SCIOMYZIDAE RECORDING SCHEME June 1983

Newsletter No. 1

A BRIEF HISTORY OF THE SCHEME

The Sciomyzidae Recording Scheme was the first scheme for a family of Diptera registered with the Biological Records Centre at Monks Wood. Good early progress resulted in the publication by Stephenson, J.W. and Knutson, L.V. (1970) The distribution of snail-killing flies (Dipt., Sciomyzidae) in the British Isles, Ent. mon. Mag. 106 : 16-21. However, momentum was then lost, and the planned Royal Entomological Society Handbook to the family did not materialise so that most British Dipterists have continued to name their captures using Knutson, L.V. and Lyneborg, L. (1965) Danish Acalypterate Flies. 3. Sciomyzidae (Diptera), Entomologiske Meddelelser 34 : 61-101, supplemented by some more recent papers on individual genera. The present organiser took over the scheme in 1979, and since then records have accumulated steadily, though the only feedback to recorders has been via Diptera Recording Schemes Bulletins.

THE FUTURE OF THE SCHEME

In order to facilitate the collation of data by both the recorders and the organiser the next major step will be the production of a Sciomyzidae species card later in 1983, based on the revised check list given below. This should increase the number of records made, particularly when a revised key to the British species becomes available. In the meantime some notes are included with this newsletter which should help those who have access to the key by Knutson and Lyneborg (1965) cited above. In addition to encouraging systematic recording of the Sciomyzidae resulting in more accurate information on the status and distribution of the British fauna, it is hoped that the scheme will gather data on habitat associations, adult behaviour, help to elucidate hitherto unknown life histories and perhaps lead to the discovery of additional species in Britain. The successful mollusc recording scheme has achieved very good coverage, so it will be interesting to see what relationships there are between mollusc and Sciomyzidae distribution patterns.

THE POTENTIAL VALUE OF THE SCHEME FOR CONSERVATION

Some molluscs have been shown to occur only on ancient unploughed grasslands or are confined to primary woodlands, and its seems probable that their Sciomyzidae foes will in some instances be equally restricted to the most intact examples of particular habitats. For example, Pherbellia annulipes has been found only at ancient woodland localities, Pherbellia brunnipes and Psacadina vittigera only in undisturbed, undrained fens, while Salticella fasciata seems to be confined to small areas of intact dune systems. In order to test such ideas it will be necessary to compare locality lists for sites of known history to ascertain whether some of the rare species are truly confined to these primary habitats. Evidence of such restriction to 'high quality' habitat would then suggest that additional sites for these 'indicator species' share the attribute of historical continuity of particular ecological conditions undisturbed by man, and hence merit consideration for protection.

A REVISED LIST OF THE BRITISH SCIOMYZIDAE ARRANGED IN ALPHABETICAL ORDER, INCORPORATING CHANGES PUBLISHED SINCE THE KLOET AND HINCKS CHECK LIST (1976).

Antichaeta	analis	(Meigen, 1830)
	brevipennis	(Zetterstedt, 1846)
Colobaea	bifasciella	(Fallen, 1820)
	distincta	(Meigen, 1830)
	pectoralis	(Zetterstedt, 1847)
	punctata	(Lundbeck, 1923)
Coremacera	marginata	(Fabricius, 1775)
Dichetophora	finlandica	Verbeke, 1964
	obliterata	(Fabricius, 1805)
Dictya	umbrarum	(Linnaeus, 1761)
Ectinocera	borealis	(Zetterstedt, 1838)
Elgiva	cucularia	(Linnaeus, 1767)
	solicita	(Harris, 1780)
Euthycera	fumigata	(Scopoli, 1763)
Hydromya	dorsalis	(Fabricius, 1798)
Ilione	albiseta	(Scopoli, 1763)
	lineata	(Fallen, 1820)
Limnia	paludicola	Elberg, 1965
	unguicornis	(Scopoli, 1763)
Pelidnoptera	fuscipennis	(Meigen, 1830)
	nigripennis	(Fabricius, 1794)
Pherbellia	albocostata	(Fallen, 1820)
	annulipes	(Zetterstedt, 1846)
	argyra	Verbeke, 1966
	brunnipes	Meigen, 1838
	cinerella	(Fallen, 1820)
	dorsata	(Zetterstedt, 1846)
	dubia	(Fallen, 1820)
	griseola	(Fallen, 1820)
	grisescens	(Meigen, 1820)
	knutsoni	Verbeke, 1966
	nana	(Fallen, 1820)
	pallidiventris	(Fallen, 1820)
	schoenherri	(Fallen, 1826)
	scutellaris	(von Roser, 1840)
	ventralis	(Fallen, 1820)
Pherbina	coryleti	(Scopoli, 1763)
Psacadina	verbekei	Rozkosny, 1975
	vittigera	(Schiner, 1862)
	zernyi	Mayer, 1953
Pteromicra	angustipennis	(Staeger, 1845)
	glabricula	(Fallen, 1820)
	leucopeza	(Meigen, 1830)
	pectorosa	(Hendel, 1902)
Renocera	pallida	(Fallen, 1820)
	striata	(Meigen, 1830)
	strobli	Hendel, 1900
Salticella	fasciata	(Meigen, 1830)
Sciomyza	dryomyzina	Zetterstedt, 1846
	simplex	Fallen, 1820
Sepedon	sphegea	(Fabricius, 1775)
	spinipes	(Scopoli, 1763)
Tetanura	pallidiventris	Fallen, 1820
Tetanocera	arrogans	(Meigen, 1830)
	elata	(Fabricius, 1781)
	ferruginea	Fallen, 1820
	freyi	Stackelberg, 1963
	fuscinervis	(Zetterstedt, 1838)
	hyalipennis	von Roser, 1840
	phyllophora	Melander, 1920
	punctifrons	Rondani, 1868
	robusta	Loew, 1847
	silvatica	Meigen, 1830
Trypetoptera	punctulata	(Scopoli, 1763)

This is a total of 64 species so far recorded in Britain. For synonymy see Kloet and Hincks (1976) supplemented by the notes given below.

A list of the changes from the Kloet and Hincks (1976) check list

Coremacera marginata (Fabricius, 1775) replaces Coremacera tristis (Harris, 1780), see Rozkosny (1981).

Elgiva solicita (Harris, 1780) replaces Elgiva sundewalli Kloet and Hincks, 1945, see Rozkosny (1981).

Ilione Haliday, 1837 replaces Knutsonia Verbeke, 1964, see Thompson and Mathis (1980).

Pherbellia fuscipes (Macquart, 1835) is now considered to be a synonym of Pherbellia griseola (Fallen, 1820), see Elberg and Rozkosny (1978). Pherbellia griseola is a species much subject to variation in size and colouring, and I can detect no structural differences in the male genitalia between the large, pale specimens previously considered to be P. fuscipes in the BM (NH) British collection and the small, dark examples of P. griseola in my own collection.

Psacadina verbekei Rozkosny, 1975 replaces Psacadina punctata (Fabricius, 1794) of authors, see Knutson, Rozkosny and Berg (1975).

Renocera strobli Hendel, 1900 replaces Renocera fuscinervis (Zetterstedt, 1838) of authors, see Elberg and Rozkosny (1978).

Tetanocera fuscinervis (Zetterstedt, 1838) replaces Tetanocera unicolor Loew, 1847, see Elberg and Rozkosny (1978).

References

Elberg, K. and Rozkosny, R. (1978) Taxonomic and distribution notes on some Palearctic Sciomyzidae (Diptera). Scripta Fac. Sci. Natur. Ujep Brunensis, Biologia 2 8 : 47-54.

Knutson, L.V., Rozkosny, R. and Berg, C.O. (1975) Biology and immature stages of Pherbina and Psacadina (Diptera, Sciomyzidae). Acta Sc. Nat. Brno 9 : 1-38.

Rozkosny, R. (1981) A new name and some new synonyms of Palaearctic Sciomyzidae (Diptera). Ent. scand. 12 : 177-180.

Thompson, F.C. and Mathis, W.N. (1980) Haliday's Generic Names of Diptera First published in Curtis' A Guide to ... British Insects (1837). J. Wash. Acad. Sci. 70 (2) : 80-89.

Any additional name changes will be cited in future newsletters and I would be most grateful if readers could point out any papers missed in this context.

SOME NOTES ON THE IDENTIFICATION OF THE BRITISH SCIOMYZIDAE

Most recorders use the key work by Knutson and Lyneborg (1965) which is in English, supplemented by Rozkosny and Jeremies (1977) in German. The following jottings are intended to be used for annotating Knutson and Lyneborg (1965), though females in some genera will still cause difficulty as discussed below.

It is hoped that these notes will enable accurate identification of most species pending the production of revised keys. The page numbers given refer to the Knutson and Lyneborg paper.

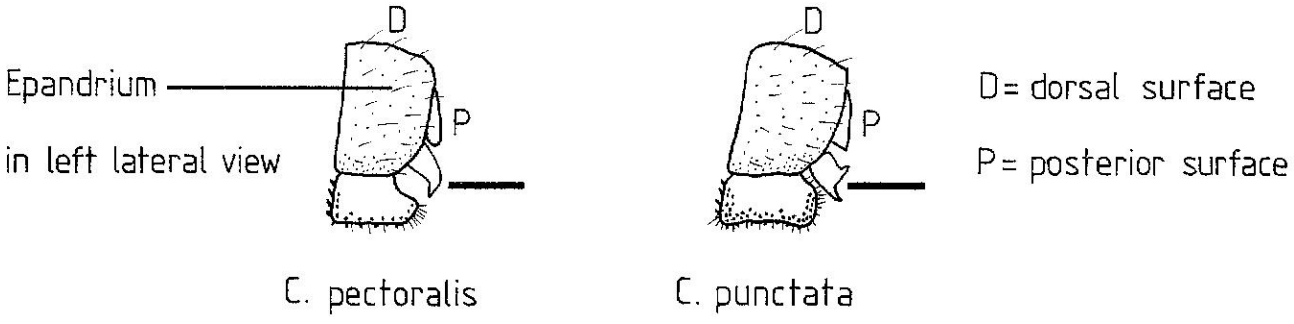
PAGE 68. In the key to subfamilies and tribes it should be noted that Colobaea distincta (Sciomyzini) has the seta on the propleuron usually

weak or even lacking, which would cause it to run to the Tetanocerini in this key. C. distincta is a small (less than 3mm long), dark species with the whole of the thorax and abdominal tergites blackish, and it can be recognised by the presence of a completely matt black frons which lacks the shining frontal stripe found in small dark Tetanocerini (Antichaeta, Ectinocera).

PAGE 69 A slightly different alternative key to the genera of Sciomyzini is given here.

1.	Arista subapical. No anterior bristle at middle of femur 2. No acrostichal hairs or bristles	Tetanura
-	Arista basal. Anterior bristle at middle of femur 2 present. Scutum with distinct acrostichal hairs (generally with a pair of strong pre-scutellar acrostichal bristles)	2
2.	Front tibia with two dorsal pre-apical setae	Sciomyza
-	Front tibia with only one dorsal pre-apical seta	3
3.	Frons shining	Pteromicra
-	Frons pruinose	4
4.	Anal vein not reaching wing margin. Additional dorsocentral bristles present in front of the two strong dorsocentral bristles, these additional bristles being longer than the acrostichal hairs present between the anterior pair of strong dorsocentrals. Frons matt black (except in C. bifasciella which has a distinctive wing pattern - see fig. 1 in Knutson and Lyneborg)	Colobaea
-	Anal vein extending to wing margin (except sometimes in P. brunnipes). The dorsocentral hairs in front of the two strong dorsocentral bristles not longer than the acrostichal hairs present between the anterior pair of strong dorsocentrals. Frons never matt black	Pherbellia

PAGE 69-70 Couplet 3 of key to Colobaea, the separation of C. pectoralis from C. punctata is not entirely reliable using the size and shape of the dark mark on the mesopleuron. There are differences in the male genitalia (illustrated in Roskosny 1966 and sketched below) but females are difficult to identify.



PAGE 71-75 An alternative key to Pherbellia is given here which uses the names currently considered to be valid. The drawings of the male genitalia given in Rozkosny and Jeremies (1977) are very helpful (the only British species not illustrated in this paper is P. knutsoni which is figured in Verbeke 1967) and should be consulted to confirm all doubtful specimens.

1. Mesopleuron with a posterior row of short bristles (carefully examine the area immediately in front of the vertical suture which separates the mesopleuron from the pteropleuron, using strong illumination and a minimum magnification of X 40) or with fine hairs over most of surface 2

\- Mesopleuron without hairs or bristles 5

2. One pair of orbital bristles. Mesopleuron with fine hairs over most of surface. Prosternum usually with 1-2 hairs each side. Arista almost bare, the fine hairs shorter than the basal width of the arista grisescens Mg.

\- Two pairs of orbital bristles. Mesopleuron with a posterior row of short bristles. Prosternum always bare. Arista short or long plumose, the hairs much longer than the basal width of the arista 3

3. Wing veins Sc, R_1 and R_{2+3} (except at tip) yellow in contrast to the veins R_{4+5}, M_{1+2}, M_{3+4} and the tip of R_{2+3} which are brown. Wing membrane milky between veins Sc, R_1 and R_{2+3} and for about two thirds of the distance between R_{2+3} and R_{4+5} except at the wing tip, elsewhere the wing membrane is brownish. Pteropleuron only with a group of fine hairs albocostata Fall.

\- All wing veins brown and wing membrane nowhere milky. Pteropleuron with 1-3 strong bristles in addition to the group of fine hairs 4

4. Arista short plumose, maximum width one third to one half the depth of the third antennal segment (confirm identifications by examination of the male genitalia) griseola Fall.

\- Arista long plumose, maximum width equal to the depth of the third antennal segment (confirm identifications by examination of the male genitalia) dorsata Zett.

5. Wing with a conspicuous pattern of dark spots schoenherri Fall.

\- Wing without pattern of dark spots 6

6. Hind tibia and femur with apical dark rings 7

\- At most hind femur with anterior and posterior apical dark spots 8

7. Wing with a pattern of transverse dark bands leaving wing tip clear (see fig. 42 in Knutson and Lyneborg, 1965) nana Fall.

\- Wing with costal margin darkened from R_1 around to M_{1+2} including wing tip, and crossveins clouded annulipes Zett.

8. Wing with costal margin darkened from Sc to R_{4+5} and crossveins clouded. Mid frontal stripe dark, shining and extending to front of frons. Strong pre-scutellar acrostichal bristles usually absent *cinerella* Fall.

\- Wing with costal margin clear (sometimes darkened from Sc nearly to R_{4+5} in *knutsoni*). Mid frontal stripe pale and pruinose (can be short or long). A strong pair of pre-scutellar acrostichal bristles always present 9

9. Arista short plumose, maximum width half depth of third antennal segment. Abdominal tergites grey each with a narrow pale yellow posterior margin. Front of frons with silvery pruinosity in male, pale yellow pruinosity in female *argyra* Verbeke

\- Arista only short pubescent 10

10. Third antennal segment black in at least apical half, contrasting sharply with the orange base *dubia* Fall.

\- Third antennal segment without sharply contrasting black tip 11

11. Mid frontal stripe long, extending at least two-thirds of the distance from anterior ocellus to front margin of frons (in specimens which have become 'greasy', or which are teneral when killed causing the head to collapse on drying out, this character cannot be seen so that identification must then depend on examination of the male genitalia) 12

\- Mid frontal stripe short, extending not more than half the distance from anterior ocellus to front margin of frons 13

12. Front leg black. Pleuron brown. Small species (less than 4mm long) *brunnipes* Mg.

\- Front leg mainly yellow-brown. Pleuron yellow. Large species (more than 5mm long) *knutsoni* Verbeke.

13. Darker species with pleuron, mesonotum and occiput slate grey. Abdomen usually contrasting yellow, but can be darkened or obscured *ventralis* Fall.

\- Paler species with pleuron, mesonotum and occiput pale brown or yellow in ground colour, though the mesonotum and occiput can be dusted pale grey to a varying extent 14

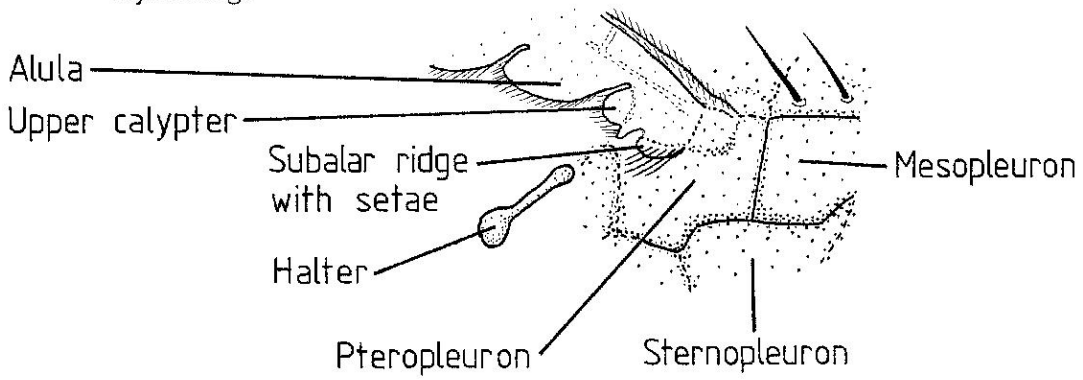
14. Supracervical black setae present on occiput (these are a patch of upwardly directed setae immediately above the 'neck' connecting the head to the thorax). Notopleuron with a few fine black setulae in addition to the two strong bristles . Hind femur generally with anterior and posterior apical dark spots *scutellaris* von Roser

\- No supracervical black setae on occiput. Notopleuron only with two strong bristles. Hind femur usually without apical spots *pallidiventris* Fall.

PAGE 75. In the key to Pteromicra replace "glabricula Fallen, 1820" by "angustipennis Staeger, 1845" and replace "nigrimana Meigen, 1830" by "glabricula Fallen, 1820". The male genitalia of Palaearctic Pteromicra were illustrated by Rozkosny and Knutson (1970) and it is advisable to check the male genitalia to ensure accurate separation of angustipennis from leucopeza and glabricula from pectorosa. Females are difficult to identify.

PAGE 76. In the key to genera of Tetanocerini, Hemitelopteryx is now included in the genus Antichaeta.

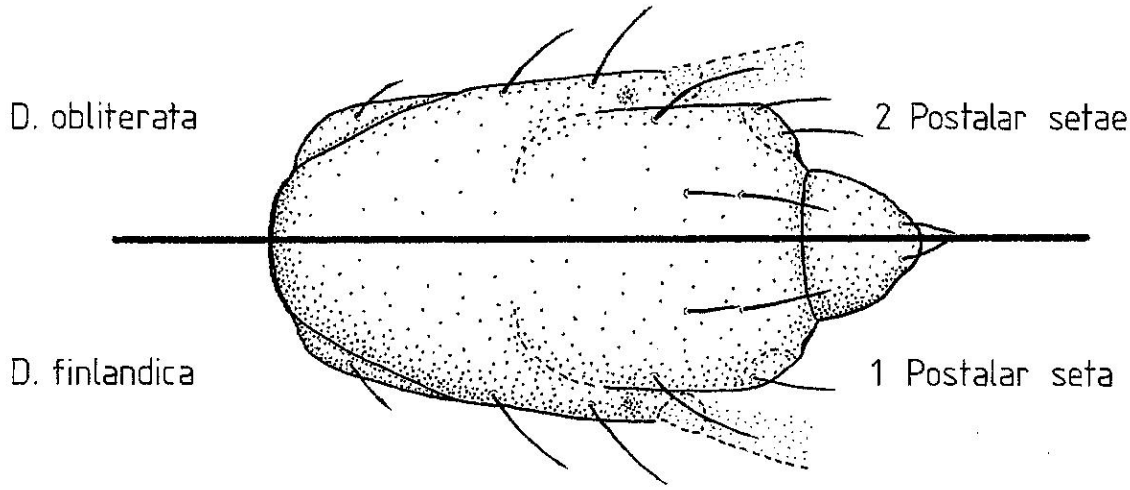
PAGE 77. The position of the subalar (vallar) ridge, referred to in couplet 5, is shown in the sketch below as this is not illustrated by Knutson and Lyneborg.



PAGE 77. Ilione replaces Knutsonia in couplet 6.

PAGE 78. Line 1 of the second part of couplet 16 should read "Second antennal joint less than half as long as third joint" referring to Renocera.

PAGE 79. The position of the postalar setae, referred to in the couplet differentiating the two Dichetophora species, is shown in the sketches below of the thorax of both species in dorsal view. The shape of the third antennal segment is variable in both species, the male genitalia are illustrated in Rozkosny and Jeremies (1977).

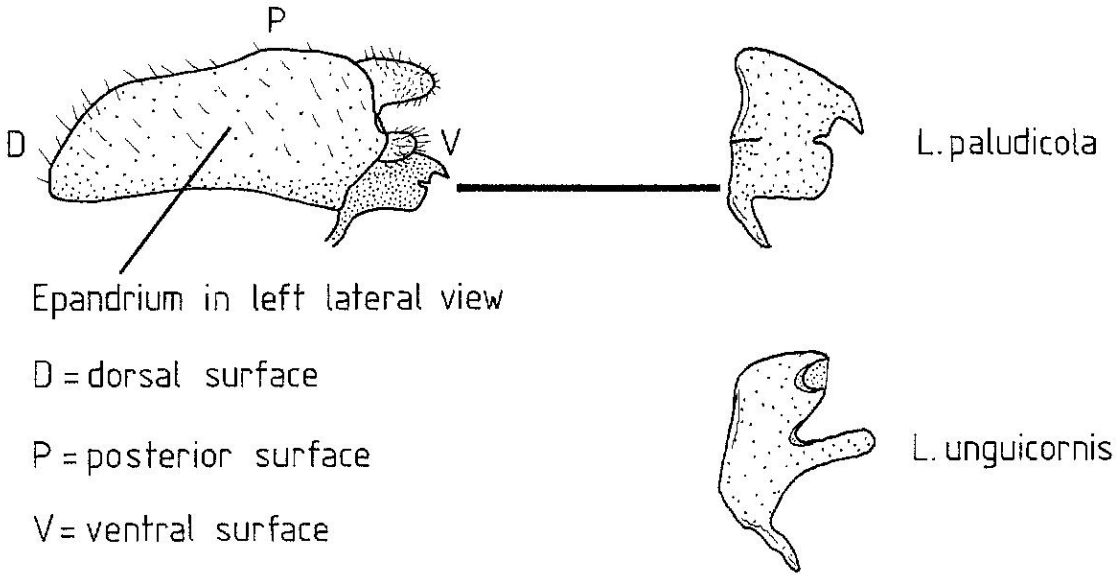


PAGE 81. In the key to Elgiva replace "rufa Panzer, 1798" by "solicita Harris, 1780."

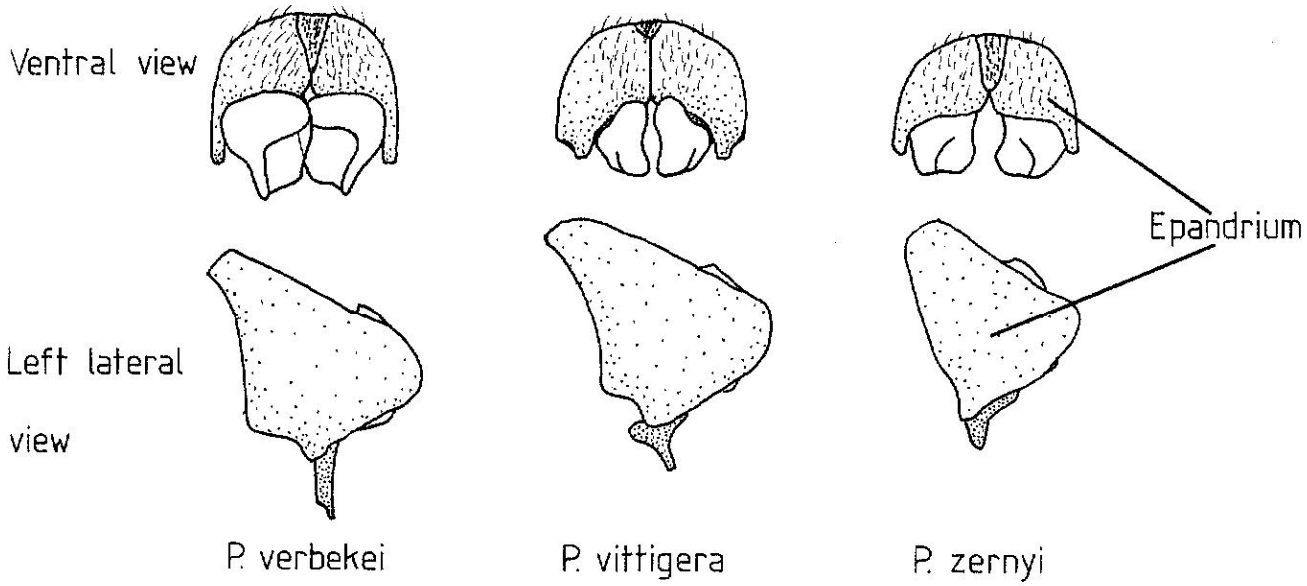
PAGE 82. Hemitelopteryx brevipennis is now included in the genus Antichaeta.

PAGE 82 Replace "Knutsonia Verbeke, 1964" by "Ilione Haliday, 1837".

PAGE 83-4. There are two Limnia species in Britain, separable by examination of the male genitalia (illustrated in Rozkosny and Jeremies, 1977 and sketched below).



PAGE 84-5. The three British species of Psacadina are only reliably separated by examination of the male genitalia (illustrated by Rozkosny and Jeremies, 1977 and sketched below). Females are not reliably separable. Replace "punctata Fabricius, 1794" by "verbekei Rozkosny, 1975".



PAGE 85-6. In the key to Renocera replace "fuscinervis Zetterstedt, 1846" by "strobli Hendel, 1900". An additional useful character is that R. strobli has a bare prosternum while R. striata has about 4 fine black hairs on each side of the prosternum.

PAGE 87-90 Rozkosny and Jeremies (1977) include drawings of the male genitalia of all the British species of Tetanocera which are very helpful for confirming identifications based on external characters, particularly as the leg chaetotaxy and wing markings are variable to a limited extent. Therefore, wherever possible the male genitalia should be examined to ensure accuracy in placement to species. Identifications based on females only should be marked as such when submitting records to the scheme.

PAGE 88. In the key to Tetanocera replace "unicolor Loew, 1847" by "fuscinervis Zetterstedt, 1838".

References

Knutson, L.V. and Lyneborg, L. (1965) Danish Acalypterate Flies. 3. Sciomyzidae (Diptera). Entomologiske Meddeleser 34 : 61-101.

Rozkosny, R. (1966) Die tschechoslowakischen Arten der malakophagen Familie Sciomyzidae (Diptera). Fol. Fac. Sci. nat. Univ. Purk. Brun. 7 Biol. 15 : 1-111.

Rozkosny, R. and Knutson, L.V. (1970) Taxonomy, Biology, and Immature Stages of palearctic Pteromicra, Snail-Killing Diptera (Sciomyzidae). Ann. Entomol. Soc. Amer. 63 (5) : 1434-1459.

Rozkosny, R. and Jeremies, M. (1977). Bestimmungstabelle der mitteleuropaischen Sciomyzidae (Diptera). Entomologische Nachrichten 21 (3-4) : 33-64 and 21 (5) : 78-80.

Verbeke, J. (1967) Contribution a l'etude des Dipteres malacophages V. Trois especes Palearctiques nouvelles du genre Pherbellia Robineau-Desvoidy et quelques donnees sur l'identite de P. scutellaris (von Roser) (Dipt. Sciomyzidae). Bull. Inst. r. Sci. nat. Belg. 43 (18) : 1-12.

CHIPPENHAM FEN NATIONAL NATURE RESERVE - BRITAIN'S BEST SITE FOR SCIOMYZIDAE?

From the information compiled by the scheme so far the site with the greatest number of Sciomyzidae recorded is Chippenham Fen NNR, Cambs. with a total of 37 species. For many years J.E. Collin collected assiduously at this locality, and the list of species he recorded (recently abstracted from the Verrall-Collin collection at Oxford) has been supplemented by more up to date information obtained by I. McLean and J. Cole. Chippenham is a spring-fed fen and the base rich water supply, coupled with a known long history of undisturbed fen conditions, and the variety of plant communities present, are probably the most important factors which enable the site to support so many species. For comparison a list for Wicken Fen (compiled by I. Perry) is tabulated below with the Chippenham list. The most interesting species found is Antichaeta analis which is otherwise at present known only from Scotland. Collin first recorded A. analis at Chippenham Fen, his records being 1♂ on 25 May 1951, 1♂ on 30 May 1951, 1♂ on 1 June 1951 and 1♂ on 24 May 1952. It was found again in May and August 1982 by sweeping emergent vegetation over shallow pools, a similar micro-habitat to that in which adults have been found in Scottish Carex swamps. It is likely that the Chippenham Fen population is an isolated one in the south, though it is possible that it may be found in one or two other ancient fens in East Anglia. Another fen species of note is Psacadina vittigera otherwise known from only three English localities in addition to Chippenham Fen and Wicken Fen, with only Cothill, Berks and Chippenham Fen being post 1970 records.

	CHIPPENHAM FEN	WICKEN FEN
Antichaeta analis	+	
Colobaea distincta	+	
Coremacera marginata		+
Dichetophora finlandica	+	
D. obliterata	+	
Elgiva cucularia	+	+
E. solicita	+	+
Euthycera fumigata	+	
Hydromya dorsalis	+	
Ilione albiseta	+	+
Limnia paludicola	+	
Pelidnoptera fuscipennis	+	+
P. nigripennis	+	
Pherbellia albocostata	+	+
P. brunnipes	+	
P. cinerella	+	+
P. dorsata	+	+
P. dubia	+	+
P. griseola	+	+
P. nana		+
P. schoenherri	+	+
P. scutellaris	+	
P. ventralis	+	+
Pherbina coryleti	+	+
Psacadina verbekei	+	+
P. vittigera	+	+
Pteromicra angustipennis	+	+
P. glabricula	+	
Renocera pallida	+	+
Sepedon sphegea	+	+
S. spinipes	+	+
Tetanocera arrogans	+	+
T. elata		+
T. ferruginea	+	+
T. fuscinervis	+	
T. hyalipennis	+	+
T. phyllophora	+	
T. robusta	+	+
T. silvatica	+	+
Trypetoptera punctulata	+	+
Totals (Both sites 40 species)	37 species	27 species

THE NEXT NEWSLETTER

This newsletter has been compiled by the scheme organiser with the aim of assisting correct identification of Sciomyzidae. If you would like to see features on particular topics included in future issues then please write in with your ideas, or better still, contribute an article or short note on these flies or their mollusc hosts for inclusion in the next newsletter.

Please send comments or copy for the newsletter to :

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