HOVERFLY NEWSLETTER

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Hoverfly Recording Scheme

Biological Records Centre

Interest in the study of hoverflies continues to grow. The first three items of this newsletter concern books on the subject. Alan Stubbs's article testifies to the success of "British Hoverflies" and the next two pieces are reviews of new books, one on Dorset Hoverflies and one on the Canadian fauna (potential purchasers should note that Vockeroth's book covers only the sub-family Syrphinae rather than all the Canadian Syrphidae).

At certain points in the text of "British Hoverflies", Alan suggests that particular species may be under-recorded as they are probably often overlooked. In some cases this may be because the species concerned is not particularly conspicuous. But sometimes it is because the species closely resembles another, commoner, one. How, I wonder, do collectors and recorders cope with the situation where a very commonplace species looks very similar to a much scarcer one? I have got used to looking at the abdominal margin of every *Rhingia* I come across in the field in the hope that one day I will come across *R. rostrata* (I never have, so far). Similarly I try to look at the rear legs of *Xylota sylvarum* from various angles in case it should turn out to be *X. xanthocnema* (only one success to date). But what does one do if the species cannot be easily separated in the field? Presumably collectors do not catch every single example of *Xylota segnis* that they encounter in the hope that it may be *X. tarda*. So does the latter species get missed regularly? I would be most interested to hear readers' views on this problem.

I am hoping to issue the next newsletter in the spring, and would welcome contributions by 1st March 1994. Please send them to me, **David Iliff, Green Willows, Station Road, Woodmancote, Cheltenham, Gloucestershire, GL52 4HN.**

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'BRITISH HOVERFLIES'; A SECOND REPRINT AND NEW SUPPLEMENT

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The book on British Hoverflies was first published in November 1983 with a print run of 1,000 copies. Within 18 months this had sold out so in 1986 a re-print of 1,000 copies was produced (2,000 copies of the colour plates were run off in 1983 in anticipation.) The reprint included a 16 page supplement as an update, this being also available as a separate. The book again ran out in autumn 1992.

The British Entomological and Natural History Society has decided to issue a second reprint, including the earlier supplement. This should be available by the Dipterists' 1993 November meeting in London. A further supplement should be in print by spring 1994, including revised keys to *Platycheirus* and other updates to take account of additions to the British fauna.

The Society has felt it essential to keep this book in print since there continues to be a steady demand in Britain (even though there has been no advertising, or even review copies from the outset). Foreign demand has grown, especially in Europe, Steven Falk's colour plates being an asset to anyone using the growing number of country identification guides and other faunal reviews.

2,500 plates are being printed, of which 500 will be used for the second reprint. It is anticipated that the 500 copies should bridge the interval before a fully revised version can be achieved. Preparation of the companion book on Larger Brachycera is taking longer than expected and this must be got out before undertaking another major task.

The forthcoming new supplement will provide the necessary means of getting new keys into circulation. Meanwhile, the recording scheme is making good progress and will lead to much improved statements on distribution, time of occurrence and, hopefully, habitats. There must be an awful lot of people with hoverfly books who are not yet contributing to the scheme. If you come across such people or indeed new recruits to the hoverfly book, please encourage them to join us in improving recording and other studies on hoverflies.

At the time of writing, the price and P & P costs are undecided (announcement in next Dipterists' Bulletin). The Society's distributor is Roger Hawkins, 30d Meadowcroft Close, Horley, Surrey RH6 9EL.

The Flowerflies of the subfamily Syrphinae of Canada, Alaska, and Greenland, Diptera: Syrphidae. 1992, by J R Vockeroth, Insects and Arachnids of Canada Part 18, Agriculture Canada Publication No 1867, Ottawa, 456 pp., 271 figs.

Graham E Rotheray
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R L Coe in his 1953 syrphid handbook could find no justification for dividing the large genus *Syrphus sensu lato*. In 1969 Richard Vockeroth published a very important study (1969, *Mem. Ent. Soc. Can. No.* **62**) in which he achieved what Coe had found impossible ie an acceptable means of justifying divisions within *Syrphus sensu lato*. This ended controversy about how to classify this group. The generic boundaries verified by Vockeroth are, largely, those in use today and recent studies on larval stages provide further evidence of their validity (Rotheray and Gilbert, 1989, *Zool. J. Linn. Soc.* **95:** 29-70).

Richard Vockeroth's pioneering work continues with this new publication dealing with species level systematics in the subfamily *Syrphinae* in relation to the fauna of Canada, Alaska and Greenland. Unlike the 1969 publication, it includes *Melanostoma* Schiner and *Platycheirus* Lepeletier and Serville. Identification keys include most species which occur in USA but are not found in Canada so the keys are relevant for all of America north of Mexico. To European workers there are some surprises such as the recognition of only one species within *Melanostoma* and the sinking of *Pyrophaena* Schiner into *Platycheirus*.

The monograph includes sections on distributions, economic importance, biology, anatomy and details on collecting and preserving "flowerflies" as Americans and Canadians like to call them. There are keys to subfamilies, genera and species; these are also in French. Each genus is diagnosed, described and discussed before a species by species treatment is given. There is also a glossary and an index to the taxa dealt with in the text.

This is another very important work and will remain of value for many years. Now that species level taxonomy is properly resolved, a range of more detailed studies becomes feasible which might involve other stages as the larvae of less than 7% of nearctic species are known.

A checklist would have been useful; instead the information is scattered throughout the text. The sections on biology are not very satisfactory. Vockeroth uses Schneider (1969, *Ann Rev. Ent.* **14:** 103-124) without much reference to more recent studies.

Nonetheless, with this publication, another important and valuable contribution is made to the systematics of the Syrphidae.

Dorset Hoverflies by D.A. Levy, E.T. Levy and W.F. Dean, 73 pp, £4.00

Roger Morris
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A county atlas requires great efforts to produce anything like a realistic impression of a highly mobile and weather-dependent group as the hoverflies. The production of an atlas does not stop at the record gathering stage either; historic records need to be researched, text has to be produced, funding for the production found and printing arranged. Any serious attempt is therefore to be applauded and this account of Dorset Hoverflies is a fine example of what dedication can produce.

The overall presentation of this atlas is nice and includes a series of pleasing illustrations which give the book a charm of its own. The text is easy to read, well laid out, and offers something for all. There has clearly been a great deal of research into historical records as the chapter on past recorders illustrates. Descriptions of some of the more interesting Dorset localities provides useful local flavour, and together with accounts such as those of the Studland Hoverfly Survey and studies of *Eoseristalis cryptarum* and *Chrysotoxum octomaculatum*, make this a valuable addition to the literature on hoverflies.

The maps are organised four to a page with adjacent short accounts which include numbers of records, oldest records and earliest/latest dates. The recording format is 5 km squares which are a practical level of recording for all but the most intensively studied groups. It is unfortunate that differentiation between post-1980 and pre-1980 records is not provided; a feature which I understand was due to technical difficulties beyond the authors' control.

This addition to the literature is highly commendable and should be on the shelves of all serious hoverfly enthusiasts.

THE NATIONAL TRUST AND HOVERFLIES

Keith Alexander
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I would like to make an appeal for hoverfly records from National Trust land. Many of you do, I know, visit NT properties and record the hoverflies. We would very much appreciate it if recorders would send copies of their records here to Cirencester. We would then be able to forward them to the relevant property manager and give advice on the implications of the records to their management plans. You would then be contributing to the conservation of hoverflies on National Trust land.

We do have quite a lot of hoverfly information at present, from our own fieldwork, the collations of the Invertebrate Site Register, and from our contact with many of the Scheme recorders, but we are a long way off being satisfied with our knowledge of the species present on NT land. Ideally we would like to see some monitoring of the hoverfly populations on our more important sites, as a check on the success of our management plans. This is

something we don't have the resources to do ourselves, and where we would be very pleased to have some help from recorders. Alan Stubbs's recent initiative in stimulating interest in monitoring is very much welcomed and we hope that some recorders will be stimulated to look into the potential of monitoring important species and sites.

The National Trust's by-laws offer protection to all wildlife from collecting and the property warden will approach anyone found on Trust land carrying a net. So please do ensure that you either approach any staff seen on site before netting, or better still, ensure that you have written permission from our local office. A list of addresses of local offices is available from Cirencester.

There is unfortunately no mechanism at present for forwarding records sent in to the Scheme Organisers to any interested land owners. A basic step forward would be for recorders to ensure that they note "NT" or "RSPB", etc, on their cards where they know they are on land owned by a conservation body. This would draw the Scheme Organisers' attention to the land ownership and make it easier for forwarding arrangements to be developed. It should eventually be possible for records entered on the BRC computer database to be automatically sorted for ownership, but this is some way off yet.

MORE ON FINDING *BRACHYOPA INSENSILIS* AT SAP RUNS

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Roger Morris in the last **Hoverfly Newsletter (No. 16)** makes the point that *Brachyopa insensilis* is under-recorded and that adults can be found in attendance at sap runs on Horse Chestnut, particularly if the sap-run is stirred up, and that this has been verified by Colin Plant.

Come now, guys, what is so difficult about searching through the sap for *Brachypopa* larvae? Colin, you at least have been with me when we have successfully found *B. insensilis* larvae this way. In my experience the larva of *B. insensilis* is the most abundant *Brachyopa* species at sap-runs on many trees, including Horse Chestnut, all the way from Hampshire to Scotland.

What is more, there is a particular advantage in searching for larvae as opposed to adults: larvae often take more than a year to develop so they are present in the sap all year round and recording is not therefore limited to the short flight period of the adult.

A problem in the past has been how to identify *Brachyopa* larvae. However the larva of *B. insensilis* is easy to recognise in the field with a hand lens. It is up to 1 cm long, somewhat flattened from above with a long (longer than body width) narrow breathing tube projecting from the tip of the body. It is separated from other *Brachyopa* species in being coated in blotches and lacking transverse lines of setae across the body. The larva is described in more detail by Rotheray, 1991. *J. nat. Hist.* **25,** 945-969. More details on distinguishing *Brachyopa* species can be found in the forthcoming *Colour Guide to Hoverfly Larvae* which should be available soon from Derek Whiteley.

There is no doubt that hoverflies breeding in well defined microhabitats like sap-runs and rot-holes are easier to record in the larval than the adult stage. Adults of many of these species have short flight periods and elusive habits making them difficult to record, with consequent underestimates of their status. Searching for larvae overcomes these problems.

HOVERFLIES IN HONG KONG

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I have been fortunate enough to have made several visits to Hong Kong in recent years, and, needless to say, while there I have spent some time trying to become familiar with the local hoverfly fauna.

A common misconception among those who have not been to Hong Kong is that the entire territory is a densely populated urban development of high-rise buildings, and consequently no place to find wildlife. They see pictures of the skyscrapers, but fail to notice the forest-clad mountains that form the backdrop to the city. In reality, the urban areas form less than a tenth of the total area of the territory, which is also much larger than many people realise, having an acreage of over a thousand square kilometres. Over 40% of the territory is occupied by country parks and there are numerous well-managed nature reserves. Even the urban areas have attractive parks and gardens.

In fact Hong Kong has an exceptionally rich fauna for an area which is about the size of Bedfordshire or Surrey. For example there are more than 400 species of birds on the Hong Kong list, and among the insects over 90 species of Odonata (ie more than double the number of species in Britain!)

Although my visits have taken place at several different times of year, at none of them have I found hoverflies to be abundant. My observations have usually been of single specimens or at the most two or three examples of any one species at a time. I must here record my thanks to Nigel Wyatt of the Natural History Museum, whose very comprehensive knowledge of hoverflies worldwide has been a great help in the identification of the species which I have seen.

I have found no literature specifically dealing with the hoverflies of Hong Kong, and I suspect that not much study of them has taken place. A standard general book on Hong Kong's insects states that although *Eristalis* species are common, there is (at the time the book was written) only one Hong Kong record of an *Eristalis* larva. The *Eristalis* species illustrated in that book is a furry one like *E. intricarius*, but the species that I have seen is the familiar and ubiquitous *E. tenax*. In fact I remember that towards the end of one afternoon spent searching for hoverflies it looked as if my entire species list for the day would consist of *E. tenax* and *Episyrphus balteatus*!

E. balteatus is common in Hong Kong, where one may also find *Episyrphus nectarinus* which is similar except that it has a black longitudinal stripe on the abdominal tergites dividing the

bands into pairs of spots. There is some dispute as to whether this is a true species or simply a variety of *E. balteatus*.

Eupeodes confrater is rather a large representative of the genus, superficially looking more like a *Syrphus* than a *Eupeodes*. This species is usually found hovering under trees in the manner of a British *Syrphus*. Indeed, although I have seen this species several times, I have never seen one at rest.

Unlike the British species of the genera, which are mainly black, Hong Kong examples of *Eristalinus* and *Paragus* which I have seen are brightly marked. Two very similar *Eristalinus* species, *E. laetus* and *E. arvorum* have prominent longitudinal stripes on the thoracic dorsum and bold pale bars on the tergites, though they have the typical "leopard-skin" spotted eyes of the genus like the British species.

I recognised a local *Paragus* by its small size, typical shape and behaviour; but unlike the British species it was very colourful, with ornate cream markings on the black thorax and a reddish-chestnut abdomen with cream coloured bars. The species turned out to be *P. serratus*, so called because the scutellum has a curiously serrated rim.

The above-mentioned hoverflies are members of genera which have species in Britain. The remainder which I have seen in Hong Kong and have succeeded in identifying are from genera which are unknown in this country. One such species is *Betasyrphus serrarius*, another incessant hoverer. This smallish syrphine has silver-grey bars on the tergites.

Two small brightly-marked species which resemble one another closely are *Ischiodon scutellaris* and *Allograpta javana*. In both species the male is much narrower than the female (like *Sphaerophoria*). *I. scutellaris (Ischiodon* was once considered a sub-genus of *Xanthogramma*) appears to be the commoner of the two. *Allograpta javana* differs from it in having a completely yellow scutellum (that of *I. scutellaris* has a dark centre), and yellow spots on tergite 1 as well as on the other tergites (a condition I cannot recollect in any other Syrphinae known to me).

Finally there are two species of the genus *Phytomia, P. zonata* and *P. errans*. A feature of both species is the presence of iridescent stripes on the eyes, but otherwise they look very different from one another. *P. zonata* is stoutly built and mainly black except for a single broad gold band on the abdomen. *P. errans*, of which I have only seen a single female, in the Hong Kong Botanical Gardens, has the abdomen very similar in shape and in the colour of its markings to *Eristalis tenax*, but it also has a very complex and ornate pattern of decoration on the thorax.

The above species probably represent just a small portion of Hong Kong's hoverflies. I saw others, some very exotic-looking, which got away before they could be identified.

IS *PHACELIA* A USEFUL HOVERFLY FLOWER?

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Among the latest vogues in conservation is the concept of leaving a wildlife strip around the margins of crop fields. The term for such a strip is "headland". The idea is to leave a 2m or wider marginal strip unplanted and to omit application of herbicides and pesticides so that wild flowers and other wildlife stand a better chance of survival. Attractive insects such as butterflies should be encouraged and beneficial insects, such as aphid predators, should flourish and do their good work within crops such as cereals.

A "bright" idea (?) that hit the news last year was to sow these headlands with *Phacelia tanacetifolia* whose flowers are said to attract hoverflies to their pollen. The Isle of Wight was cited. No, you won't find it in the flower books. It is a member of the family Hydrophyllaceae which you've probably never heard of.

Intrigued by this super dooper hoverfly flower, my wife Jane obtained some seed to grow in our garden. Thus in 1993 we duly had a patch of pale blue spiky flowers (arranged in cymes, as in comfrey) on plants about 20cm high with finely cut leaves. The anticipation was enormous.

Suffice it to say that not a single hoverfly, not even *Episyrphus balteatus*, showed the slightest interest. We have plenty of different cultivated and wild flowers which are well visited. Thus our experience is that *Phacelia* is an unmitigated flop and a classic inappropriate conservation notion.

Surely our native wildflowers should be encouraged, not yet another alien (North American) import.

Has anyone else got experience of this plant? In particular, does it feed hoverflies to any extent on headlands on the Isle of Wight or elsewhere?

GARDEN MONITORING OF HOVERFLIES

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In *Dipterists' Digest* no 10 there is an account of monitoring in my garden in 1990. I have continued this procedure and now have four seasons' results.

What is abundantly clear is the wide variation in results from year to year. In particular, compared with 1990, it has been much more frequent for various species to appear in larger numbers rather than just in ones and twos. My species total is now over 50.

There is a great deal of movement going on, accounting for the rare sighting of unlikely species in suburbia and for maximum counts for a single lap of the garden in excess of 600

individuals. The classic mass movement species, such as *Episyrphus balteatus*, have been showing most intriguing patterns, not only mass appearance but equally sudden mass disappearance; in some years there have been multiple movements.

Not all the mass appearances coincide with ideal international migration weather. At least one major one coincided with a change to a cool northerly wind. There are a number of possible explanations including:-

- international migration (both on and off the European mainland)
- British internal movement
  - moving into gardens for flowers (eg during drought)
  - displaced as crop fields are harvested
  - search for aphid colonies (when aphid feeding species are involved)
  - carried on wind and concentrated in shelter of gardens
  - directional internal migration

I am hoping that other dipterists have been monitoring gardens since a network of monitoring points should help towards clarifying the nature of yearly variation and the circumstances of mass movement. Please let me know if you are monitoring your garden so that we can see whether this idea is catching on.

CHRYSOTOXUM ARCUATUM IN GLOUCESTERSHIRE

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In Gloucestershire we are accustomed to finding three *Chrysotoxum* species, *C. bicinctum, C. festivum* and *C. cautum.* Of these, *C. bicinctum* is of course very distinctive, while *C. festivum* is only likely to be confused with the rare *C. vernale.* The remaining British *Chrysotoxum* species, including *C. cautum*, are all superficially similar-looking wasp mimics. This group includes *C. arcuatum*, which appears to replace *C. cautum* from the midlands northwards. The Recording Scheme's provisional atlas graphically illustrates the relative distributions of these two species; until this year there were no records of *C. arcuatum* from Gloucestershire, which is well south of the southern boundary line of the data base's records for the species.

On 5 August 1993 members of the Gloucestershire Invertebrate Group (GIG) were recording at Poor's Allotment, an area of heath on Tidenham Chase in Southern Gloucestershire, between the Severn and the Wye. On this occasion I saw what appeared to be a somewhat undersized female *C. cautum.* I assumed it to be just that, but I took the precaution of photographing it. Later in the same day, at the same site, we came across another similar-looking *Chrysotoxum,* this time a male, and once again it was significantly smaller than usual for *C. cautum.* By now I was beginning to suspect that this might be a species other than *C. cautum*, so, after photographing this specimen, I asked Roger Gaunt to net it.

When the specimen was examined, the densely hairy eyes, the very long third antennal segment and the small and compact genitalia proved that it was a male *C. arcuatum*. The eye and antenna features of *C. arcuatum* were subsequently also found to be apparent on the photograph of the female seen earlier.

In my comparison of the two species I noticed what could possibly be a useful field characteristic for separating them. The scutellum of both is yellow with a black centre. In the case of *C. cautum* the yellow rim appears to be of constant width around the entire perimeter of the scutellum and the boundary between the black and the yellow is sharply-defined. The front yellow edge of the scutellum of *C. arcuatum* is distinctly wider than the curved part of the yellow rim and the black area in the centre is vaguer and merges gradually into the yellow area.

I suspect that these recent finds of *C. arcuatum* in Gloucestershire are not a sign that the species is moving southwards; its presence in the county has probably been overlooked in the past. Although these are the first known records for the county (as currently defined), Audcent (Bristol Insect Fauna) reported two early records (dates not stated) from Somerset and one from Bristol, but regarded it as a rarity in the region.

OBSERVATIONS ON *CHEILOSIA GRISEIVENTRIS*

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On 17 August 1988 a visit was made to Speeton Cliffs, on the Yorkshire coast north of Flamborough Head. Some *Cheilosia* looking like *bergenstammi* were on the flowers of *Senecio jacobaea* (ragwort) but on checking with a lens I found that they were *griseiventris*. The rather dark antennae, the hairy face and heavily dusted frons gave easy field characters. Thus alerted, further examples were found on the flowers of ***Inula dysenteria*** **(fleabane)**. Other composite flowers were seemingly not attractive to this species, nor the umbels of *Angelica*.

About mid-day several males were showing territorial behaviour on a broad dry sandy path. They settled on the sunny path or on perches over the bare sand, such as dead flower heads of *Trifolium pratense* or small grass stems. There was only brief hovering, more a question of darting around very low and engaging in the occasional dog fight.

The ecology of this species is poorly understood. Quite a proportion of the known localities are coastal, including sand dune, though **Hoverfly Newsletter 16** reports inland frequency in Gloucestershire - and confirms the association with *Senecio*. From the limited observations above, it looks as though bare or sparsely vegetated hot sandy areas may be necessary for courtship (as in some butterflies). The larval foodplant is unknown but suspicion must fall on composites; however, other cliffs in the Flamborough area with *Senecio* and *Inula* did not yield *C. griseiventris*.

A PLEA FOR *PIPIZA*

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Whilst entering data for the hoverfly scheme, I have become aware that very few recorders provide records of the genus *Pipiza*. I feel sure that the reason for this relates to the difficulty of identification of many specimens, but methods of finding specimens may not be apparent. I would therefore recommend recorders to pay particular attention to sunlit leaves, especially those of sycamore in May when in addition to *Pipiza*, *Pipizella*, *Heringia* and *Neocnemodon* are often common.

Recorders who are not happy identifying material are very welcome to refer it to me and I will attempt to put names to specimens. I would also find it very useful to receive *noctiluca* specimens for more critical examination.