
HOVERFLY NEWSLETTER

NUMBER 12

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Hoverfly Recording Scheme

Biological Records Centre

As many of you will know, Alan Stubbs is to retire from the NCC. In so many ways Hoverfly enthusiasts everywhere owe Alan a considerable debt of gratitude. Not the least of which is the Hoverfly book - one of the best insect identification guides currently available. May your retirement be a long and happy one Alan! Although Alan is retiring from the NCC his involvement in hoverfly recording and insect conservation is likely to be as great as ever.

Talk of recording, a progress report on the Hoverfly Recording Scheme will hopefully be ready for the next Hoverfly Newsletter from our National Organisers, Stuart Ball and Roger Morris. In the meantime, records should be steadily stockpiling and I hope everyone is managing to keep abreast of the wave of species new to Britain that keep turning up!

Work on the guide to hoverfly larvae for **Dipterists Digest** is progressing well and a publication date should soon be available. One of the most exciting bits of news on larvae is that Iain MacGowan "at a secret location somewhere in Scotland" has had success in creating artificial rot-holes in pines which attracted *Callicera rufa* and a small colony of larvae seem to be doing well - more on this in a future issue. In the meantime please send contributions by 1 October 1991 for the next **Hoverfly Newsletter** to Graham E. Rotheray, Royal Museum of Scotland, Chambers Street, Edinburgh EH1 1JF.

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WOOD ANTS FORAGING FOR HOVERFLY LARVAE

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The foraging behaviour of wood ants is easily observed. However, it may be as well to prompt readers of the *Hoverfly Newsletter* into using these ants to find out more about the ecology of aphid feeding hoverfly larvae!

I am thinking in particular of an occasion last summer in Bedford Purlieus, a wood to the west of Peterborough. A large nest of *Formica rufa* had ant highways leading in virtually all directions, but along one particular route the ants were bringing in aphid feeding hoverfly larvae at the rate of about one a minute. The source was traced back to a fairly large maple on the edge of a ridge, about 20m from the nest. An impressive stream of hoverfly larvae prey was coming down the trunk, presumably from high up in the tree canopy since even with binoculars I could not detect any booty from along the lower branches.

At least three genera of hoverfly larvae were represented. Flat green larvae were attributed to *Epistrophe* (*eligans* at a guess), some seemed to be *Syrphus* and others were rather non-descript types. The *Epistrophe* were predominant. Though a bit mauled, many were alive and in good enough condition for rearing or to be put in alcohol for later study, [heat to boiling for a few mins in water first - Ed).

It was only this one highway which was yielding larvae to the ants. Foraging routes to oak trees and hazel shrubs were seeming barren, so the maple was clearly an important food source for the ant colony at the time.

Perhaps wood ants are more efficient at collecting larvae than dipterists. In any case this does seem a potentially useful way of gaining larval material. When Graham Rotheray has published his forthcoming larval identification book, we shall be able to use wood ants as surrogate hoverfly recorders. Possibly some hoverfly species may be easier to record this way than by searching for adults. Certainly it provides an opportunity to find out what is living in the tree canopy, a notoriously difficult situation to sample. The method should work even when the weather or time of day is unfavourable for finding adults and may provide a means of monitoring larval populations.

SCOTTISH HOVERFLY RECORDING SCHEME

Ken Watt

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Aberdeen

This scheme aims to record and map the Syrphidae of Scotland at the 10 km. level. For certain areas the aim is to produce more detailed maps showing the 5 km. & 2 km. square distribution. The records with detailed information on locality, collector, date, habitat, etc. are held on Aberdeen University mainframe computer and managed by a package called FAMULUS.

It is hoped to produce a preliminary report on hoverfly distribution when 75% of the 1050 10 km. squares have been recorded. In order to record as wide a sample of the species as possible in most squares, 40% of the 5 km. squares should be sampled and 60% of the total recorded squares should be visited in at least two different months of the year.

Local maps could be produced when about 75% of the 5 km. squares have been recorded from, during three different months.

PROGRESS

To date there are on computer over 15000 records, including about 3000 literature records, producing over 8000 species-squares from over 600 10 km. squares (60% of the Scottish squares).

Some 52% of the recorded squares have records for at least 2 separate months and 32% for at least 3 separate months.

Also over 1075 5 km. squares now have records (27% Scottish total). Two hundred and nineteen species, subspecies and forms have been recorded from Scotland (80% of the British list).

Table 1 lists those species NOT recorded in Scotland to date. If anyone has records for any of these species then, please, let me know. Also if anyone is collecting in Scotland this year (or who has records from previous years) again, please get in touch.

Table 2 shows the 10 commonest Scottish species and gives the number of 10 km. squares and the number of records for each species.

TABLE 1. - HOVERFLY SPECIES NOT YET RECORDED IN SCOTLAND

N <i>Anasimyia contracta</i>	R2 <i>Mallota cimbiciformis</i>
R2 <i>Anasimyia interpuncta</i>	R2 <i>Microdon devius</i>
R3 <i>Brachypalpus laphriformis</i>	R3 <i>Myolepta luteola</i>
R1 <i>Caliprobola speciosa</i>	R1 <i>Myolepta potens</i>
R2 <i>Callicera aenea</i>	N <i>Neocnemodon brevidens</i>
R1 <i>Callicera spinolae</i>	R3 <i>Paragus albifrons</i>
R2 <i>Chalcosyrphus eunotus</i>	R2 <i>Parhelophilus consimilis</i>
N <i>Cheilosia barbata</i>	N <i>Parhelophilus frutetorum</i>
R3 <i>Cheilosia carbonaria</i>	R3 <i>Pelecocera tricincta</i>
N <i>Cheilosia globulipes</i>	N <i>Pipiza lugubris</i>
<i>Cheilosia laskai</i>	<i>Platycheirus angustipes</i>
R3 <i>Cheilosia mutabilis</i>	<i>Platycheirus occultus</i>
R3 <i>Cheilosia nigripes</i>	R2 <i>Pocota personata</i>
N <i>Cheilosia semifasciata</i>	R2 <i>Psilota anthracina</i>
N <i>Cheilosia soror</i>	R2 <i>Rhingia rostrata</i>
R3 <i>Chrysotoxum elegans</i>	N <i>Scaeva albomaculatum</i>
R2 <i>Chrysotoxum octomaculatum</i>	<i>Sphaerophoria bankowskiae</i>

R1 <i>Chrysotoxum vernale</i>	<i>Sphaerophoria fatarum</i>
<i>Chrysotoxum verrallii</i>	<i>Sphaerophoria laurae</i>
N <i>Criorhina asilica</i>	<i>Sphaerophoria potentillae</i>
N <i>Dasysyrphus friuliensis</i>	N <i>Triglyphus primus</i>
R2 <i>Doros conopseus</i>	R3 <i>Volucella inanis</i>
N <i>Epistrophe diaphana</i>	N <i>Volucella inflata</i>
R3 <i>Epistrophella euchroma</i>	N <i>Volucella zonaria</i>
R2 <i>Eristalis cryptarum</i>	N <i>Xanthogramma citrofasciatum</i>
R3 <i>Eumerus sabulonum</i>	<i>Xanthogramma pedisequum</i>
R2 <i>Ferdinandea ruficornis</i>	R3 <i>Xylota xanthocnema</i>
R2 <i>Lejops vittata</i>	

TABLE 2. -THE COMMONEST HOVERFLIES FOUND IN SCOTLAND

SPECIES	Number of 10 km. Records	
<i>Eristalis pertinax</i>	295	607
<i>Melanostoma scalare</i>	276	768
<i>Helophilus pendulus</i>	251	483
<i>Episyrphus balteatus</i>	243	540
<i>Platycheirus albimanus</i>	234	692
<i>Melanostoma mellinum</i>	228	396
<i>Syrphus ribesii</i>	213	512
<i>Platycheirus manicatus</i>	201	392
<i>Eristalis arbustorum</i>	190	303
<i>Rhingia campestris</i>	182	351

FLOWER - VISITING IN EPISTROPHE GROSSULARIAE

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Alan Stubbs, writing in *Hoverfly Newsletter* 11, reports on observations of *Epistrophe grossulariae* on *Centaurea nigra* (knapweed) and *Succisa pratense* (devilsbit scabious) in spite of the species normally being associated with white umbellifers such as hogweed and angelica.

My own observations of this hoverfly indicate that in addition to its fondness for hogweed and angelica it also favours a number of other flowers; besides knapweed, on which I have often seen it, these are mostly flowers of a mauve colour in the *Dipsacaceae* and *Compositae* families. These include devilsbit and other scabious and *Dipsacus fullonum* (teasel) - in July 1990 I saw five *E. grossulariae* on or hovering close to a single teasel flower-head - and, among garden flowers, the globe thistles (*Echinops sp.*), and Cupid's dart (*Catananche coerulea*).

OVIPOSITION BEHAVIOUR OF *CHEILOSIA ALBITARSIS*

Alan Stubbs

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Reports on this species in Newsletter 11 were rather imprecise regarding the initial behaviour of the female once on the foodplant.

Several years ago, in the hot early afternoon sun, I was in a woodland ride in Northamptonshire. *Ranunculus repens* was plentiful and I was specifically looking out for ovipositing females of *Cheilosia albitarsis*. Several observations were made.

Females flew slowly over buttercup and landed more or less centrally on a semi-vertical leaf, choosing one of the higher leaves among the general foliage. The female then briskly walked up to the tip of the leaf, straight over the top and down the underside of the leaf, following the mid rib and then the petiole. The insect carried on walking down the stem but the foliage was so dense that it was impractical to see where the hoverfly had gone. A few minutes later it would walk up to a place where it could fly and select another leaf to land on about ½ to 1 metre away.

TERRITORIAL BEHAVIOUR IN *PIPIZA LUTEITARSIS* AND OTHER SYRPHIDAE

Roger Morris

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Prior to 1990, I had never come across *Pipiza luteitarsis* and was beginning to suspect that I was overlooking this species despite retaining all specimens of *Pipiza* that I encountered. However, this year (1990) I have seen *P. luteitarsis* in a number of localities, often in abundance.

My first encounter with *P. luteitarsis* was on Canon Hill Common in South London. This site has a woodland which is predominantly elm scrub with a few mature oaks and some amenity planting [larvae of this hoverfly feed on *Schizoneura* elm aphids - Ed]. A solitary dark hoverfly flying at about 2 metres proved to be a rather hairy *Pipiza* male, subsequently identified as *P. luteitarsis*. Further visits to this site led to a sequence of records with frequent observations of males hovering in, and defending, sun spots at heights between 1 and 2.5 metres. In some clearings, the species was quite numerous, each individual defending a small but definite territory. I have since witnessed similar behaviour by solitary males on Mitcham Common in a sun spot adjacent to a sycamore much favoured by other hoverflies.

At the time that I made my initial observation, I had expected that the specimen was a *Cheilosia* and had suspected *C. praecox*. I have witnessed the males of *C. praecox* forming small aggregations similar to those of *Syrphus ribesii* although I have more frequently met with solitary individuals defending well lit situations. Male *Melangyna labiatarum* also appear to adopt a similar strategy and proved to be extremely abundant earlier this year.

The defence of sun spots does not seem to be confined to hovering individuals. For example, I have witnessed very aggressive behaviour by *Myathropa florea* defending a sunlit sycamore leaf. However, the most aggressive species that I have witnessed is *Didea fasciata* which I have observed defending sunny leaves at a number of sites. This species appears to be especially aggressive and on one visit to Canon Hill Common I spent some minutes watching it defending a small holm oak bush from all approaching hoverflies irrespective of species.

VOLUCELLA BOMBYLANS: UNUSUAL FORM

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Volucella bombylans has two common forms, form *bombylans*, mimicking red-tailed bumble bees with a black-haired thorax and with the abdomen black-haired at the front and red-haired at the rear, and form *plumata*, mimicking white-tailed bumble bees, with partially yellow-haired thorax and abdomen. There is also a rare brown form. In May 1989, in Dowdeswell Woods, Gloucestershire, I came across a male *V. bombylans*, which had white hairs on the tail, but which resembled the form *bombylans* in all other respects (ie. the thorax and the front of the abdomen were completely black). The hairs on the tail were pure white, not merely faded.

I have not found any references to this form in the relevant literature, nor have I seen such a specimen in any museum collections. I displayed my two photographs of the specimen at the Natural History Museum on Dipterists' Day in November 1990, with a plea for information from anyone who may have encountered such a form. There were no offers. I therefore reiterate my plea for information in this newsletter, as I would be interested in knowing how unusual this black and white form of *V. bombylans* may be.

NOTES ON *DIDEA FASCIATA* (MACQUART) IN WESTMORELAND (VC 69)

Dr Neville L Birkett

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A recent note in *Hoverfly Newsletter* 11 by David Lees recording the breeding of a specimen of *D. fasciata* from a larva found in the Royal Botanic Gardens at Kew stimulated me to review our local records for this species. In view of the fact that the species is considered uncommon the following details may be of interest. The records are all from localities in Westmorland, VC 69.

20 August 1922 - Yewbarrow, Grange-over-Sands (J.D. Ward)

6 August 1923 - Arnside (A.E. Wright)

5 September 1926 - Grange-over-Sands, in garden (A.E. Wright)

13 May 1948 - Meathop Moss Nature Reserve - 2 specimens, taken at bilberry flowers (A.E.

Wright)

14 May 1948 - one specimen taken at Meathop Moss and again on bilberry flowers.

Date not recorded - Well known, near Cartmel (C.M. Drake)

23 August 1990 - A male taken by the writer in Roudsea Wood N.N.R.

Date unknown - a specimen in the Liverpool Museum taken by the late C.H. Jones at Arnside.

The records for Meathop Moss, recorded by the late A.E. Wright, are of particular interest because Wright commented on the association with bilberry. The male specimen I took in Roudsea Wood NNR last year was taken flying over a considerable expanse of bilberry. The possible association of *fasciata* with the plant may be significant when one reads that David Lees describes the larva at Kew as '... being uniformly dark purplish in colour on the dorsum ...'. This colouring would make the larva highly cryptic on bilberry when the berries were ripe.

I regret I have no information concerning the aphids associated with bilberry and which might provide the food for the *fasciata* larvae. There is scope for research here. [*Didea* larvae usually in association with conifer aphids - Ed]

FOOD PLANTS OF *MERODON EQUESTRIS*

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In Hoverfly Newsletter 11, B. & I. D. Wallace reported rearing *M. equestris* from a *Hippeastrum* bulb. Although this fly is commonly known as the large narcissus bulb fly, it has a very wide range of potential host plants. Part of my work at Wisley Garden involves dealing with enquiries about pest problems and on 13.3.78 I received a tale of woe from a person living at Bracknell, Berks. This person was growing a collection of various bulbs in pots in a greenhouse into which at least one female bulb fly had found her way the previous year. The types of bulbs damaged were *Amaryllis belladonna* 'rosea', *Haemanthus*, *Sprekelia*, *Hymenocallis*, *Brunsvigia*, *Eucharis*, *Cyrtanthus*, *Nerine*, *Crinum amoenum* (all Amaryllidaceae), *Lachenalia*, *Cardiocrinum* (both Liliaceae) and *Kaempferia* (Zingiberaceae). The last mentioned is an odd record, since *Kaempferia* has rhizomes rather than bulbs. It is possible that bulb flies in the confines of a greenhouse may lay eggs on plants that might not attract them if given a choice of more favoured hosts. Bulbs in the greenhouse that appeared to have escaped damage were *Zephyranthes*, *Vallota*, *Chlidanthus* (all Amaryllidaceae), *Gladiolus* and *Ixia* (both Iridaceae).

Vallota can be attacked by bulb fly and is recorded as a foodplant by Hodson (1932), along with *Leucojum*, *Eurycles*, *Glanthus* or snowdrop (all Amaryllidaceae), *Scilla*, *Galtonia*, *Hyacinth* and Tulip (all Liliaceae). Tulip is said to be attacked but not suitable as a host plant because the bulb rots before the larva can complete its development. Adults can,

however, be reared from tulip bulbs by transferring the larvae to fresh bulbs. Another host plant, *Habranthus pratensis* (Amaryllidaceae) is given by Chittenden (1911).

The very large and diverse plant family, the Liliaceae, has recently been split into no less than 24 families, although this new arrangement is not universally accepted, see Mathew (1989). The Liliaceae host plants listed above belong to two of these new families: *Cardiocrinum* and *Tulipa* (Liliaceae *sensu strictu*), *Lachenalia*, *Scilla*, *Galtonia* and *Hyacinthus* (Hyacinthaceae).

There is a possibility that exotic *Merodon* species may be encountered, especially in places such as botanic gardens that receive bulbs collected from the wild. The insect collection at Wisley has a specimen of *Merodon bombiformis* Hull, det. R. L. Coe. The label states it came from gladiolus corms received from South Africa on 7.10.55, "last one emerged on 1.3.56", although there is only the one specimen in the collection. There is also a record on a file card, but no actual specimen, of "*Merodon aeneus* group, puparium in a crocus corm from Asia Minor, collected by A. E. Bowles, 2.2.27, (Collin, 5.2.27, 12.1.28)".

References

- Hodson, W. E. H., 1932. The Large Narcissus Fly, *Merodon equestris* F. (Syrphidae). Bull. Ent. Res. 23: 429-448.
- Chittenden, F. J., 1911. A Note on the Habits of the Narcissus Fly. J. Royal Hort. Soc., 37: 122-123.
- Mathew, B., 1989. Rearrangement of Petaloid Monocot Families at Kew. In "Lilies and Related Plants 1988-9", p. 26-32, pub. Royal Horticultural Society.

A RESTRICTING DEVICE FOR VIEWING HOVERFLIES

M C Brian

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Have you ever attempted to identify a fly in a tube and noticed how the fly is always hidden inside the cap or on the underside of the tube and just as you get it into focus with the magnifier it casually walks away? The following piece of equipment keeps the fly captive and makes viewing and identifying less frustrating. I cannot take credit for the idea but felt it was worthwhile to pass it on.

Cut 10mm from the nozzle end of a 5 ml plastic syringe and a notch is filed across the end of the barrel to allow air to escape, a small hole could be drilled as an alternative. A 16 mm coverglass is glued over the end of the barrel making sure that the air bleed hole is clear of adhesive.

The insect is placed into the barrel and the plunger is replaced, the device is held with the cover glass up or down depending whether a dorsal or ventral view is required and the plunger is gently moved upwards until the insect is restrained between the plunger and the coverglass.

Reference: Oxford, G.S. (1981). An easily constructed holding device for the examination of live spiders. *Bull. Br. arachnol. Soc.* 5(6), 278-279.

Burgess, M. (1990). An Anthropod Compressorium. *Microscopy Bulletin* (15), 5.

A RESTRICTING DEVICE FOR MARKING HOVERFLIES

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I am a newcomer to entomology, and to the recording scheme, having been playing with syrphids for only about 2 years. I felt that if there are any other beginners out there, a piece of equipment I invented myself might be of use!

If you are attempting to mark any kind of fly, it is obviously essential that the marking should not affect its normal behaviour. This is very difficult when faced with a wriggling syrphid, a net blowing in the wind, a pot of paint - and trembling hands!

However, I made myself a marking disc which restrains insects without harming them. You need a plastic food container tub - the fromage frais ones are the ideal size and shape. You cut off the top, and are left with a flat hoop of plastic. Then, you glue a piece of entomological netting over it.

When I net an insect, I can now put the disc over it against the side of the net. Then, I use a cocktail stick dipped in paint to dot the thorax through the netting - quickly, accurately, and without causing damage. I have honestly had 100% success with it.

An extra advantage is that the thickness in the plastic makes one side of the gadget shallower for smaller hoverflies, while the other side has more depth, for the bigger fellas.

***PLATYCHEIRUS SCAMBUS* IN ESSEX AND HERTFORDSHIRE**

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According to Roger Payne's *Provisional Atlas of the Hoverflies of Essex*, *Platycheirus scambus* has only been recorded in Essex in 1909, when J. W. Yerbury captured two males at Walton-on-the-Naze on 11 July. This is perhaps less than surprising as the insect is reputedly a mainly northern species, coming down only as far as the Midlands.

It was therefore with mixed feelings that a wrongly identified female *Platycheirus* from Essex that I had sent to Martin Speight for an opinion transpired to be this species! As my extremely feeble excuse for not recognising it as such, I can only plead that I have never taken the species before, having concentrated my collecting in the south-east through pure lack of sufficient "readies" to travel further afield on a regular basis. And it was a female!

The fly was swept from a semi-improved meadow at Tilty, North Essex on 7 May 1988, adjacent to a small stream with lush vegetation, grid reference TL 5926.

Armed with the knowledge that this rare (in Essex) fly was to be found without the need for inter-county travel I made a particular effort to seek it out elsewhere in the area during 1990. On 15 May I succeeded! At Claverend Farm, Essex (TL 4936) a stream runs in a deep gully under a minor road and on across the arable "desert". Looking down the well vegetated banks I saw several *Platycheirus* flitting amongst the vegetation. Using a long pole I was able to reach down from above and sweep a net full of hoverflies. Amongst the very many *P. manicatus* and *Pyrophaena granditarsa* were three males of *P. scambus*.

Not content with this I moved on to Hertfordshire. At Bury Green near Bishops Stortford (TL 4520) I was waiting at the base of a track to a local wood for my moth trapping companions. They were late and I was getting agitated by the rapidly failing light. Then I noticed that the stream which flows under the track had steep well vegetated banks in one or two places. More out of boredom than anything else I took out the net and made a single sweep of the bank. The next revealed a single female *Platycheirus* which was duly tubed and ignored until the morning since my friends then arrived and we went on to the moth trapping. A certain feeling of contentment was evident the next day when I discovered that the hoverfly was *P. scambus*. Sadly a return visit on 3 July could only muster a female of the solidier fly *Oxycera morrisii*!

Clearly, *P. scambus* is worth looking out for in the south-east as well as in the frozen wastes north of Watford. [the larva of *P. scambus* appears to be associated with aphids on wetland plants - Ed]

ANNOUNCEMENTS

Dipterists Digest - is a must for hoverfly enthusiasts. For example **Dipterists Digest 5** is a complete revision of the *Platycheirus chypeatus* group. Subscription information from Derek Whiteley, 730 Eccleshall Road, Sheffield S11 8TB.

174 Hoverflies in Essex - Provisional Atlas of Essex hoverflies obtainable at £2.30 (includes p&p) from R G Payne, Central Museum, Victoria Avenue, Southend-on-Sea, Essex SS2 6EW.

Newsletter 3 of the NW Regional Hoverfly Recording Group now available with details of field meetings etc from Darwyn Sumner, 54 Blackshaw Lane, Royton, Oldham OL2 6NR.

Hoverfly Records Wanted From Scotland - badly needed for computer based mapping scheme (see article on page 2) Ken Watt, Dept Zoology, University of Aberdeen, Tillydrone Avenue, Aberdeen AB9 2TN.

Epistrophe wanted - for analysis of geographical variation within this genus with a view to providing new identification key etc. Please write or send material of any *Epistrophe* species to Danny Wolff, Bahnhofstrasse 33, D-3112 Ebstorf, Germany.

RECENT PUBLICATIONS

- N L Birkett, 1990. Polyandry in *Merodon equestris* (Fab.) (Syrphidae). *Dipterists Digest* 6: 6.
- K Decler & G E Rotheray, 1990. The puparium and larval habitat of the hoverfly *Tropidia scita* (Diptera: Syrphidae). *Entomologist's Gaz.* 41: 157-163.
- S J Falk, 1990. *Eristalis pratorum* (Meigen, 1822): a new British hoverfly. *Br. J. Ent. & Nat. Hist.* 3: 139-141.
- E G Hancock & G E Rotheray, 1990. *Molophilus lackschewitzianus* Alexander and *Brachypalpoides lenta* (Meigen) (Dipt., Tipulidae and Syrphidae) in Scotland. *Entomologist's mon. Mag.* 126: 212.
- J Heal, 1990. Eggs and eggs-laying: some details about hoverflies. *Dipterists Digest* 6: 27.
- M O Hughes, 1990. Some observations on the Syrphidae (Diptera) of the counties of Clwyd and Gwynedd, Wales. *AES Bulletin* 49: 165.
- P M Pavett, 1990. Diptera recorded in 1989. *AES Bulletin* 49: 225.
- C W Plant, 1990. Hoverflies (Diptera: Syrphidae) in the London area: progress report and selected distribution maps. *The London Naturalist* 69: 53-65.
- G E Rotheray, 1990. An old specimen of a new European *Platycheirus* species (Dipt., Syrphidae). *Entomologist's mon. Mag.* 126: 204.
- G E Rotheray, 1990. A new species of *Bioblapsis* (Hymenoptera: Ichneumonidae) from Scotland parasitising a mycophagous hoverfly, *Cheilisia longula* (Diptera: Syrphidae). *Ent. scand.* 21: 277-280.
- G E Rotheray, 1990. Larval and puparial records of some hoverflies associated with dead wood (Diptera, Syrphidae). *Dipterists Digest* 7: 2.
- M R Shaw & G E Rotheray, 1990. *Xanthandrus comtus* (Harris) (Dipt: Syrphidae) reared. *Entomologist's mon. Mag.* 126: 258.
- M C D Speight, 1990. Einige Zweiflügler-Nachweise aus dem Ruggeller Riet (Insecta: Diptera). *Ber. Bot.-Zool. Ges.* 18: 345-354.
- M C D Speight, 1990. *Hippodamia 13-punctata* (Coleoptera: Coccinellidae) and other insects from All Saints Bog, Co. Offaly, Ireland. *Bull. Ir. biogeog.* 13: 200-212.
- M C D Speight, 1990. The puparia of *Xanthogramma festivum* and *Xanthogramma pedissequum* (Syrphidae). *Dipterists Digest* 6: 29.
- K R Watt & D M Robertson, 1990. *Eupeodes lundbecki* (Soot-Ryen) (Diptera: Syrphidae) New to Britain and its separation from related species. *Dipterists Digest* 6: 23.



11.

third stage larva of *Syrphus ribesii*
feeding on a sycamore aphid