HOVERFLY NEWSLETTER

NUMBER 10
MAY 1990

This is the tenth **Hoverfly Newsletter** and also the start of a new decade! Thus it is particularly appropriate to review progress and anticipate future challenges. Tremendous progress was made in the last few years. The hoverfly fauna of Britain is receiving more attention than ever before. The potential of hoverflies for site assessment is being realised and many more species have been bred. Hoverflies are rapidly becoming familar to a wide range of people. To consider these developments in the context of the recording scheme, the first four articles were specially written for this issue.

The next few years will see even greater progress and there is much to do. In particular, conservation will almost certainly become more important. Accurate information will be needed on breeding requirements - even more so for species that depend on habitats that are themselves severely threatened, such as ancient woodland. It is up to us to provide such data and to convince others of the value of these diverse, beautiful and almost wholly benefical insects we know as hoverflies.

Deadline for contributions to **Hoverfly Newsletter 11**: October 1st. Graham E. Rotheray, Royal Museum of Scotland, Chambers Street, Edinburgh EH1 1JF.

CONTENTS

MORE HOVERFLIES THAN EVER BEFORE!

Alan Stubbs, NCC, Northminister House, Peterborough.

During the 1980's sixteen species have been added to the British Hoverfly list - easily the greatest increase of any decade this century. There is every reason to suppose that this trend will continue into the 1990's although the law of diminishing returns must bite eventually despite the increasing interest in hoverflies. What follows below is a list of the 16 species and an analysis of how these species came to be recorded.

The most frequent advance has been the recognition of species splits that have stood unnoticed within existing collections. New species to science have been described in Anasimyia, Platycheirus, Sphaerophoria and Metasyrphus as critical taxonomic work has been done. In other cases it is not so much the recognition of undescribed species as recognising that described look-alike species have been previously overlooked as in Neoascia and Cheilosia. In the former genus three recorders recognised an addition almost simultaneously as a result of recent collecting efforts, though one earlier overlooked specimen was later located in an old collection. In Cheilosia, intonsa/griseiventris were split, initially on the basis of the BM collection, indeed at least 4 of the extra species have been in the main British Collection at the BM since well before Coe's Handbook.

A second category is the conifer associated fauna that has somehow arrived from the continent. Dasysyrphus friuliensis is an example, though its true distinction is contested by some. Metasyrphus lundbecki was recorded from the eastern coastal belt and is a welcome addition. A new Metasyrphus (Lapposyrphus), another conifer species, has lain unrecognised in collections for some time.

Undoubtedly a major factor is the way that some people are looking in more places. Many of the additions reflect this, none better than Sphaerophoria potentillae which was found during a Diptera Recording Schemes field meeting in virtually unexplored North Devon, occurring on Culm wet heath grasslands that are a special feature of the area.

There is every reason for optimism and Martin Speight's review in Dipterist's Digest 1 draws attention to many continental species that we should be careful not to overlook. As we continue to survey more widely, intensively and build up experience of ecology and taxonomy the list is bound to grow.

1980:
Neocnemodon brevidens - Stubbs, Ent. Rec. **92**: 45-46.

1981:
Neoascia interrupta - Falk, Smith & Stubbs, Proc. Trans. Br. ent. Nat. Hist. Soc. **14**: 12-14.
Dasysyrphus friuliensis - Crossley, Ent. Rec. **93**: 223.

1982:
Anasimyia contracta & interpuncta - Stubbs, Proc. Trans. Br. ent. Nat. Hist. Soc. **14**: 10-11.

1983:
Metasyrphus (Lapposyrphus) sp A. - Entwistle, in Stubbs & Falk, British Hoverflies.
Sphaerophoria batava, Cheilosia griseiventris, Cheilosia sp. B - Stubbs & Falk,

Cheilosia forms A & C now sunk by Falk, also forms D & E = proxima. Status of forms of Pipiza noctiluca remain unknown. Sphaerophoria sp. A is doubtful.)

1986:
Cheilosia argentifrons - Speight, Ir. nat. J. 22: 159.
Platycheirus sp. A (nr. peltatus) - Stubbs, British Hoverflies Supplement.

1987:
Metasyrphus lundbecki - Watt, Hoverfly Newsletter 5.

1988:
Platycheirus amplus - Speight & Vockeroth, Ir. nat. J. 22: 518-21.

1989:
Sphaerophoria potentillae - Stubbs, Dipterist's Digest, in press, but see note on page 8.
Epistrophe melanostoma - Beuk & Morris, Diptera Recording Schemes Bulletin 28.
Orthonevra ?sp. n. - Drake, Diptera Recording schemes Bulletin 28.

FOOT NOTE - The 1990's have started dramatically with three new Platycheirus species (see papers by Speight, Goeldlin de Tiefenau and Maibach in Dipterists Digest 5. These new species are closely related to the P. clypeatus group and despite the stated distribution, could turn up anywhere! Also Epistrophe ochrostoma taken by David Heaver - see note on page 8.

THE HOVERFLY RECORDING SCHEME AND THE BIOLOGICAL RECORDS CENTRE

Brian Eversham, BRC, Monks Wood Expt. Stn., Abbots Ripton, Huntingdon, PE17 2LS.

Ten issues of the **Hoverfly Newsletter** marks years of steady progress in the study of the British Fauna and massively growing support for the Hoverfly Recording Scheme. A major landmark has been, of course, the publication of Stubbs & Falk with some of the most "user-friendly" keys ever coupled with excellent colour plates by Steven Falk.

I wish BRC's contribution could have been as successful and satisfying. It is usually possible to squeese into a crowded schedule the mailing and distributing the newsletter each year. Unfortunately data processing and map production is far more complex.

In the early days of a recording scheme with a dozen or two contributors (mostly with years of hard-won experience of the group) generating a few hundred records a year, it is fairly easy for the scheme organiser to keep up with processing the records. For example, there will be few dubious records when nearly all come from acknowledged experts. At this stage, it might even be possible to plot maps of species by hands, transferring new records to the maps as they arrive. Some may be mis-plotted (wrong species wrong square), but recorders welcome maps despite their drawbacks. Thus, the 1983 preliminary hoverfly atlas was produced and a few updated maps produced in the newsletter.

Alternatively, a new scheme might request records of just a few species and recorders might quite willingly provide them even if some of the records have already been sent in on site-visit cards. A few hundred records can be input in a few hours by

a skilled typist. A few hundred grid references and locality spellings can be checked in a week or so by BRC scientists. All the corrections can be made, and maps run, in two or three person weeks at BRC. Hence it is quite possible to produce a few maps for Dolis and Empids, or to update maps for small groups like the Dixidae. At the same time, a valuable and fully-validated site-relatable database has been created.

The difficulties start when a scheme is really successful like the hoverfly one. A special problem with schemes which expand rapidly is checking all the records. In the past thousands arrived at BRC often in non-standard form, not on cards. They needed vetting and coding before being fit to input to computer. Many provided nothing more than a 10km square and a year, just enough information to put a dot on a map. Dot maps are fine as a way of summarising records but when a record is questioned (either because it is doubted or because it may be important ecologically or for conservation), unless a site-related database/archive exists, it is impossible to give the level of detail that the questioner requires and deserves.

By 1987, Hoverfly recorders had completed over 15,000 cards containing over 100,000 records. Inputting such a vast amount of data would take several weeks and six months grid reference checking, not allowing for transcribing the 12,000 records on non-standard manuscripts! To tackle this work we tried to obtain funds to provide temporary staff but to no avail. We did manage to input 40,000 records using supplementary money and check grid references and localities for 6,000 records. Unfortunately, unless a specific contract for the hoverflies is provided the situation is unlikely to improve.

Changes at BRC

Recently, BRC's very existence was in doubt and plans for closure were being drawn up. Having survived these plans BRC was incorporated in ITE's new Environmental Information Centre. This places us alongside experts in remote sensing, geographic information systems and other ecological databases. We now have much greater security and improved computing capabilities and fire-proof storage for record cards. These changes bring new possibilities for analysing and interpreting records. But it has not yet brought extra funds or staff for basic BRC work. Indeed the current international concern with global warming and possible changes in the climate has put great pressure on BRC to analyse existing records for signs of change.

In the present financial climate BRC cannot justify its existence only by providing a service (however deficient) to its recorders. It is being forced to prove itself in a fiercely competitive environment. There would be little point in having a database if it were not used but every day spent analysing records is a day lost to inputting new records.

Of course, new records - your hard work - are the capital on which BRC's value stands. Without your continued support and a steady flow of records BRC cannot progress. Until the resources are provided all I can ask is that you bear with us over this difficult period.

Lest this sounds over gloomy let me say that the Local Advisor system seems to have been a success and with two new National Organisers (see below) we can hope for even better progress. Local groups, like the Sheffield Hoverfly Study Group under Derek Whiteley and Austin Brackenbury, have much to recommend them. Increasingly Wildlife Trusts, NCC regional Staff and others are able to use local records to try and defend what remains of semi-natural habitats in our countryside. So, even if an atlas is sometime away, records are being put to good use.

RECORDING HOVERFLY LARVAE

Graham E Rotheray, Royal Museum of Scotland,
Chambers St., Edinburgh, EH1 1JF.

It goes without saying that the study of larvae has lagged behind that of the adults. Even so, British hoverfly larvae are the best known in the world. But large gaps remain particularly in genera like Cheilosia, Chrysotoxum, Sphaerophoria and all Pelecocerini.

There are many reasons for studying larvae but from a recording point of view, one of the most important is that larvae are sometimes easier to record than adults. Based on adult captures Callicera rufa, a Scottish pinewood specialist, was thought to be "endangered and close to extinction" (Insect Red Data Book) and known only from three sites. However we searched for larvae of this species and found them in 15 of 17 sites all over Scotland (Rotheray & MacGowan 1990 Entomologist **109**: 35-42). The predatory species Meligramma trianguliferа and Pipiza luteitarsis are also better recorded as larvae (see **Hoverfly Newsletter 6**). Adult C.rufa have a short flight period and probably spend much time inaccessible in the canopy. On the other hand larvae can be found every month of the year in well defined habitats - rot-holes. The larvae of M. trianguliferа and P. luteitarsis also occur in well defined habitats - fruit tree aphids and aphid galls on elm respectively. Many xylotines, syrphines and chrysogasterines, have similar characteristics and investigation is needed to see whether status is best understood from larval rather than adult records. The same could probably be said of Cheilosia if foodplants were known.

Records based on larvae are qualitatively much better records because the presence of larvae is a clear indication that a species is actually established in a site. Furthermore, an understanding of breeding biology is crucial to conservation. If habitats are to properly managed for hoverflies then their breeding requirements must be understood, particularly in habitats that are themselves threatened such as ancient woodlands. A vital first step is identification of breeding sites.

It must be said however, that one of the problems in recording larvae is identification. Few keys exist and many larvae must be reared to identify them. This isn't difficult but can be time-consuming. During the next few years I anticipate many more keys being published, negating the need to rear. On the other hand rearing can be very rewarding!

In time, a larval study group might be set up. Apart from those already in touch, it would be helpful to hear of any rearing records or of anyone prepared to help search for larvae in the field. Finally, two suggestions are given below for finding larvae in areas where the biggest gaps remain:-

Ant nests - apart from Microdon, larvae of the genera Chrysotoxum and Xanthogramma appear to associated with ants although the form of the relationship is not known. It is a good bet that larvae of Chamaesyrphus and Pelococera are similarly associated with ants. Psilota and Trichopsomyia might also be ant-associated. Careful searches through ant colonies are required.

Cheilosia - despite the abundance of many species in this genus only a few larvae are known. Most species are probably associated with herbaceous plants but two feed in Boletus fungi and, outside Britain, a small group feeds on sap and cambium of pines (might be found in Scotland!) Probably most species tunnel the roots and lower portions of stems but some may be external grazers of roots (like C. proxima on Cirsium

palustre).

Until you know what signs to look for finding larvae is difficult and it is clear that females are "choosy" as to which individual plants they lay eggs on. An important clue may be that gravid females rest for the night on larval foodplants. This was found to be the case with four species attacking C. palustre. Once the sun is up females fly off to flowers thus breaking the link so early-risers take note! Infested foodplants do not necessarily droop and the presence of larvae is often undetectable from the external appearance of the plant unless one knows exactly where to look for eggs and larval entry points. Signs of infestation can be obtained by twisting a knife blade into stems, roots etc and looking for wet, brownish-black material often associated with larval feeding.

DEVELOPING THE HOVERFLY RECORDING SCHEME

Alan Stubbs, NCC, Northminister House, Peterborough.

Following the discussion at November's Annual Meeting in London, Local Advisors were consulted over the future development of the scheme. Whilst some details have yet to be settled, an early announcement of some of the key points is given here.

The scheme now has two joint national organisers, Stuart Ball and Roger Morris. Stuart will mastermind the computing aspects, including the amalgamation of different computer data bases. Roger will handle the wider liaison aspects with Local Advisors and recorders as a whole, including the general run of taxonomic vetting. Both of them will be putting data from England and Wales on computer where this is not otherwise being achieved.

Under their umbrella, Scotland is largely self contained. Ken Watt has already developed a hoverfly data base for Scotland so all data for that country should be sent to him. Graham Rotheray will act as taxonomic advisor for Scottish Recorders.

The scheme organisation is supported by taxonomic specialists for critical identifications: Martin Speight, Alan Stubbs and Steven Falk (the latter is especially keen on Cheilosia). Graham Rotheray is the national specialist on the early stages. Graham will also continue as the Editor of the **Hoverfly Newsletter**. BRC welcomes these developments and will liaise with the new scheme organisers.

The first objective is to assemble data already processed on various computers. A start will also be made on some of the log jams of unprocessed data. Taking account also of counties with hand-plotted maps, it is felt that within a year it will be possible to produce some GB maps. For the moment there will be no trawl for further records for England, Wales or Ireland whilst the scheme organisers sort themselves out but henceforth data should be sent to them rather than BRC. However, where there are established mapping schemes eg Scotland, please continue to feed records direct to those organising such schemes.

With these developments the Hoverfly Recording Scheme looks set to really take off and produce the feedback we all seek. We now have a strong organisation, including the Local Advisor network which will be re-vamped within the next few months. By the November meeting in London and the next **Hoverfly Newsletter**, it will be possible to give full report on the way ahead.

PARAGUS IN SUBURBIA

John Dobson, 46 Elmwood Avenue, Kenton, Harrow, Middx. HA3 8AH

While collecting in a suburban garden in Harrow, N.W. London in late May 1988, I was surprised to find Paragus haemorrhous. This hoverfly is more usually associated with sand dune or dry heathland habitats and its appearance on waterlogged, heavily vegetated London clay was unexpected.

I subsequently observed females ovipositing among colonies of the leaf-curling aphid, Aphis idaei, occurring on raspberry plants in our garden, and was able to record aspects of the life history and behaviour of this species. The adult flies successfully mated in captivity within 18 hours of emergence, indicating early development of sexual maturity.

Mating occurred as follows. A single male and female were confined in a cylinder cage with Rananculus repens flowers. A raspberry shoot tip with an aphid colony was also provided. The flies were seen to imbibe water droplets and I therefore applied a mist spray intermittently. From the time of their emergence (in the early morning) until early evening the same day both flies studiously ignored each other, even when resting in close proximity. Once when spraying the disturbance caused both flies to take to the wing. There then occurred what I can only describe as a head-on collision. Both flies dropped to the floor of the cage, landing about 5cm apart, the female facing away from the male. The male then walked over and mounted the female. Copulation lasted just under five minutes. The female walked out from under the male and flew directly up to the aphid-infested shoot where she walked quickly about, wings held out horizontally. I did not think eggs were laid. However, four days later I found first instar larvae. The same male was confined with a second newly emerged female two days after the first and again successfully mated.

First instar larvae proved frustrating to rear as some curled up in a corner and died. In the event I reared seven adults although two males escaped. This species seems to have a remarkable ability to squeeze through small holes!

The orange first instar larvae were found principally either in the spaces between the fruit carpels, or as in the third instar larvae, among the bases of the stamens. The third instar larva is grey-white, rather fat and slow moving.

In the garden larvae suffered the frequent and persistent attentions of Lasius niger ants but with no obvious ill effects. They were relatively immobile and fed during the day on aphids that wandered into reach. Pupation took place in the same sites with the pupal phase lasting about a week. The species bred continuously from late May to mid July. No examples of any stage were seen after the end of July and which stage overwinters was not determined.

I have a small number of records of P. haemorrhous from Greater London. I am keen to receive further records from London and also, elsewhere in the home counties. Can anyone oblige?

EGG LAYING BEHAVIOUR IN CHEILOSIA ALBITARSIS

Ian Wynne, 161 Maplestead Road, Dagenham, Essex RM9 4XU

Graham Rotheray reported in **Hoverfly Newsletter 9** that he had seen females of Cheilosia albitarsis climb down the stems of buttercups (Ranunculus spp.). In June of this year I witnessed a similar event: a female landed on a buttercup leaf and then,

almost immediately, crawled underneath the leaf before proceeding slowly down the stem. As it did so it occasionally probed the surface of the stem with its ovipositor. When reaching a fork in the stem, at ground level, it turned around and extended its ovipositor into the gap between the two dividing stems. After a few seconds, however, the female abandoned its attempts and flew off. A subsequent search revealed no eggs but a small Syrphid larva was found when the fork was pulled apart. Unfortunately, with final exams looming, I was not able to spare the time to rear the fellow!

EPISTROPHE OCHROSTOMA : NEW TO BRITAIN AND IRELAND

David Heaver, Bodfryn Cottage, Clanrafon, Llangoed, Ynys Mon, Gwynedd

Just a quick note to say be on the lookout for Epistrophe with yellow hairs on the scutellum. I caught E. ochrostoma on 4/5/88 at Nant Porth, just outside Bangor, Caernarvonshire (VC49). Unfortunately it sat at the back of my storebox and was only looked at this January - a cautionary tale! I am grateful to Alan Stubbs for checking the identification. A fuller account of the species and the habitat in which it was caught will appear sometime soon in the **Dipterists Digest.**

SPHAEROPHORIA POTENTILLAE CLAUSEN, 1984 NEW TO BRITAIN

Alan Stubbs, NCC, Northminster House, Peterborough

On the Bideford field meeting in June 1989 a new Sphaerophoria was found by two parties on their first site visits on the initial day's field work. This runs to potentillae in the key by Dr Martin Speight in Dipterist's Digest No. 1, pp23-4.

It resembles species allied to batava but the lower lobe is very short. Thus in the key in British Hoverflies (Stubbs and Falk, 1983) it will run to couplet 7 and should be considered before batava and the rest of the key.

In the key by Speight (quoted above), couplet 4 uses the nature of the yellow markings on tergite 2. The presence of a yellow band on tergite 2 leads to couplet 8, within which potentillae is the only species with the second basal and anal cells entirely covered in microtrichia. In view of the variability of colour markings in this genus it remains possible that couplet 4 is not 100% reliable with some of the species. The records currently available are as follows:-

2 males 11.iv.1989 Common Moor SSSI, East Putford, Devon A E Stubbs
1 male 11.iv.1989 Common Moor SSSI, East Putford, Devon I Perry
3 males 11.iv.1989 Beaford Moor SSSI, Devon J Mousley
1 male 11.iv.1989 Beaford Moor SSSI, Devon A Brackenbury

S. potentillae was previously only known from bogs in NW Germany and is therefore an intriguing addition to our fauna. Devon specimens were swept from Potentilla erecta flowers at the edge of wet Molinia heath (ie not true bog). It remains to be seen whether other districts in Britain may support this species. A British Hoverflies style entry will be published in Dipterists Digest.

Thanks and appreciation are due to Martin Speight whose paper in the first issue of Dipterists Digest, drew attention to extra west European species, giving ready means of identifying this addition to our fauna.

SEPARATING MALES OF PIPIZELLA VARIPES AND PIPIZELLA VIRENS

Colin W Plant, Passmore Edwards Museum, Romford Road, Stratford, London E15 4LZ

Like most of us, I am often considerably confused when it comes to sorting out certain members of the Pipzini, with the genus Pipiza giving the most trouble. Recently, however, I have become more and more aware of problems within Pipizella. In terms of the key characters in Stubbs and Falk I have male specimens with the arista distinctly thickened and definitely yellow but in which the third antennal segments are both less than twice as long as wide. Then, I have a male with a very filiform and black arista in which the third segment measures slightly greater than twice as long as wide. Clearly there is a problem here and total reliance upon the key in the hoverfly book may be foolhardy.

A recent illness on the part of my wife, caused her to take a break over Easter leaving me housebound with the children. Happily, the sun shone during Easter week and I was able to shove the kids in the garden and spend almost a full week under the microscope. As a result, I now consider male P. varipes very easy to separate from P.virens - as long as you remember to hook out the genitalia when setting. This is very easily done with a fine pin that has first been dragged across the table to give it a slight hook at the pointed end. The genital capsule can be hooked out and swung to a position where it is fully extended. It can now be held in position by a pin AGAINST it (NOT through it!), until set. In this position, the relevant parts can usually be easily seen and, in the odd case where they are not, it is an easy matter to snip off the capsule with fine scissors and clear it with potassium hydroxide before looking under the microscope. In MOST cases, a x20 hand lens is quite adequate to see the characters. These are best shown as drawings overleaf.

Having now examined all the male Pipizella in my collection and several from other collections I can confirm my earlier supposition that both varipes and virens can have the arista yellow and thickened in the basal third.

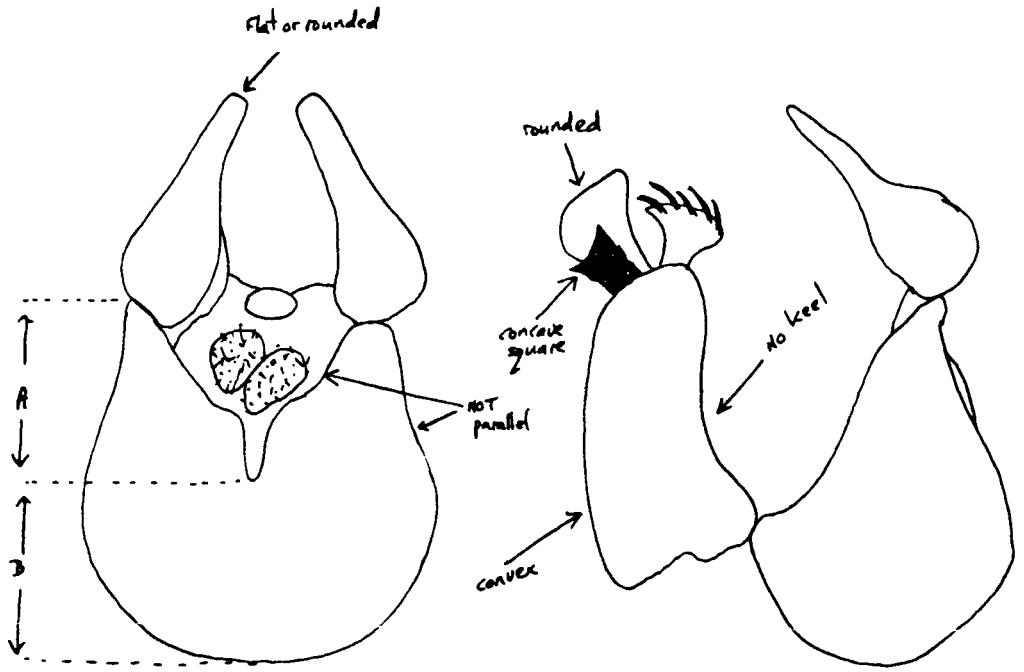
It would be most interesting to have the opinions and experiences of other hoverfly enthusiasts on this matter, particularly if they disagree with my findings. For the meantime, however, I suggest that separation of male Pipizella varipes and P. virens without recourse to examination of the genitalia is unreliable.

BOOK REVIEW: APHID PREDATORS by Graham Rotheray Naturalists Handbook II, Richmond Publishing Co.

Francis Gilbert, University of Nottingham, University Park, Nottingham, NG7 5RD.

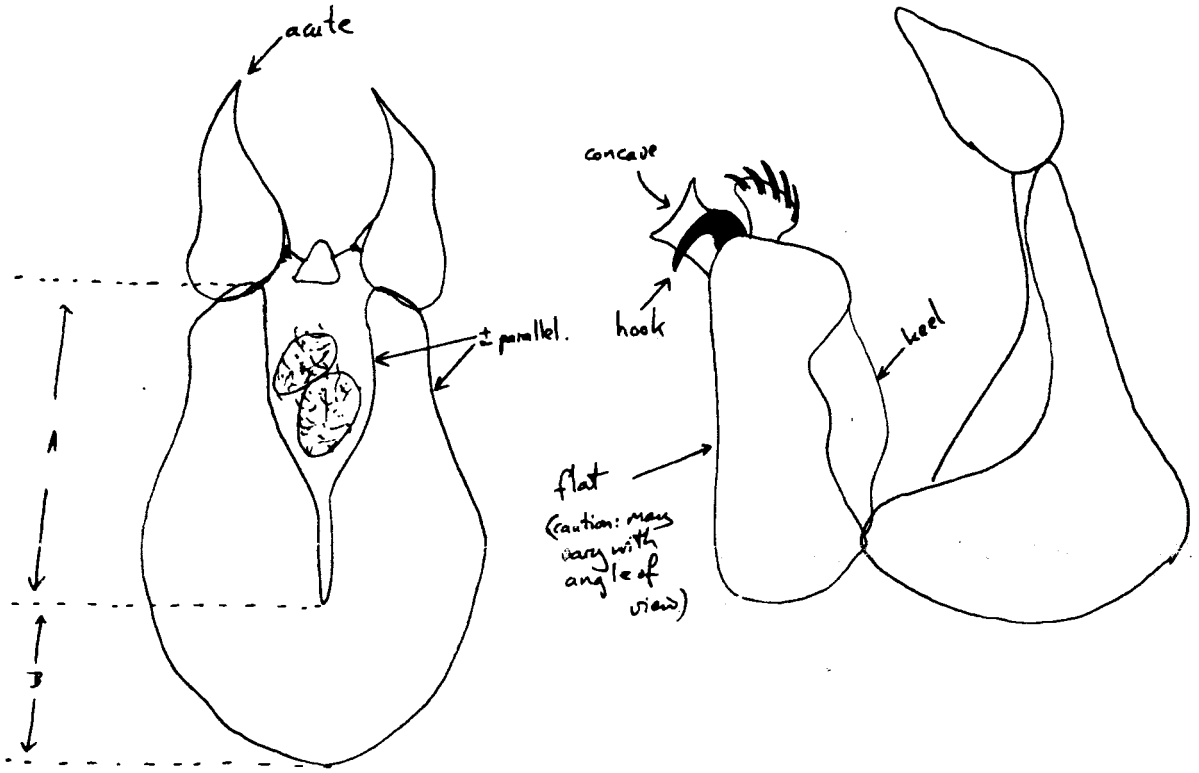
Aphid Predators continues the very successful series of **Naturalists Handbooks** edited by Sally Corbet and Henry Disney, published initially by CUP and now by Richmond. The book concerns the diverse array of predatory insects to be found at aphid colonies, eating aphids as part of all of their diet: hoverflies, ladybirds, midges, bugs, lacewings, and others.

Half of the book is taken up with keys to the identification of these insect groups. Here the author's extensive experience is readily seen, and most species can be quickly and easily identified; some of the more challenging differences will need a good hand lens or microscope, but the characters are clearly described and illustrated and should present few problems. It is very useful indeed to have a good key to the common syrphid larvae to supplement the more specialized, detailed and comprehensive keys that



Pipizella virens

♂ genitalia



Pipizella varipes

♂ genitalia

virens: A : B = 1:1 approx or else A < B.

varipes: A : B = 2:1 or 3:1. A always > B.

Dr Rotheray has published in the journal literature.

The other half of the book describes the natural history of the predator groups, and ways and techniques of investigating the process of predation itself. These sections are really excellent, and should encourage some very good studies. A particular gap in the literature is on the predatory behaviour of specialist as opposed to generalist predatory insects. Good comparative data are very hard to find in the literature, and yet reasonably easy to obtain, given time and dedication. This book will help syrphid workers and teachers at all levels, and I recommend it highly.

ANNOUNCEMENTS

174 Species from Essex - more details in the Provisional Atlas of the Hoverflies of Essex. Copies obtainable at £2.30 (includes postage) from R.G.Payne, Central Museum, Victoria Avenue, Southend-on-Sea, Essex SS2 6EW.

Eristalis tenax **underground** - Mike Halpin (158 Penhill Road, Bexley, Kent, DA5 3EA) a member of the Kent Underground Research Group reports regular sightings of this species overwintering underground in chalk pits. Other records of overwintering sites to Mike please, and does anyone have a photograph of this species in an overwintering site? Mike would like to buy one.

An Unbeatable Offer! - Dipterists Digest Nos. 1 & 5 at a special introductory offer price of £5.00 (includes postage). If you have not yet discovered **Dipterists Digest** you may be missing out on essential keys to update Stubbs & Falk!
Dipterists Digest 1 includes keys to some Northwest European species which are likely to occur in Britain. Indeed, some have already been discovered in 1989.
Dipterists Digest 5 is a complete revision of the Platycheirus clypeatus group including keys, descriptions and lots of new figures.
Dipterists Digest 2 & 3 includes useful information on British Syrphidae, including species new to Britain, behaviour, larval habits etc.
Unless taking advantage of the above offer, copies are available at £3.00 (+30p post) per issue from **Derek Whiteley, 730 Ecclesall Road, Sheffield, S11 8TB**, but ADVANCE SUBS. are only £2.50 per issue post free. Cheques payable to D. Whiteley please.

12000 Scottish Hoverfly Records already on computer - Ken Watt (Aberdeen University, Zoology Dept., Tillydrone Avenue, Aberdeen, AB9 2TN) is mapping Scottish Hoverflies and has made considerable progress. But there must be hundreds of records taken by visitors whilst on holiday. Please send Ken all such Scottish records lurking in your files!

Hoverfly Recording in the North West - details of field meetings, update on progress etc all in the North West regional Hoverfly Recording Group Newsletter 2. Copies available from Darwyn Sumner (54, Blackshaw Lane, Royton, Oldham, OL2 6NR.)

Foreign key translation - Colin Plant (Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ) has copies of van der Goot's 1981 Platycheirus key published in De Zweefvliegen van Noordwest-europa en Europees Rusland, in het Nederlandse Natuurhistorische.

Dark form of Dasysyrphus ?tricinctus - Roger Payne (Central Museum, Victoria Avenue, Southend-on-Sea, Essex SS2 6EW) took an unusually dark form of this species in Worcestershire last year. It differed in numerous ways from the normal appearance of this species. Does anyone have strange looking tricinctus in their collections? Roger would like to know.

Lacewings wanted! - if anyone has lacewing records Colin Plant (Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ) the recording scheme organiser for Neuroptera, would be pleased to hear from you.

143 species from Carmarthenshire - Ian Morgan has produced an annotated list of the Carmarthenshire Hoverflies. Details from him (NCC, First Floor, 16 Barn Road, Carmarthen, Dyfed, SA31 1DD.

RECENT PUBLICATIONS

BLACKITH, R.E. & BLACKITH, R.M. 1989. Diptera reared from decaying potatoes in Ireland. Ir. Nat. J. **23**: 71-72.

GILBERT, F. & OWEN, J. 1990. Size, shape, competition and community structure in hoverflies (Diptera: Syrphidae). J. anim. Ecol. **59**: 21-39.

GODFREY, A. 1989. Diptera - Syrphidae (Hoverflies) in the Watford area 1985-1988. Trans. Herts. Nat. Hist. Soc. **30**:213-218.

HALFPENNY, G. 1989. Occurrence of Callicera aenea (Fabricius) (Diptera: Syrphidae) in Staffordshire. Ent. Gaz. **40**: 182.

HASLETT, J. 1989. Adult feeding by holometabolous insects: pollen and nectar as complementary nutrient sources for Rhingia campestris (Diptera: Syrphidae). Oecologica **81**: 361-363.

KULA, E. 1988. Sculpture of exochorion in some eggs of Syrphidae (Diptera) 1st part. Acta entomol. Bohemoslov. **85**: 123-15.

NELSON, B. 1988. Records of uncommon hoverflies (Diptera: Syrphidae) from Northern Ireland. Ir. Nat. J. **22**: 453.

OWEN, J. & GILBERT, F. 1989. On the abundance of hoverflies (Diptera: Syrphidae). Oecologica **55**: 183-193.

PAVETT, P.M. 1989. Hoverflies and other Diptera in south Wales during 1988. AES Bulletin **48**: 227.

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