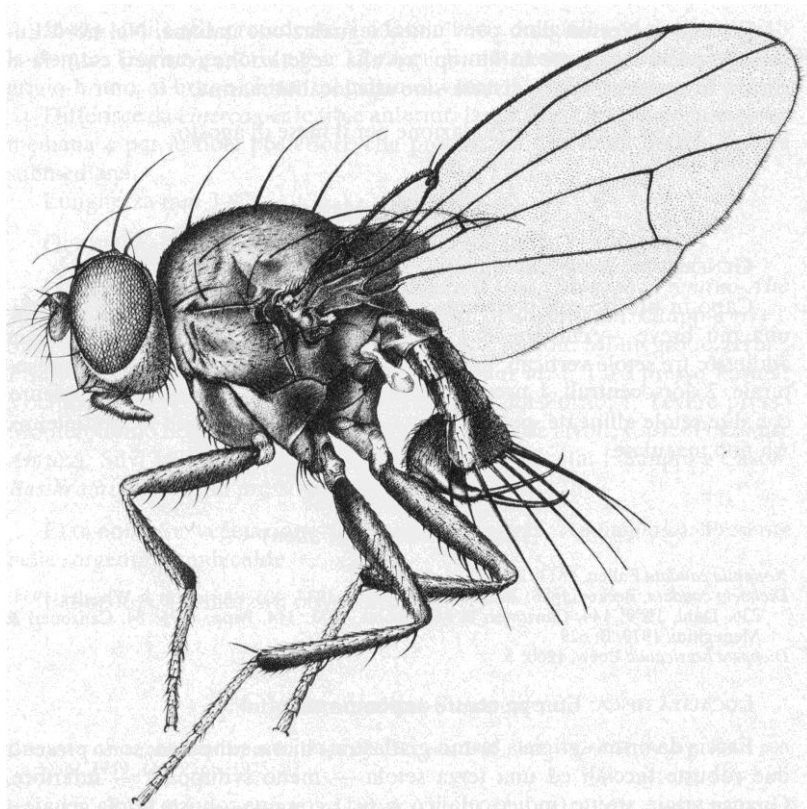


BRITISH EPHYDRIDAE (DIPTERA)

C. M. DRAKE

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Updates March 2013 – moved from WordPerfect to Word (now very messy!); new *Scatophila* and *Philotelma* keys.

Keys to Ephydriidae

I have compiled these keys from existing publications and some of my own work. They supercede my first (undated) effort of 1998. I am much indebted to the authors whose work I have plagiarised, especially Tony Irwin whose early manuscript keys got me started with ephydriids. The works by Zatwaricki, Mathis, Anderson and Olafsson include outstanding figures which leave no doubt about identities. There are bound to be mistakes, and some keys need more work.

As no permission has been sought to use any of the keys and figures, this compilation should not be treated as a publication or cited as such.

I have included a few non-British species [in square brackets].

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Distribution, habitat and conservation status

Species	Habitat and Distribution	Status
Allotrichoma bezzii	bog pool. Dorset	rare; one record
Allotrichoma laterale	saltmarsh. Suffolk	rare; one record
Athyroglossa glabra	river margins, coastals seepages, rarely still wetlands. Mainly western and northern	local
Athyroglossa ordinata	exposed riverine sediments; western and northern	rare
Atissa limonsina	saltmarsh	local or rarer
Atissa pygmaea	saltmarsh	widespread but local
Axsta cesta	freshwater stillwater wetlands , widespread	local
Clanoneurum cimiciforme	coastal dry places, widespread	local
Cnestrum lepidopes	freshwater wetlands, Hampshire	very rare; one record
Coenia curvicauda	freshwater wetlands, widespread	common, infrequent
Coenia palustris	freshwater wetlands, widespread	common
Diclasioipa lacteipennis	wetlands, (mainly rivers?), widespread	scarce
Discocerina obscurella	freshwater wetlands (rarely saltmarsh), widespread	common
Discomyza incurva	dry and damp places (grassland, dunes)	scarce
Ditrichophora calceata	freshwater wetlands (rarely saltmarsh), widespread	common
Ditrichophora fuscella	freshwater wetlands, widespread	common
Ditrichophora nectens	wetlands	unknown, possibly rare
Ditrichophora palliditarsis	riverine sediments and river margins, coastal seepage; widespread	local
Ephydra macellaria	saltmarsh	local
Ephydra riparia	saltmarsh, occasionally freshwater wetlands	local
Eutaeniontum olivaceum	acid mire, Lincolnshire	very rare (one site)
Glenanthe ripicola	saltmarsh, southern	local
Gymnoclasiopa cinerella	wetlands? northern	unknown, possibly scarce
Gymnoclasiopa collini	freshwater and saltmarsh	scarce
Gymnoclasiopa lambi	wetlands?	unknown, possibly scarce
Gymnoclasiopa plumosa	freshwater wetlands, river margins	local or scarce
Haloscatella dictaeta	saltmarsh, brackish wetland	common
Hecamede albicans	saltmarsh, dune	scarce
Hecamedoides glaucellus	wetlands (presumably)	very rare
Hecamedoides unispinosus	exposed riverine sediments; western (Devon, Herefordshire, Gwent)	very rare
Hyadina 'humeralis'	freshwater wetlands, widespread	common
Hyadina guttata	freshwater wetlands and damp places, widespread	common
Hyadina pollinosa	saltmarsh; southern and eastern	rare
Hyadina rufipes	freshwater wetlands, especially running water; widespread	common
Hyadina scutellata	unknown	very rare
Hydrellia albifrons	wetlands	
Hydrellia albilabris	freshwater wetlands with floating duckweed	common
Hydrellia argyrogenis	freshwater wetlands (pools); Eastern?	scarce
Hydrellia caledonica	wetlands	
Hydrellia cardamines	freshwater wetlands	local
Hydrellia cochleariae	saltmarsh mainly, sometime freshwater	common
Hydrellia concolor	wetlands	
Hydrellia fascitibia	wetlands	
Hydrellia flaviceps	freshwater wetlands (fens, ditches)	
Hydrellia flavicornis	freshwater wetlands (ponds, ditches)	local
Hydrellia fulviceps	wetlands	
Hydrellia fusca	freshwater wetlands	scarce/rare


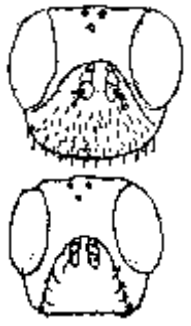


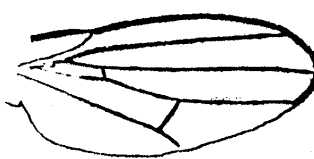
Species	Habitat and Distribution	Status
<i>Hydrellia griseola</i>	generalist, pasture, wetlands, widespread	very common
<i>Hydrellia ishiaca</i>	freshwater wetlands, widespread	local
<i>Hydrellia laticeps</i>	wetlands	
<i>Hydrellia maculiventris</i>	freshwater wetlands	scarce
<i>Hydrellia maura</i>	generalist, pasture, wetlands, widespread	very common
<i>Hydrellia meigeni</i>	freshwater wetlands (ditches, slow rivers)	scarce
<i>Hydrellia mutata</i>	freshwater wetlands, widespread	local
<i>Hydrellia nigricans</i>	freshwater wetlands, widespread	common
<i>Hydrellia obscura</i>	freshwater wetlands, widespread	common
<i>Hydrellia porphyrops</i>	freshwater wetlands	local
<i>Hydrellia pubescens</i>	freshwater wetlands	?scarce/rare
<i>Hydrellia ranunculi</i>	freshwater wetlands	scarce
<i>Hydrellia stratiotae</i>		
<i>Hydrellia subalbiceps</i>	freshwater wetlands	?scarce
<i>Hydrellia tarsata</i>	freshwater wetlands(fen, rich grazing marsh; eastern)	?scarce
<i>Hydrellia tenebricosa</i>	freshwater wetlands	scarce/rare
<i>Hydrellia thoracica</i>	freshwater wetlands, widespread	common
<i>Ilythea nebulosa</i>	dune	very rare (one record)
<i>Ilythea spilota</i>	generalist, wetlands and damp places	common
<i>Lamproscatella sibilans</i>	saltmarsh (rarely freshwater), widespread	local
<i>Limnellia fallax</i>	damp places, often acid, perhaps tall fen/reed; widespread	local
<i>Limnellia quadrata</i>	generalist, wetlands and damp places, widespread	common
<i>Limnellia surturi</i>		
<i>Mosillus subsultans</i>		very rare
<i>Nostima picta</i>	dry or damp grassland, widespread	local
<i>Nostima semialata</i>	dry grassland, heathland, base-rich	scarce
<i>Notiphila annulipes</i>	freshwater wetlands, Scotland and NW England to Cheshire	local (Scotland), rare (England)
<i>Notiphila brunipes</i>	slow river with water lilies, eastern	local
<i>Notiphila caudata</i>	freshwater wetlands, widespread	local
<i>Notiphila cinerea</i>	freshwater wetlands, widespread	common
<i>Notiphila dorsata</i>	freshwater wetlands, widespread	local
<i>Notiphila graecula</i>	wetlands, widespread	common
<i>Notiphila guttiventris</i>	wetlands, especially brackish; southern and eastern	scarce
<i>Notiphila maculata</i>	freshwater wetlands, widespread	common
<i>Notiphila nigricornis</i>	freshwater wetlands, widespread	common
<i>Notiphila nubila</i>	wetlands, especially brackish, widespread	local
<i>Notiphila riparia</i>	freshwater wetlands, widespread	common
<i>Notiphila stagnicola</i>	freshwater wetlands – slow rivers? Lincolnshire	rare
<i>Notiphila subnigra</i>	freshwater wetlands (England, Scotland)	rare
<i>Notiphila uliginosa</i>	freshwater wetlands, perhaps more acid or nutrient-poor, widespread	local
<i>Notiphila umbrosa</i>	freshwater wetlands (ponds, seepage, fen), S & E England	rare
<i>Notiphila venusta</i>	freshwater wetlands, widespread	common
<i>Ochthera manicata</i>	fens, base-rich wetlands, Norfolk, Cambridgeshire	rare but spreading
<i>Ochthera mantis</i>	bogs, acid saltmarsh	common
<i>Ochthera schembrii</i>	?stream-sides. Cornwall	extinct
<i>Paracoenia fumosa</i>	wetlands (fresh, brackish), widespread	common
<i>Parydra aquila</i>	freshwater wetlands (rarely saltmarsh), widespread	local
<i>Parydra coarctata</i>	freshwater wetlands (rarely saltmarsh), widespread	very common
<i>Parydra fossarum</i>	freshwater wetlands (rarely saltmarsh), widespread	common
<i>Parydra hecate</i>	freshwater wetlands, widespread	local
<i>Parydra littoralis</i>	freshwater wetlands, widespread	common
<i>Parydra mitis</i>	wetlands	rare
<i>Parydra nigritarsis</i>		?
<i>Parydra pubera</i>	brackish and saltmarsh, widespread	local

Species	Habitat and Distribution	Status
<i>Parydra pusilla</i>	freshwater wetlands, mainly fens, widespread	local
<i>Parydra quadripunctata</i>	freshwater wetlands, widespread	common
<i>Parydra turkmenica</i>	wetlands, especially brackish, SE Scotland, England	scarce
<i>Parydra undulata</i>	fens, East Anglia	rare
<i>Parydroptera discomyzina</i>	wetlands, usually coastal marsh and saltmarsh	rare
<i>Pelina aenea</i>	freshwater wetlands, widespread	common
<i>Pelina aenescens</i>	freshwater wetlands, widespread	local or scarce
<i>Pelina subpunctata</i> (=nitens)	wetlands (fresh, brackish), widespread	local
<i>Pelina norvegica</i>	wetlands, southern (Dorset, seepage fen)	rare
<i>Pelina similis</i>	freshwater wetlands, widespread	common
<i>Philotelma defecta</i>	saltmarsh, brackish wetland	scarce
<i>Philotelma nigripenne</i>	saltmarsh, brackish, rarely freshwater; widespread	local
<i>Philotelma ?strandii</i>	saltmarsh, southern	
<i>Philotelma ?tamarani</i>		
<i>Philygria femorata</i>	dry places	
<i>Philygria flavipes</i>	dry places	
<i>Philygria interstincta</i>	dry places	local
<i>Philygria morans</i>		
<i>Philygria posticata</i>	dry places	
<i>Philygria punctatonervosa</i>	dry places (heath, dunes)	local
<i>Philygria stictica</i>	dry places	local
<i>Philygria vittipennis</i>	dry places	common
<i>Polytrichophora duplosetosa</i>	wetlands - possibly just rivers; Southern and western	rare
<i>Psilopa compta</i>	saltmarsh, freshwater ditches; Southern	local
<i>Psilopa leucostoma</i>	mainly saltmarsh and brackish; Southern	local
<i>Psilopa marginella</i>	?fens	rare
<i>Psilopa nana</i>	saltmarsh	local
<i>Psilopa nigrifella</i> -> <i>glabricula</i>	freshwater wetlands, widespread	common
<i>Psilopa polita</i>	saltmarsh and fens, southern	rare
<i>Psilopa nitidula</i>	mainly wetlands, rarely dry grassland, widespread	common
<i>Psilopa pulicaria</i>		?rare
<i>Scatella ciliata</i>	saltmarsh, widespread	local
<i>Scatella crassicauda</i>	saltmarsh, widespread	scarce
<i>Scatella lutosa</i>	wetlands, especially brackish and saltmarsh, widespread	local
<i>Scatella obsoleta</i>	rivers, northern	rare
<i>Scatella paludum</i>	wetlands, widespread	common
<i>Scatella silacea</i>	wetlands, widespread	scarce
<i>Scatella stagnalis</i>	wetlands, widespread	common
<i>Scatella subguttata</i>	saltmarsh, sandy shore, widespread	local
<i>Scatella tenuicauda</i>	wetlands, widespread	common
<i>Scatophila caviceps</i>	wetlands, widespread	common
<i>Scatophila contaminata</i>	brackish wetland, saltmarsh	scarce
<i>Scatophila cribrata</i>		
<i>Scatophila despecta</i>	wetlands, widespread	local
<i>Scatophila mesogramma</i>		
<i>Scatophila noctula</i>	wetlands	scarce
<i>Scatophila quadriguttata</i>		
<i>Scatophila unicornis</i>		rare
<i>Schema acrostichale</i>	saltmarsh. Possibly not British or our species is <i>durrenbergensis</i> .	local or rarer
<i>Schema durrenbergensis</i>	see <i>S. acrostichale</i>	
<i>Setacera aurata</i>	wetlands, mainly freshwater (ditches), widespread	local
<i>Setacera micans</i>	wetlands, widespread (or eastern?)	local
<i>Setacera trina</i>	wetlands, widespread	local (?scarce)
<i>Teichomyza fusca</i>	hyper-eutrophic wetland	extinct
<i>Trimerina madizans</i>	grasslands and vegetated wetlands	local

Quick guide to some obvious species or genera

Massive front femora	<i>Ochthera</i>
Matt marks on scutellum	most <i>Hyadina</i> and <i>Nostima</i>
Shiny black 'nose'	<i>Hecamede albicans</i>
Silver-sided body	<i>Scatella paludum</i> , <i>Lamprocatella sibilans</i>
Stongly patterned wings	<i>Limnellia</i> , <i>Ilythea</i> , <i>Philygria</i> (some)
Spotted wings	<i>Scatella</i> , <i>Scatophila</i>
Tiny wings	<i>Nostima semialata</i>
Odd venation	<i>Parydroptera</i> , <i>Clanoneurum</i>
Shiny black flies	<i>Mosillus</i> , <i>Athyroglossa</i> , <i>Cnestrum</i> , <i>Discomyza</i> , <i>Eutaenionotum</i> , some <i>Pelina</i> ,
Blue-black	<i>Axysta</i>
Weakly metallic green	<i>Setacera</i> , <i>Ephydra</i> , some <i>Pelina</i>

KEY TO GENERA

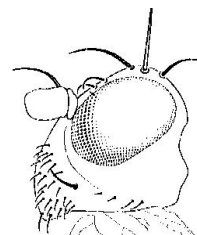
- | | |
|--|--|
| <p>1 Large black flies with massive front femora.</p> <p>- Front femora normal.</p> | <p><i>Ochthera</i></p>  |
| <p>2 Mouth margin with hairs; face hairy centrally.</p> <p>- Mouth margin without hairs; face usually bare centrally (although side of face often with hairs, and rarely in the centre too).</p> | <p>2</p> <p>3</p>  <p>13</p> |
| <p>3 Three or four post-sutural dorsocentral setae, the front ones of these sometimes very short and weak. Medium-sized to large flies.</p> <p>- Two strong post-sutural dorsocentral setae. Mainly small or tiny flies.</p> | <p>4</p> <p>7</p> |
| <p>4 Four pairs of dorsocentral setae. Humeral seta absent (although a large post-humeral is present). Medium-sized flies.</p> <p>- Five pairs of dorsocentral setae. Humeral seta present. Large flies.</p> | <p><i>Coenia</i></p> <p>5</p> |
| <p>5 A pair of prescutellar acrostichal setae always present; these may be fine but are clearly distinguishable from the preceding pairs. 3-4 large diverging orbital setae. (Claws almost straight, pulvilli minute.)</p> <p>- No differentiated prescutellar acrostichal setae. Only two large diverging orbitals.</p> | <p><i>Ephydra</i></p>  |
| <p>6 Pulvilli reduced or absent; claws long and nearly straight. A long hair on the outer face of the third antennal segment.</p> <p>- Pulvilli normal; claws short and curved. No long hair on the outer surface of the third antennal segment.</p> | <p><i>Setacera</i></p>  <p><i>Paracoenia fumosa</i></p> |
| <p>7 (3) Costa reaching to only barely beyond R_{4+5}.</p> <p>- Costa reaching to M_{1+2}.</p> | <p><i>Scatophila</i></p> <p>8</p>  |
| <p>8 Arista plumose.</p> <p>- Arista bare or pubescent.</p> | <p><i>Philotelma</i></p> <p>9</p> |
| <p>9 Wing membrane unicolorous, either light or dark.</p> <p>- Wing with a pattern of spots or patches.</p> | <p>10</p> <p>12</p> |

10 Wing darkened. Six scutellar setae. *Teichomyza fusca*

- Wings clear. Scutellum with two large apical and two small lateral setae. (No large genal seta - if present, try *Scatella paludum* with faint wing spots. [do I mean 'genal'? - only a tiny jowl seta in paludum]) 11

11 One large facial seta towards the side of the face, pointing outwards and upwards. Eyes distinctly oval. Numerous evenly spaced small hairs over most of the face. Facial dusting ash-grey to silver. Frons dull metallic green. [Superficially similar to a small *Scatella paludum*, but with three equal dorsocentrals (not two), only one large facial seta (not two).]

Haloscatella dichchaeta



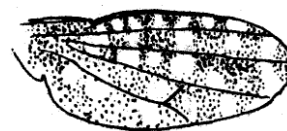
- Two of three small subequal facial setae, all pointing sideways. Eyes nearly round. Facial dusting yellow-grey or golden. Small hairs on the face confined to the central zone. Frons dull shining bronze.

Lamproscatella sibilans

[*Thinoscattella quadrisetosa* falls here, recorded from northern Europe: gena at least 1/3 the height of the eye (less than 1/4 in *Lamproscatella*), and frontal vittae shiny (dull or at most subshiny in *Lamproscatella*).]

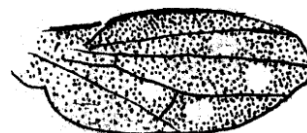
12 (9) Marginal cell (r1) spotted. Only one long pair of diverging orbital setae [small proclinate orbitals are present]. [Only two large post-sutural setae, complete row of biserial acrostichal hairs. *Ilythea* has similar wings but the basal cell is very short, the face is bare and the arista is plumose].

Limnellia



- Marginal cell without spots. At least two long pairs of diverging orbital setae. [Two or three dorsocentral setae, acrostichal setae rows complete or incomplete.]

Scatella



13 (2) Arista long plumose, the longest hairs being at least one third the length of the arista; if tiny flies with short, sparse aristal hairs (3-5 longer and 1-2 shorter), then legs with their ground colour nearly all dark (but may be pale-dusted) and obvious rows of similar-sized ac and dc setae. 14

- Arista bare, pubescent or short plumose, the longest hairs less than one third the length of the arista [may not work for *Athyroglossa ordinata*]; if tiny flies with short but numerous aristal hairs, then ground colour (not just the dusting) of legs all pale, no ac row and two large dc clearly different from many small ones. 32



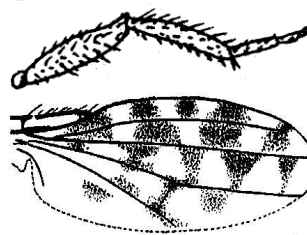
14 Middle tibia with well developed dorsal bristles on the shaft. *Notiphila*

- Middle tibia without well developed and differentiated dorsal bristles. 15



15 Wings strongly patterned with spots. [*Limnellia* has similar wings but has hairy face and bare arista. *Philygria* with patterned wings do not have two large fronto-orbitals.]

Ilythea



- Wings not patterned, although the costa and crossveins may be darkened. 16

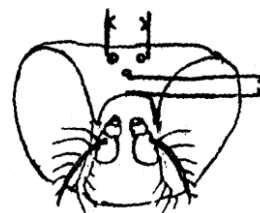
16 Mesonotum with relatively few and clearly defined rows of setae, usually biserial acrostichal and uniserial dorsocentral rows readily distinguished [may not work for *Atissa limosina*]. [Usually more than one pair of large dorsocentral setae (not in *Atissa*)]. 17

- Mesonotum with numerous rows of small, equal-sized small setae, too numerous to count easily (8 or more 'rows' between the outermost large supra-alar setae). [Usually only one pair of large presutural dorsocentral setae, and no others clearly distinguished from the surrounding setae in front of this pair. *Allotrichoma* has 8 clear rows of acs, counting those in line with the supra-alar.]

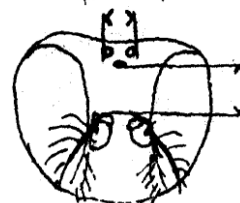
19

- 17 Lunule extending high above the antennae so that the distance between the front ocellus and the lunule is smaller than the gap between the lateral ocelli. Arista hairs conspicuous and long.

Hydrellia



- Lunule never high, so that frons is much longer. Arista hairs sparse and short.



- 18 A pair of large frontal setae in centre of frons in line with or just in front of front ocellus. Post-ocellar setae large, subequal in size to the vertical setae. *Schema*

- No setae in centre of frons. Post-ocellar setae minute, much smaller than vertical setae. [This may not work! *A. pygmaea* has setae either side of front ocellus]

Atissa

- 19 (16) Four sub-equal setae in front of the scutellum, the inner pair not being the last in the line of the innermost small 'acrostichal' hairs but with two rows of hairs between the inner pair of prescutellar setae. Fewer small hairs on mesonotum [check *Clanoneurum*].

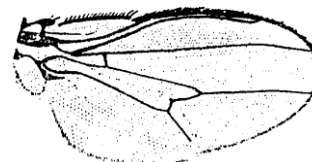
20

- Only two large setae in front of the scutellum, any median posterior setae that are distinguishable from the tiny hairs rarely as much as three-quarters the length of the larger outer pair, and these clearly being the last setae of the two innermost rows of small hairs, or only slightly off-set. Mesonotum with abundant small hairs.

22

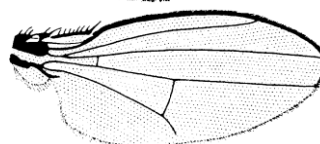
- 20 R_{2+3} runs very close to the costa. Posterior crossvein bent at the middle. [Thorax metallic blackish green; abdomen with greenish gold reflections.]

Clanoneurum cimiciforme



- Wing normal.

21



- 21 Four to five clearly visible tergites, none remarkably short. Post-ocellar setae small to minute and divergent, much smaller than the ocellar setae. [Flies often shining with thin dusting.]

Psilopa

split: *Psilopa* and *Diasemocera*, see Zatzwornicki (2018); key included (07839)

- Only three clearly distinguishable tergites in male (normal in female), the first and fifth strongly shortened. Post-ocellar setae well developed, subequal to ocellars. [Male genitalia with conspicuous external appendages.]

Allotrichoma



- 22 Black flies without obvious dusting on thoracic disc but may be dulled by micro-

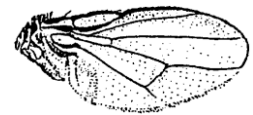
sculpturing. Frons not dusted, usually shining, frontal triangle and sometimes orbits distinguished by texture. Orbital setae not crossed in profile. No prescutellar seta in the 'acrostichal' row. 23

- Black to brown flies with thoracic disc smooth but dusted, even if the shining ground colour shows through. Frons completely dulled by dust, frontal triangle or orbits not or scarcely differentiated. Orbital setae crossed, the front one pointing backwards and the hind one pointing forwards. Last acrostichal seta usually larger than the other hairs in the row, although clearly weaker than the outer (posterior supra-alar) seta. 26

23 Legs orange or yellow. Tergites flat and sides sharp-edged, with narrow beading in the middle. *Trimerina madizans*

- Legs black (tarsi may be pale). Tergites with rounded margins, even if more-or-less flat. 24

24 Wing with a brown front margin (cell r_{2+3}) and kinked near the base so that the wing folds on to the body. (Face rugose; mesonotum pitted.) *Disomyza incurva*



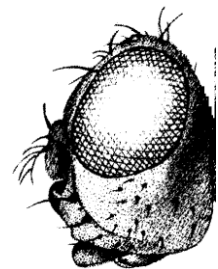
- Wing clear and of normal structure. 25

25 Vein R_{2+3} long, ending near the wing tip at a point nearly opposite M_{1+2} ; ratio of costal sections 2 and 3 at least 2.5. Second tergite shorter than third. Male tarsi unremarkable. *Athyroglossa*

- Vein R_{2+3} short, ratio of costal sections 2 and 3 about 1.5. Second tergite almost twice as long as third. Male with flattened setae on middle tarsi. *Cnestrum lepidopes*



26 (22) Face densely dusted pale grey with a round glossy black tubercle in the middle. [Pale flies with milky wings; most hairs very short and arise from tiny black bases; abdominal hairs sparse; tibiae and tarsi yellow.] *Hecamede albicans*



- Face without a black tubercle, evenly dusted, flat or slightly convex. 27

27 Notopleuron with several small hairs as well as the usual two large setae. 28

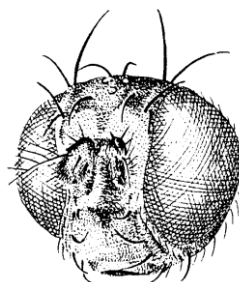


- Notopleuron bare apart from the two large setae. 29



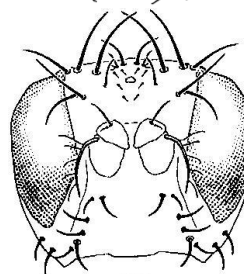
- 28 Three or four pairs of strong facial setae, all pointing inwards (upper pair point slightly upwards too); no other setae on the face (rarely tiny setulae) but facial orbits with a clear row of tiny up-curved setae from the mouth edge to the orbital seta. R_{2+3} long (distance along costa from Sc to R_{2+3} c. $1\frac{1}{2}$ -2 times R_{2+3} to R_{4+5}). [Facial orbits grey or yellow. Base of antennae and front of frons yellow. Front femur with several short stout posteroventral spines towards the tip.]

Discocerina obscurella



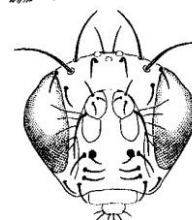
- Three to four strong inwardly pointing facial setae and several smaller setae outside of these pointing upwards and outwards, making an untidy vertical row. Facial orbits (above antennae) with barely discernible tiny pale hairs only. R_{2+3} short (distance along costa from Sc to R_{2+3} equal to R_{2+3} to R_{4+5}). [Antennae orange, dark above. Front femur with short stout setae. Face and jowls silver. In strict lateral view, paraacial appears all silver (black ridge very narrow, visible in 3/4 view, so parafacials much more widely silver than in Discocerina.)]

Polytrichophora duplosetosa



- 29 Hind tibia with a strong ventral spur which is longer than tibia is wide. [Very deep jowls and wide cheeks; upper facial setae arises from a small shiny tubercle; an additional seta on face outside the upper pair; antennae black in British species.]

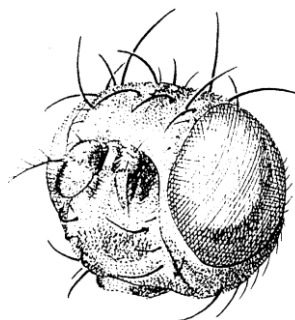
Hecamedoides



- Ventral spur on hind tibia small and inconspicuous. 30

- 30 Lowest facial seta curved upwards and outwards. Two or three distinct large spines mixed with shorter bristles on the costa between the humeral break and sc, and costa beyond sc with two types of setulae, larger ones interspersed by c. 8 smaller ones. [Antennae entirely orange; front and middle tibiae and all tarsi mostly yellow; face with 2-3 pairs of large setae and a row outside these of 4-5 smaller setae, lowermost and middle one slightly larger; a small dc in front of each of the prescutellar pair. Dense black setae on pale costa give appearance of black edge to milky wing.]

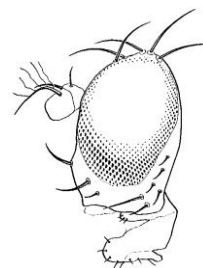
Diclasiope lacteipennis



- Both lower pairs of facial setae point inwards. Costa between humeral break and sc usually with all spinules of similar size (apart from the stout seta just before the sc break). 31

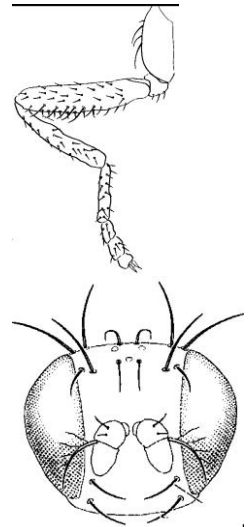
- 31 Front femora with a ventral row of small black blunt spines. Face slightly prominent. Upper large facial setae closer together than the lower pair. Frontal triangle complex as long as the frons in front of it.

Ditrichophora



- Front femora without or with indistinct posteroventral row of small blunt spines. Face almost flat. Both pairs of large facial setae close to the eye margin. Frontal triangle complex longer than the frons in front of it.

Gymnoclasiopa



- 32(13) Thoracic dorsum entirely covered in short dense close-set setae, without differentiation between ac and dc (except for the pre-scutellar). 33

- Dorsocentral and acrostichal (if present) setae in clear rows (except in one large hairy brown species). [needs re-writing to accommodate *Parydra* with fine dcs among other setae.] 34

- 33 Shiny black fly, face glossy.

Mosillus subsultans



- Large hairy entirely dusted fly with long hairs on the thorax and head (wing length 3.5mm).

Parydra pubera

- 34 1 pre-sutural and 2 post-sutural long dorsocentral setae AND uniserial acrostichals.

Philygria sensu stricto



- Without both 1 + 2 dorsocentral and uniserial acrostichal setae. 35

- 35 No acrostichal setae. (Tiny flies, sometimes with reduced wings.) ***Nostima***

- Acrostichal setae always present. 36

- 36 Either thoracic dorsum or tergites finely or coarsely wrinkled or coarsely punctate. 37

- Both thoracic dorsum and tergites smooth or at most finely punctate. 39

- 37 Tergites smooth and shiny. Wing bent at the base; costa undulating; R_{2+3} short and with an appendix, ending at a level well before the tip of the discal cell. Frons coarsely wrinkled. ***Parydroptera discomyzina***

- Tergites wrinkled or coarsely punctate, at least on the front segments. Wing shape and venation normal. Frons smooth. 38

- 38 Tergites coarsely punctate. Costa extending only to R_{4+5} . Vein R_{2+3} short, ending about half-way between R_1 and R_{4+5} .

Axysta

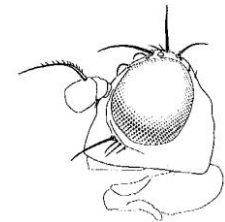


- Tergites finely wrinkled. Costa extending to M_{1+2} . R_{2+3} long, ending close to R_{4+5} .

Pelina

- 39(36) Two outwardly pointing orbitals (if any doubt, then large chunky flies with wings at least 3.5mm long). (Mainly large and often shiny flies with a strongly sloping face and wide mouth opening, but a few are small or entirely dusted.)

Parydra

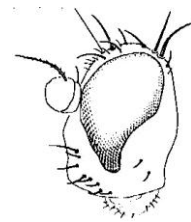


- Orbitals absent or minute.

40

- 40 Eyes pear-shaped, narrowed below (small pale dusted flies; face white-dusted).

Glanthe ripicola



- Eyes normal.

41

- 41 R_{2+3} short, ending about half-way between R_1 and R_{4+5} . Ocellar tubercle clearly raised above the frons. A line of several fine facial and/or parafacial hairs..

Hyadina

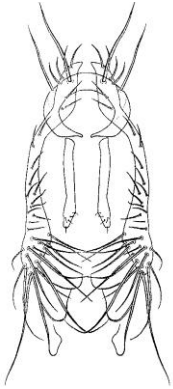
- R_{2+3} long, ending close to R_{4+5} . Frons practically flat and tubercle scarcely raised. Only one clear seta on the parafacial area.

Eutaenionotum olivaceum

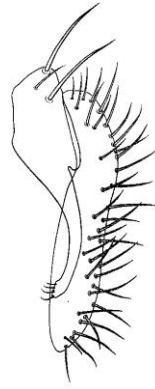
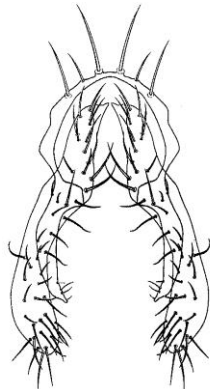
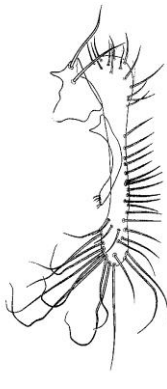
Allotrichoma

Figures from Krivosheina & Zatwarnicki (1997)

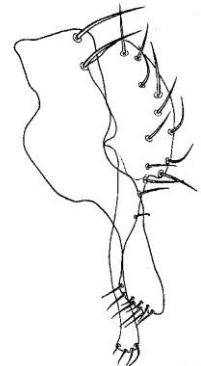
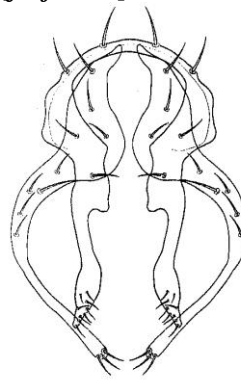
bezzii



laterale



[*filiforme*]

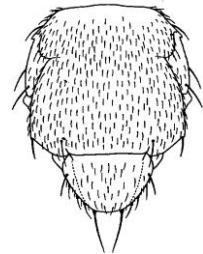


Athyroglossa

Figures from Mathis & Zatwarnicki (1990b).

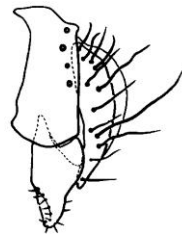
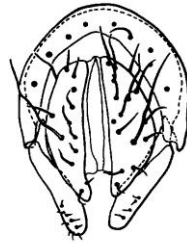
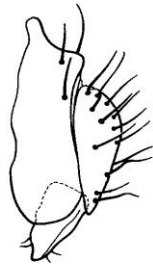
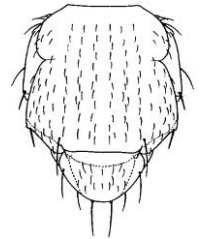
- 1 Thoracic dorsum evenly covered in fine setae. Scutellum flat and wrinkled. Face smooth below the protuberance.

glabra



- Thoracic dorsum with eight single rows of fine setae. Scutellum convex and smooth. Face wrinkled below the protuberance.

ordinata



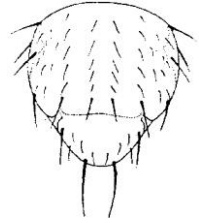
ordinata

glabra

Atissa, *Schema*

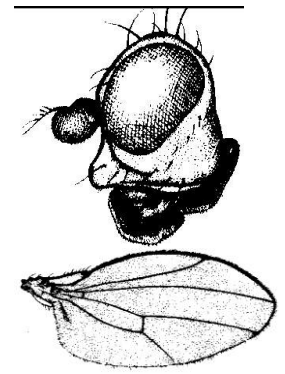
From Becker (1903). Other European Palaearctic species: *Atissa kertezi* Papp. Related European Palaearctic genera/species: *Asmeringa inermis* Becker, *orsovana* (Enderlein), *Subpelignus hortobagyensis* Papp. English *Schema* could be either species using this key.

1 Acrostichal setae widely spaced, only biserial. 2



- Acrostichal setae narrowly separated, in more than two rows. 3

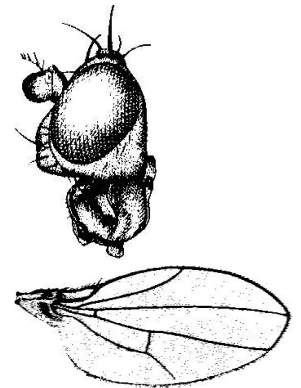
2 Acrostichal setae very fine; third antennal segment orange, mostly darkened along the upper edge; face concave; outer crossvein slightly darkened. Legs dark brown, hind metatarsus yellow. *Atissa pygmaea*



- Acrostichal setae thickened, almost bristle-like; antennae black to dark brown; face flat and vertical; outer crossvein not darkened. Knee, most of tibia and tarsi except the last segment orange. *Schema acrosticale*

- Acrostichal setae very fine; antennae blackish brown, third segment spotted below with orange; face forming a protruding tubercle. Legs yellow, knee and tip of hind femur and tibia, and last tarsal segment of all legs black. Second section of costa shorter than third. Tiny: 0.75mm long.

[*Ptilomyia angustigenis*]



3 Second section of costa not longer than the third. 4

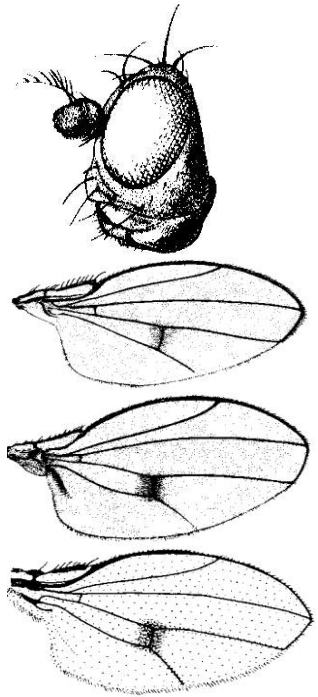
- Second section of costa distinctly longer than the third. 5

4 Antennae entirely black, arista short plumose; legs black, only the metatarsi somewhat orange. *Schema durrenbergensis*

- Antennae black, third segment orange-red below, arista distinctly plumose. Legs black, knee, base and tip of tibiae as well as the tarsi except for the last segment orange. [*Atissa kairensis*]

- 5 Antennae of the usual size; third segment orange at the base. Acrostichal setae arranged in distinct rows. Face flat in profile. Legs dark brown.

Atissa limosina



- Third antennal segment considerably larger, quite black, slightly grey-dusted. Acrostichal setae in irregular rows. Face concave in profile. Legs dark brown.

[*Atissa hepaticoloris*]

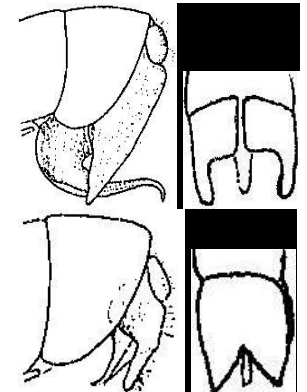
[*Atissa kertezi*]

Coenia

Partly after Irwin (m/s)

- 1 Halteres usually with dark knobs; abdomen with pink/copper reflections. Male hypopygium very large with a square gap between the apical prongs. Female terminal ventral sclerites long, twice the length of the apical hair; ventral receptacle with a neck.

curvicauda

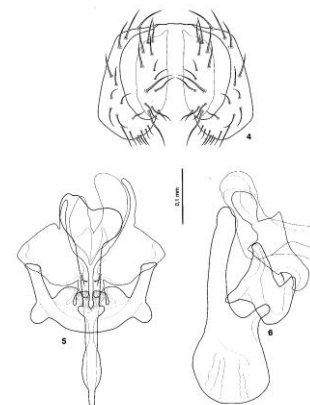


- Halteres usually pale; abdomen with green, bronze or grey reflections. Male hypopygium small with a V-shaped gap between the apical prongs. Female terminal ventral sclerites short, only slightly longer than the apical hair; ventral receptacle without a neck.

palustris

Diclasioipa lacteipennis

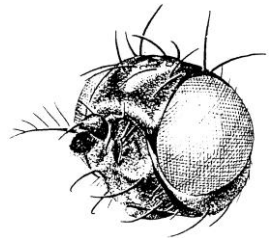
Figure from



Ditrichophora

Mainly after Collin (1943)

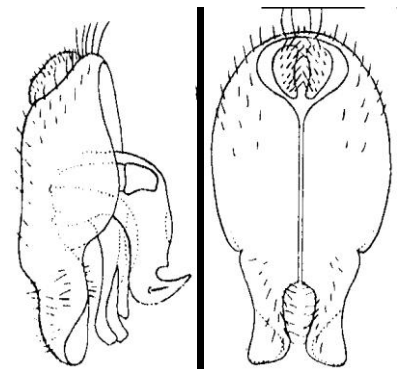
- 1 Thorax not so densely dusted as to entirely obscure the shining black ground colour, and appearing shining with the unaided eye; frons and face also not very densely dusted and consequently blacker; tarsi yellow with last two to three joints darkened. A distinctly blackish species. [No tiny hairs on frons apart from microscopic ones on the eye margin. A line of dusting across top of humerus, especially obvious from above.] *calceata*
- Thorax entirely dull or, if blackened and slightly shining in some lights (*fuscella*), abdomen in side view not obviously shining at sides and tip, as in *calceata*, but entirely dusted. 2
- 2 Face densely dusted whitish, conspicuous to the unaided eye; head and thorax dull pale greyish; abdomen brownish-black, less dusted at sides and tip and consequently more shining there when viewed from side; all tarsi yellow (brownier apically). [Scattered tiny hairs across the frons behind the antennae and in front of the large setae. Third antennal segment yellow or dark - possibly two species.] *palliditarsis*
- Face blacker owing to thinner coating of dust; abdomen viewed from side equally dusted all over; tarsi considerably darkened. 3
- 3 Distance between the two bristles on one side of face only about one-quarter to one third less than distance between upper bristle of each side; frons blackish and usually without a distinct proclinate orbital bristle on front half. [Jowls grey compared to dark frons; knees narrowly yellow, especially on front leg.] *fuscella*
- Distance between the two bristles on each side of face less than one half distance between upper bristle of each side; frons with brownish reflections and always with a distinct small proclinate bristle on front half. *nectens*



Ephydra

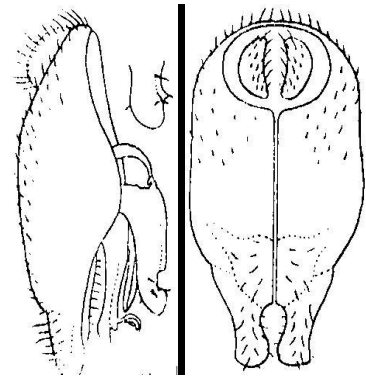
From Collin (1963). Males only; females not separable

- 1 Fifth tergite almost or quite half as long again as the fourth, terminal processes of hypopygium somewhat flattened and splayed outwards at tip. Fifth tergite with a long narrow extension at end of its side margin ventrally, forming a pair of ventral flaps, meeting or crossing over the hypopygial processes. *riparia*



- Fifth tergite scarcely longer than fourth. Terminal processes of hypopygium bluntly conical and not splayed outwards at tip. No long narrow elongations on to venter of end of fifth tergite.

macellaria



Glenanthe

Palearctic; some couplets for males only; Zatwarnicki & Mathis 2011

Western Palearctic Species

- 1 Crossvein dm-cu and to a lesser degree crossvein r-m darkened. [Antenna black. Male hind tibia without expanded apex. Femora and tibiae grey. Surstylus elongate, 3X longer than cerci and bearing numerous very long setae with a medial orientation (figs. 28-29)] (Palearctic).

nigripes Czerny

- Crossveins not darkened.

2

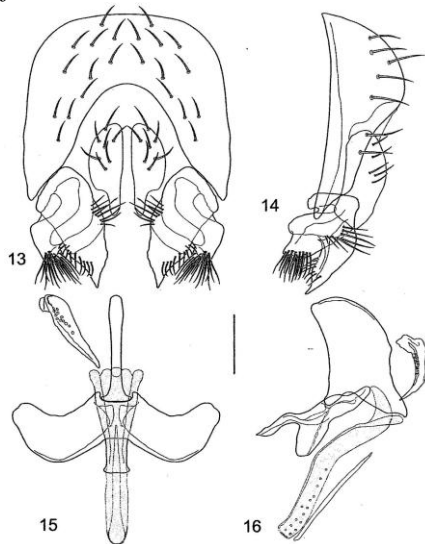
- 2 Hind tibia of male with flattened, wider, subshiny apex. Epandrium of male terminalia large and squarish in posterior view (usually can be seen in dried specimens; fig. 13) (Palearctic).

fuscinervis Becker

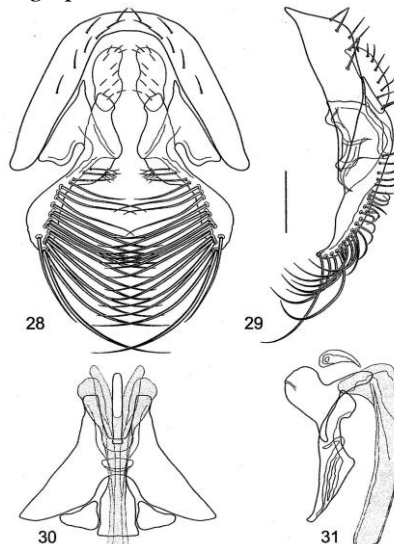
- Hind tibia of male like fore- and mid tibiae, not flattened, widened, and subshiny. Epandrium of male terminalia small, narrow (usually not exposed in dried specimens); epandrium U shaped in posterior view, cerci relative high, length about $\frac{3}{4}$ height of epandrium (fig. 33); surstyli digitiform, length less than cerci (figs. 33-34), generally bearing setulae, none greatly elongate (Palearctic).

ripicola (Haliday)

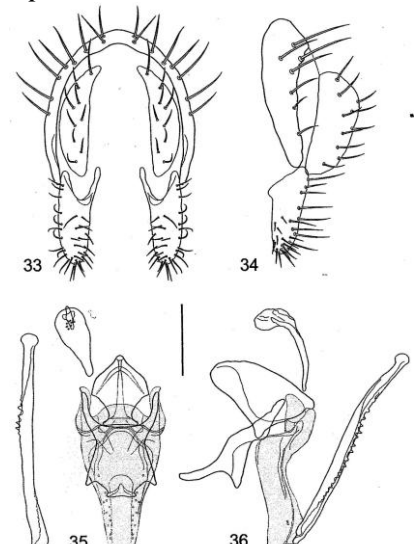
fuscinervis



nigripes



ripicola



Glenanthe - all Old World species

- 1 Crossvein dm-cu and to a lesser degree crossvein r-m darkened.

2

- Crossveins not darkened. 3
- 2 Antenna mostly yellowish. Femora and tibiae yellow; male hindtibia with apex expanded with an apicodorsal, acutely pointed extension (fig. 4). Surstylus as wide as long and bearing several short setae with medial orientation (figs. 5-Q (Palaeartic (Mongolia)). *G. bimaculata* Hendel
- Antenna black. Femora and tibiae grey; male hind tibia without expanded apex. Surstylus elongate, 3X longer than cerci and bearing numerous very long setae with a medial orientation (figs. 28-29) (Palaeartic). *G. nigripes* Czerny
- 3 Abdomen dark brown to black dorsally except for silvery white to grey microtomentose, lateral spots or wedges on tergites 3-5. 4
- Abdominal tergites whitish gray to grayish brown, not black nor brown with lateral, grey wedges. 5
- 4 Abdominal tergites black, subshiny to shiny; 5th tergite mostly black with only a lateral spot silvery grey; legs yellow (Afrotropical). *G. namibia* n. sp.
- Abdominal tergites brown, lateral grey areas wedge shaped; 5th tergite mostly grey with only medial vitta faintly brownish grey and anterolateral areas dark brown; femora and tibiae with extensive grey coloration (Afrotropical). *G. danielssoni* n. sp.
- Abdominal tergites whitish grey to dark grey. 5
- 5 Abdomen greyish brown to brown, microtomentum moderately sparse, partially subshiny (Australasian, Oriental). *G. ismayi* Mathis
- Abdominal tergites mostly grey, some specimens whitish grey to brownish grey, microtomentum moderately dense, appearing dull. 6
- 6 Hind tibia of male with flattened, wider, subshiny apex. Epanthrium of male terminalia large and squarish in posterior view (usually can be seen in dried specimens; fig. 13) (Palaeartic). *G. fuscinervis* Becker
- Hindtibia of male like fore- and midtibiae, not flattened, widened, and subshiny. Epanthrium. of male terminalia small, narrow (usually not exposed in dried specimens); epanthrium U shaped in posterior view, cerci relative high, length about ¾ height of epanthrium (fig. 33); surstyli digitiform, length less than cerci (figs. 33-34), generally bearing setulae, none greatly elongate (Palaeartic). *G. ripicola* (Haliday)

Gymnoclasiopa

From Collin (1943)

- 1 Supra-alar bristle as long and strong as posterior notopleural. Large species with very flat smooth face, brownish in male, brownish grey in female, and entirely yellow tarsi. *collini*
- Supra-alar, if present, only very small, scarcely differentiated from other scattered small bristles. 2
- 2 Palps dark. All tibiae dark to tip and last three joints of tarsi darkened. (Species resembling *collini* in having only very slightly convex face, but this is almost silvery-white in both sexes. Antennae very grey [second and basal half of more of third orange]. [Thorax often with indications of darker stripes. Last tergite almost glossy and greenish tinged.] *plumosa*
- Palps yellow. Tibiae distinctly yellow at base and tip and all tarsi yellow. 3

3 A much duller, more greyish-brown species. Face much less convex below. Pleura, especially, more densely dusted. Legs longer and hind tibiae with a small but distinct dark anteroventral apical spur.

cinerella

- A more shining, blackish species with thorax and pleura more thinly dusted. Face decidedly convex below. Legs shorter with no small dark anteroventral spur to hind tibiae.

lambi

Hecamedoides

Includes European species except *morrii* Canzoneri & Rampini 1981, but only *glaucellus* and *unispinosus* are known from Britain. Dimensions and genitalia of *unispinosus* from Mathis & Zatwarnicki (1990b); genitalia of *glaucellus* from ??.

1 Antennae entirely black. 2

- Antennae at least partly orange. 3

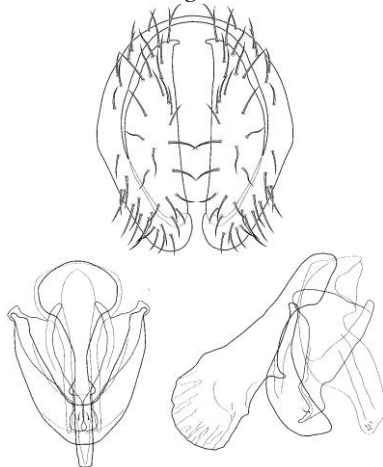
2 Front femora with a posteroventral row of 4-5 small blunt black spines towards the tip. Body grey or bluish-grey, including the abdomen, only the middle of the first two tergites brownish. Larger (2.75 - 3.0mm). *glaucellus* (Stenhammar)

- Front femora with only one blunt posteroventral spine. Body brownish (especially the abdomen). Smaller (2.05 - 2.2 mm). *unispinosus* Collin

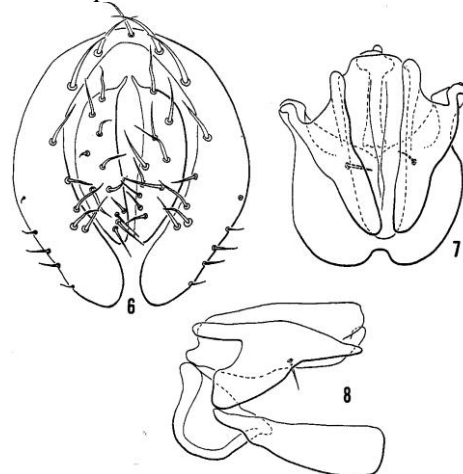
3 Antennae entirely orange or third segment at least orange below. Tibiae largely yellow. [Three facial setae and a fourth outside the large uppermost one.] [*costatus* (Loew)]

- Only second segment of antennae orange, third segment brown. Tibiae mainly grey. [*corleionensis* Canzoneri]

Hecamedoides glaucellus



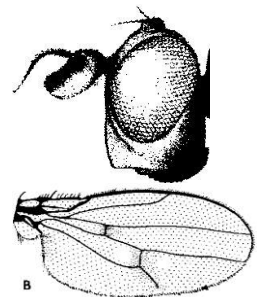
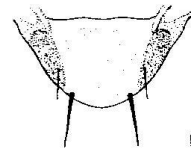
H. unispinosus



Hyadina

H. 'humeralis' as currently understood is an undescribed species; *humeralis* is a synonym of *guttata*.

- 0 Legs entirely black. Tiny species. ?sp. nov. (Somerset)
- At least tarsi pale. 1
- 1 Scutellum entirely velvet matt black. [mesopleuron with a large black mark on its upper half. Wings with two small clear patches near the posterior crossvein (these may be indistinct and are best seen with the wing angled and against a dark background.) One pair of vertical setae.] *scutellata*
- [*Nostima picta* will come here if ac setae are not checked]
- Scutellum not entirely matt black 2
- 2 Scutellum entirely grey with no black patches. [Two pairs of vertical setae; femora dark.] *pollinosa*
- Scutellum with two matt black lateral patches, grey centrally. 3
- 3 Two pairs of vertical setae. Mesopleuron without a black patch. [wing without clear patches; third antennal segment dumpy, as deep as long. Face profile as in *humeralis*; palps pale.] *rufipes*
- [*nigricornis* Frey keys here - entirely black antennae and legs; British species other than *pollinosa* have yellow legs. Not known in Britain but from Scandinavia and Denmark.]
- One pair of vertical setae. Mesopleuron with a black patch on its upper half. 4
- 4 Apical scutellar setae and pre-scutellar dorsocentral setae as long as scutellum. Palps yellow. Face nearly flat and vertical in profile. Wing with two small clear patches either side of the posterior crossvein. Occiput with two almost round dust-spots. Shiny middle section of scutellum clearly narrower than the matt margin. *guttata*
- Apical scutellar setae and pre-scutellar dorsocentral setae about 3/4 the length of the scutellum. Palps black. Face with an angled 'nose' in profile. Wing without clear patches. Occiput with grey V-shaped dust bars. Shiny middle section of scutellum as broad as the matt margin. *'humeralis'*



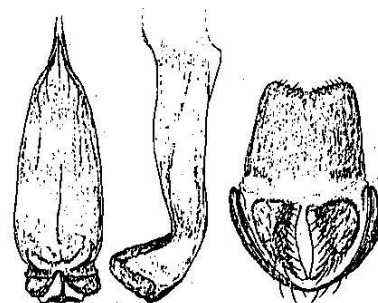
Hydrellia

After Collin (1966); additional figures from Zatwarnicki (1988) and Drake (2002). More species to add!

- 1 Palps obviously yellowish, not yellow only at tip as in *cochleariae*. 2
 - Palps either all dark or only the extreme tip pale. 24

- 2 Antennae with all joints yellow in male, or only basal joint dark in female; front coxae indistinctly yellowish especially beneath; no strong presutural dorsocentral bristle on thorax but one fairly distinct one can be present not far from the strong postsutural one which is very near the suture; legs black with four posterior tarsi yellowish about the base.

flavicornis



- Male antennae with at least the two basal joints dark. 3
 3 Front coxae obviously yellow without sufficient dusting to conceal the ground colour. 4
 - Front coxae not obviously yellow, its dusting sufficient to conceal any yellowish ground colour. 10

- 4 Third antennal joint entirely pale in the male, or only somewhat darkened above. 5

- Third antennal joint quite dark in both sexes. 8

- 5 Fifth male abdominal tergite not, or very little, longer than fourth. 6

- Fifth male abdominal tergite much longer than fourth. 7

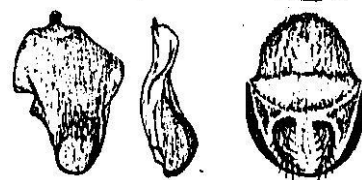
- 6 A very small species with very narrow face, deep black frons; a dark streak on upper margin of mesopleura when viewed from in front; a fairly distinct presutural dorsocentral bristle; tarsi yellow and tibiae partly so.

porphyrops



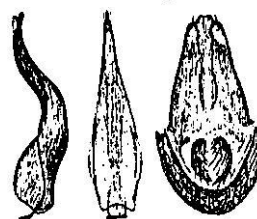
- Triangular frontal orbits not so intensely black; no presutural dorsocentral bristle; third antennal segment of male not entirely yellow; mesopleura without dark patch; all tibiae extensively pale.

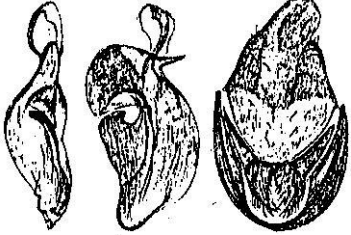
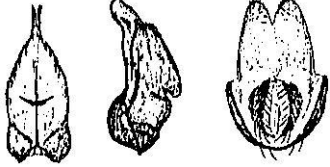
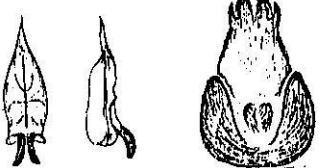
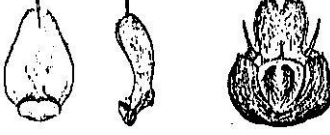
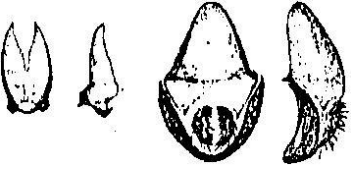
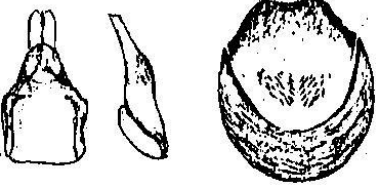
cardamines



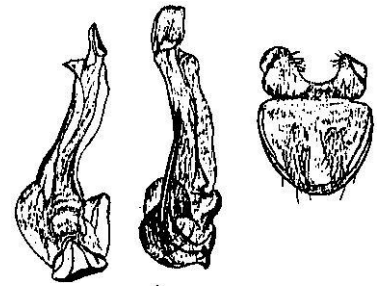
- 7 Third antennal segment of male entirely yellow; face yellowish and rather flat; postsutural dorsocentral bristle very close to suture and with one varying in length not very far in front of it; middle femora bare posteroventrally.

laticeps

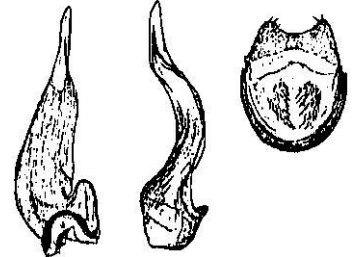


- Third antennal segment of male darkened above; face whitish; no presutural dorsocentral bristle; four anterior tibiae yellow; end of extension of hypopygium bent sideways. *flaviceps*

- 8 Facial eye margin darkened; face a rich yellow; frons all dull; no presutural dorsocentral; male middle tibiae dilated, and 5th tergite shorter than 4th. *fulviceps*

- Facial eye margins the same colour as face; male 5th tergite longer than 4th 9
- 9 Face, all pleura (including upper part of mesopleura), legs and sides of abdomen very silvery-grey; narrower terminal part of hypopygium without a slender appendage on each side at base. *maculiventris*

- Face yellowish; pleura with darkened patch on upper margin; extension of hypopygium with a slender appendage on each side of its narrowest part at base. *ischiaca*

- 10(3) Third antennal joint of male antennae at least pale beneath. 11
- Third antennal joint of male antennae entirely dark or at most only very narrowly pale at base. (*albiceps* [should this include *nigricans*?]) 17
- 11 A distinctly strong presutural dorsocentral bristle (not in the suture). 12
- No strong presutural dorsocentral bristle. 15
- 12 A small grey species with only middle part of its thorax and narrow abdomen brownish; face very silvery, or only slightly yellowish; antennae only yellow about base of 3rd segment; legs with four anterior tibiae yellowish, and hind pair partly so. *fascitibia*

- Not with these characters. 13
- 13 Third antennal segment of male entirely yellow but dusted whitish [almost entirely dark in some], and the species smaller with male middle tibiae not thickened; frons brown, only black when seen from behind; face silvery; humeri same colour as thorax, and upper part of mesopleura darkened; male abdomen short and broadly ovate with 5th segment not longer than 4th, narrowing toward its end but ending bluntly; legs entirely dark *meigeni*

- Third antennal segment of male entirely pale *and* larger species with middle tibiae of male distinctly thickened. 14

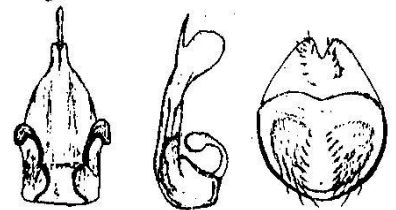
14 Legs not entirely dark; outer crossvein oblique; a number of small facial bristles all the same length. *ranunculi*



- Legs entirely dark; outer crossvein more upright; six pairs of stronger facial bristles. *concolor*

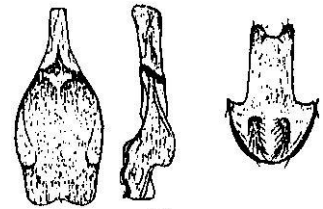


15 All tibiae as well as tarsi pale; all legs slender; frons greyish each side of ocellar triangle; front pair of strong dorsocentral bristles almost in the suture.; abdomen rather shining black [may be dull] with 5th tergite not longer than 4th, and hypopygium grey with its end part whitish-yellow [Face ground colour yellow but white-dusted; in dark specimens, hind tibiae darkened and antennae entirely black.] *obscura*

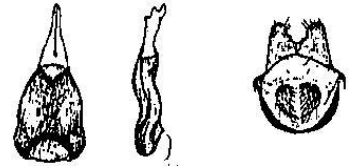


- All tibiae dark, and otherwise not as above. 16

16 Four anterior (especially middle) tarsi pale; frons particularly dull black except on the side ocellar triangle, as is also 2nd antennal segment, 3rd segment darkened on outer side; face not much wider until below level of eyes' proboscis dark. *mutata*



- Four anterior tarsi dark; frons never particularly dull black, and when viewed obliquely from the side, all dull brownish except the actual eye margin; clypeus and proboscis yellow; hind tarsi pale about base; in many ways like *nigricans*. *subalbiceps*

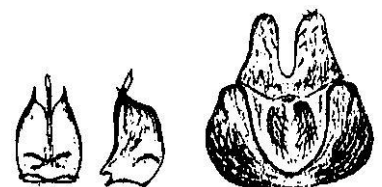


17 (10) No posteroventral setulae to middle femora; 5th tergite of male longer than

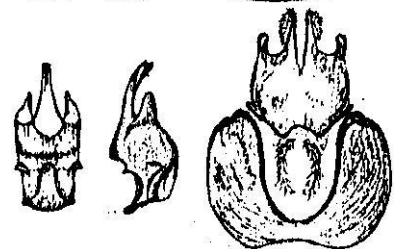


- The usual small posteroventral setulae of middle femora present; usually darker species. 19

18 No strong presutural dorsocentral bristle [doesn't work - this dc may be present]; face more protruding below, and jowls below eyes wider; only about four shorter hairs on arista; greyer abdomen. [face always golden.] *griseola*



- A stronger presutural dorsocentral present; face less protruding below, and jowls narrower; five longer hairs on arista; rather browner species. *maura*

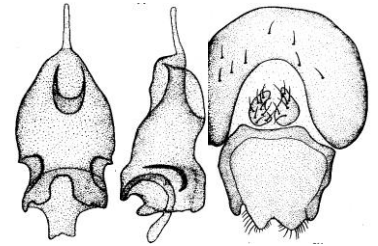


19 (17) A strong presutural dorsocentral present. 20

- No strong presutural dorsocentral present. 23

20 Humeri greyer than rest of thorax; tibiae narrowly pale at each end; 5th male tergite long and broad at end; the extension of hypopygium under end of abdomen broader than long and square, with a sharp point at each end corner, and a pair of more prominent lobes at the middle, somewhat as in *maura*.

pubescens

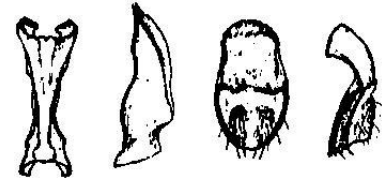


- Not all as above.

21

21 Small, rather shining blackish species with abdomen ovate and pointed behind in both sexes, the hypopygium small and hidden, making it difficult to distinguish the sexes; face silvery or yellowish; tibiae distinctly though narrowly pale a tip, and tarsi pale about base; front coxae very whitish.

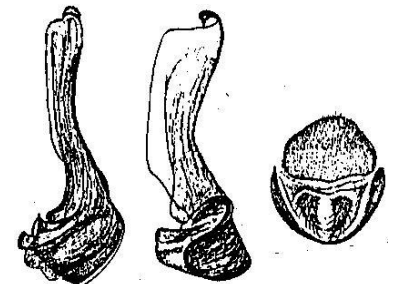
albifrons



- Not all as above; abdomen more normal; tibiae dark to tip; larger species.22

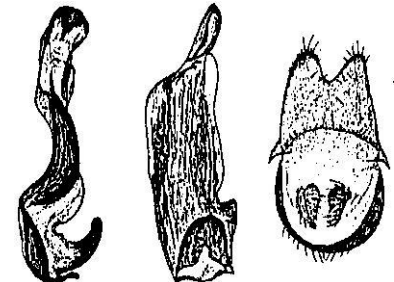
22 A rather dull dark brownish species with face wither silvery or slightly golden, and with six pairs of rather long facial bristles; mesopleura often slightly brownish; abdomen slightly greyer than thorax and 5th tergite longer than 4th in male; hypopygium and its extension densely dusted silver on a yellowish ground; middle tibiae dilated.

fusca



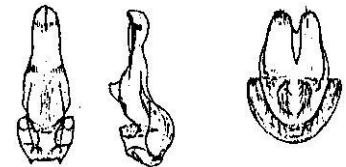
- A similar species with narrowest part of face closer to base of antennae; front femora stout and front tarsi distinctly yellow beneath the first three joints (not entirely dark); outer crossvein somewhat oblique.

tarsata



23(19) Legs (apart from slightly yellow front knee), clypeus and proboscis entirely dark; a very dark grey species with very little brown colouring; frons viewed from in front dull greyish, but viewed from the side with near side grey and the far side black.

caledonica

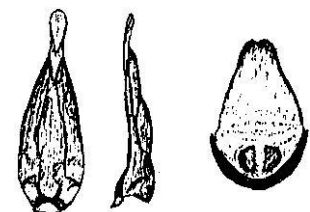


- Legs not entirely dark; clypeus and proboscis yellowish; a species very much like *subalbiceps* but third antennal joint of male nearly entirely dark, and in many other respects a darker species, with lower part of face more prominent, and more numerous arisal hairs.

nigricans

24 (1) Jowls below eyes very wide, and together with face and pleura, very silvery-white; each row of facial hairs duplicated; strong presutural dorsocentral bristle present; probably sometimes confused with *caesia* Stnh., which however is larger and has yellow palps.

argyrogenis

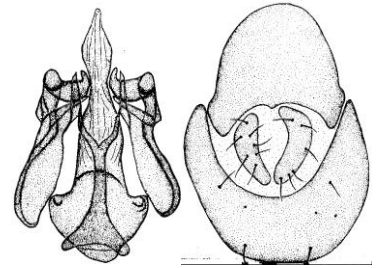


- Jowls not much wider than width of third antennal joint, and otherwise not all as above.

25

25 A very dark species, even face brown; legs entirely dark; the only pair of dorsocentral bristles situated practically in the suture (a prescutellar pair of such bristles in this genus are always out of line with the others).

tenebricosa

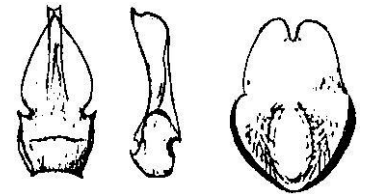


- Legs not entirely dark, and otherwise not so dark a species.

26

26 Thorax greyish with three darker brown stripes along the line of bristles; third antennal segment greyish in both sexes; male hind tibiae dilated about the middle; tarsi mainly pale.

thoracica



- Thorax darker and not striped; third antennal segment of male at least partly pale; hind tibiae simple.

27

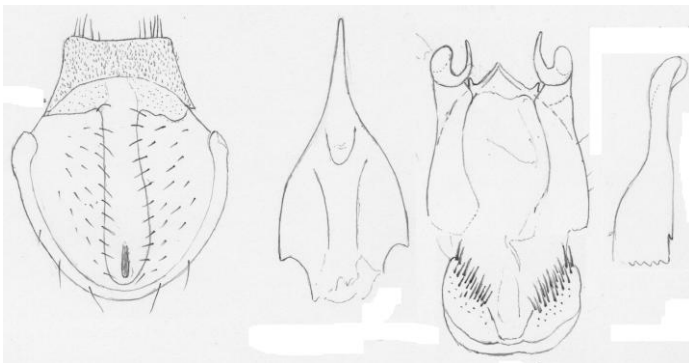
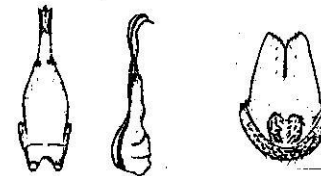
27 A very small shining black species with frons dull black and face silver; pleura blackish.

albilabris



- A slightly larger species, not so extensively shining black; frons not entirely dull black; pleura grey; palps dark except for the yellowish tip.

cochleariae



• New *Hydrellia* species 1

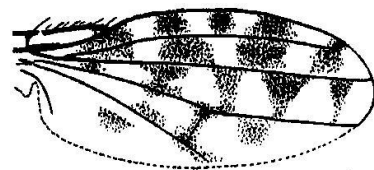
Several more species have been seen in Britain.

Ilythea

Figures from Cresson (1943)

1 Marginal cell (R_1) with four discrete dark spots.

spilota



- Marginal cell infuscated with a single basal spot.

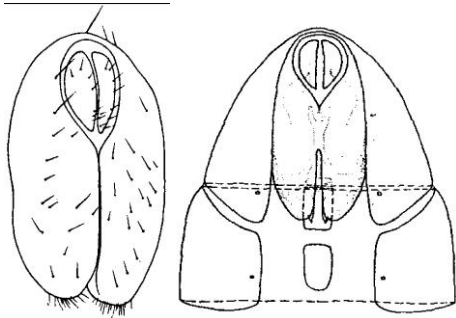
nebulosa



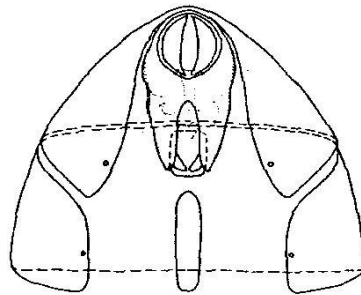
Lamproscatella

Figures from

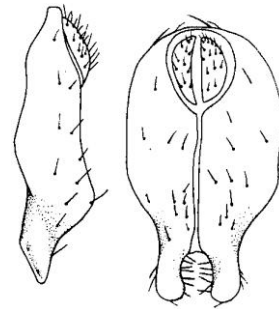
sibilans



bimaculata (central Europe



brunneipennis (Norway)

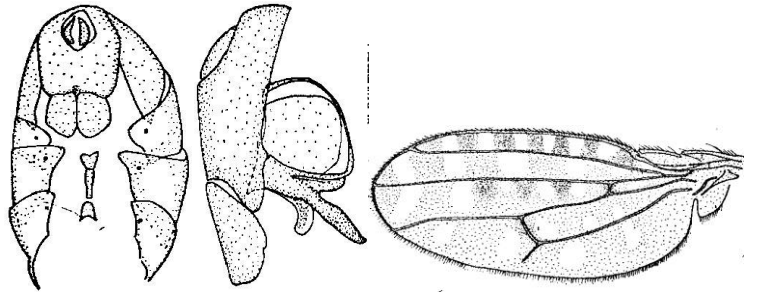


Limnellia

From Andersson (1971)

- 1 Three distinct dark spots in the first posterior cell (behind vein r_{4+5}), ignoring the dark spot over r-m. Tarsi and halteres black, palps yellow. [Not confirmed as British.]

stenhammari

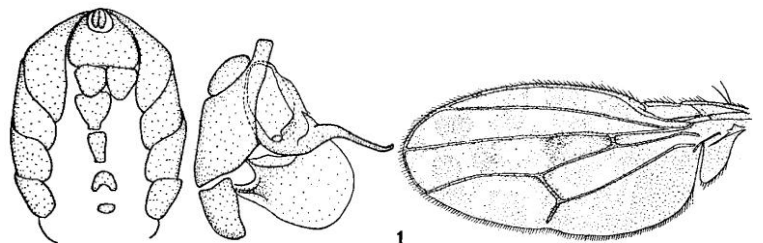


- Only two distinct dark spots in the first posterior cell. Combination of other characters different.

2

- 2 Halteres, palps and tarsi yellow. [dumpy dark species.]

fallax

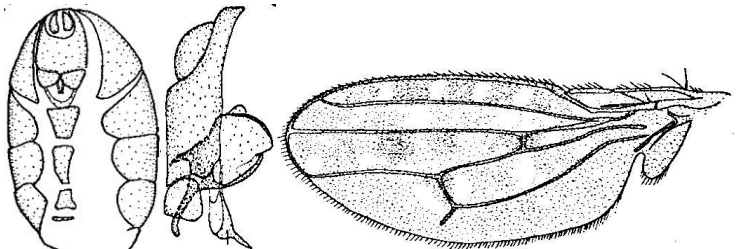


- Halteres black or dusky.

3

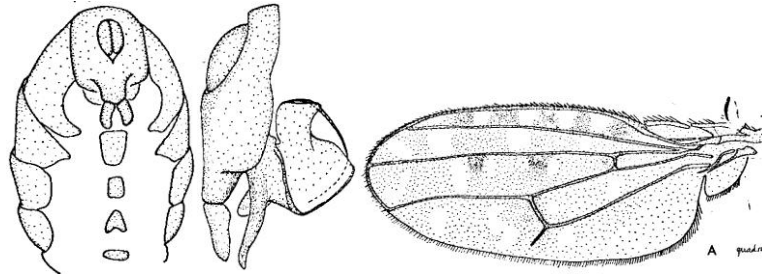
- 3 Palps and tarsi black.

surturi



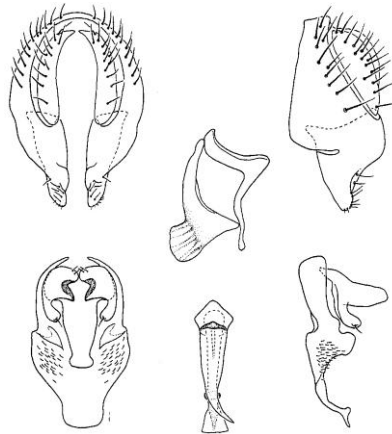
- Palps yellow, at least at the tip; tarsi usually yellowish (or pitchy). Male hypopygium square with obvious apical projection.

quadrata



Mosillus subsultans

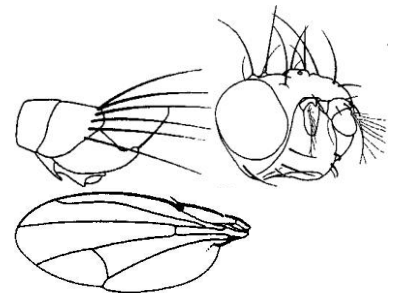
Figure from Mathis *et al.* (1993).



Notiphila

From Drake (2001)

- 1 Facial and genal setae almost as stout as ocellars and verticals (but shorter). Vein R_{2+3} with a distinct bend half way along. Male with outstanding stout setae on hind margin of fourth tergite. (Large, almost entirely blackish species with several narrow paler lines on the mesonotum.) (subgenus *Dichaeta*) *caudata*

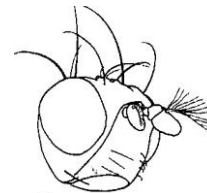


- Facial and genal setae obviously finer than vertical and ocellar setae. Vein R_1 without a distinct bend, slightly sinuous or nearly straight. Male abdomen unremarkable.

2

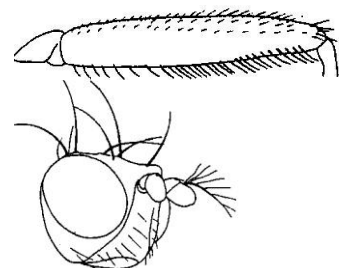
- 2 Face with three or four subequal facial setae in a short row about as long as the length of the gap between the uppermost seta and the antenna (ignore short hairs). Hind metatarsus with several black stout hairs at its base. Mid tibia usually with three dorsal setae. Male with mid femur with fringes of posteroventral and anteroventral close-set setae. (subgenus *Notiphila* sensu stricto)

3

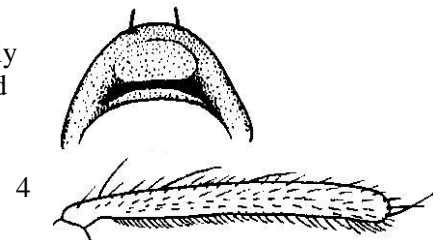


- Face with a long row of six or seven subequal facial setae, leaving a short gap before the antenna about half the row's length. Hind metatarsus with only yellow or brownish stout hairs at its base (rarely a single black one). Mid tibia usually with four dorsal setae. Male without ventral femoral fringes. (subgenus *Agrolimna*)

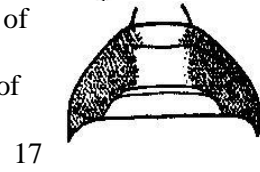
19



3 Second antennal segment and more than just the apex of the third segment black (may be entirely black). Underside of scutellum entirely grey-dusted, or with only a narrow shiny black line near the base. Mid tibia of male with a ventral fringe of closely spaced fine curved setae, often with hooked tips. (Wings usually colourless or with dark-margined veins.)

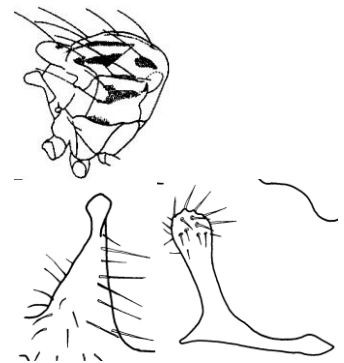


- Antenna, including the second segment, yellow with only the margin of the third segment darkened. Underside of scutellum grey-dusted centrally and flanked by contrasting black areas (Fig. 12). Mid tibia of male without a ventral fringe of short curved setae. (Wings usually yellow-tinged.)



4 Mesonotum with distinct dark brown interrupted streaks along the lines of the setae; the mark passing through the post-humeral and supra-alar is clear even if those on the disc are vague (pale area of third antennal segment bright orange). Pattern on third and fourth tergites with strongly demarcated median triangles and a lateral band extending round the curled side of the tergite, dark areas slightly shining and contrasting strongly with the pale dusted grey background. Epandrial processes with clubbed tips; pregonite club-shaped. (*venusta* has similar markings.)

maculata



- Mesonotum almost uniformly coloured, or with only vague darker stripes; if marks are present (some *dorsata*), then a large species with pale area of third antennal segment dull or dark orange. Pattern on tergites with less contrast owing to dusting on both the dark and paler areas. Tips of epandrial process pointed or hooked but never swollen; pregonite not club-shaped but may broaden slightly towards the tip.

5

5 Front tibia mostly black, either black to the tip or leaving at most only the rim orange or yellow, with colour not reaching as far back as about a fifth of the tibia's length. (Doubtful cases key out in both halves of the couplet.)



6

- Front tibia yellow or if extensively darkened then at least the distal quarter is yellow. If the tibial character is inconclusive (i.e. mainly dark but yellow all around the tip), then the dark lateral marks of third and fourth tergites extend beyond the curled side of the tergites and continue as a lighter brown shade in the front half of the downward-facing margin of the tergite AND the third antennal segment is obviously pale at the base.

11



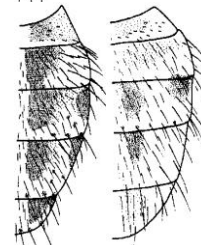
6 Third and fourth tergites with a bold pattern of large median dark triangles with the diagonal edge straight or weakly convex, and often fused in front with the lateral mark; dark marks usually clearly demarcated from the pale background.

7



- Tergites with a pattern of narrow dark bars or squarish (not obviously triangular) dark marks that are often ill-defined and which do not merge along the front margin. If uncertain, then a small species (wing length less than 3.8 mm) with completely black antennae.

9



7 Face and cheeks silver or white. Mid and hind tibiae mainly black. Epandrial process is a blunt-ended triangle. Distiphallus with long slender spines.

brunipes

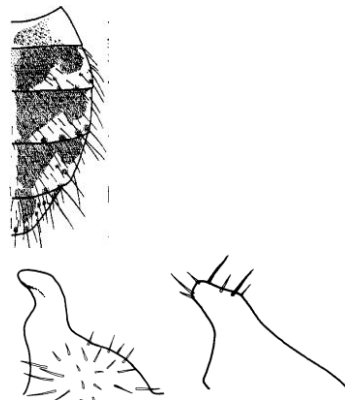


- Face and cheeks yellow or golden, sometimes reddish-brown. Mid and hind tibiae mainly yellow (hind often with a dorsal dark streak or central dark band).

8

8 Front tarsus dark or dirty yellow (compare with yellow mid tarsi) and without pale hairs below the metatarsi. Third antennal segment appearing black at low magnification, the base inconspicuously dark orange. Pattern on the tergites usually bold. Epandrial process dumpy S-shaped with a smoothly rounded tip, clearly hooked in strictly ventral view. Distiphallus with small points. Large species (wing length 3.8 mm or more).

dorsata

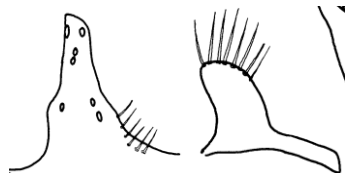


- Front tarsus usually as yellow as the mid tarsus and with some pale hairs below. Third antennal segment clearly yellow or orange in the basal half or more. Pattern on tergites either bold or more diffuse.

13

9 Antenna entirely black. Third and fourth tergites with almost equally large median and lateral irregularly rectangular marks (often ill-defined) which together occupy about 40% of the dorsal surface, the pale gap between them no wider than the marks. Face usually greenish grey (rarely yellow or pale grey). Epandrial process small, gently tapered and not at all sinuous. Pregonite squat with a broadly rounded tip bearing a fringe of about eight almost equally long setae. A small drab species.

nigricornis

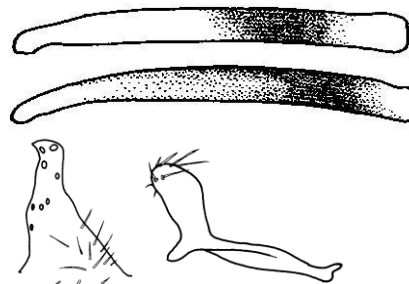


- Third antennal segment usually obviously orange at the base. Pattern on tergites reduced to small but clearly defined narrow dark bars on the third and fourth tergites, occupying about 20% or less of the dorsal surface and with the pale area outside the median marks clearly wider than the marks themselves.

10

10 Third antennal segment mostly bright yellow, the black rim usually extending only about a quarter the width of the segment; tip of second segment usually narrowly yellow, at least near the dorsal cleft. Mid tibia with a narrow to broad black ring, usually clearly demarcated, and hind tibia with a wide dark ring and black dorsal streak. Epandrial process slightly sinuous and with a sharp outward-facing point at the truncated tip.

annulipes

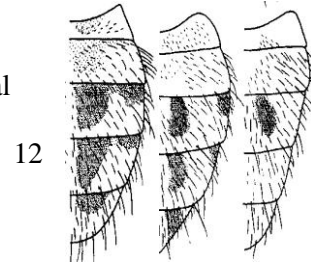


- Third antennal segment more extensively dark [or completely yellow!], the distal third or more dark; second segment entirely black. Mid tibia with at most a vague median ring, and hind tibia with a small dark dorsal streak. (See couplet 12.)

guttiventris



11 (5) Face white, silvery or pale ash grey, sometimes vaguely golden. Second tergite almost without dark marks in contrast to the clearly distinct dark marks on the third and fourth tergites, or the dark central area merging gradually into the pale outer area with no perceptible boundary.



12

- Face yellow to pale brown. Second tergite with more obvious dark marks similar in tone to those on the third and fourth tergites.

13

12 Pattern on tergites bold, the lateral marks almost reaching the curled edge of the tergites. All tibiae almost entirely yellow. Epandrial process at the tip with the inner edge curled up to form a narrow flange, appearing a slightly twisted; the processes widely separated at their bases; distiphallus with long slender spines.

stagnicola



- Pattern on tergites much reduced. Front and hind legs with some dark marks. Epandrial process finely tapered to a point, appearing almost straight in strictly ventral view. Distiphallus without spines, and with only numerous tiny points over most of its surface. See also couplet 10.

guttiventris



14

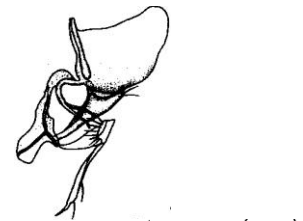
13 (8) Males.

- Females. (The separation of females is unreliable and all the characters used here are very variable.)

16

14 Epandrial process straight, narrow and parallel-sided before the slightly hooked tip. In ventral view, base of epandrial process obscured by the swollen end of the epandrium so its point of connection is not visible. Forked process present at the articulation of the aedeagus and aedeagal apodeme. Pregonite with a weakly developed shoulder. Abdominal pattern indistinct, the dark median and lateral patches tending to merge in the front half of each tergite

cinerea



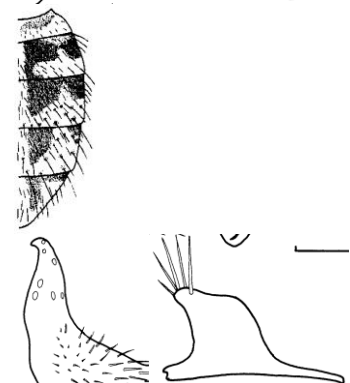
- Epandrial process curved and either gently tapered (not parallel-sided) or with a distinct shoulder before narrowing to the tip. Abdominal pattern distinct, the dark paired patches usually obviously separated.

15



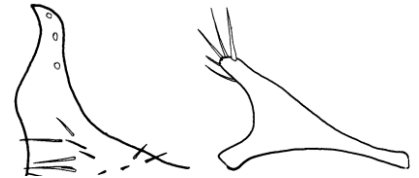
15 Epandrial process curved and gently tapered to a finely rounded tip, sometimes with a tiny hook. Forked process present at the articulation of the aedeagus and aedeagal apodeme (as figured for *cinerea*). Pregonite with a strong shoulder.

graecula



- Epandrial process with a distinct shoulder before narrowing to the upwardly and outwardly directed pointed tip. No forked process on the aedeagus. Pregonite tapered, sometimes with a slight shoulder but never so pronounced that the top is almost parallel with the base.

nubila



- 16 (13) Abdominal pattern with the dark patches more clearly defined against the pale grey (figure in couplet 14b). Width of the cheeks at their narrowest point about as wide as the width of the femur in its distal third (view cheeks anteroventrally to show their greatest width). Front tibia usually with a dark ring extending over about the middle half.

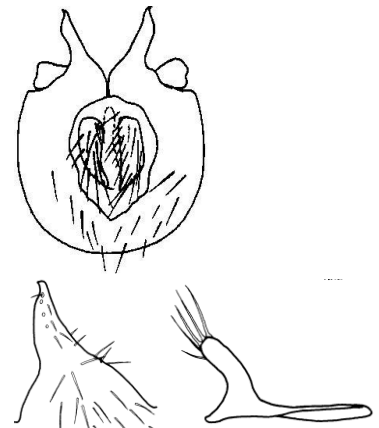
graecula or *nubila*

- Abdominal pattern somewhat indistinct as the margins of the dark patches merge more gradually into the paler areas, and with less contrast between dark and pale areas (figure in couplet 14a). Width of the cheeks at their narrowest point about as wide as the width of the femur in its broadest part. Front tibia usually mainly yellow.

cinerea or *nubila*

- 17 (3) Trochanters and all tibiae predominantly black, leaving only the knees and apices pale. (Epandrial process long, gently tapered but appearing parallel-sided in ventral view. Aedeagus with a simple curved spine where the aedeagal apodeme joins it. A dark species with rather shiny extensive black marks on the tergites occupying well over half the area of the middle tergites, and third tergite mostly (about three-quarters) dark along the lateral margin where it curls under, owing to extensive dark lateral patch).

subnigra

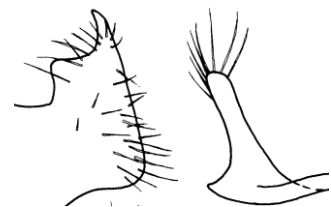


- Trochanters obviously yellow or at least pale on their rim; tibiae more yellow than black.

18

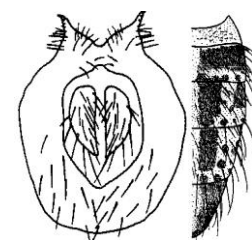
- 18 Epandrial process with a right-angled shoulder on the outer margin. Aedeagus usually with a curled knob where the aedeagal apodeme hinges (rarely not swollen). Dark marks of the abdomen more distinctly differentiated from the pale grey areas, especially obvious on the fifth tergite in lateral view where the hind third has dark spots against a pale background. Pleura dusted pale brownish grey, usually paler than the brown mesonotum, and usually with a brown streak or patch towards the upper margin of the mesopleuron and across the anterior spiracle. (Larger species, wing length usually rather more than 4.0 mm).

riparia



- Epandrial process short, obviously triangular in ventral view with a fine finger-like point (Fig. 27). Aedeagus with broader, parallel-sided or slightly swollen process where the apodeme joins it. Abdominal lateral and median dark patches usually continuous, with low contrast between dark and pale areas when viewed from above and slightly from the front (Fig. 36); fifth tergite in lateral view usually mainly dark, rarely with dark spots against a paler background in the hind third. Pleura no paler than mesonotum, with or without a dark mark near the top margin. (Smaller species, wing length usually rather less than 4.2 mm).

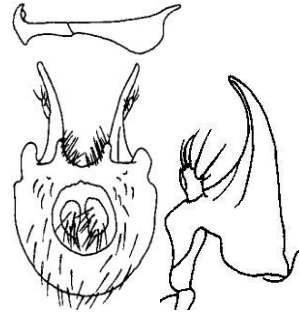
umbrosa



19 (2) Femora and tibiae almost entirely black, knees not yellow (or faintly so in wet or greasy specimens). Palps and antennae black. *uliginosa*



- Knees yellow. Palps orange; third antennal segment orange basally. (Abdomen conspicuously pale grey with contrasting black marks, thorax with dark streaks along the lines of larger setae). *venusta*



Ochthera

From Irwin (1985). [additional features to sorted out and drawn by me]

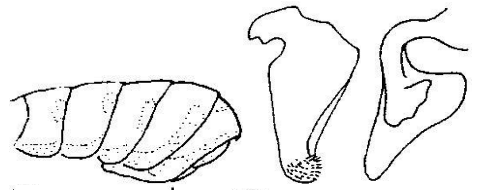
1 Front tarsi orange; front tibial spur long; front basitarsus of male with pit bearing sensory hairs. *schembrii*



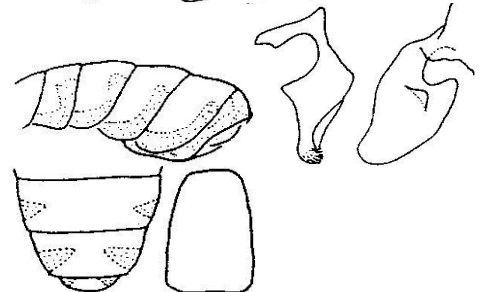
- Front tarsi black to dark brown; front tibial spur shorter; front basitarsus of male simple.



2 Tergite 2 with the grey lateral and ventral patches usually separated by brown dusting. Hypopygium brown-dusted with grey margins, proportionally longer dorsally; aedeagus and gonite as shown. Female tergite 6 dorsally with small grey side patches, sternites widening behind. [mid metatarsus equal to segments 2-5; front coxa narrower - obvious if drawn; posterior crossvein forms acute angle]. *mantis*

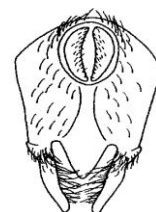


- Tergite 2 with grey lateral and ventral patches at least narrowly joined by grey dusting on posterior margin. Hypopygium largely grey-dusted, proportionally shorter; aedeagus and gonite as shown. Female tergite 6 dorsally with extensive grey side patches, sternite 5 hardly widening behind. [mid metatarsus clearly shorter (3/4) than segments 2-5; front coxa broader; posterior crossvein forms more obtuse angle angle] *manicata*



Paracoenia fumosa

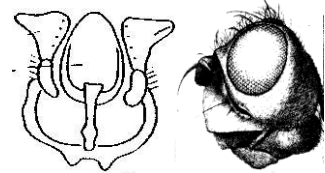
Figure from Olafsson (1991)



Parydra

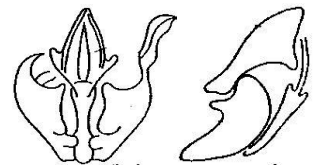
After Irwin (m/s) with genitalia figures from Krivosheina (1989) and Zatwarnicki (1991); wings from Canzoneri & Meneghini (1983). Several species not included but see genitalia figures at the end. *P. nigratarsis* in on the British list but I cannot recognise it.

- 1 Body densely covered with long fine dense hairs (no normal bristles present); face densely silver-dusted. *pubera*



- Body bare apart from normal bristles and very short yellow pubescence; face blue-grey or yellow-dusted, never silver. 2

- 2 Head bristles very short, less than half the length of the arista. (All tibiae with silver base and apex). *aquila*

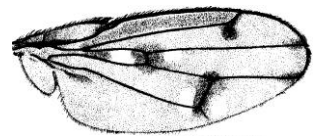


- Head bristles longer, over half the length of the arista. 3

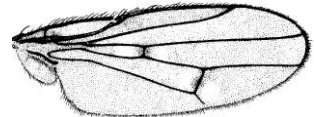
- 3 No large bristle on outer face of mid coxa; scutellum with a prominent apical tubercle. *coarctata*

- A large bristle present on the outer face of the mid coxa (do not confuse with the large black spine on the hind face of the coxa); scutellum with at most a small indistinct tubercle [but may be conspicuous in *littoralis*] (in Sp D the coxal bristle is pale and may be overlooked, but there is no scutellar tubercle). 4

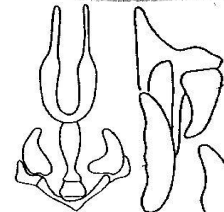
- 4 Vein R_{2+3} with an appendix. 5



- Vein R_{2+3} without an appendix. 7

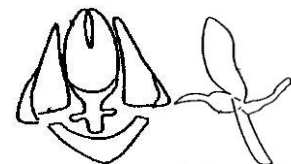


- 5 Mid tibiae anterodorsally shining black with silver-dusted patches at base, middle fifth and tip [ventral fan on front femora almost as long as width of femur near its tip; male mid tibiae with curled ventral hairs; wing markings very distinct.] *littoralis*



- Mid tibiae more evenly dusted or shiny. 6

- 6 Tibiae indistinctly red at base and tip. [Trochanters clearly orange to yellow, contrasting well with black coxa; small species, body 2.5mm.] *hecate*



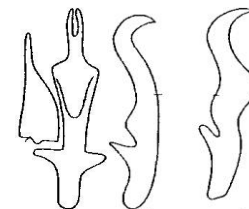
- Tibiae almost completely dark . [Fan on front femora pale, hairs not longer than width of femur at its narrowest point; male mid tibiae with unremarkable ventral hairs; larger species *quadripunctata* [*nigritarsis* wing similar to that of *quadripunctata*]



- 7 (4) Facial orbits and at least upper half of face dusted blue-grey, contrasting with dark brown frons. 8

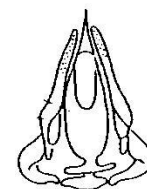
- Facial dusting otherwise. 9

- 8 Two large sub-equal facial bristles present; face evenly dusted. [halteres dark; small species] *pusilla*



- Only one large facial bristle; dusting much thinner above mouth edge. Sp A

- 9 Vein R₄₊₅ obviously undulating. [Legs black, tarsi contrastingly yellow; male front femora ventral fringe of strong hairs] *undulata*



- Vein R₄₊₅ straight or curved, never undulating. 10

- 10 Face, frons and thorax densely dusted grey-golden; tarsi black or dark brown. Sp B

[*turkmenica* comes here but may not be Sp B; it is evenly dusted pale brown and scarcely shining.]

- Dusting much thinner so that shining black ground colour shows through; tarsi red to dark brown. 11

- 11 Mid tibiae anterodorsally shining black with silver-dusted patches at base, middle fifth and tip. *littoralis* genitalia – couplet 5

- Mid tibiae more evenly dusted 12

- 12 Wing veins clouded at tips; R₂₊₃ enters costa rather abruptly. *hecate* genitalia – couplet 6

- Wing veins not markedly clouded at tips; R₂₊₃ enters costa more acutely. 13

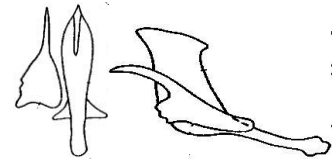
- 13 Wings infuscated yellow-brown; tarsi dark. Sp C

- Wings grey infuscated; tarsi usually red, contrasting with tibiae. 14

- 14 Last tarsal segment contrastingly dark; mesopleuron thinly grey-dusted, contrasting with thickly dusted sternopleuron. Sp D

- Tarsal segments gradually darkening toward tips, or all dark; meso- and sternopleuron evenly dusted brown and grey.

fossarum



Other Palaearctic *Parydra*

mitis

turkmenica

nubecula

alajensis

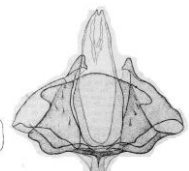
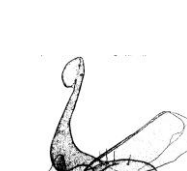
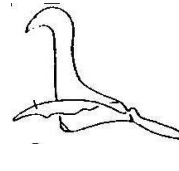
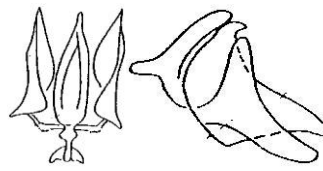
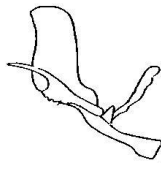
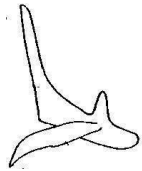
nigritarsis

England

England & Scotland

Central Asia

(very like *coarctata*)

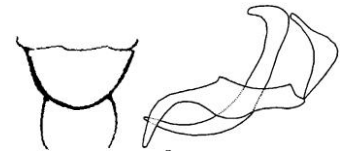


Pelina

After Irwin (m/s), Papp (1974) and Dahl (1974)

- 1 Mesonotum smooth, almost shining black with brown or golden-brown dusting; mesopleuron mainly shining black, undusted; scutellum with rounded apex.

aenescens



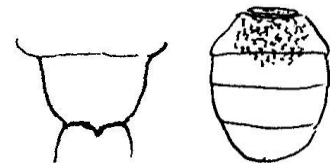
norvegica keys here - separable on genitalia. Not sure if this is a synonym.

- Mesonotum shagreened with brown- and grey-dusted stripes; mesopleuron dusted; scutellum otherwise.

2

- 2 Scutellum truncate with a projection; abdomen with sculpturing hardly extending onto third tergite.

subpunctata (= *nitens*)

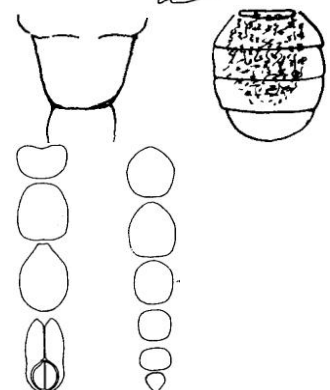


- Scutellum truncate or slightly rounded, without a projection; abdomen with more extensive sculpturing.

3

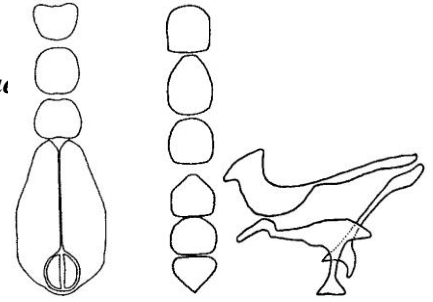
- 3 Face dusted silver-white; abdomen with tergites dusted above and below lateral margins; male genitalia not very large; female with sternites becoming smaller distally.

similis



- Face dusted grey or golden; abdomen with tergites shining dark green (almost black), undusted above and below lateral margins; male genitalia very large; female sternites becoming broader distally. *au*

[The face colour does not seem to be reliable.]



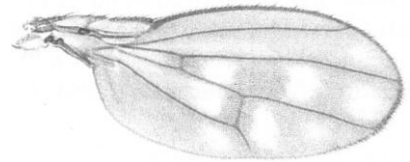
Philotelma

From Mathis, Zatwarnicki & Kubatova-Hirsova 2009

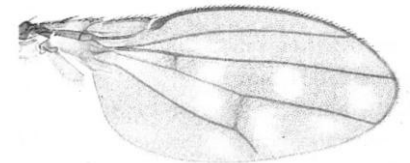
- 1 Wing with large and conspicuous white spots, cell R₄₊₅ with 3 spots (2 large spots apicad of crossvein dm-cu and a much smaller spot basad of crossvein). Palpus yellow (the *rossii* group). 2

- Wing mostly appearing slightly to moderately infusate, lacking large and conspicuous white spots, at most with pale white areas on either side of infusate spot over crossvein dm-cu. Palpus brown (the *defectum* group). 3

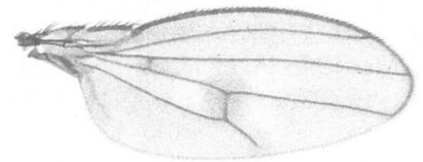
- 2 Femora and tibiae blackish brown to black, concolorous with forecoxa, tarsi yellow; scutum vittate anteriorly with grayish stripe just medial of dorsocentral track. [frons shining bluish or greenish black; basal flagellomere yellow basally; genal height equal to or slightly less than basal flagellomere width; metatarsi yellow basally; length c. 1-1.5mm; probably mainly coastal]. *P. rossii*



- Femora, tibiae, and tarsi yellow, contrasted with blackish brown forecoxa; scutum mostly unicolorous, blackish brown to black, lacking longitudinal stripes anteriorly. *P. tecopa*

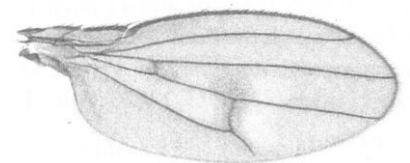


- 3 Mesofrons gray to grayish brown microtomentose, at most subshiny, not metallic. [antennae entirely dark; face greyish brown with golden tinge; genal height 1/3-1/2 basal flagellomere width; greyish stripes between ac and dc rows; pleural area grey; legs entirely dark; length c.1.5mm; fresh and brackish water.] *P. parvum*

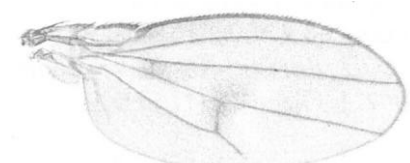


- Mesofrons shiny black to brownish black [or bluish to greenish black] with faint metallic luster. 4

- 4 Face shiny, brownish black, sparsely brownish microtomentose with faint metallic bluish to greenish luster. Antenna and legs entirely dark. [frons shining black to brownish black; genal height 1/4 basal flagellomere width; thoracic dorsum not striped?; pleural area shining; length c. 1.5mm; fresh and brackish water.] *P. nigripenne*



- Face gray microtomentose, subshiny. Antenna mostly dark, basal flagellomere yellowish brown basoventrally; legs black with basitarsomeres partially to mostly yellowish. [frons bluish to greenish black; genal height equal to or slightly less than basal flagellomere width; thoracic dorsum with lilac stripes; pleural area subshining; length c. 1mm; fresh and especially brackish water] *P. defectum*



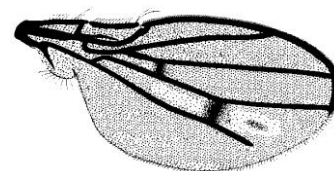
Philygria sensu stricto

(subgenus *Nostima* separated in generic key).

Based on Hollmann-Schmirrmacher(1998). It doesn't work well for the clear-winged species. Omits species from Madeira and Azores.

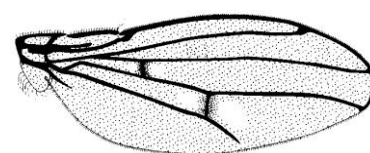
- 1 Wings distinctly shortened, at most barely reaching the end of the abdomen. *stenoptera*

[*mocsaryi*, *nubeculosa* also here]



- Wings normal, extending well beyond the end of the abdomen. 2

- 2 Last tergite pollinose, dull brown. [First costal index c.2.5 (i.e. between r_1 and r_{2+3} compared to r_{2+3} to r_{4+5}); ventral branch of aedeagus not shifted toward its ventral end.] *obtecta*

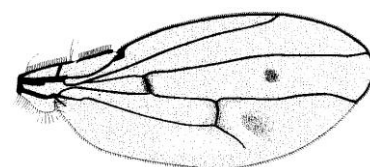


- Last tergite shiny. 3

- 3 Wings with dark spots in addition to shaded r-m and dm-cu crossveins. 4

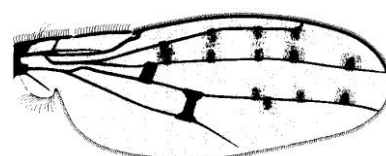
- Wings with only the crossveins darkened, with hyaline spots on the membrane by the crossveins. 6

- 4 Wings with a blurry spot in front of and behind the median vein, the posterior one roughly triangular. *stictica*

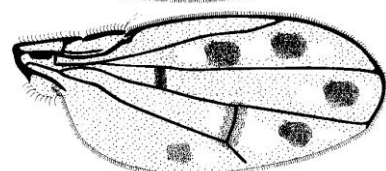


- Wings with distinctly delineated black spots. 5

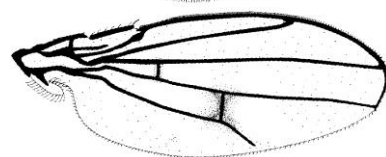
- 5 Wing with numerous black spots in rows along the longitudinal veins, and rudiments of short crossveins. *punctatonervosa*



- Dark brown wing spots not arranged along the longitudinal veins. *interstincta*

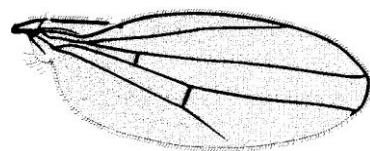


- 6 (3) Hyaline spot behind dm-cu crossvein very large and extends beyond the median (M) and cubital anal (CuA_1) veins. *interrupta* / *femorata*



- If a hyaline spot is present behind dm-cu, then it is restricted to the cell behind it. 7

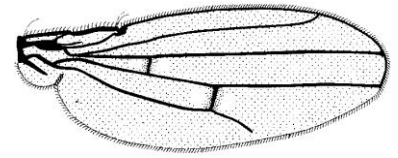
- 7 First costal index c. 1 [his figure shows it nearer 2]; the complex of gonite and hypandrium bears one basal and two short apical gonite bristles. *morans*



- First costal index larger. 8

8 First costal index c. 3. [Legs dark. The complex of gonite and hypandrium bears one basal gonite bristle; the ventral end of the gonite bears two short cone-shaped appendages; wing tip slightly clouded.]

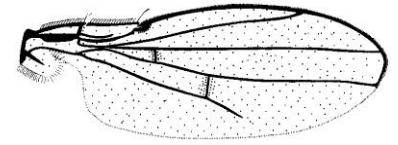
vittipennis



- First costal index c. 2. 9

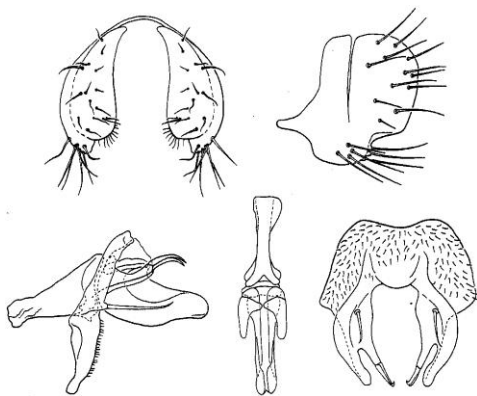
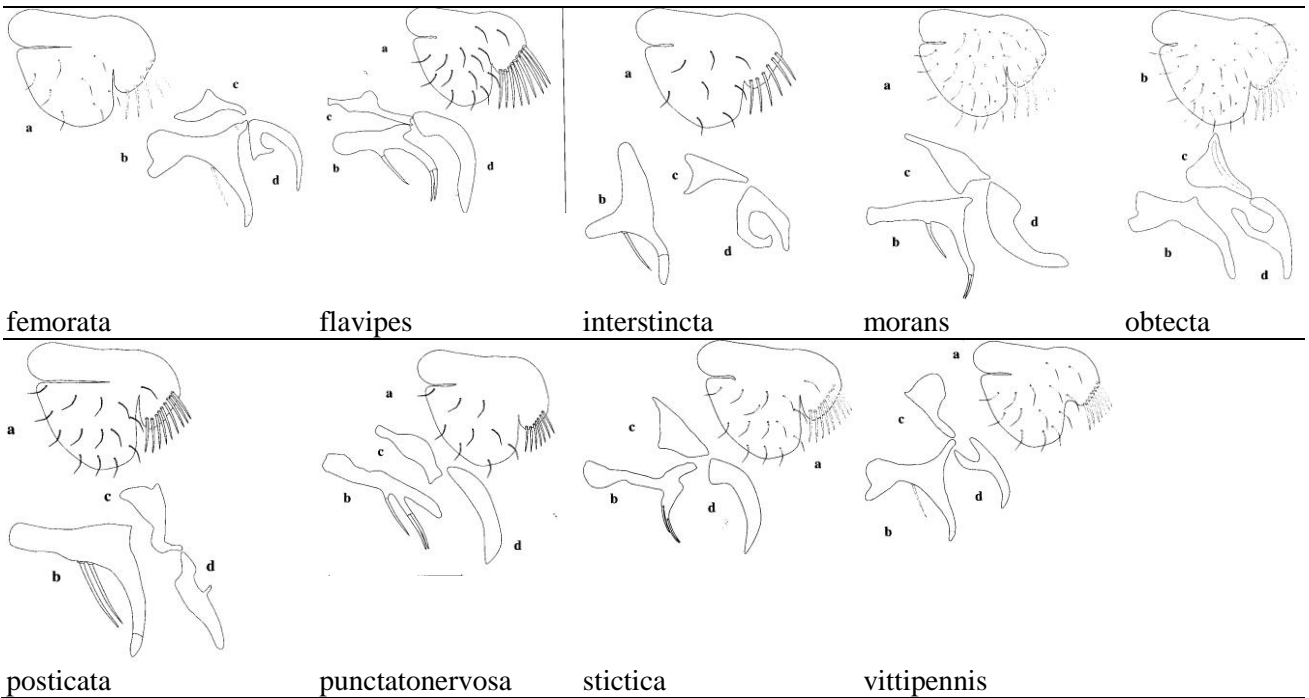
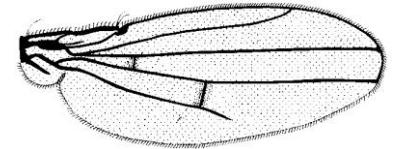
9 In addition to the darkened crossveins, the junction of the first radial vein (R_1) at the costal is darkened (sometimes faint). Legs yellow, last tarsal segment dark. Cerci with palisade-like thick black bristles, gonite with one basal and two strong terminal bristles.

flavipes



- Only the crossveins are darkened, no spot where the first radial vein (R_1) joins the costa. At least the femora are grey-dusted (and may be dark). Gonite with the two basal bristles and a finger-shaped terminal appendage.

[posticata]

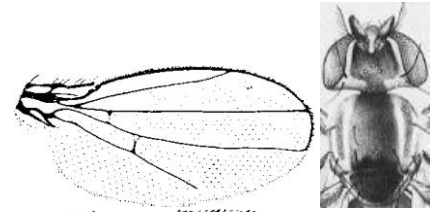


Philygria punctatonervosa (Mathis & Zatwarnicki 1990)

Philygria s.g. Nostima

From Nartshuk (1970) and Collin (1913)

- 1 Wing normal. Scutellum velvety black. Two last tergites shining and fourth tergite distinctly longer than the third. Dark brown with white stripes on frons along the eyes, and along sides of mesonotum. Face yellowish-grey. *picta*

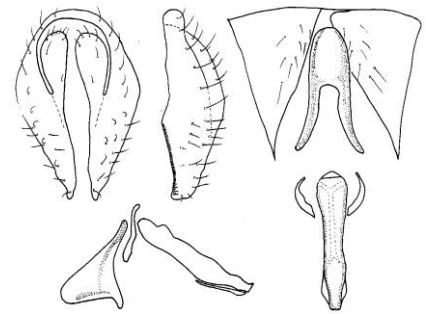


- Wing narrow and with reduced venation. Scutellum same colour as mesonotum. Abdomen not shining. Thorax coloured similarly to *picta* but with less obvious white stripes. *semialata*



Polytrichophora duplosetosa

Figure from Mathis & Zuyin (1989)



Psilopa

from Clemons & Drake 2011; figures from Beschovski & Zatwarnicki (2000)

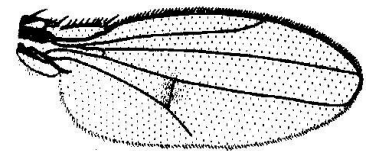
split: *Psilopa* and *Diasemocera*, see Zatwarnicki (2018); key included (07839)

* Other Palearctic species are slotted in where they seem to key out.

- 1 At least mid and hind tibiae yellow; two basal antennal segments yellow. 2

- All tibiae black; basal antennal segments dark. 4

- 2 Legs entirely yellow; crossvein dm-cu within an obvious dark patch. *Diasemocera leucostoma*
[* *biskrae*: face yellow but silver-dusted, antennae all yellow]



- Femora predominantly black; wings completely unmarked. 3

- 3 Front tibiae and tarsi predominantly pale. Vein R_{2+3} short so that costal section between R_{2+3} and R_{4+5} is approximately equal to the next section. *Psilopa compta*

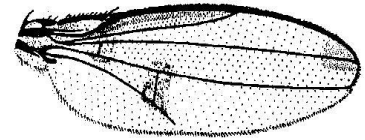
[* *rutilans*: all-yellow antennae, glossy black face]

[* *nilotica*: hind vein clear, face yellow-dusted]

- Front tibiae and tarsi entirely black. Vein R_{2+3} longer, costal section between sc and R_{2+3} is about 1.5 times the next section. *Psilopa nitidula*

[* *obscuripes*: a black band on the front tibia]

- 4 Wing with very obvious black marks: costal cell black, a spot at the end of R_{4+5} and over crossvein dm-cu. Diasemocera **marginella**



[* *maritima*: strongly banded wings]

[* *roederi*: wings with conspicuous spots over both crossveins, wing tip and costal cell; legs all black except for yellow mid and hind tarsi; antennae black, face black, grey-dusted]

- Wing without obvious marks although membrane next to dm-cu or front third of the whole wing may be darker. 5

- 5 Face glossy greenish black, not micro-tomentose except just below the antennal bases. Psilopa **polita**

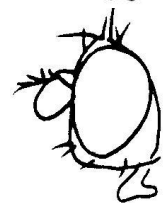
[* *mentita* and *stackelbergi* are apparently very similar but can be distinguished on male genitalia, illustrated below]

- Face dulled by micro-tomentum, black, dark brown or greyish. 6

- 6 Genae broader, as wide as the third antennal segment or the front tibia; front tarsi dark and not obviously contrasting with the tibiae; small hairs everywhere more dense and stout, so that those on the third tergite are in about five ranks and each clearly overlapping the one behind, and scutellum with about 12 obvious discal hairs. Larger species, wing length at least 1.9mm. Diasemocera **pulicaria**



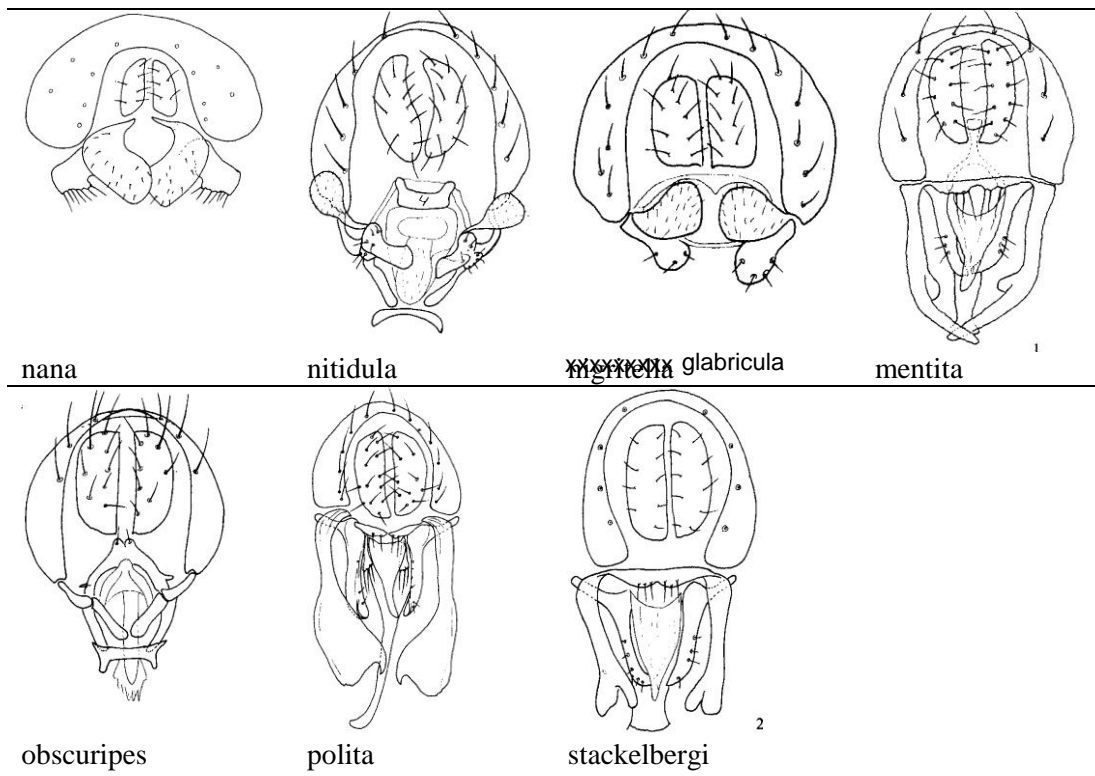
- Genae narrower than the third antennal segment or the front tibia; front tarsi often clearly paler than tibiae; small hairs finer and less dense, so that those on the third tergite are in about four ranks and do not reach the ones behind, and scutellum with about 8 relatively inconspicuous discal hairs. Smaller species, wing length 1.7mm or less. 7



- 7 Face dark, its colour and slightly shining but micro-tomentose surface similar to the frons; wing membrane next to crossvein dm-cu clear; front tarsi obviously yellow; vein R_{2+3} shorter so that costal section from sc to R_{2+3} is less than 1.5 times as long as the next section (R_{2+3} to R_{4+5}).

Diasemocera **nigritella**
glabricula

- Face and genae distinctly densely grey-dusted with scarcely any shine showing through and contrasting with the dark slightly shining frons [not obvious in wet specimens]; membrane next to crossvein dm-cu and often the extreme tip of R_{4+5} slightly clouded; front tarsi usually less clearly yellow; vein R_{2+3} longer so that costal section from sc to R_{2+3} is 1.5 to 2 times as long as the next (occasional specimens overlap with *glabricula*). ~~not a new~~ Diasemocera **nana**



Scatella

Original by Drake; figures and information from Olafsson (1991) for some species (but some of his characters don't work for British specimens), and Collin (1930).

- 1 Post-sutural acrostichals absent (rarely a pair level with the suture or odd tiny ones are present). 2
- Post-sutural acrostichals present and obvious in a complete row nearly reaching the scutellum. 8
- 2 Anterior dorsocentrals hair-like, clearly far smaller than the large presutural acrostichals, so that, together with the humeral seta, there are only four large setae across the front of the thorax. [Wings pale or dark; oral setae moderately long.] 3
- One pair of large presutural (anterior) dorsocentrals, their length about equal to that of the largest (presutural) acrostichal; these two pairs of setae, together with the humeral, form an approximately straight line of six subequal setae across the thorax. [Wings dark; oral setae long. Dorsum sub-shining dark brown.] 7
- 3 First section of costa strongly thickened and black. Wing membrane pale so spots are indistinct. [Tergite 3 shorter than tergite 4] *male only of **obsoleta***
- First section of costa unremarkable. 4
- 4 Knees usually narrowly yellow (rarely no paler than rest of shafts); hind metatarsus also often yellow. Two sizes of spinules on costa, stouter ones on the upper edge separated by about 5-6 smaller ones. Two strong facials and several smaller ones. Usually dusted light brown from frons to scutellum, frons usually scarcely shining or not shining more than thoracic dorsum. In male, posteroventral hairs of front femora not forming a conspicuous fringe, the hairs equal to the width of the femur (*cf.* the conspicuous fringe of anteroventral hairs

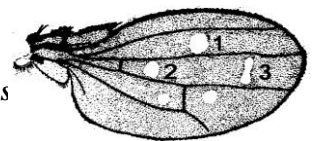
on the mid femur) (ciliation on front femur in two straight rows). [Tergite 3 equal in length to tergite 4. Tiny seta present on frons behind the antennae. Oral setae shorter than width of third antennal segment. Thoracic dorsum and pleura the same pale shade of brown.] *lutosa*

- Tibiae, femora and tarsi entirely dark. Costal spinules all of one size. One [2 in some *obsoleta*] strong facial and several smaller ones. Usually thinly dusted blackish brown from frons to scutellum, frons usually partly shining compared to thoracic dorsum. Posteroventral hairs of front femur form an obvious fringe that is as clear or even longer than the anteroventral one on the mid femur; the hairs just longer than the width of the femur. Oral setae longer than the width of the third antennal segment. 5

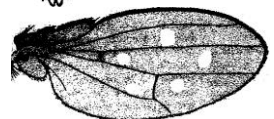
- 5 Oral setae shorter and gena wider so that the setae are not or scarcely longer than the width of the gena.. [Only 2 inconspicuous setulae on front of frons. Superficially similar to *lutosa*.] *female only of obsoleta*

- Length of longer middle oral setae clearly about twice the width of the gena (setae are longer and gena absolutely shorter than in *obsoleta*). 6

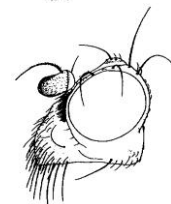
- 6 Wing spot 3 (behind vein R_{4+5}) dumb-bell-shaped and nearly always touching R_{2+3} . Wing membrane pale. No minute setulae on the frons just behind the antennae. [Tergite 3 clearly shorter than tergite 4. Olafsson gives costal section 4 slightly shorter than section 5 but this does not work for British material.] *tenuicos*



- Wing spot 3 rounded or bar-shaped, without a waist, and not touching R_{2+3} . Wing membrane usually dark so spots show up clearly. Several minute setulae present on the frons just behind the antennae, most easily seen in profile. [Length of tergite 3 equal to that of tergite 4. Costa section 4 slightly longer than section 5 - see above] *stagnalis*



- 7(2) Face slanting in profile and extending well forward of the antennae by clearly more than half the width of the eye. Orals and facial hairs long (especially in the male), equal or longer than the third antennal segment. Frons shining brownish black. Stripes not obvious on the dorsum. No spot of dusting behind posterior dorsocentral. Wing spot 1 small, rounded or oval. Male with first section of costa thicker than the second section at about the middle of the wing. Front femur with posteroventral hairs longer than the width of the femur (female) or at least twice as long (male). *crassicosta*



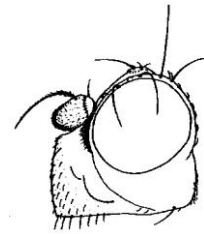
- Face vertical in profile, extending less than the antennae and by clearly less than half the width of the eye. Oral and facial hairs (except posterior one) short, less than the width of the third antennal segment. Frons shining purplish or greenish black. Thoracic dorsum usually with paler grey stripes anteriorly between ac and dc rows. A conspicuous small spot of pale dusting behind the posterior dorsocentral, sometimes extending forward as a pale streak. Wing spot 1 large and square, spot 2 oblong. Male with first section of costa not obviously thicker than the next section. Front femur with posteroventral hairs not longer than the width of the femur (both sexes).



silacea

8(1) Face silver; pleura, sides of abdomen and legs dusted pale grey. Genal seta weak and obscure, shorter (c. 1/3) than the length of the large facials. Frons shining black. Wing spots faint.

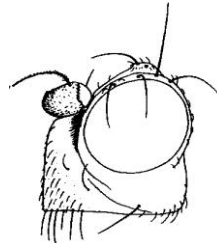
paludum



[also keying here are *major* (Canaries and Madeira; 3 mm long; genal seta long) and *indistincta* (Hungary, North Africa; reliably separated from *paludum* on genitalia only).]

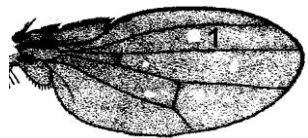
- Face brown to yellow; pleura and abdomen dark brown, legs dusted dark grey to brown (or with yellow ground colour in only one species). Genal seta always distinct, comparable in stoutness to the large facials (even if shorter). Frons dull or sub-shining purplish. Wing spots distinct.

9



9 Dorsum and scutellum almost uniformly dark brown, slightly shining, abdomen similar with grey hind margins. Knees yellow. Frons sub-shining purplish. Wings usually dark with distinctly demarcated spots, spot 1 usually oval, narrowly or not quite touching the veins. Front femur with posteroventral hairs longer than the width of the femur (female) or at least twice as long (male). Hairs of arista conspicuous, their length about 1.5-2 times the width of the base of the arista. Third antennal segment with curled pubescence.

ciliata



[also possibly keying here are *rufipes* (North Africa, Italy: legs almost entirely yellow; pectinate arista; wing membrane yellowish), and *gea* (Italy: legs orange and partly grey (not dark apart from knees)).]

- Abdomen, scutellum, supra-alar area and front of thoracic dorsum pale grey, contrasting with the brown centre of the thoracic dorsum. Knees not or scarcely differentiated in colour. Frons not shining, dusted brown and/or grey. Wing spots with vague boundaries, especially the hind ones, spot 1 usually large, squarish and broadly touching veins. Front femur with posteroventral hairs not longer than the width of the femur (both sexes). Hairs of arista and pubescence of third antennal segment short and inconspicuous. [costal cell (in front of sc) pale in contrast to dark cell R1 along front margin of wing]

subguttata

Scatophila

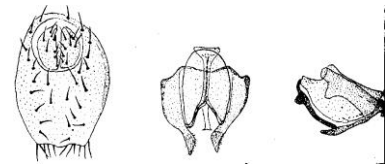
Adapted from Zatwarnicki (1987) with comments from Narchuk (1970);
pumilio from Zatwarnicki & Mathis (1993), *unicornis* from Bolwig (1940)

- 1 Abdomen shining black on at least the last two tergites. 2
 - Tergites dusted (last tergite may be shining). 7

- 2 Only tergites 4 and 5 shining, 1-3 dull grey. [Legs black except for pale knees and metatarsi; mesonotum with three indistinctly bordered brown stripes. Known only from females]. *farinae* ♀

- Abdomen almost entirely shining black. 3

- 3 Mesonotum shining black. [halteres dark, face white-dusted]. *contaminata*



- Mesonotum dull. 4

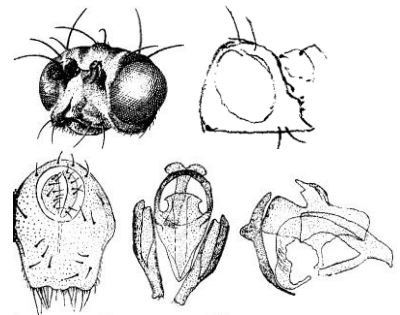
- 4 Males. 5

- Females. 6

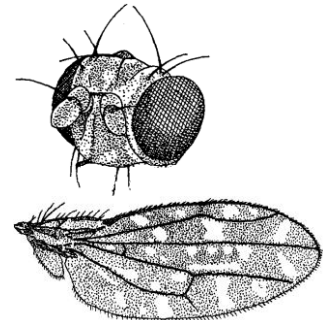
- 5 Face with a central protruding 'nose' and two stout oral bristles on each side of prominence.

[hind margin of tergites without pale bands; mesonotum olive-green to brown with four or five light grey longitudinal stripes (Nartshuck has seven pale spots in the form of a streak; Zatwarnicki says pattern is almost obliterated); face white; legs black, tarsi slightly paler]

noctula ♂



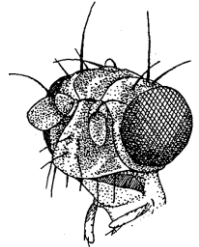
- Face with a stubby prong at the mouth edge; apex of scutellum white; wings with numerous white marks *unicornis* ♂



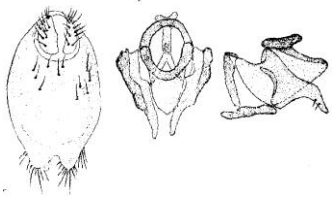
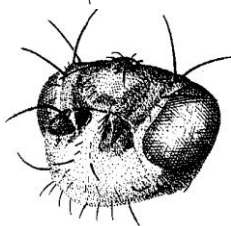
- 6(4) *noctula* ♀

[hind margin of tergites without pale bands; mesonotum olive-green to brown with four or five light grey longitudinal stripes (Nartshuck has seven pale spots in the form of a streak; Zatwarnicki says pattern is almost obliterated); face white; legs black, tarsi slightly paler]

- *unicornis* ♀
 [Narchuk - apex of scutellum white; wings with numerous white marks]



7(1) Male: face near its centre with a pair of lateral setae pointing upwards and outwards; mid femur with a row of short posteroventral spines.
despecta ♂
 [my notes: acs small, 7-8 pairs extending almost to scutellum]

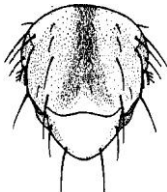


- Both sexes: face without central setae. 8

8 Mesonotum uniformly pale with two small white dots; wings whitish with scarcely evident pattern; cheeks broad (twice width of third antennal segment, or half the eye height). [males rare.] *mesogramma*

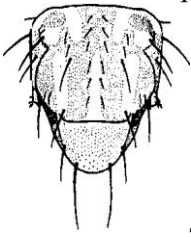
- Mesonotum and wings with a pattern of marks; cheeks narrow [the *quadriguttata* group; face concave in males, flat to convex in females]. 9

9 Mesonotum with a single central darker brown stripe, narrower before the suture and widening out behind to enclose the posterior dc setae. 10

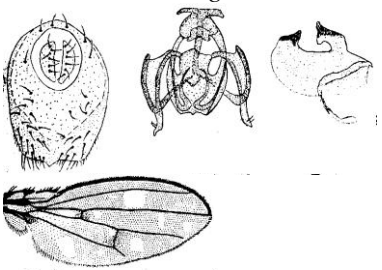


quadriguttata

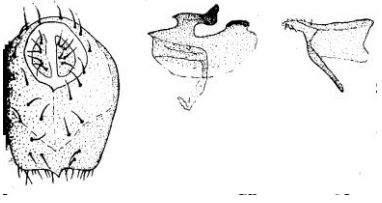
- Mesonotum with paired stripes. 11

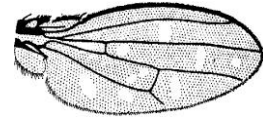


10 Frons and base of wing pale. *quadriguttata*
 [Zatwarnicki – faces differ between sexes; mesonotum with median brown presutural stripe, slightly broader than space occupied by acs and expanding behind to include dcs; scutellum whitish; base of wing whitish. Nartshuck - last tergite matt in male, shining in female.]



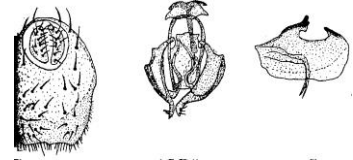
- Frons and base of wing dark. *signata*





- 11 Females (face flat or convex). 12
 - Males (face concave). 13
 12 Fifth tergite relatively long (length:breadth ratio 0.6-0.7). *modesta* ♀
 - Fifth tergite shorter than wide (ratio 0.4-0.5). 13

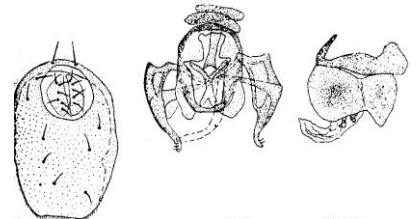
13 *caviceps*
 [Zatwarnicki - brown mesonotum with two narrow presutural grey stripes between ac and dc, narrow post-sutural stripe outside posterior dc; scutellum brown, often with basal and apical grey spots. Nartshuk - Face of male concave, reddish brown; genae and frons grey. My notes - acs large, 3-4 pairs; haltere yellow]



- *cribrata*
 [Nartshuk - Halteres black; Abdomen with dense dusting, tergites brown with grey hind margins; mesonotum with two white longitudinal stripes; one pair of large presutural dorsocentral setae.]

[*mesogramma* group]

modesta ♂



[*contaminata* group]

pumilio ♂



tetra

Not seen by Zatwarnicki. Mesonotum grey, without pale pattern. (Abdomen brown at base; tergites with grey bands on hind margins; last tergite shining black.)

Schema

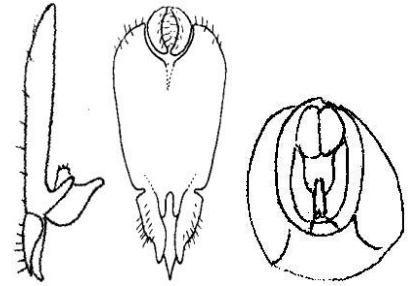
See *Atissa* key

Setacera

From Collin (1963)

- 1 Male sternites with normal scattered fine hairs, and fifth tergite rather shorter than fourth. Male hypopygium ending in two small black pointed conical processes lying close together. Female ovipositor spines with their base not more distant from cerci than the length of those cerci.

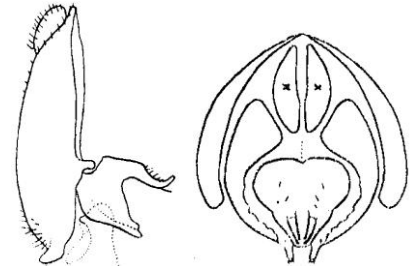
micans



- Male sternites with dense patches of very short black bristles and fifth tergite equal to or slightly longer than fourth. Female ovipositor spines with their base more distant from cerci than the length of those cerci.

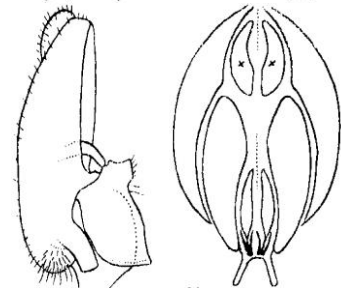
- 2 Processes at end of hypopygium smaller and terminal but outwardly inclined. Female ovipositor spines at the base of a large heart-shaped plate.

trina



- Processes larger and bluntly truncate at end, also more later, arising before end of hypopygium. Ovipositor spines much further from cerci and at base of small narrower plate.

aurata



Unknown genus

(Norfolk)

