Revised key to the British Species of Suillia

Withers 1987 (with additions)

With photos and additions added by Ian Andrews 2024

The key by Phil Withers (The British species of the genus *Suillia* (Diptera, Heleomyzidae), including a species new to science *Proc. Trans. Br. Ent. Nat. Hist. Soc.* **Vol 20**: 91-104) remains probably the best key for the identification of *Suillia* in the UK. Little has been added to our knowledge of the genus in the UK since its publication in 1987. For example, *Suillia vaginata* remains rare enough to be as poorly known today as it was when the key was published and *Suillia oxyphora* has not reliably been recorded since 1987.

The Draft Key to British Species of Heleomyzidae (January 2020) by Duncan Sivell and Alan Stubbs has also advanced understanding of the genus, treating Withers' *Suillia dawnae* as a form of *Suillia parva*, and that is assumed here.

The establishment of a UK Heleomyzid Recording Scheme means that more fly enthusiasts are approaching heleomyzids and so the intention here is really to provide those new to the genus with an illustrated version of the Withers key, with a few extra descriptors included and just the one change in describing the aristae of *Suillia pallida* as short, rather than long, plumose (as proposed by Chandler 2004).

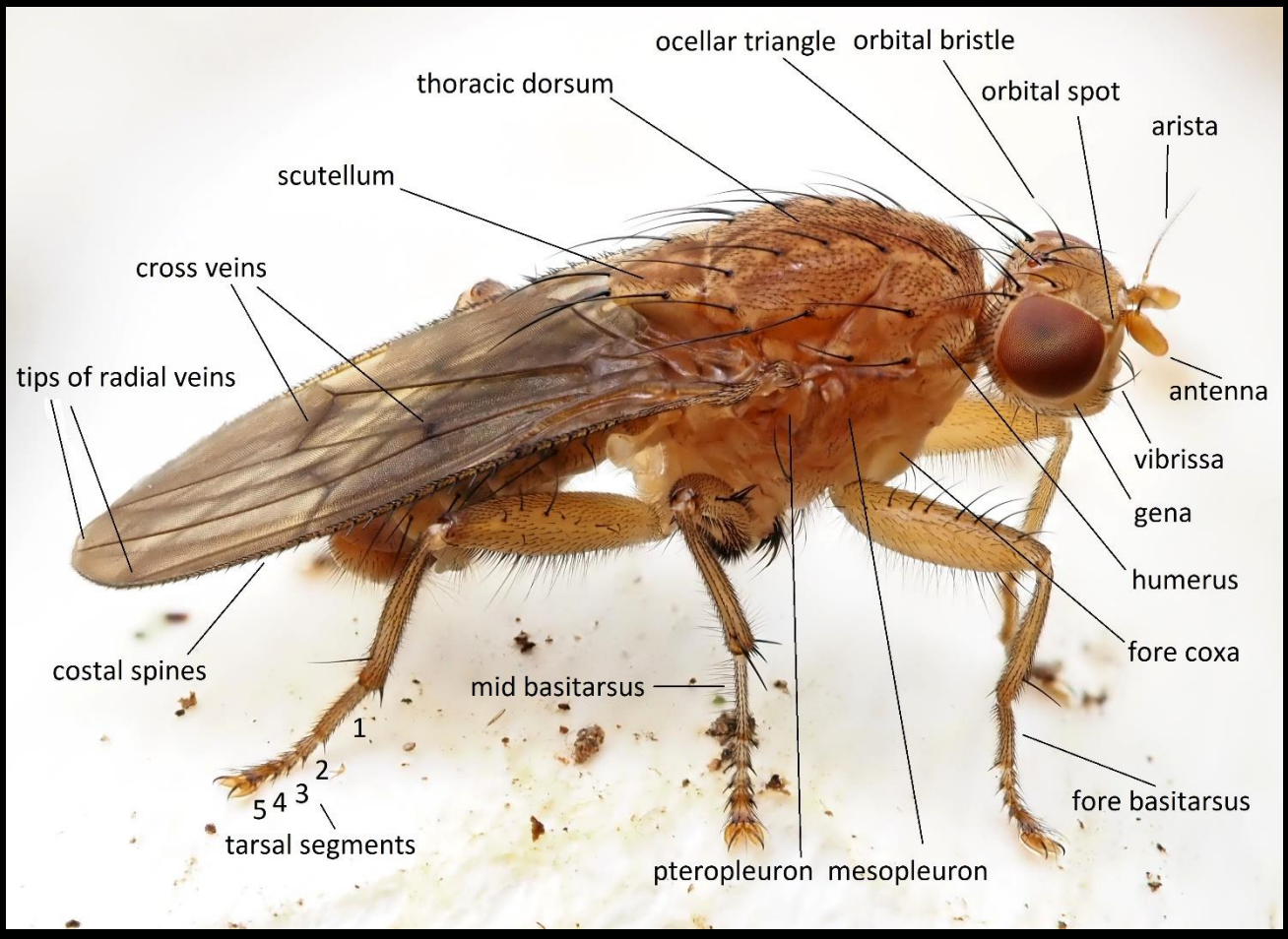
Identifications made using the key should be added to iRecord in order to increase our understanding of species' distribution and abundance. Excel spreadsheets are also welcome at syrphus@hotmail.co.uk.

The key is for personal use only. A species gallery is included after the key.

Ian Andrews

October 2024

Suillia glossary



1. Humeral bristle present. Antennae black **(Figure 1)**. Surstylus #18 Aedeagus # E ..... **atricornis (Meig.)**

Figure 1

Figure 2

- Humeral bristle absent. Antennae yellow or reddish **(Figure 2)**. **2**

2. Scutellum with prominent apical tubular projection **(Figure 3).** Surstyli # 6 Aedeagus # R ..... **oxyphora (Mik.)**

Figure 3 *Photo © Ruud van der Weele*

Figure 4

- Scutellum without prominent projection **(Figure 4)**..... **3**

3. Scutellum entirely bare of fine dark hairs **(Figure 5).** *Care must be taken with bicolor, where hairs are present but are short and pale…observe from different angles under good light* **4**

Figure 5

Figure 6

- Scutellum with at least marginal hairs **(Figure 6)**..... **6**

4. Wing veins heavily shaded **(Figure 7)**. Antennae dark. A spot at junction of facial/frontal orbit **(Figure 8)**. A large species with scutellum totally bare. Surstyli # 19. Aedeagus # J ..... **ustulata (Meig.)**

Figure 7

Figure 8

- Wing veins clear **(Figure 9)**. Antennae pale. Orbital spot absent **(Figure 10)** **5**

Figure 9

Figure 10

5. Scutellum bare and with a small median tubercle **(Figure 11)**; thoracic dorsum matt **(Figure 12)**. Male fore basitarsus without ventral hook. Costal spines long. Third antennal segment usually has a slightly darker tip. Surstyli # 1. Aedeagus # C. ..... **fuscicornis (Zett.)**

Figure 11

Figure 12

- Scutellum without tubercle **(Figure 13)**; dorsum subshining. Male fore basitarsus with ventral hook. Male mid tibiae and basitarsi have long posterior hairs **(Figure 14)**.. Surstyli #14. Aedeagus # K. ..... **dumicola (Collin)**

Figure 13

Figure 14

6. Mesopleuron and pteropleuron haired **(Figure 15).** **7**

Figure 15

Figure 16

- Mesopleuron and pteropleuron bare **(Figure 16)** **9**

7. No sub-scutellar hairs **(Figure 17)** **8**

Figure 17

- Sub-scutellar hairs (dark) present **(Figure 18).** Scutellum with full covering of hairs **(Figure 19)**. Surstyli # 7. Aedeagus # G. ..... **humilis (Meig.)**

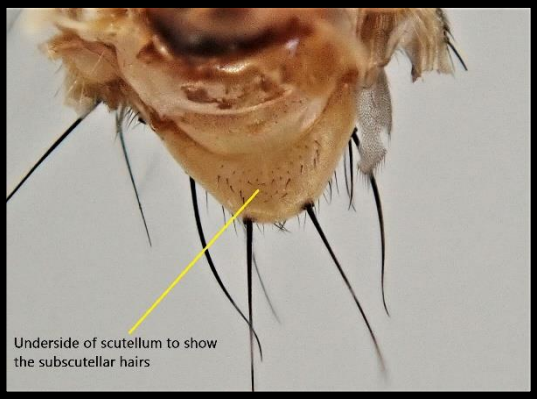


Figure 18

Figure 19

8. Aristae long plumose **(Figure 20).** Cross veins and radial veins shaded, with a subapical suffusion across distal area of long veins **(Figure 21).** Genae narrow. Surstyli # 5. Aedeagus # P. ..... **variegata (Loew)**

Figure 20

Figure 21

- Arista short plumose **(Figure 22).** Cross veins only shaded. A large species. Scutellum with hairs at sides only **(Figure 23).** Surstyli # 8. Aedeagus # B. ..... **notata (Meig.)**

Figure 22

Figure 23

9. No sub-scutellar hairs (**see Figure 17)** **10**

- Sub-scutellar hairs present (**as Figure 18**, but often pale and rather sparse as seen apically in **Figure 24**) **13**

Figure 24

10. Aristae long plumose **(see Figure 20)**. **11**

- Aristae short plumose **(Figure 25)** or pubescent **(Figure 26)** **12**

Figure 25

Figure 26

11. Scutellar hairing at extreme margins only **(Figure 27).** Proepisternal hairs absent. Cell r 2+3 darkened on outer edge **(Figure 28)**. Surstyli # 2. Aedeagus # M. **flava (Meig.)**

Figure 27

Figure 28

- Scutellar hairing over most of dorsal surface **(Figure 29).** Proepisternal hairs present above base of front coxa. Fore and hind tibiae darkened apically. Aristae long plumose **(Figure 30)**. Surstyli # 17. Aedeagus # Q. ..... **affinis (Meig.)**

Figure 29

Figure 30

12. Cross veins clear. Male fore basitarsus with ventral hook **(Figure 31)**. Costal spines no longer than costa is thick **(Figure 32)**. Surstyli # 4. Aedeagus # D. ..... **bicolor (Zett.)**

Figure 31

Figure 32

- Cross-veins shaded **(Figure 33).** Male fore basitarsus without hook. Surstylus # 9. Aedeagus # A . ..... **flavifrons (Zett.)**

Figure 33

13. Scutellum hairy all over. Fore tarsal segment 5 enlarged, longer than 3 and 4 combined. Surstyli # 3. Aedeagus # O. ..... **vaginata (Loew)** [*No available photos*]

- Scutellum with bare areas (**Figure 34**). Fore tarsal segment 5 narrower and shorter than 3 and 4 combined **14**

Figure 34

14. Cross-veins faintly shaded (**Figure 35**). Arista short plumose (**Figure 36**). Surstyli # 16. Aedeagus # N. ..... **pallida (Fall.)**

Figure 35

Figure 36

- Cross-veins and tips of radial veins heavily shaded (**Figure 37**). Arista short plumose or pubescent (**Figure 38**). **15**

Figure 37

Figure 38

15. Narrow median area on scutellum bare **(Figure 39).** Arista pubescent (**Figure 40**). Surstyli # 11. Aedeagus # F. ..... **imberbis (Czerny)**

Figure 39

Figure 40

- Broad median area on scutellum bare (**Figure 41**) **16**

Figure 41

16. Arista short plumose (**Figure 42**). Wing with dark spot over the apex of R2+3 (**Figure 43**). Surstyli #10. Aedeagus #S. ..... **laevifrons (Loew)**

Figure 42

Figure 43

- Arista pubescent (**Figure 44**) **17**

Figure 44

17. Pruinosity of ocellar triangle extends beyond that of the orbital bristles. Orbital bristles opposite anterior ocellus. [Additional photos figs. 45/46] Surstyli #12. Aedeagus # H. ..... **parva (Loew)**

Figure 45

Figure 46

- Pruinosity of ocellar triangle does not extend as far as that of the orbital bristles. Orbital bristles well forward of anterior ocellus. Surstyli # 13. Aedeagus # I. ...**dawnae***

***** *Now considered to be a form of Suillia parva (Sivell & Stubbs Draft key January 2020)*

Species gallery

Suillia affinis (Meigen 1830)

Wing length: 6-7.5mm
Aristae: long plumose
Scutellum: full cover of setae

A distinctive and very common, large *Suillia* with long plumose aristae, heavily marked wings and a full covering of setae on the scutellum. The fore and hind tibiae are darkened apically. The genae are deep. Found year round within woodland.

Suillia atricornis (Meigen 1830)

Wing length: 5-6mm
Aristae: pubescent
Scutellum: bare

The only *Suillia* with a humeral bristle, but still with the single orbital bristle on an inset plate. Also the only one with black antennae. The top of the thorax and antennae are shiny. Wings are clear.
A common Suillia around fungi in woodland.

Suillia bicolor (Zetterstedt, 1838)

Wing length: 5-6mm
Aristae: pubescent
Scutellum: very sparse, short hairs
A small *Suillia* with clear wings. Costal spines are short (often less than width of costa). The scutellum is rounded, with a few very short, dark or light setae on the edges and on the disc, though hard to see. The thoracic dorsum is often a darker orange-brown than other similar-sized species, with hairs which fade away before the scutellum. Males have a hook ventrally at the distal end of fore basitarsus. Very common around fungi in woodland.

Suillia dumicola (Collin, 1943)

Wing length: 5-6mm
Aristae: pubescent
Scutellum: bare

A small *Suillia* with clear wings. Costal spines are a little longer than in bicolor. The scutellum lacks any setae at all, separating it from *bicolor*. The male mid tibiae and basitarsus have long posterior hairs and the male fore basitarsus has a ventral hook distally.

A scarce species of woodland.

Suillia flava (Meigen, 1830)

Wing length: 4.5-5mm
Aristae: long plumose
Scutellum: sparse hairs at very edge only

A scarce, largely northern and western species of *Suillia*. The aristae are long plumose, the genae narrow and the scutellum has just a very few setae on its margins. The wing has the margin of cell R2+3 darkened, with that stretching into the margin of adjacent cells.

Suillia flavifrons (Zetterstedt, 1838)

Wing length: 4.5-5.5mm
Aristae: short pubescent
Scutellum: few setae towards the sides

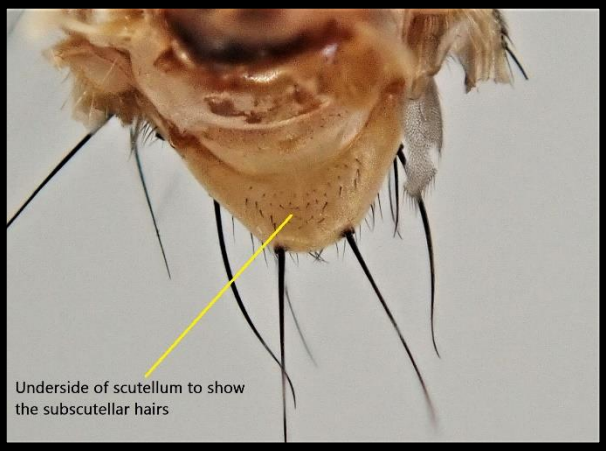
There are no sub-scutellar hairs.

A scarce *Suillia* which is maybe more common in Scotland. Found around ferns and fungi.

Suillia fuscicornis (Zetterstedt, 1847)

Wing length: 6-6.5mm
Aristae: pubescent
Scutellum: bare
A common species of *Suillia* around fungi in woods. The scutellum lacks hairs, is rather angular and has a slight tubercle at the tip (not always obvious). The 3rd antennal segment is slightly darkened apically. The costal spines are long, separating it from *bicolor*.

Suillia humilis (Meigen, 1830)



Wing length: 5-6.5mm
Aristae: pubescent
Scutellum: full covering of setae

A relatively common *Suillia* within woodland.

The anepisternum and pteropleuron are hairy and the scutellum has a complete cover of setae. There are short black hairs beneath the scutellum. The aristae are little more than pubescent. The cross-veins in the wing are darkened a little.

Suillia imberbis (Czerny, 1924)

Wing length: 5.5-6.5mm
Aristae: pubescent
Scutellum: covered with setae, but with a narrow gap centrally
A reasonably common, but local, medium-sized *Suillia* of woodland, often swept about ferns.

The wings have darkened cross-veins and a dark spot usually obvious over the apex of R2+3 and more diffusely so over the other long veins. Aristae are pubescent, hairs less than twice the width of the basal article. The scutellum has a covering of setae, but with a narrow gap down the middle and at the base. There is often a rather shiny, orange stripe across the lower humerus and the upper anepisternum and an orange (occasionally quite dark) mark between the eye margin and the base of the antennae.

Suillia laevifrons (Loew, 1862)

Wing length: 4.5-5.5mm
Aristae: short plumose
Scutellum: setae at sides, with wide central bare area

A relatively common *Suillia* of woodland around ferns and fungi. Superficially similar to *imberbis*, but the aristae have hairs slightly longer than twice the width of the basal article and the scutellum has setae dorsally at the sides, but with a wider gap down the middle in comparison.

Suillia notata (Meigen, 1830)

Wing length: 7-7.5mm
Aristae: short plumose
Scutellum: setae lateral only, broadly bare centrally

A common, large species of *Suillia* found around ferns and fungi within woodland. The combination of hairs on anepisternum, and scutellum with just a few hairs laterally, identifies the species. The aristae are short plumose and the genae are deep. There are dense, black hairs beneath the male mid-femur basally.

Suillia oxyphora (Mik, 1900)

Wing length: 5.5-6.5mm
Aristae: long pubescent
Scutellum: bare

Details above from Czerny 1924.

There are no recent records for this species, which has just been found a couple of times in the north of Scotland.

The scutellum is similar to that of *fuscicornis*, but has a far longer apical tubercle. Any *Suillia* showing that feature should be retained for checking.

Photo: R. van der Weele

Suillia pallida (Fallén, 1820)

Wing length: 6-7mm
Aristae: short plumose
Scutellum: extensive setae, but bare basally
A common, medium-sized *Suillia* in woodland. The wings are clear apart from a very slight shading over outer cross-vein. The aristae are short plumose and the scutellum has a covering of setae apart from at the base. There are long, fine and pale hairs below the abdomen and between the legs in males.

Suillia parva (Loew, 1862)

Wing length: 5-5.5mm
Aristae: pubescent
Scutellum: sparse hairs towards edges only

An uncommon Suillia of woodland, probably mainly northern and found esp. in Scotland. There are sub-scutellar hairs, which helps separate from the similar flavifrons.

Suillia ustulata (Meigen, 1830)

Wing length: 7-7.5mm
Aristae: pubescent
Scutellum: bare

A large *Suillia* found around fungi (truffles) and ferns in woodland...widespread but quite scarce and usually only found as singles. The wings are heavily darkened, with a pale triangle at the apex of cell R2+3. The scutellum is completely bare of setae. There is a dark mark between the eye margin and the base of the antennae. The aristae are pubescent. The genae are very pale, usually off-white, and there are two pairs of vibrissae.

Suillia vaginata (Loew, 1862)

A very rare species, whose identification features need refining. There are no confirmed recent records.

Details below from Czerny (1924)...

Length 4.5-5.5mm

Females resemble a small female of *Suillia pallida*, except that the seventh abdominal segment is much longer than the sixth and strongly compressed laterally. Male hypopygium relatively large.

Details below from Papp (1981)...

Length 4.5-6mm

The discal hairs of the abdominal plates of the abdomen are short and dark brown. There are usually no hairs on the lower part of the propleuron. The female tergite 7 is 1.5 times as long as 6. The editum of the male has its inward extension long and narrow, its apex is very narrowly rounded (Fig. 12: B), the anterior extension is very wide, on which bristles arise.

It should resemble a slightly smaller *pallida*, with a complete covering of setae on the scutellum and lacking the pale hairs below the abdomen in males.

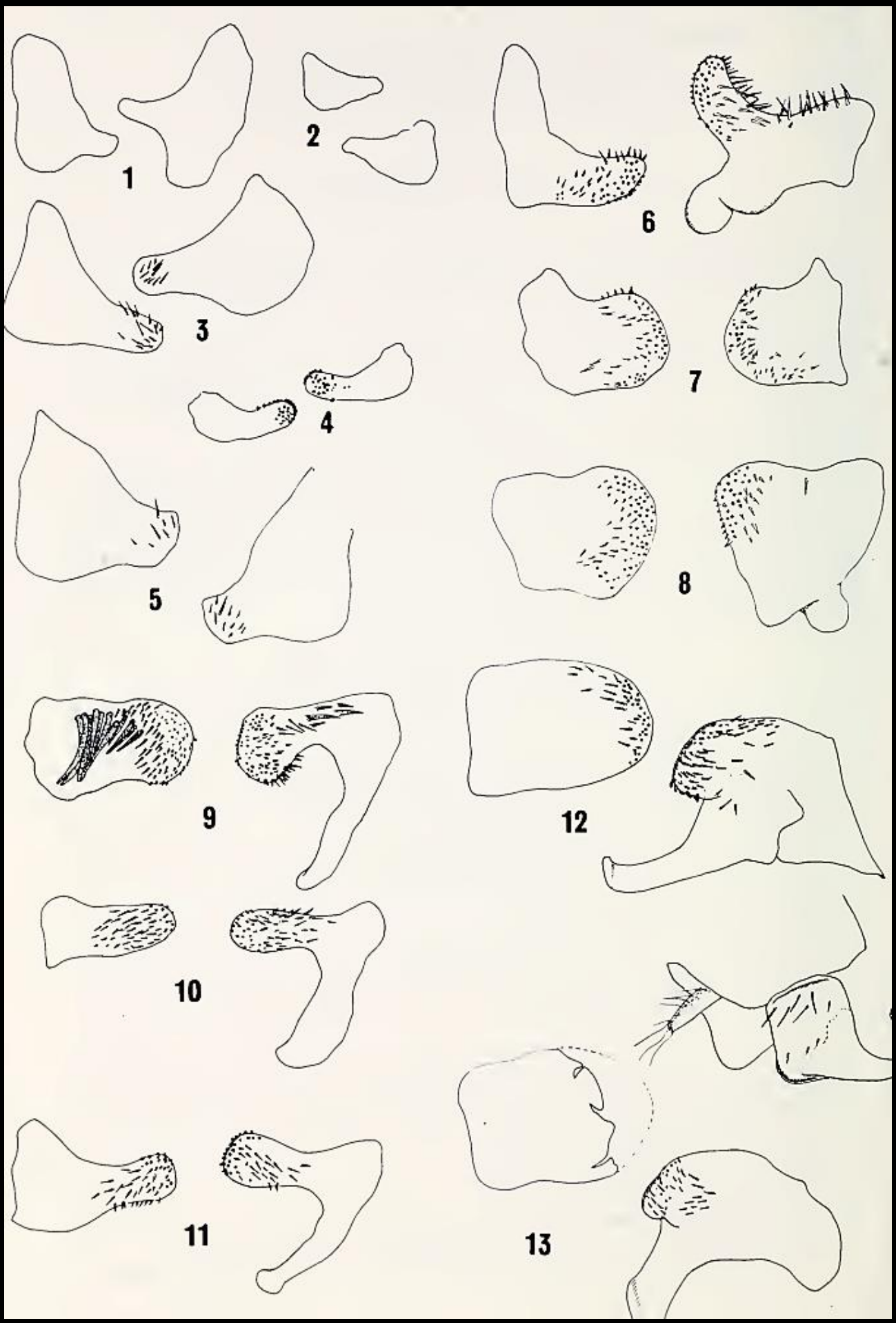
Suillia variegata (Loew, 1862)

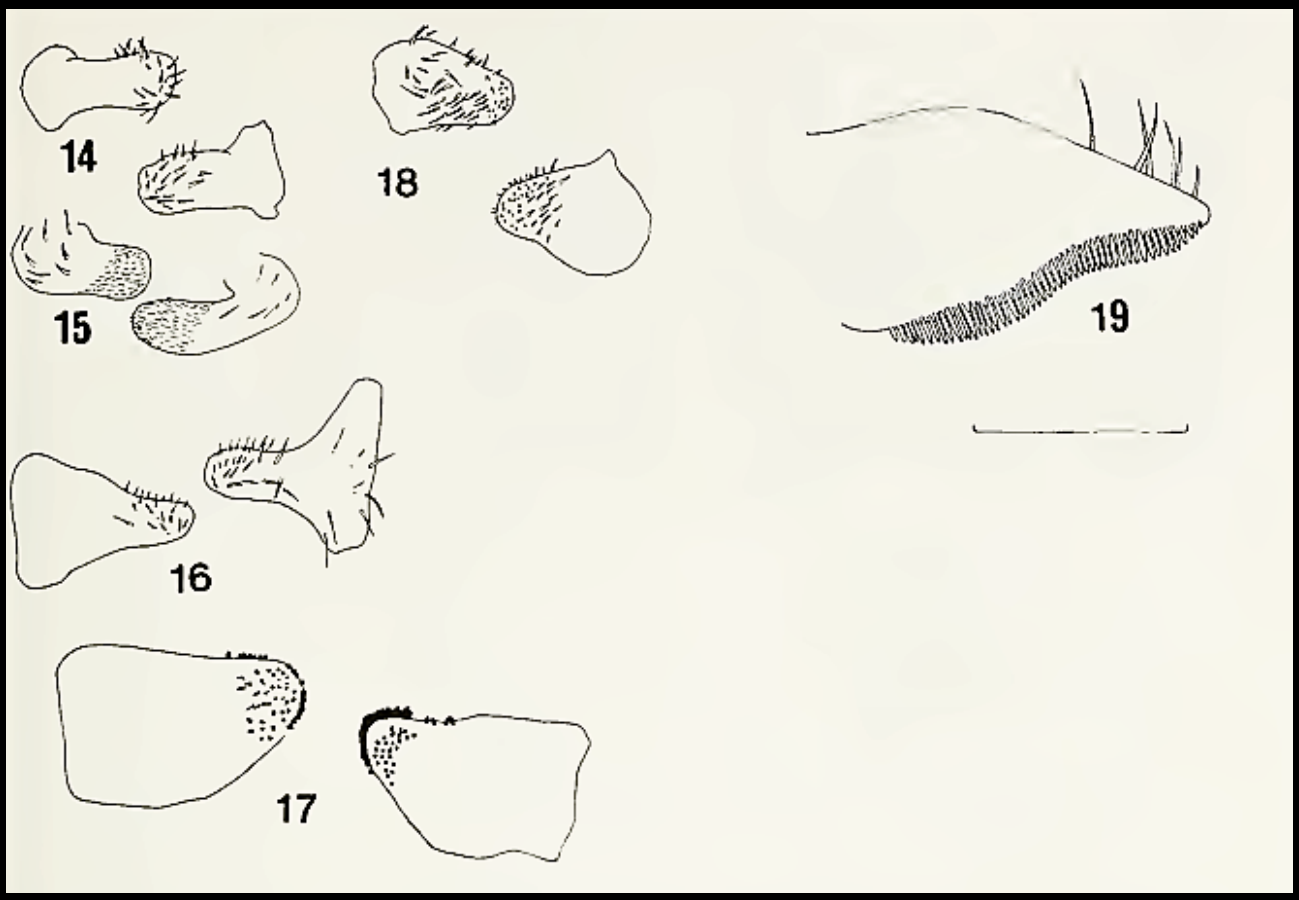
Wing length: 5-5.5mm
Aristae: long plumose
Scutellum: extensive setae, bare basally

The most common UK Suillia (though less so in Scotland), found frequently in woodland, gardens, scrub…etc.

The subapical dark band in the wing, with two apical whitened marks, makes it easy to identify. The aristae are long plumose and the genae narrow (in comparison with *affinis*).

Withers' drawings of surstyli

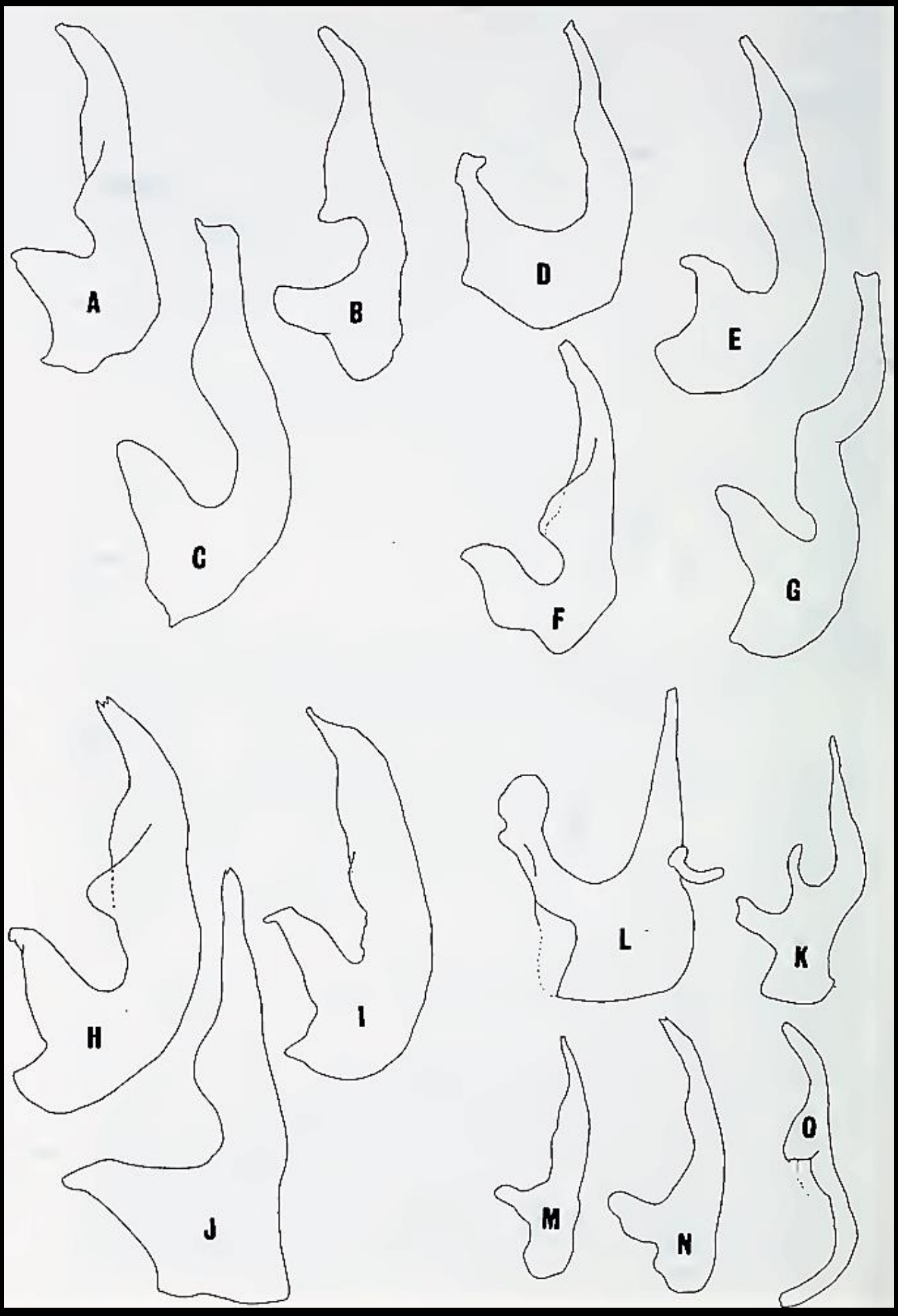


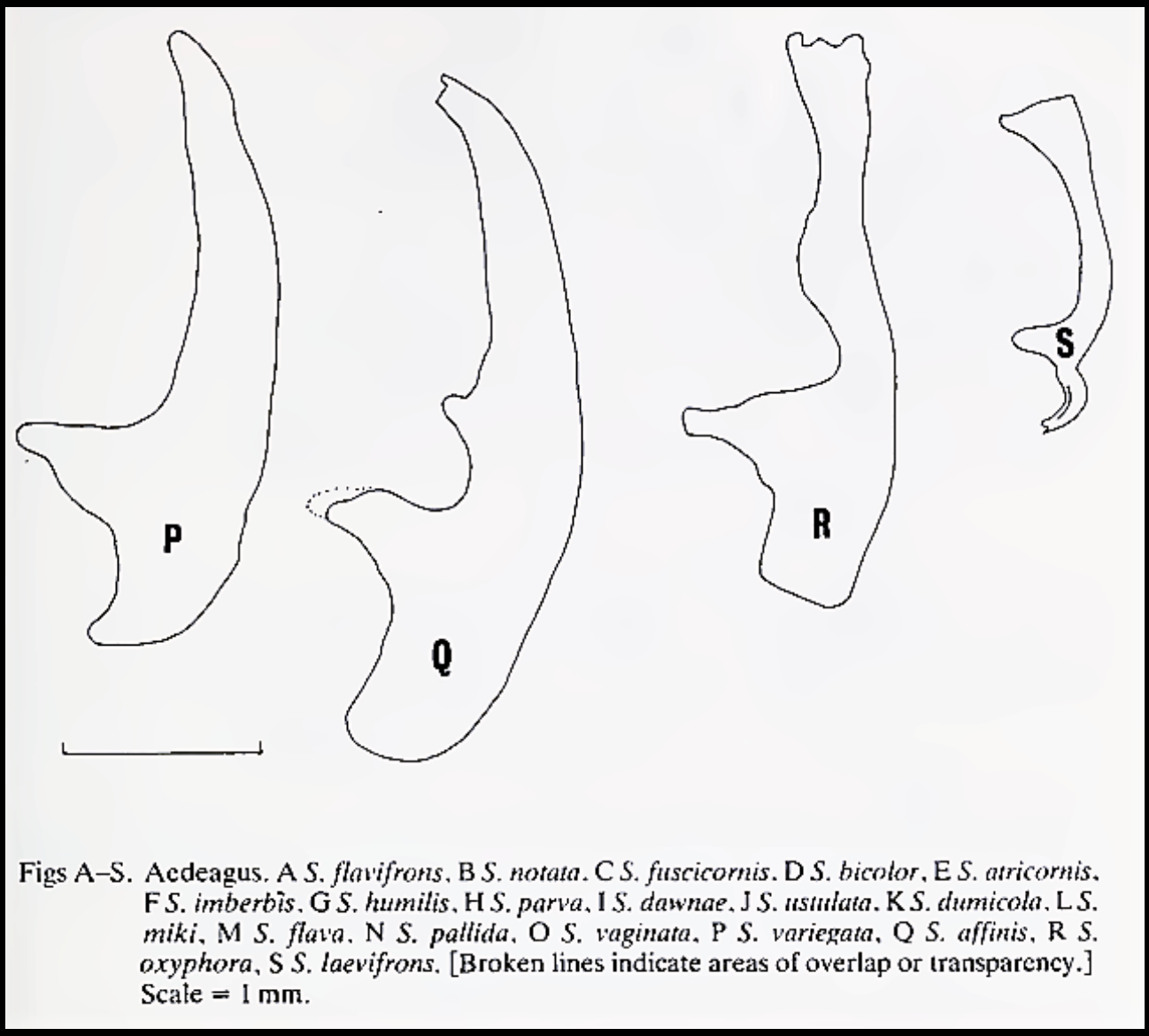


1. Suillia fuscicornis
2. Suillia flava
3. Suillia vaginata
4. Suillia bicolor
5. Suillia variegata
6. Suillia oxyphora
7. Suillia humilis
8. Suillia notata
9. Suillia flavifrons
10. Suillia laevifrons
11. Suillia imberbis
12. Suillia parva
13. Suillia dawnae
14. Suillia dumicola
15. Suillia miki
16. Suillia pallida
17. Suillia affinis
18. Suillia atricornis
19. Suillia ustulata

Left surstylus is to the left: all views are upper surface except figure 9 left surstylus. Scale = 1mm

Withers' drawings of aedeagi

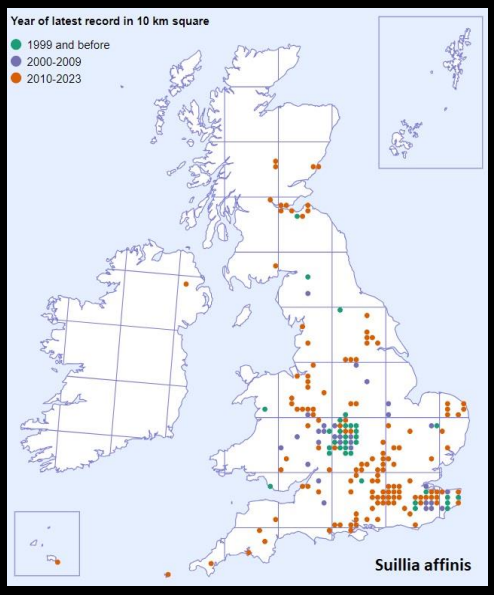


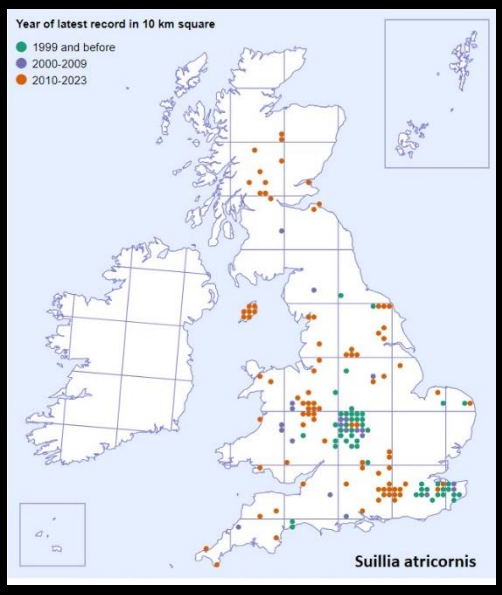


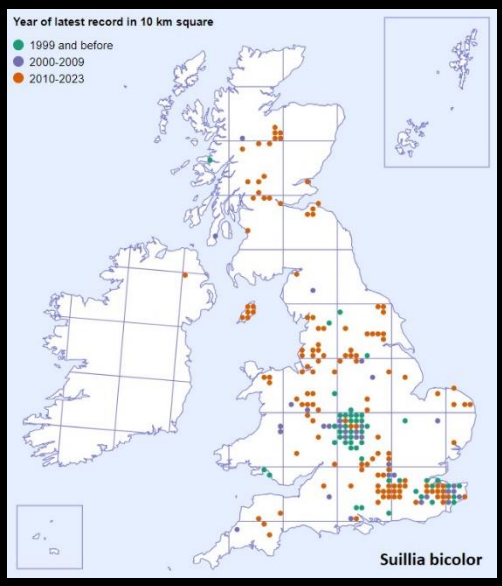
Figs A–S. Aedeagus. A *S. flavifrons*, B *S. notata*, C *S. fuscicornis*, D *S. bicolor*, E *S. atricornis*, F *S. imberbis*, G *S. humilis*, H *S. parva*, I *S. dawnae*, J *S. ustulata*, K *S. dumicola*, L *S. miki*, M *S. flava*, N *S. pallida*, O *S. vaginata*, P *S. variegata*, Q *S. affinis*, R *S. oxyphora*, S *S. laevifrons*. [Broken lines indicate areas of overlap or transparency.] Scale = 1 mm.

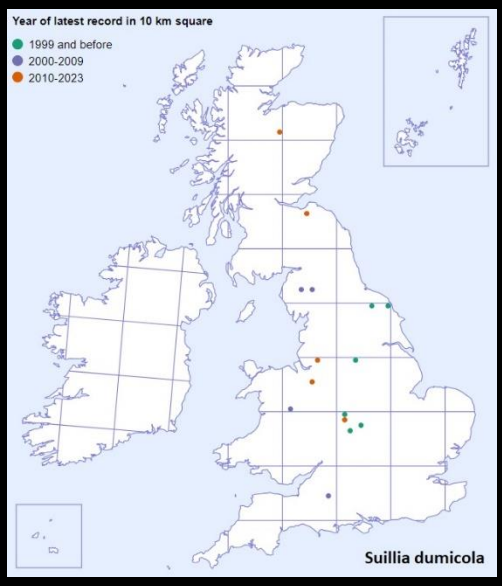
Distribution maps at October 2023

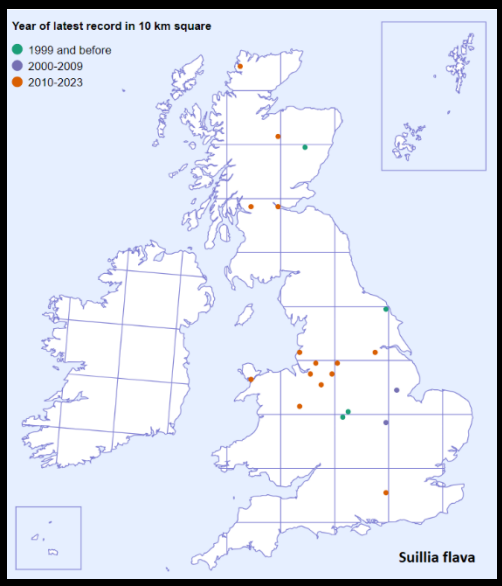
The maps are created by the iRecord 'Species Details/Maps' page for each species, where records are verified by the Heleomyzid Recording Scheme. These records then pass through to the NBN, but their maps are not used here as they also contain unverified records, many of which are old and from a time when knowledge of identication characteristics was less secure.

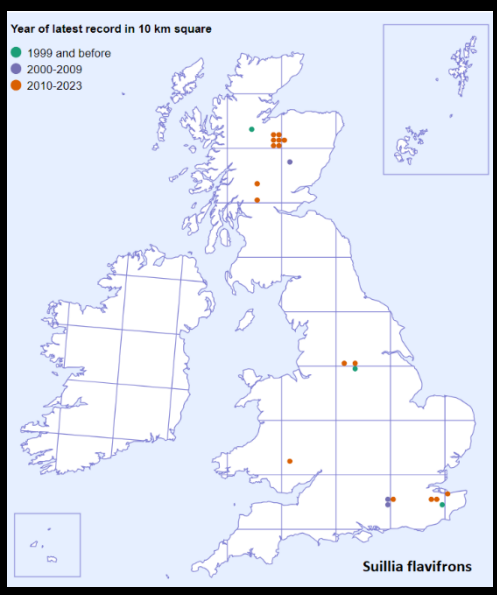


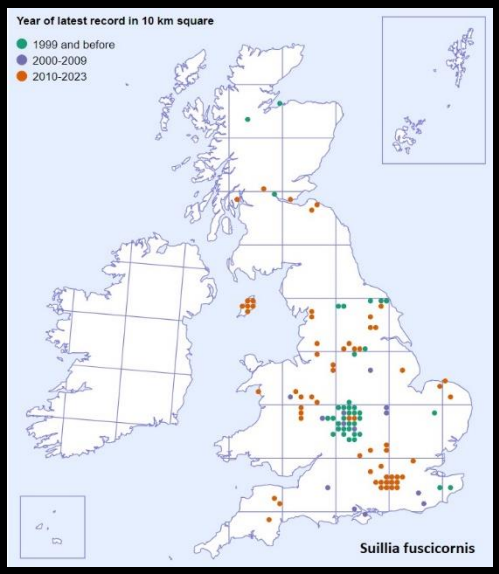


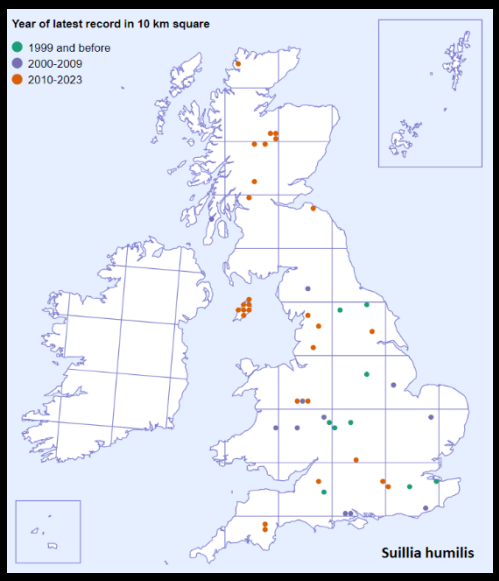


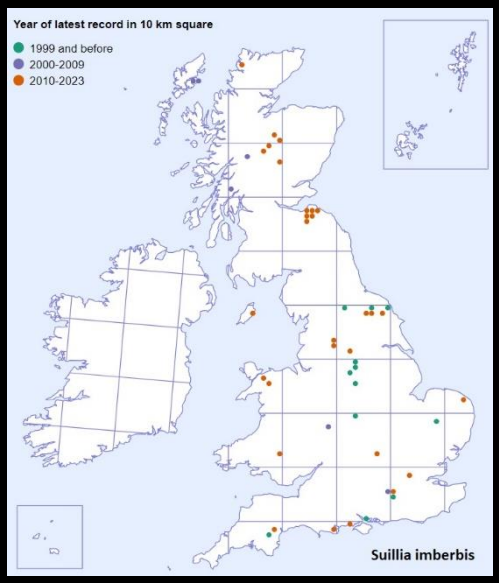


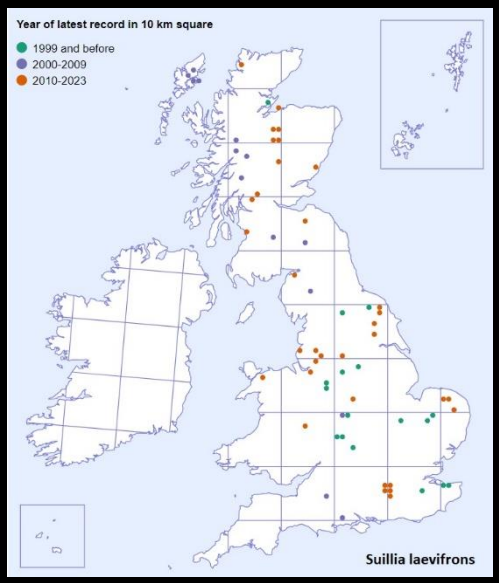


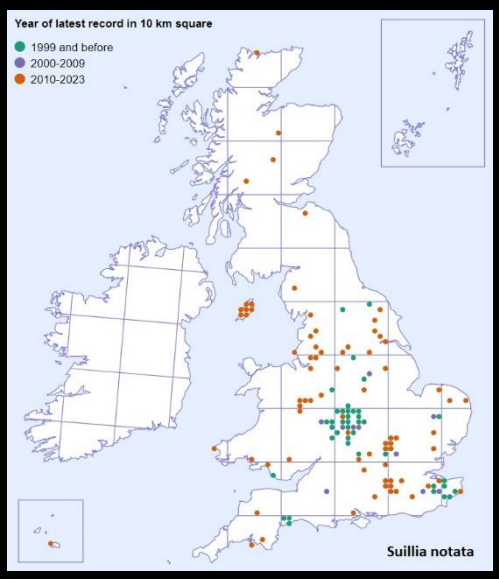


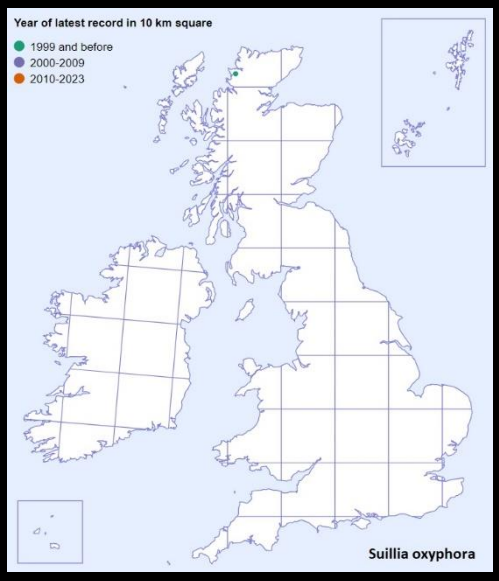

Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia fuscicornis

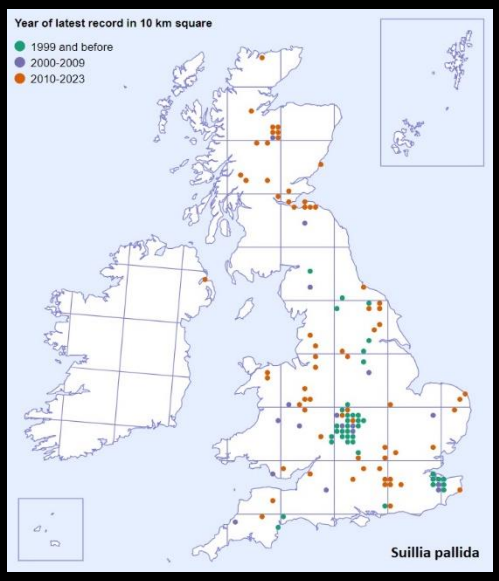

Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia humilis


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia imberbis


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia laevifrons


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia notata


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia oxyphora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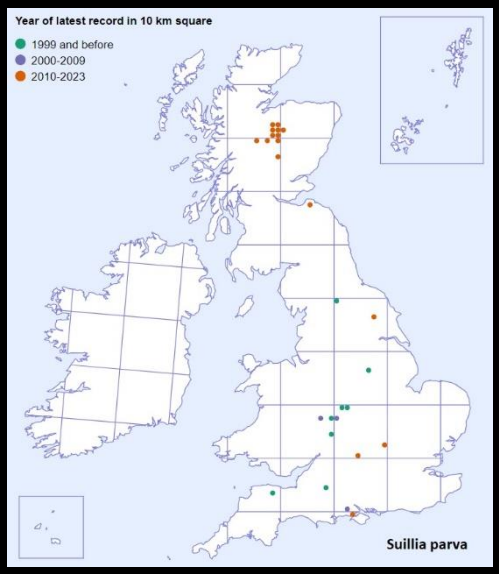
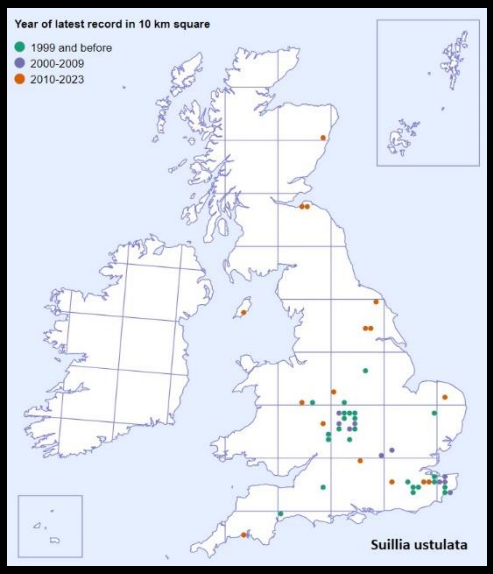
1999 and before
2000-2009
2010-2023
Suillia pallida


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia parva


Year of latest record in 10 km square
1999 and before
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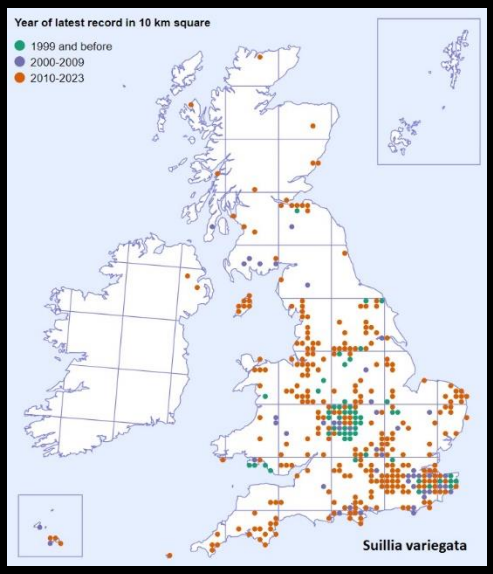
2010-2023
Suillia ustulata


Glasgow
UNITED KINGDOM
Dublin
IRELAND
LONDON
Suillia vaginata The records on this NBN map are unverified and a couple are known to be incorrect. There are no records on iRecord at all, so it is included here to encourage recording in the areas shown as having records.


Year of latest record in 10 km square
1999 and before
2000-2009
2010-2023
Suillia variegata