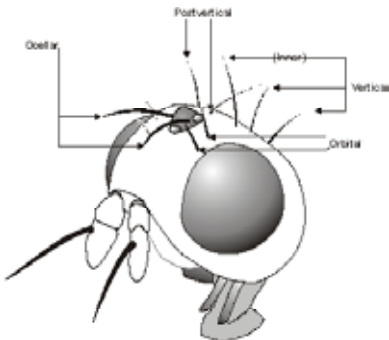


Chapter 2

Diopsoidea



DIOPSOIDEA

50: Tanypezidae

53 ----- Base of tarsomere 1 of hind tarsus very slightly projecting ventrally; male with small stout black setae on hind trochanter and posterior base of hind femur. Postocellar bristles strong, at least half as long as upper orbital seta; one dorsocentral and three orbital setae present

Tanypeza ----- 55

2 spp.; Maine to Alberta and Georgia; Steyskal 1965

----- Base of tarsomere 1 of hind tarsus strongly projecting ventrally, about twice as deep as remainder of tarsomere 1 (Fig. 3); male without special setae on hind trochanter and hind femur. Postocellar bristles weak, less than half as long as upper orbital bristle; one to three dorsocentral and zero to two orbital bristles present

non-British----- 54

54 ----- Only one orbital bristle present, situated at top of head; one dorsocentral bristle present

----- *Scipopeza* Enderlein

Neotropical

----- Two or three each of orbital and dorsocentral bristles present

----- *Neotanypeza* Hendel

Neotropical

Tanypeza Fallén, 1820

One species

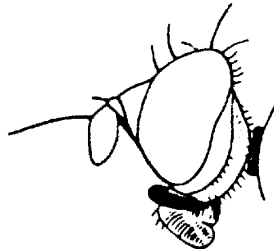
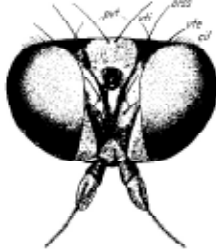
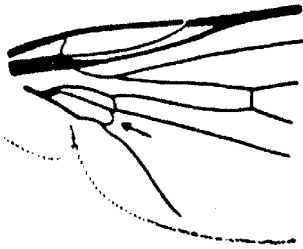
55 ----- A black species with a silvery patch on the vertex and each side of front of frons. Thorax with notopleural depression silvery and pleurae with silvery patches. Palpi black, prominent and flat. Ocellar bristles small; two pairs of fronto orbital bristles; only one (outer) pair of vertical bristles. Frons slightly narrower in the male than in the female, but not with eyes almost touching). Four scutellar, no sternopleural, two postalar and one supra-alar bristles; (the anterior supra-alar bristle not present). Wings with upcurved discal cell (11) as in members of the Micropezidae.

Rare: Suffolk (Bloomfield; West Stow)

----- *Tanypeza longimana*

Tanypezidae

Tanypeza longimana



51: Strongylophthalmyiidae

Small and slender, dark coloured flies, 3-5mm in length; head roundish (fig); postvertical bristles divergent (fig); costa broken near end of R1, cells bm and Cup long (fig); legs long and relatively slender (Evenhuis in Oosterbroek p105)

Lyneborg differentiates the Family from the Psilidae by the following:-

- Analcellen (Cu2) konvex udadtil. 2 n og 1 m til stede ----- Strongylophthalmyia
----- Analcellen lige afskaret udadtil. Hojst 1 n og ingen m ----- Psilidae

Described in Lyneborg p377

Strongylophthalmyia Heller, 1902

Graham Rotheray has done some work on this genus, finding *S. stackelbergi* in Europe. *S. ustulata* has been bred out of aspen logs, unfortunately a recent piece of work in Scotland on *Hammerschmidtia ferruginea* (Diptera: Syrphidae) by his daughter, Eilen, which used emergence traps over aspen logs, failed to catch any *S. ustulata*. It is presumed that the mesh size used in the survey was too large to retain it.

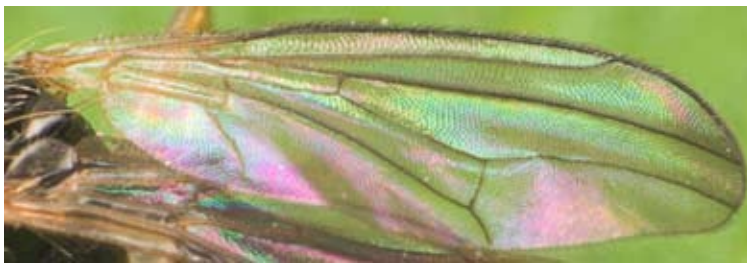
Historically, ancient aspen stands are known from across the UK midlands. Precious little of this remains except along watercourses but if suitable sites are found (i.e. large dead logs that have been continuously present since the last ice age) then it would be worth investigating. Little hope in England and Wales but they are well known from the Black Forest outside Moscow.

The following key covers all the European species.

- 56 ----- Face and parafacials dark. Halteres dark. Edita of male recurved and slightly narrowed apically ----- non-British ----- Strongylophthalmyia stackelbergi
- Face and parafacials pale, yellowish. Halteres pale. Edita of males straight, apically dilated and rounded -----56a
- 56a----- Middle and hind femora brownish, with narrow apical band. Phallus apically dilated. Margin of penultimate abdominal tergite with narrow processes. ----- Strongylophthalmyia ustulata
- Middle and hind femora brownish, completely darkened in apical third or half. Phallus not apically dilated. Margin of penultimate abdominal tergite even, lacking processes. non-British ----- Strongylophthalmyia pictipes

Strongylophthalmyiidae

Strongylophthalmyia ustulata



52: Megamerinidae

Schenkelfliegen

Megamerina Rondani, 1861

57 ----- "Hind femora swollen, with two ventral rows of spines. Abdomen long, with a narrow waist. Cup relatively long and parallel sided. Anal vein (A1) almost or quite reaching the wing margin." (Oldroyd, 1970)

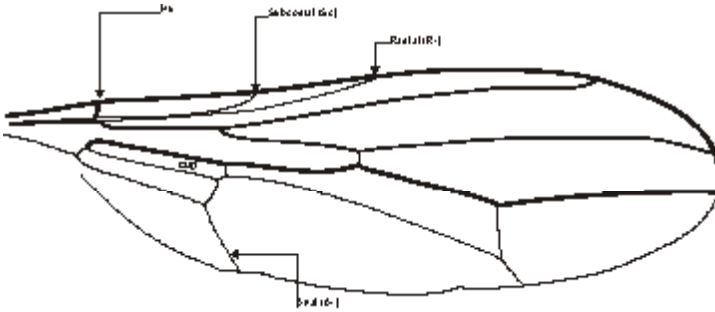
"Medium-sized fly superficially like *Loxocera* (Psiilidae); 3rd antennal segment short and rounded; hind femora with double row of short ventral spines; wings narrow; alula absent; costa unbroken; Sc visible throughout and gently curved; apex well-separated from apex of vein R1; abdomen greatly elongated and attenuated; ovipositor short, retractile" (Colyer & Hammond, 1951)

One British species with the appearance of an ichneumon

Megamerina dolium

Megamerinidae

Megamerina dolium



53: Psilidae

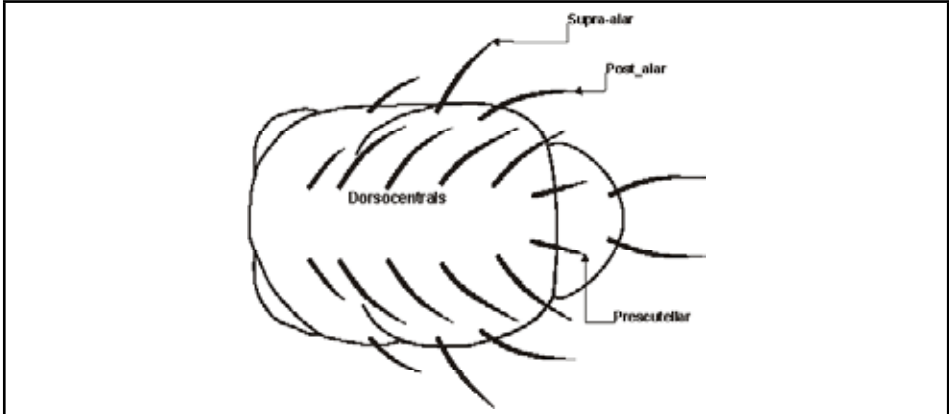
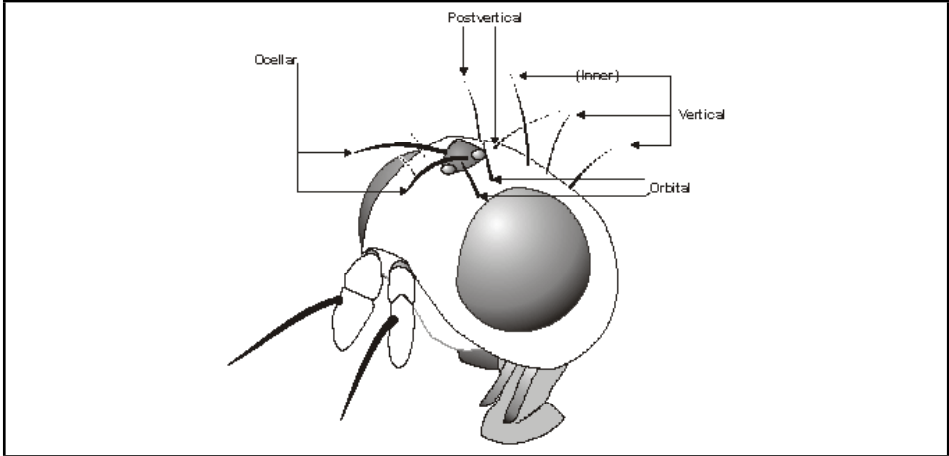
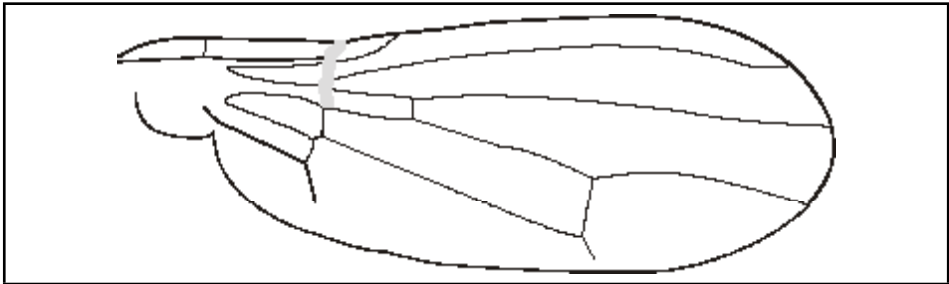
rust flies. Nacktfliegen

I've done little with the Psilidae key other than assemble some available texts and diagrams. It may seem sufficient to allow workers to test and comment but I suspect that there is a good possibility of species recently described by Shatalkin and Iwasa turning up in this country as pest species in imported vegetable matter. Furthermore the key takes little account of recent work by Wang (1988) who provides a more extensive key to the Western Palaearctic *Chamaepsila*. Some workers are particularly keen on seeing a thorough treatment of the Palaearctic Psilidae in order to determine a wide range of pest species and so this key will not be completed until those species are incorporated (for which I need a Russian translation). I should be pleased to receive any further offers of assistance with this work (Alan Stubbs and Peter Chandler have already been a great help)

Distinguished from other Acalyptrates by the break in the costal margin of the wing (similar to that seen in the Trypetidae). This break being some distance before the end of the subcostal vein (R1) and the end of the mediastinal vein, turning almost vertically upwards into this break as a hyaline or whitish streak in the wing surface.

They do not possess incurved lower fronto-orbital bristles and there are no strong bristles on the pleurae. The females do not have a distinctive ovipositor.

Psilidae

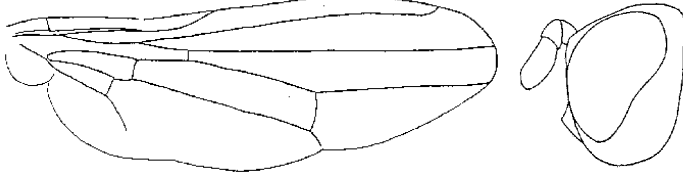
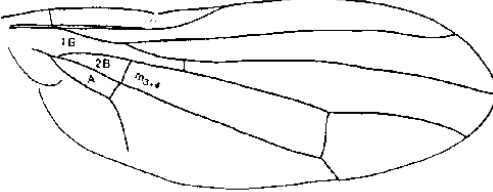
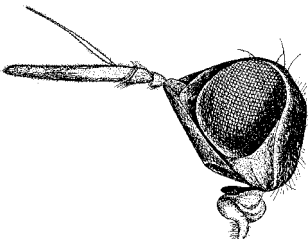

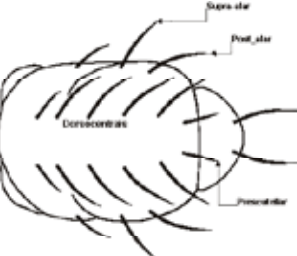


SETAE: Identification in this group relies heavily on setae on the head and thorax. As a guide to the thoracic setae, White's (Tephritid Flies) terminology is shown in square brackets throughout the text.

Psilidae: key to genera

- 58 ----- Face concave in profile, forming an angle with peristoma at the front mouth edge. Jowls below face usually narrower.
 Anal cell clearly shorter than second basal cell
 Often 6 scutellar bristles {don't count the very small bristles, not much bigger than hairs}.
 Microtrichia on wing surface longer.
Chyliza ----- 85
- Face in profile strongly retreating and somewhat convex, side margin of mouth opening forming a continuation of the facial curve. Jowls below eyes very deep.
 Anal cell approximately as long as the second basal cell
 Very seldom more than 2-4 scutellar bristles. Microtrichia on wing surface shorter.
59
- 59 ----- Third antennal joint very long, longer than face
Loxocera----- 63
- Third antennal joint much shorter than face
Psila ----- 60
- 60 ----- No notopleural [posterior notopleural or anterior supra-alar] or supra-alar [posterior supra-alar or intra-alar] bristle. Male hind femora dilated and curved
Psilosoma ----- 83
- A notopleural and a supra-alar bristle present. Male hind femora simple.
61
- 61 ----- No postvertical bristles and no orbital bristles; only two pairs of vertical bristles.
62
- Postverticals present, even if small. Pteropleura bare.
Chamaepsila----- 68
- 62 ----- **No dorsocentral [prescutellar acrostichial] bristles**
non-British-----group Oxypsila
- At first glance these resemble small *Chorisops* or *Sargus* (Diptera: Stratiomyidae) but with a copper/orange - coloured thorax. There is a good illustration by Nikita Vikhrev at http://www.diptera.info/photogallery.php?photo_id=1187
- One pair of dorsocentral [prescutellar acrostichial] bristles. (Pteropleura with a few short fine hairs)
Psila s.s. ----- 84
- Collin (1944) names this as "group Pelethophila" which has presumably now become Psila s.s.

Psilidae: key to genera

58	
	
59	
	
	

Loxocerinae

Loxocera Meigen, 1803




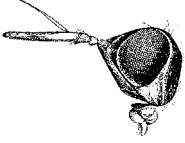


The following key is based upon an examination of 42 specimens belonging to 4 of the 5 UK species which were brought by members of Dipterists Forum to the Spring workshop at Preston Montford in 2008. A good deal of variability in antenna and arista lengths was noted, very different arista/antennae length ratios seen even on the same specimen (the basis of the older Lyneborg key which I had used previously in this key). *Loxocera nigrifrons* was not examined, so it is hoped that the first couplet below, a copy from the Lyneborg, 1964 couplet, does not throw the remainder of the key out.

A more recent work on *Loxocera* is:

Goot, Van Der. V.S., Veen, M.P. 1996 De spillebeenvliegen, wortelvliegen en wolzwevers van Noord-west-Europa. Second edition. Jeugdbondsuitgeverij, Utrecht, 57 pp.90-5107-002-0 [Dutch].

- 63 ----- Larger species (about 7-9mm). Frons yellow on each side of a black median triangle.
Scutellum yellow. ----- 64
- Smaller species (about 5-7mm). Frons and scutellum all black.
----- *Loxocera nigrifrons*
- 64 ----- Humeri yellow
Frons - (dorsal surface of head) black with triangular yellow (a yellow which may be darkened to a dark brown) markings extending posteriorly from a wide base at the level of the antennae to an apex just short of the ocellar triangle, these triangular markings do not meet the eye margins.
Head profile - black in the top half, yellow in the lower half.
Face (below antennae) - Mainly yellow with black extending down as diffuse stripes along the margins of the eyes, ending at the lowest point of the eye; a broad brown central band.
Humeri - yellow (may have an infusion of black in some specimens - Scotland)
----- *Loxocera sylvatica*
- Humeri black
----- 65
- 65 ----- Postgenal stripe absent
Frons - [description required]
Head profile - black except for a large, round yellow patch below the eye
Face (below antennae) - Mainly black with yellow around the mouth opening which extend as small patches up from the sides of the mouth opening; a broad black central band.
Humeri - black
----- *Loxocera fulviventris*
- Postgenal stripe present
----- 66
- 66 ----- Face below antennae black
Frons - (dorsal surface of head) black, may have a small dark orange spot anterior to the ocellar triangle
Head profile - black except for a small yellow patch below and adjoining the eye; adjoining this patch posteriorly and running from the eye to the mouth is a "shimmering stripe" (view obliquely from behind) comprising white hairs (which exhibit a good deal of variation in size in the specimens examined, ranging from just a shimmer hinting of white hairs to fairly long, clearly defined white hairs) Termed "**postgenal stripe**"
----- *Loxocera aristata*
- Face below antennae yellow (a broad yellow central band)
Frons - (dorsal surface of head) black with triangular orange markings extending posteriorly from a wide base at the level of the antennae to an apex just beyond the ocellar triangle, these triangular markings do not meet the eye margins and may be interrupted by a diffuse black band stretching from eye to eye at a distance approximately 1/6th of the distance between the antennae and the ocellar triangle
Head profile - black in the top half, yellow in the lower half, postgenal hairs comprising only a small triangular patch of short white hairs
----- *Loxocera albiseta*

Loxocera Meigen, 1803

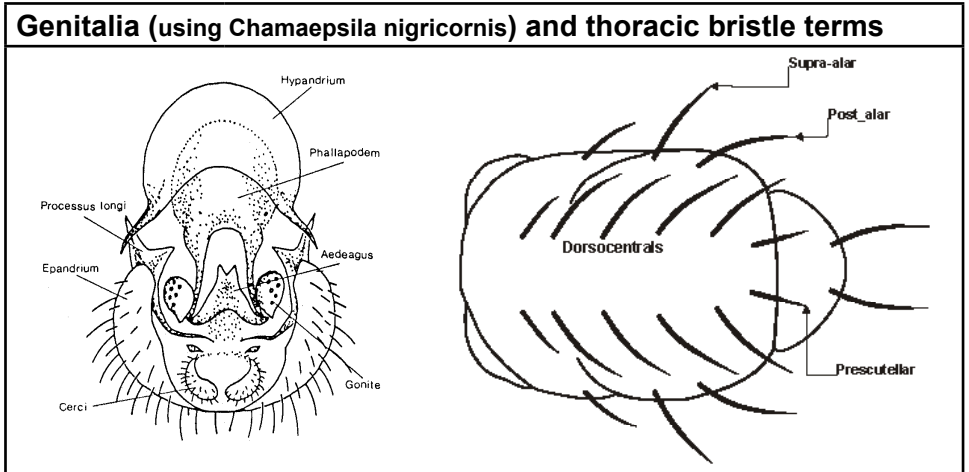
<p>Loxocera nigrifrons</p>	
<p>Loxocera sylvatica</p>	
 <p>A photograph of a Loxocera nigrifrons fly resting on a green leaf. The fly has a reddish-brown thorax and abdomen, a dark head, and transparent wings.</p>	
<p>Loxocera fulviventris</p>	
 <p>A photograph of a Loxocera fulviventris fly resting on a green leaf. The fly has a reddish-brown thorax and abdomen, a dark head, and transparent wings.</p>	 <p>A black and white scientific illustration of a Loxocera fulviventris fly, showing its profile and wing structure.</p>
<p>Loxocera aristata</p>	
	 <p>A black and white scientific illustration of a Loxocera aristata fly, showing its profile and wing structure.</p>
<p>Loxocera albiseta</p>	
 <p>A photograph of a Loxocera albiseta fly resting on a light-colored surface. The fly has a reddish-brown thorax and abdomen, a dark head, and transparent wings.</p>	 <p>A black and white scientific illustration of a Loxocera albiseta fly, showing its profile and wing structure.</p>

Psilinae

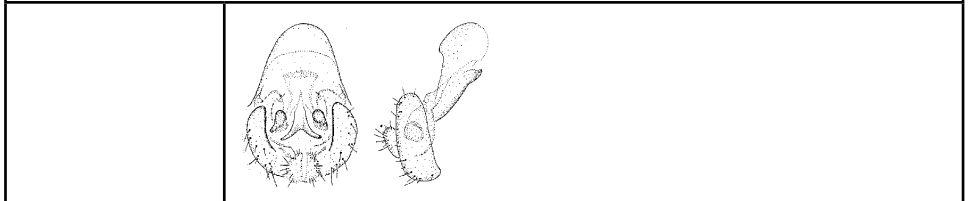
Chamaepsila Hendel, 1917

- 68 ----- Only two scutellar [apical] bristles. Postverticals and orbitals distinct.
----- Chamaepsila sensu stricto-----69
- Usually four scutellar bristles. Postverticals and orbitals small.
----- Chamaepsila (sg Tetrapsila) obscuritarsis
- 69 ----- Thorax yellow or with dark stripes only, not dark with humeri and side margins yellowish.
-----70
- Thorax all black or only yellow on humeri and side margins and all or part of pleurae.
-----75
- 70 ----- Abdomen yellow
Starting at this couplet, once luteola is keyed out, the remainder are all pallida or bicolor. **Couplets 14 to 18 need rearranging.**
-----71
- Abdomen black or at least not yellow
-----72
- 71 ----- Third antennal joint larger and entirely yellow. Arista with longer pubescence. Eyes deeper than long.
----- Chamaepsila pallida
- Third antennal joint smaller and narrower and darkened towards the tip. Arista pubescence shorter. Eyes quite as long as deep.
----- Chamaepsila luteola

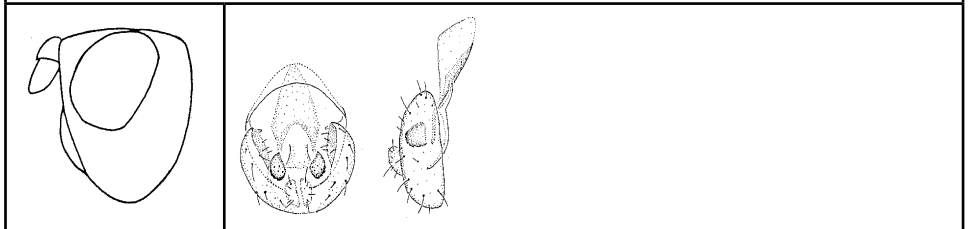
Psilinae



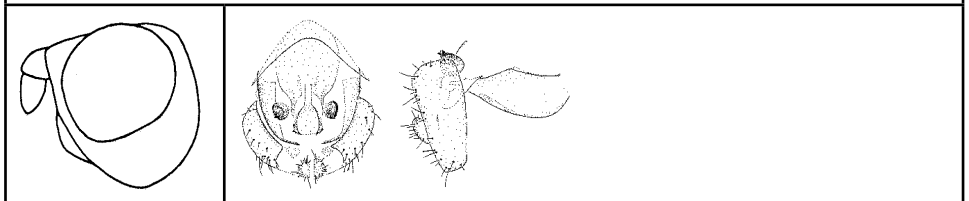
Chamaepsila* (sg *Tetrapsila*) *obscuritarsis



Chamaepsila pallida



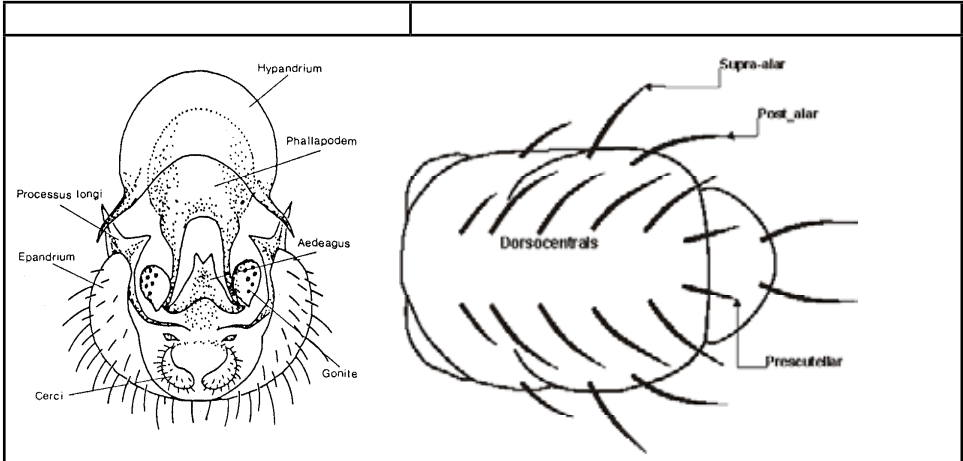
Chamaepsila luteola



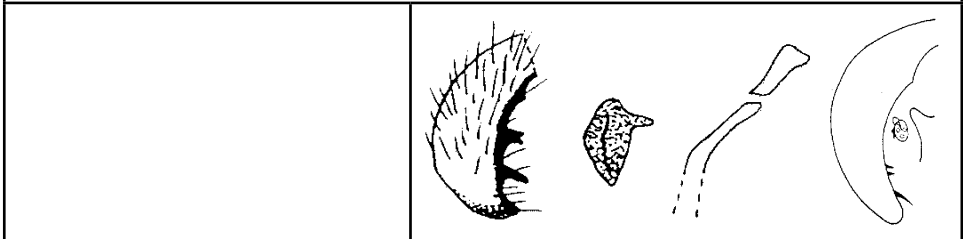
Diptera: Acalyptrates

- 72 ----- Only one pair of (prescutellar) dorsocentral bristles.
bicolor + synonym----- 73
Carles-Tolra describes the "bicolor-group" in which: Postverticals are divergent, 1-2 orbitals, 3vt (verticalborsten - see Wang's diagram), 1dc (dorsocentralborsten), 1sc (scutellarborsten) & thorax mainly yellow. We only have bicolor in the UK but the above characterisation should be used in the key
- Two pairs of dorsocentral bristles ----- 74
- 73 ----- Third antennal joint above and at tip, and palpi at tip, darkened. Front of thorax at middle with a brownish patch. Sternopleura unicolorous yellow ----- Chamaepsila bicolor
- Third antennal joint and palpi yellow. Front of thorax not darkened. Sternopleura with a brownish patch. ----- Chamaepsila (nigromaculata)
= bicolor-----
- The two in this couplet are actually the same species. nigromaculata is a synonym of bicolor (Carles-Tolra, 1993 - also full description in English if more is needed)
- 74 ----- Occiput and thorax not striped. Arista quite short haired. Third antennal joint and palpi usually somewhat darkened towards tip. Chamaepsila (nigrosetosa) = pallida
- Occiput with two vertical stripes. Thorax usually with a narrow median dark stripe in front and two narrow post-sutural stripes. Antennae and palpi yellow. Arista very distinctly pubescent, the hairs longer than the arista is thick at its base. Chamaepsila (unilineata) = pallida
- The two species in this couplet are actually the same species. Both are synonyms of pallida
- 75 ----- At least prothorax and often humeri and sides of thoracic disc yellow or tawny-yellow. Pleurae at least partly yellow. ----- 76
- Thorax, including pleurae, all dark ----- 77

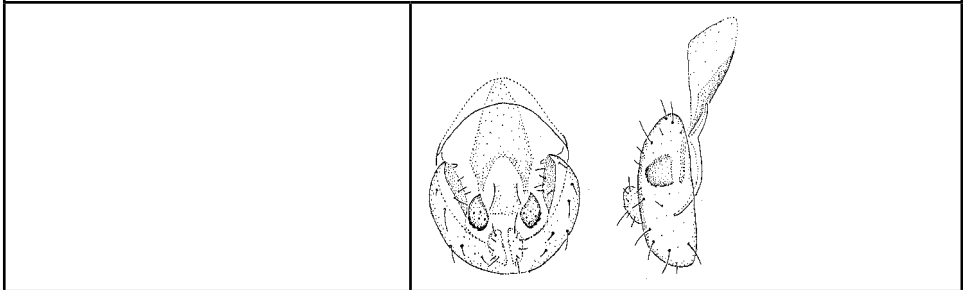
Chamaepsila (2)



Chamaepsila bicolor




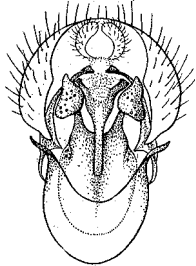


Chamaepsila pallida



Diptera: Acalyptrates

- 76 ----- Only one pair of dorsocentral bristles. All occiput tawny-yellow. Arista with quite short pubescence. ----- *Chamaepsila limbatella*
Described in Soos 1985 & Collin 1944 but no illustrations anywhere
- Two pairs of dorsocentral bristles. Upper part of occiput darkened. Arista pubescence longer. ----- *Chamaepsila humeralis*
(check male genitalia with *persimilis* figures)
- 77 ----- One or two pairs of dorsocentral bristles on thorax ----- 78
- Three or four pairs of dorsocentrals. Legs darkened. ----- 81
- 78 ----- Only one pair of (prescutellar) dorsocentrals, two pairs of vertical bristles and legs darkened. ----- *Chamaepsila (gracilis) = bucata*
- Usually two pairs of dorsocentrals or, if (rarely) only one pair then the legs are entirely pale and there are three pairs of vertical bristles ----- 79
- 79 ----- Third antennal joint partly yellowish ----- *Chamaepsila rosae*
(check male genitalia with *persimilis* figures)
- Third antennal joint entirely black ----- 80
- 80 ----- Hairs behind front femora more even in length and strength. Eyes rather larger and not so round, consequently cheeks and jowls rather narrower; arista pubescence slightly longer; abdominal pubescence longer. Male genitalia as illustrated. ----- *Chamaepsila rosae*
(check male genitalia with *persimilis* figures)
- A spaced row of hairs behind the front femora rather longer and stronger than the rest. Eyes rather smaller and rounder and consequently jowls slightly wider; arista pubescence rather shorter; abdominal pubescence shorter. Male genitalia as illustrated. ----- *Chamaepsila nigricornis*
(check male genitalia with *persimilis* figures)

Chamaepsila (3)

Chamaepsila limbatella	
Chamaepsila humeralis	
Chamaepsila buccata	
Chamaepsila rosae	
	
Chamaepsila nigricornis	
	
Chamaepsila persimilis	
	




Diptera: Acalyptrates

- 81 ----- Three pairs of dorsocentrals
----- Four pairs of dorsocentrals (one pair presutural) ----- Chamaepsila nigra
----- 82
- 82 ----- Smaller species. Male genitalia small and simple (without finger-like claspers). Seventh abdominal tergite of female narrow, forming part of ovipositor
----- Chamaepsila atra
- Rather larger species. Male genitalia with finger-like claspers. Seventh abdominal tergite of female wide, the very much smaller ovipositor emerging from its end.
----- Chamaepsila clunalis

Psilosoma Zetterstedt, 1860

- 83 ----- No orbital or dorsocentral [prescutellar acrostichial] bristles.
non-British ----- Psilosoma sp.
- A small orbital and one pair of dorsocentrals [prescutellar acrostichial]
----- Psilosoma lefebvrei

Chamaepsila (4)

Chamaepsila nigra	
	
Chamaepsila atra	
	
Psilosoma lefebvrei	
	

Psila Meigen, 1803

84 ----- Third antennal joint darkened on the outer side about the base of the arista, hairs beneath the second antennal joint longer

-----Psila fimetaria

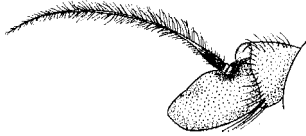


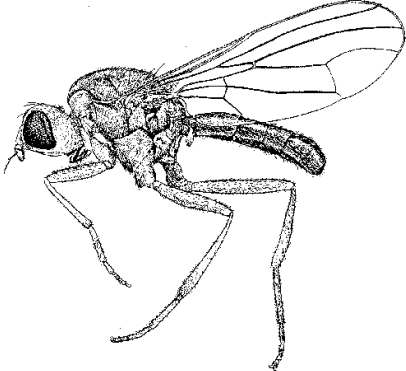
----- Third antennal joint rather larger but not darkened on the outer side about the base of the arista; hairs beneath the second antennal joint shorter.

Eyes not quite so large but similarly reniform, not rounded; arista with rather shorter pubescence. Scutellum slightly longer in proportion to the width and the pair of strong bristles not quite so widely separated. Wings with a yellower tinge, especially about the veins.

Setae: intra-alar, posterior supra-alar, prescutellar acrostichial, anterior supra-alar (it appears to be in this position rather than being a posterior notopleural)

----- Psila merdaria

Psila





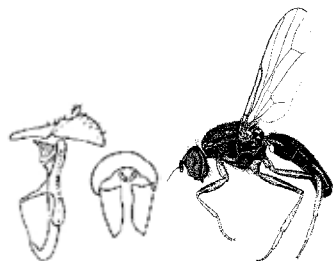



Psila fimetaria	
Psila merdaria	
	

Chylizinae

Chyliza Fallén 1820

- 85 ----- Third antennal joint concave above, arista thickened by dense black pubescence. Jowls below the eyes are deeper than the third antennal joint is wide at its middle.
s.g. *Dasya* ----- *extenuata*
- Third antennal joint not concave above, arista with normal pubescence. Jowls narrower, not deeper than the third antennal joint is wide.
s.g. *Chyliza*----- 86
- 86 ----- Thorax (except scutellum) and pleurae almost entirely black. Frons extensively black. Only the orbits on the lower half of the occiput yellow.
----- 87
- Thorax yellow with black stripes, or in the female with at least broad yellow supra-alar patches. Frons more yellow than black. All lower half of occiput yellow
----- *Chyliza vittata*
- 87 ----- Femora very obviously ringed with black before the tip
(was *fuscipennis* misident. so this couplet could be wrong)
----- *Chyliza annulipes*
- Femora not annulated
----- 88
- 88 ----- Third antennal joint and arista pubescence both rather longer. Frons usually more extensively darkened. Male with an anteroventral row of small, black projecting spines on the front tibiae. Female with second antennal joint brownish above and the upper side of the humeri usually entirely black.
----- *Chyliza leptogaster*
(was *scutellata*)
- Third antennal joint and arista pubescence both rather shorter. Frons usually more extensively yellowish. Male with an anteroventral row of very small black excrescences resembling closely adpressed spines on the front tibiae. Female with second antennal joint always yellowish and at least the upper side of the humeri usually entirely yellow
----- *Chyliza nova*

Chylizinae

<p><i>Dasyna extenuata</i></p>	
	
<p><i>Chyliza vittata</i></p>	
	
<p><i>Chyliza annulipes</i></p>	
	
<p><i>Chyliza leptogaster</i></p>	
	
<p><i>Chyliza nova</i></p>	
	

References - Diopsoidea

- ? von Roser. Spillebeenvliegen. . p.10-19 . .
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