The subfamily Pachygastrinae contains five small species in four genera: *Pachygaster* (2 species, which are the most frequently encountered of this group), *Eupachygaster*, *Neopachygaster* and *Zabrachia*. All are quite similar in shape, with rather rounded, 'dumpy' bodies. They look rather unlike the rest of the soldierfly family and no doubt often go unrecognised.

The species all have dark bodies, and identification depends on details of the wing markings, leg colours and shape of the head and scutellum. They are all between 2mm and 4mm long. Males and females have differing identification features, so always check the eyes to see which sex you have (in males the eyes meet or nearly meet on the front of the top of the head, in females they are quite widely separated).

All of this group are associated with trees and hedges or scrub, and have larvae that develop under bark or in rotting wood. The two *Pachygaster* species are widespread in England and Wales in a wide range of habitats including gardens, where they will breed in compost. The other three species are much less frequently seen, and are more restricted to trees and woodlands. *Zabrachia* is associated with pine trees specifically, and it is easier to find its larvae under pine bark than it is to find the adults.

This group has a distinctive shape, with a rounded abdomen and humped thorax and often with the head swollen behind the eyes.

© Jeremy Richardson



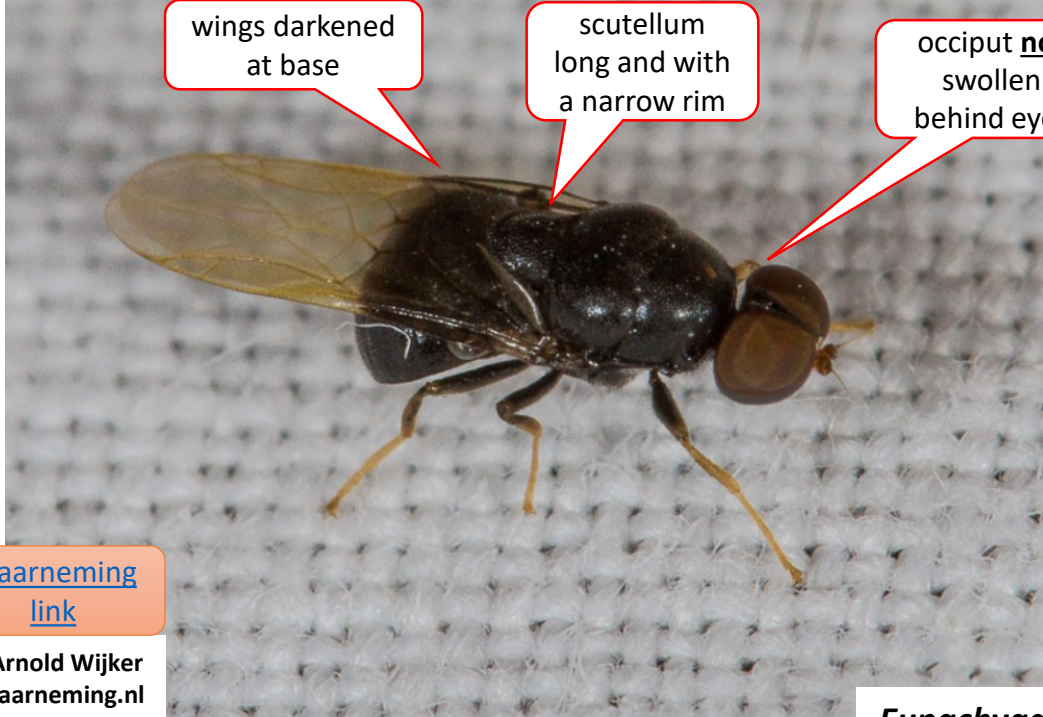
Two of the five species have wings that are darkened at the base, but this can be hard to see in the field or in photos, especially if taken from directly above, where it becomes difficult to tell if the wing is actually darkened or if the black abdomen is showing through a transparent wing.

- Wing darkened at base = *P. atra* and *E. tarsalis*
- Wing clear = *P. leachii*, *N. mesomelas* and *Z. tenella*



P. leachii is the only species in this group that has the femora almost entirely pale – the other species all have darkened femora

© Malcolm Storey / Biolimages



wings darkened at base

scutellum long and with a narrow rim

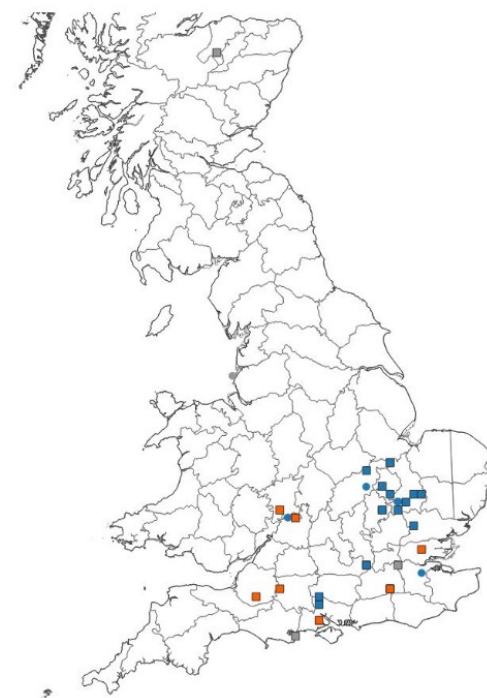
occiput **not** swollen behind eyes

[Waarneming link](#)

© Arnold Wijker / waarneming.nl

Eupachygaster tarsalis (Scarce Black) - MALE

- ID difficulty: 3
- Flight period: May to Jul
- GB threat: Least Concern • GB rarity: Nationally Scarce
- scattered
- rot-holes in deciduous trees
- No. of records: 32 • % since 2000: 31%

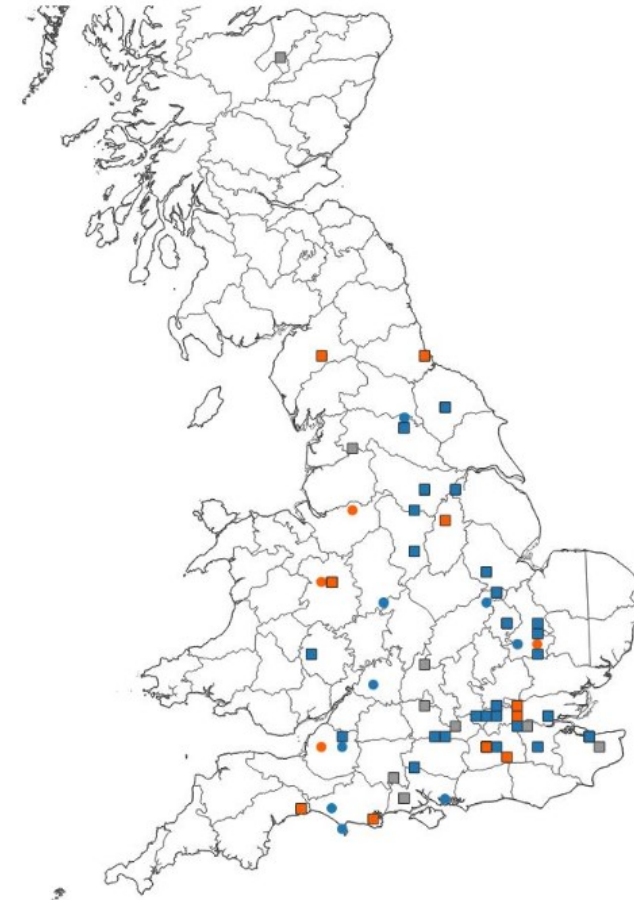


I have been unable to find any photo of a male *Neopachygaster meromelas* – if you have one please [get in touch!](#)

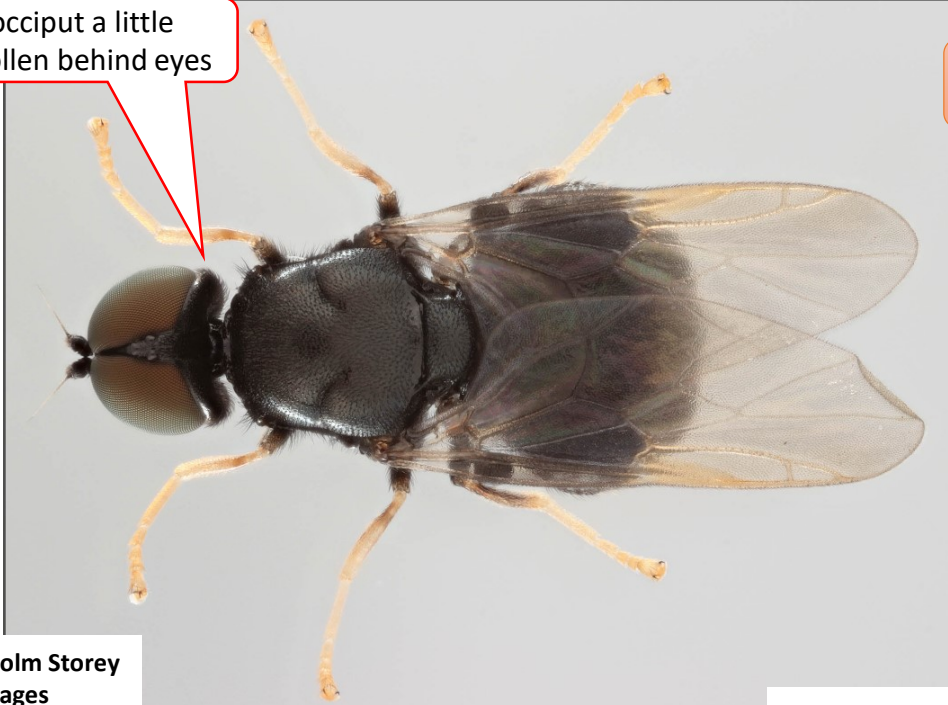
Males have wings entirely transparent, darkened femora and face with 'silver strips' (see [page for female](#)).

***Neopachygaster meromelas* (Silver-strips Black) - MALE**

- ID difficulty: 3
- Flight period: Jun to late Aug, peak Jun
- GB threat: Least Concern • GB rarity: Nationally Scarce
- scattered, mostly south-east, north to Yorks and Cumbria
- under bark of various trees
- No. of records: 71 • % since 2000: 23%



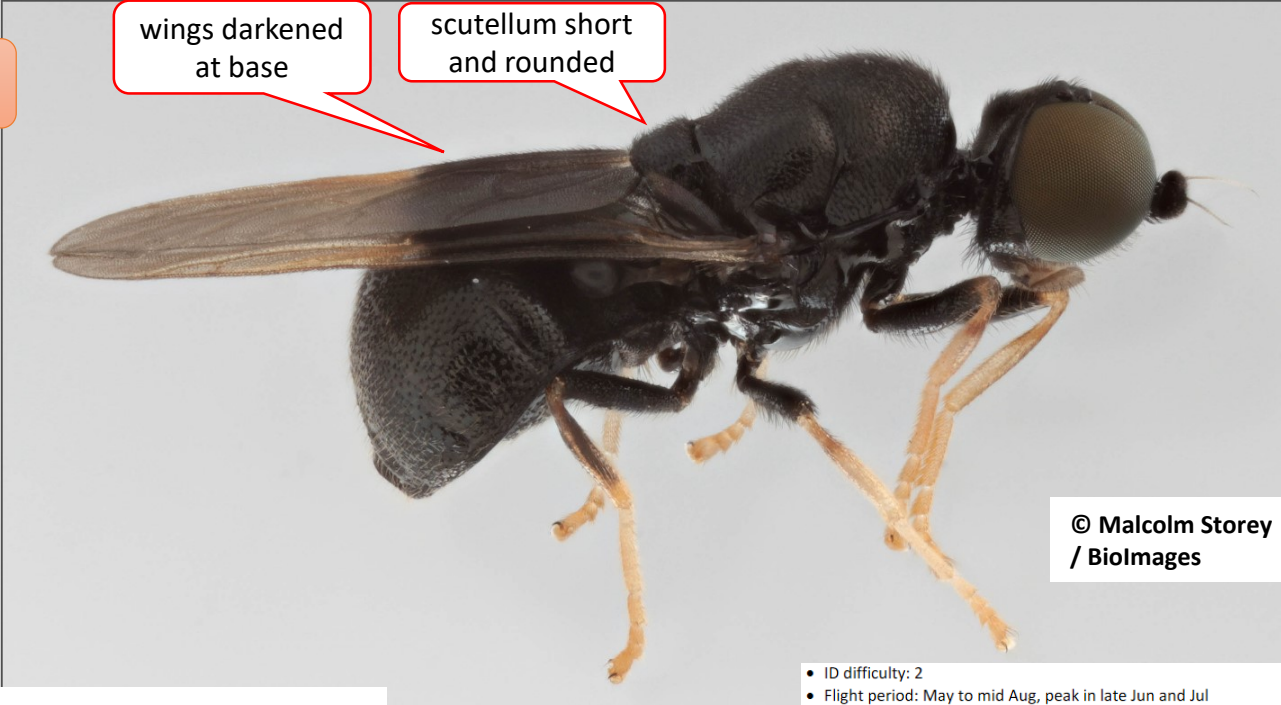
occiput a little swollen behind eyes



[Biolimages link](#)

wings darkened at base

scutellum short and rounded



© Malcolm Storey / Biolimages

© Malcolm Storey / Biolimages

Pachygaster atra (Dark-winged Black) - MALE

- ID difficulty: 2
- Flight period: May to mid Aug, peak in late Jun and Jul
- GB threat: Least Concern
- widespread in south, becoming rarer in north
- trees and bushes, woodland edges and hedgerows
- No. of records: 1713 • % since 2000: 48%
- **Caveats:** the northernmost record requires confirmation

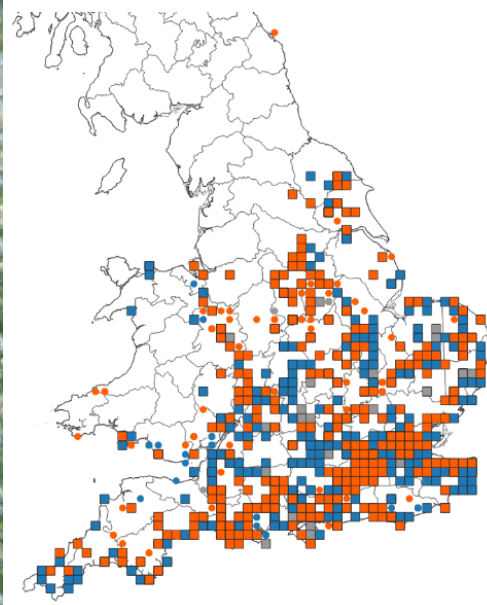


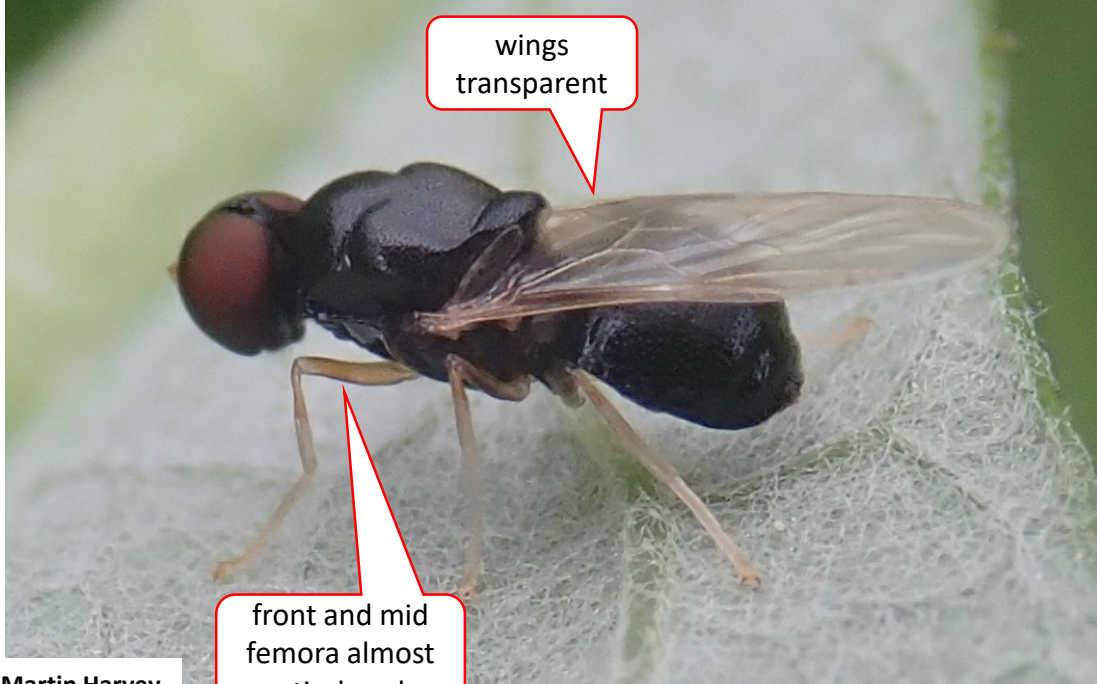
© Steven Falk

[Steven Falk link](#)



© Steven Falk





wings transparent

front and mid femora almost entirely pale

© Steven Falk
[Steven Falk link](#)

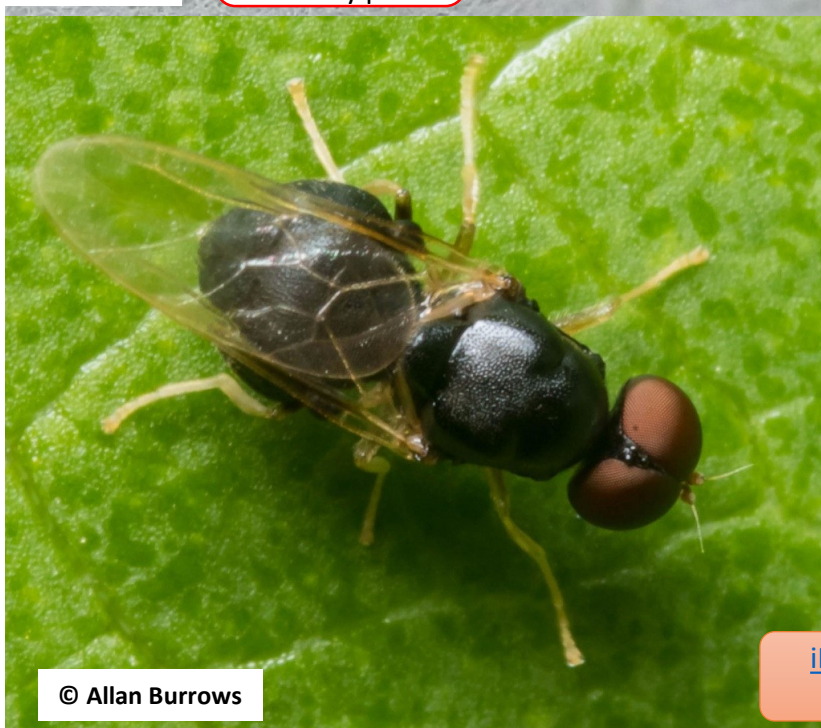


hind femora with dark band before tip

© Martin Harvey

***Pachygaster leachii* (Yellow-legged Black) - MALE**

- ID difficulty: 2
- Flight period: late May to early Sep, peak in Jul
- GB threat: Least Concern
- widespread in south, becoming rarer in north
- trees and bushes, woodland edges and hedgerows
- No. of records: 1379 • % since 2000: 51%

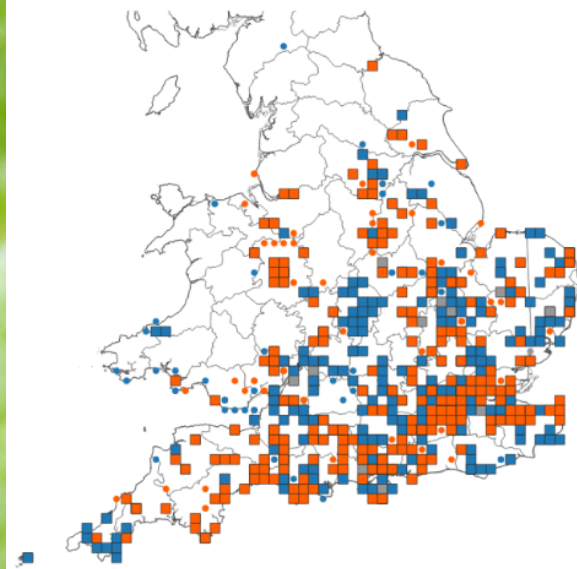


© Allan Burrows

[iRecord link](#)



© Allan Burrows

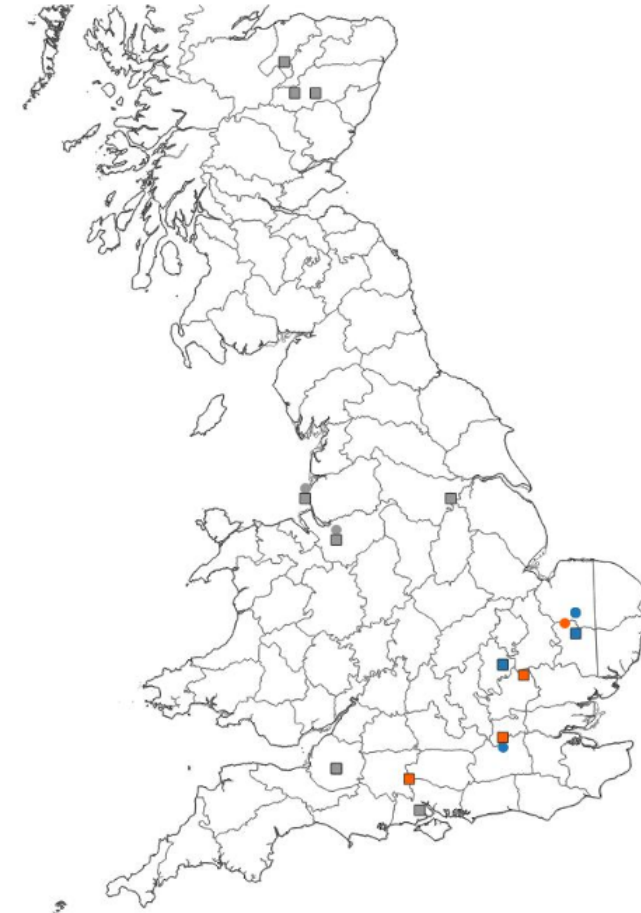


I have been unable to find any photo of a male *Zabrachia tenella* – if you have one please [get in touch!](#)

Males have wings entirely transparent, darkened femora and face entirely dark.

***Zabrachia tenella* (Pine Black) - MALE**

- ID difficulty: 3
- Flight period: Jun to Jul
- GB threat: Endangered • GB rarity: Nationally Rare
- South-east England (formerly widespread in GB)
- pine woods (larvae under bark)
- No. of records: 17 • % since 2000: 18%



occiput **only slightly** swollen behind eyes

scutellum long and with a narrow rim

wings darkened at base



[Jeremy Early link](#)



© Jeremy Early

Eupachygaster tarsalis (Scarce Black) - FEMALE



© Martin Harvey

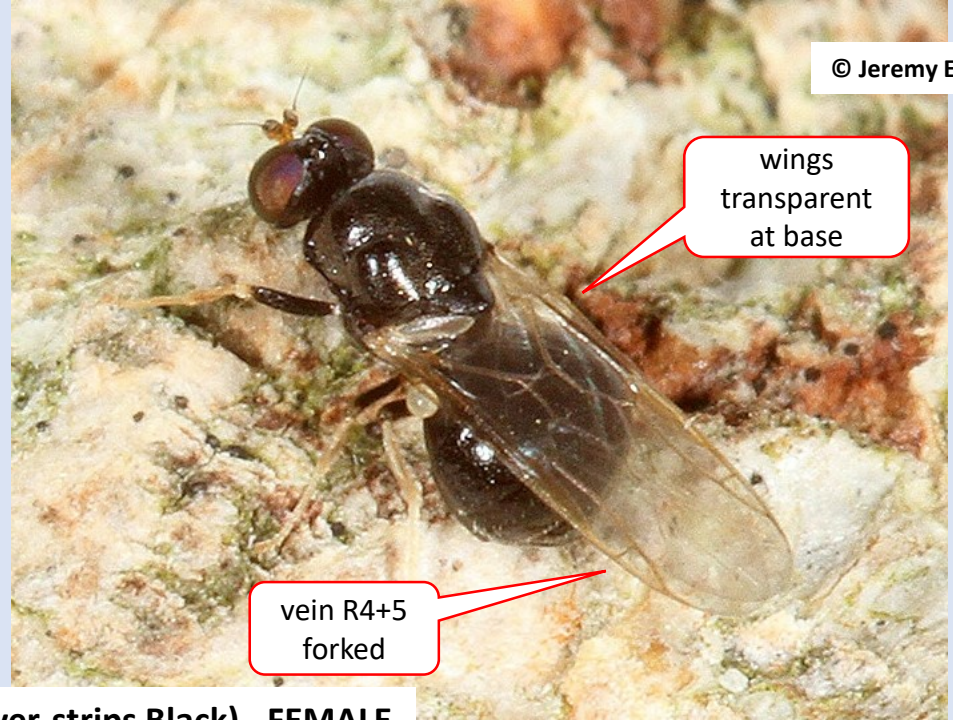
© Jeremy Early



'silver strips'
on face

[Jeremy Early](#)
[link via](#)
[Steven Falk](#)

© Jeremy Early



wings
transparent
at base

vein R4+5
forked

***Neopachygaster meromelas* (Silver-strips Black) - FEMALE**

Zabrachia tenella is very
similar – see the
[comparison page](#) below

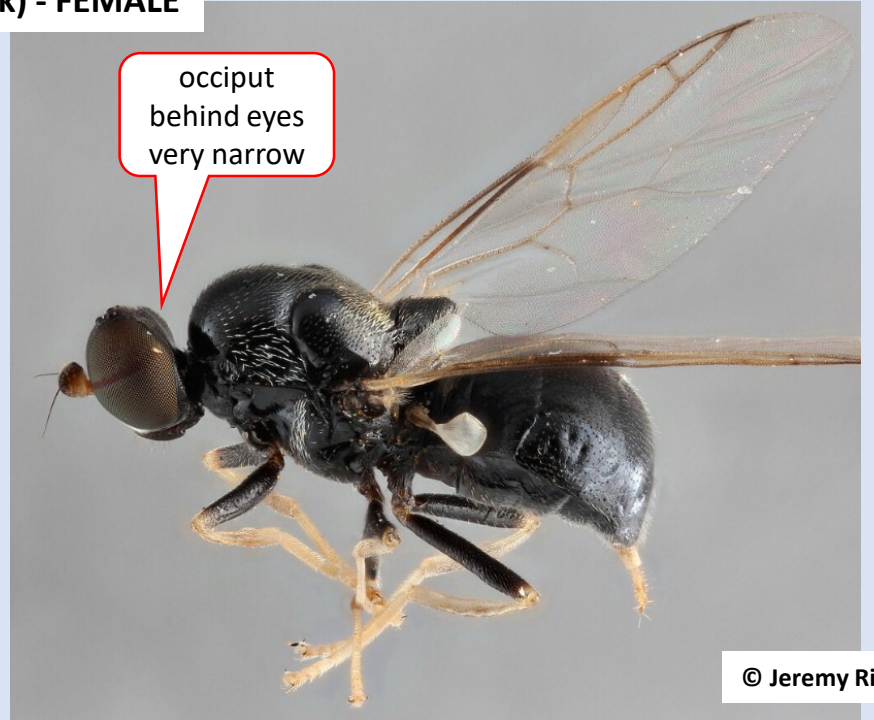
© Jeremy Richardson



'silver strips'
on face

[Jeremy Richardson](#)
[link](#)

occiput
behind eyes
very narrow



© Jeremy Richardson

© Malcolm Storey / Biolimages

[Biolimages link](#)



© Malcolm Storey / Biolimages

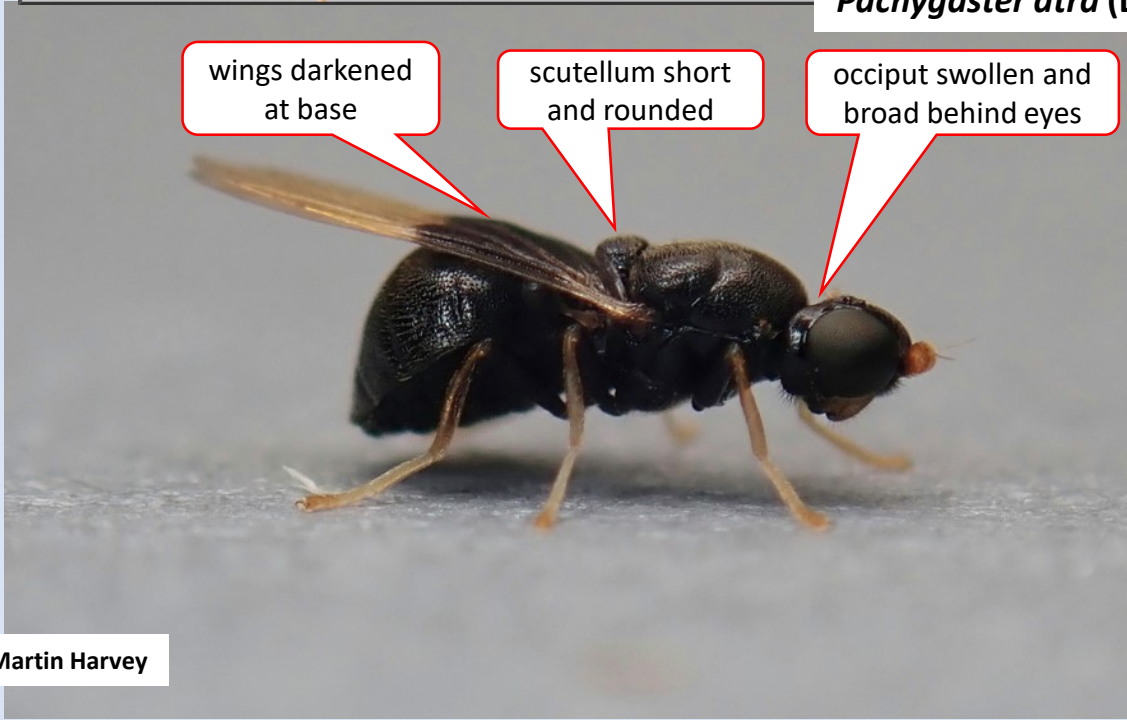


Pachygaster atra (Dark-winged Black) - FEMALE

wings darkened at base

scutellum short and rounded

occiput swollen and broad behind eyes



© Martin Harvey

[Steven Falk link](#)



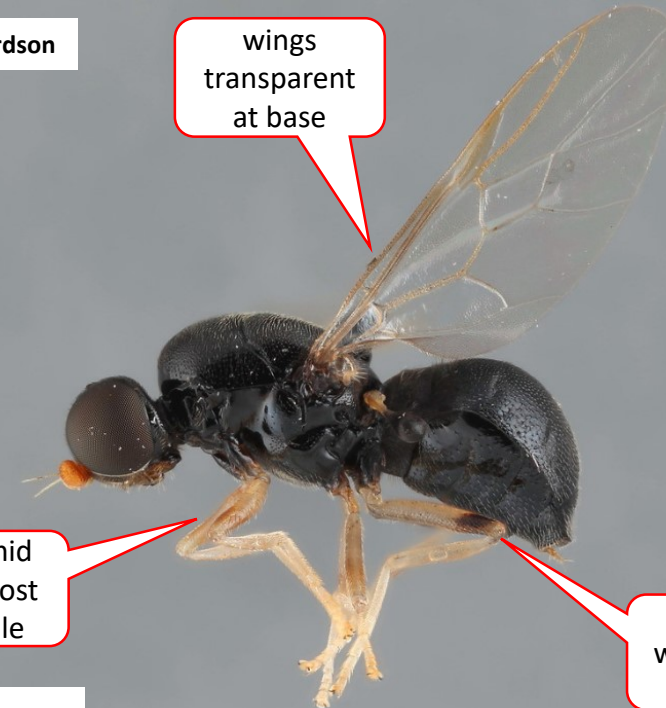
© Steven Falk

© Malcolm Storey / Biolmages



[Biolmages link](#)

© Jeremy Richardson



wings transparent at base

front and mid femora almost entirely pale

hind femora with dark band before tip

Pachygaster leachii (Yellow-legged Black) - FEMALE

[Jeremy Richardson link](#)

© John Bingham / iRecord



[iRecord link](#)



© Jeremy Richardson

[Wikimedia link](#)



occiput swollen behind eyes, so that head is longer

face entirely dark
(not visible in this photo)

vein R4+5
not forked

↑ *Zabrachia tenella* (Pine Black) - FEMALE

© Dick Belgers / Wikimedia

these two species are very similar, but they have different face markings (need to have view from directly in front) and, in the females at least, have differently shaped heads (need to have side-on view)

↓ *Neopachygaster meromelas* (Silver-strips Black) - FEMALE

© Dick Belgers / Wikipedia



occiput narrow behind eyes, so that head is shorter

has 'silver strips' on face
(not visible in this photo, see page for [Neopachygaster meromelas](#))

vein R4+5
forked

[Wikipedia link](#)