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This edition is being produced in the wake of the second international symposium which was held in Alicante in June. Alan Stubbs has commented below that Spain was, as expected, too dry in mid-June for many hoverflies to be found. It seems to me that the same comment is true for Britain for much of the present season; although I have had a few productive days this year, on the majority of occasions when I have been in the field hoverfly numbers have proved to be sparse as a result of the hot and very dry conditions. The growth of interest on the subject however continues unabated, as anyone who subscribes to the UK hoverfly email exchange group will testify.

Copy for **Hoverfly Newsletter No. 37 (**which is expected to be issued in February 2004) should be sent to me**: David Iliff, Green Willows, Station Road, Woodmancote, Cheltenham, Glos, GL52 9HN**, Email address **davidiliff@talk21.com**, to reach me by 20 December.

CONTENTS

II INTERNATIONAL SYMPOSIUM ON THE SYRPHIDAE

Following the very successful First International Workshop on the Syrphidae at Stuttgart in July 2001 (reviewed in **Hoverfly Newsletter No. 33**), the second such event was held at the University of Alicante in Spain in the period 16 - 19 June 2003. The workshop was attended by hoverfly specialists from 21 countries (Belgium, Brazil, Czech Republic, Finland, France, Germany, Iran, Ireland, Italy, Netherlands, Norway, Russia, Serbia and Montenegro, Slovakia, Spain, Sweden, Turkey, Ukraine, United Kingdom, USA, and Venezuela).

Perhaps the most appropriate way to convey the range of topics covered at the Symposium is to list the subjects and authors of the presentations. These were as follows:

OPENING CONFERENCE

Flower fly taxonomy: where are we and how much more is there to be done?
F. Christian Thompson

SESSION I - BIODIVERSITY

PLENARY SESSION

Identification of priorities in conservation of European saproxylic syrphids (Diptera: Syrphidae)
Martin C.D. Speight

ORAL CONTRIBUTIONS

Species traits, functional groups and environmental constraints a case study on the hoverflies (Diptera: Syrphidae) in the river Elbe floodplain
Frank Dziock

Syrphidae as bioindicators in Italy: data available and new perspectives
Giovanni Burgio & Daniele Sommaggio

Factors affecting hoverfly (Diptera: Syrphidae) biodiversity in Irish plantation forests
Tom Gittings, Paul S. Giller & John O'Halloran

An overview of the flower-flies (Diptera: Syrphidae) of Southeastern Brazil - Project of Survey of Syrphidae Fauna in Paraná.
Luciane Marinoni & F. Christian Thompson

The evaluation of the works on Syrphidae (Diptera) Fauna in the Western Black Sea Region
Suleyman Saribiyik

Recent changes in the range of *Volucella zonaria* and *V. inanis* in England (Diptera, Syrphidae)
Roger K.A. Morris & Stuart Ball

POSTERS

The Syrphidae (Diptera) of contrasting grassland farms in Ireland.
Helen Sheridan, N. Culleton & G. O'Donovan

Biodiversity monitoring of hoverflies (Diptera: Syrphidae) in protected areas.
Smiljka Simic, Ante Vujic & Snezana Radenkovic

Genus *Chrysotoxum* Meigen, 1803 (Diptera: Syrphidae) on the Balkan Peninsula
Ante Vujic, Snezana Radenkovic & Smiljka Simic

Genus *Platycheirus* Le Peletier et Serville, 1828 (Diptera: Syrphidae) on the Balkan Peninsula
Snezana Radenkovic, Ante Vujic & Smiljka Simic

A check list of Iranian Hoverflies (Diptera: Syrphidae)
Hussein Sadeghi

A new edition of "British Hoverflies" (Diptera: Syrphidae)
Alan E. Stubbs

A new European species of genus *Eristalis* Latreille, 1804 (Diptera: Syrphidae)
Ante Vujic, Snezana Radenkovic, Tore R. Nielsen & Smiljka Simic

Hoverflies (Diptera: Syrphidae) of the Ramsar locality NNR Paríske moiare [Paris wetlands] (Southern Slovakia)
Adrianna Králiková

Eumerini (Diptera: Syrphidae) of the Crimean Peninsula
Grigory Popov

Garden monitoring of hoverflies (Diptera Syrphidae)
Alan Stubbs

SESSION II - ECOLOGY

PLENARY SESSION

Explaining syrphid diversification: the role of shifts in breeding site (Diptera: Syrphidae)
Graham E. Rotheray

ORAL CONTRIBUTIONS

Influence of temperature on mimicry in Hoverflies (Diptera: Syrphidae)
Pavel Láska & Vítezslav Bicík

Survey of Syrphidae (Diptera) in two Areas: edge and interior of a forest in Vila Velha State Park, Ponta Grossa, Paraná, Brazil
G.F. Miranda & Luciane Marinoni

A novel method to investigate the pollen diets of hoverflies (Diptera: Syrphidae)
Yvonne Golding & Malcolm Edmunds

Does the abundance of hoverfly mimics (Diptera: Syrphidae) depend on the numbers of their hymenopteran models?
Brigitte Howarth, Malcolm Edmunds & Francis Gilbert

Hoverfly (Diptera: Syrphidae) communities in vegetation complexes of river valleys
Axel Ssymank

Climate change and its effect on the phenology of some British hoverflies (Diptera, Syrphidae)
Stuart Ball & Roger K.A. Morris

POSTERS

Life history strategies and prey specialization. A study on the genera *Melanostoma* and *Platycheirus* (Diptera: Syrphidae)
Frank Dziock

Colouration of third-instar larvae of the genus *Epistrophe* (Diptera: Syrphidae)
Libor Mazánek, Pavel Láska & Vítezslav Bicík

***Bombus* (Hymenoptera: Apidae) mimicry in British Syrphidae (Diptera)**
David Iliff

Diet and pollen transport of *Merodon aberrans* Egger, 1860 (Diptera: Syrphidae)
Predag Radisic, J. Papadopoulos, Ante Vujic & Smiljka Simic

SESSION III - IPM (INTEGRATED PEST MANAGEMENT)

PLENARY SESSION

Specialisation in syrphid predators (Diptera: Syrphidae)
Francis Gilbert

ORAL CONTRIBUTIONS

Influence of aphid host plant chemistry on behaviour and performances of *Episyrphus balteatus* (Diptera: Syrphidae)
Nicolas Vanhaelen, Eric Haubruge, Charles Gaspar & Frédéric Francis

Genetic structure in *Episyrphus balteatus* populations (Diptera: Syrphidae)
Peter Hondelmann & Hans-Michael Poehling

Attractiveness of flowering plants to aphidophagous hoverflies (Diptera, Syrphidae): suitability as insectary plants to enhance biological control
Miguel Louis-Maldonado & Oscar Alomar

Study of the genetic variation of aphidophagous syrphid populations (Diptera: Syrphidae)
Frédéric Francis, Nicolas Vanhaelen, Pierre Colignon & Eric Haubruge

Syrphinae (Diptera: Syrphidae) larvae on cabbage in Central Europe and their effectiveness as natural enemies
Pavel Láska

Presentation of the book "A world review of predatory hoverflies (Diptera, Syrphidae: Syrphinae) and their prey"
Santos Rojo, Francis Gilbert, Mª Ángeles Marcos-García,
Juan M. Nieto & M. Pilar Mier

POSTERS

Density fluctuation of syrphids (Diptera: Syrphidae) aphid-predators on alfalfa field in Northeast of Argentina
José Benito Valenciano, A. S. Paravano & M. Victoria Seco

Natural enemies of Syrphinae (Diptera:Syrphidae) in Lara, Venezuela
Evelin Arcaya & Francisco Díaz

Diurnal activity of Hoverflies (Diptera: Syrphidae) and beneficial insectary plants
Miguel Louis-Maldonado & Oscar Alomar

Syrphid (Diptera: Syrphidae) population in an agrosystem without pesticides
Anne Vallet

***Episyrphus balteatus* (De Geer, 1776) (Diptera: Syrphidae) as a vector of entomopathogenic fungi for the control of aphid pests**
Leticia Asensio, Santos Rojo, Luis Vicente López-Llorca & Mª Ángeles Marcos-García

Life history of the ichneumon flies (Hymenoptera: Ichneumonidae) parasites of aphidophagous syrphids (Diptera: Syrphidae) in Mediterranean areas
Santos Rojo, Santiago Bordera, Celeste Pérez-Bañón & Estefanía Hernández-Rodríguez

SESSION IV - SYSTEMATIC - PHYLOGENY - EVOLUTION

PLENARY SESSION

Generating DNA sequence characters for syrphid phylogenetics: possibilities and future directions (Diptera: Syrphidae)
Gunilla Ståhls

ORAL CONTRIBUTIONS

The genus *Chrysotoxum*: problems and advance in its taxonomy (Diptera: Syrphidae)
Daniele Sommaggio, Antonio Masetti, Andrea Luchetti, Giovanni Burgio & Barbara

When and where *Cheilosia* (Diptera: Syrphidae) appeared?
Anatolii Barkalov

Present status of the World revision of the genus *Eupeodes* (Diptera: Syrphidae)
Libor Mazánek, Pavel Láska & Vítezslav Bicík

On the Phylogeny of Syrphini (Diptera: Syrphinae, Syrphidae) using adult morphological data
Luciane Marinoni

Concept of the species of the genus *Pipiza* Fallen, 1810 (Diptera: Syrphidae) on the Balkan Peninsula
Ante Vujic

Larval morphology of some xylobiont Syrphidae: adaptation or evolution?
Marina Krivosheina

Taxonomy and Phylogeny of West Palaearctic *Eristalinus* (Diptera: Syrphidae) using both morphological and molecular data
Celeste Pérez-Bañón, Santos Rojo, Gunilla Ståhls & Mª Ángeles Marcos-García

POSTERS

Population-genetic analysis of the *Merodon aeneus* group (Diptera: Syrphidae) from the Balkan Peninsula
V. Milankov & Ante Vujic

Geographic differentiation between conspecific populations of *Cheilosia cumanica*, *Ch. hypena* and *Ch. urbana* (Diptera: Syrphidae)
J. Ludoski, V. Milankov & Ante Vujic

The chorologic analysis of Hoverflies (Diptera: Syrphidae) of the Far Eastern Russia
Valeri Mutin

Preliminary molecular data of *Merodon* species (Diptera: Syrphidae) in comparison with morphological characters
Ximo Mengual, Gunilla Ståhls & Mª Ángeles Marcos-García

The above presentations took place over the first three days. The fourth and final day (19 June) was set aside for a field trip to the Natural Park of Albufera de Valencia (see article below by Alan Stubbs).

The Symposium was an undoubted success. Our Spanish hosts are to be thanked and congratulated for a superbly organised event, which was held in an atmosphere that was congenial and welcoming throughout. Visitors were provided with transport to and from their accommodation, and all arrangements were smooth and efficient. In addition the hospitality we received was absolutely outstanding; we enjoyed wonderful local fare and wine not only at an excellent dinner in Alicante's magnificent Castillo de Santa Bárbara, but also at lunch on each day of the event. It seems particularly appropriate that the term "symposium" was used as the title of this conference; the original derivation of this word is from classical Greek, literally meaning "drinking together"!

The concept of an international hoverfly workshop has clearly acquired impressive momentum. Provisional plans are underway for the next one, which is likely to take place in the Netherlands in 2005.

Eristalinus megacephalus in the Natural Park of Albufera de Valencia

ALICANTE IN MID JUNE

Alan Stubbs
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The Second International Symposium on the Syrphidae was in mid June. With some foreboding it seemed predictable that coastal south-east Spain would be much too parched by mid summer, and indeed it was. The decision to take minimum collecting equipment was justified, almost. Indeed Roger Morris and Stuart Ball took no such equipment.

Alicante University is 9km. inland from the coast. We arrived at about 5 p.m. on a Sunday to find everywhere shut up like mid-Wales used to be on the Sabbath. A taxi ride from the airport had revealed an almost semi-desert eroded landscape with sparse vegetation and few flowers. Any pretence at farming seemed abandoned and the fringe of the town felt like one large building plot. We managed to find a “brown field site”, a bit of waste ground with a few flies, and two days later found a rather better doomed plot. The sum total of evening effort was one specimen of *Syritta pipiens*, no bombyliids, and after much diligence five species of robberflies. The robberflies only became evident late in the evening, being most frequent about an hour before sunset (sorry, we went for a meal during the last hour, which admittedly was very bad form).

Some of the German and Dutch dipterists had been collecting in Spain for a number of days during their travels by road. Even further north they found few hoverflies except in the last hours of the evening.

The last day of the congress finished in mid-afternoon, with a dinner at the Castillo de Santa Bárbara in Alicante in late evening. Hence a public bus ride into Alicante ahead of the official coach seemed better than to wander round the local waste ground. Having allowed the heat of the day to cool, the only habitat option was to go up the flanks of the castle hill. From our starting point the ascent looked very daunting, definitely a 007 calibre challenge. However we were greeted at the bottom by being given leaflets on the “park”, with newly constructed paths zig-zagging up. A *Xanthogramma marginale* was found in the shade of a small tree, and some *Syritta flaviventris* were seen plus, eventually, a few *Paragus* in the shade of some pines; also a *Machimus*-like robberfly. Stuart was found at the top with a drink in his hand announcing that the restaurant had closed. So with Roger and a Dutch dipterist we went all the way down for a drink and then climbed all the way up again for dinner. And yes, the robberfly species was still to be seen as the sun set behind the hills.

An optional excursion after the conference took a coach load of us to Albufera, a major coastal bird reserve some 180 km. north of Alicante. We arrived at about 11.30 a.m. and there were some *Paragus* at the back of the dunes along the path to the visitor centre. We had been told that collecting would be allowed, but the sight of several nets wandering from the path before entering the reserve made the warden too sensitive. Lunch was at a

local restaurant at the edge of a huge bird lake, and in its grounds a female *Eristalinus megacephalus* and a Strat. parasite *Chalcis myrmifex* (extinct in Great Britain) were tubed and are now on pins in Britain. (Editor's comment: Suleyman Saribiyik collected a hoverfly off the mirror in the restaurant's men's washroom, and handed it to Chris Thompson who was washing his hands next to him. Chris identified it as *Lejops vittatus*, the first Spanish record for this species. The specimen was a female, so Chris felt obliged to rescue it from the men's room!).

We were put on boats and taken for a tour across the lake and saw more species of heron than we had so far seen of robberflies in Spain (Editor's comment: 7 species of heron, mostly identified for us by Menno Reemer). Two-winged animals are all very well but many of us wanted to see some with halteres. Then the coach drove us to some dunes to the north, where we were allowed to collect (country park type of status). The place looked excellent, and locally had masses of scabious flowers. I made a beeline for the seaward dune ridge – no therevids, no asilids, no bombyliids, no hoverflies. I then tried the more inland dunes, woodland dunes, etc. – virtually nothing. There must have been about 15 of the most experienced European hoverfly specialists dispersed over this large site but the sum total was very little. My main find was a large *Conops* with dark wings and a large horsefly with a *Bombylius*-like nectar-imbibing proboscis, *Pangonius haustellatus*.

It was clear that the best option was to head for high ground. Thus the Peterborough contingent and one of the Netherlands dipterists hired a car and drove inland to a high limestone area with forest. Here we found 15 species of bee-flies and some asilids. The main spectacle was seeing several *Volucella elegans* hovering in glades (rather like *zonaria* but with a *bombylans*-like dark wing markings). Two large species of *Chrysotoxum* were frequent. Other hoverflies were very few and inconspicuous, including a *Eumerus*, a *Paragus* and what we think is *Cheilosia soror*. Sweeping under trees and on low foliage revealed low numbers of a varied fauna of smallish flies, including one species of pipunculid.

On the last day before our afternoon return to Britain we drove to some bird reserves south of Alicante. Apart from a few bee-flies, a single asilid and single *Nemotelus,* we saw nothing of interest – well flamingos are two a penny down there. Stuart claimed 88 species of birds, seen mainly in the last two and a half days, including quite a few "mega-ticks". I rather think that it would have been a large push to have found more than that many species of flies. Roger regretted not having been geared up to collect, mainly with regard to the amazing aculeate fauna, but I gave him my spare net as my deputy nabber of Diptera. It is consoling that there are more flies to be found in Britain than in SE Spain in mid-June, but then one has to forego some very nice bee-flies.

Oh! And a footnote: *Temnostoma bombylans*, a very smart saproxylic hoverfly, has been spreading and has become locally quite common in Holland (so let us hope it knows how to fly across the English Channel), but *Eristalis cryptarum* is in a bad way. Martin Speight promises that we shall not

have to wait for another 10-20 years for the new *Melanostoma* to be published! No further news on the pending *Xanthogramma* publication; most people seem to be as confused as I am. The bad news is that *Dasysyrphus* (*pinastri* and *venustus*) seems to be getting ever more complicated, but the good news is that no one seems to be talking of any more megasplits that affect the British fauna, though some non-British groups of *Chrysotoxum* (notably "*intermedium*") need splitting/revision.

NEWS FROM THE HOVERFLY RECORDING SCHEME

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Roger Morris
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As the production of the *Provisional Atlas* becomes a distant memory, and following the enormous task of revising *British Hoverflies* last year, we are at last in a position to move forward with the Recording Scheme. Sales of the new book are strong, and we hope that it will lead to a new impetus in hoverfly recording: what next? As you will know from previous updates and from the presentations we have given in recent years, we have a number of ideas on how the Scheme might progress. However, central to the Scheme is the collection and dissemination of records, and we really need to capture the data that has amassed since we last called for records in 1997. Thus**, we would like to encourage those of you who have a backlog of records to submit them this winter**. Hopefully we will be able to provide feedback in next summer's newsletter. Our current thinking is to work towards a more complete atlas in 2010 or thereabouts.

Although things have been quiet, we have not been idle. Analysis of the existing data has shown that the Recording Scheme has the potential to provide an insight into various aspects of hoverfly biology. For example, we have looked at the relationship between abundance of *Rhingia campestris* and rainfall (a paper on this is in preparation). Two papers exploring the recent expansion in the range of *Volucella inanis* and *V. zonaria* are close to completion and will appear in the *British Journal of Entomology and Natural History* (a short account has already appeared in the AES Bulletin). We have also looked at the impact of recent warm weather (global warming?) on the emergence of *Epistrophe eligans* and presented our findings at the recent hoverfly symposium in Alicante; a paper is in preparation at the moment. And, of course, we have started to look again at the current status of various species such as *Chrysotoxum verralli*. We have a busy time ahead as we try to complete the papers describing these various projects and their outcomes.

New initiatives:

1. It is now twelve years since Stephen Falk's *Review of the Scarce and Threatened Flies of Great Britain* was published, and it is in need of revision. We have in mind the production of a full revision of the conservation statuses of British hoverflies using the new IUCN Red List criteria. For this, we really need to update the dataset to 2002/2003 (hence the current call for records).

2. We are keen to continue to follow the range changes in *Volucella inanis* and *V. zonaria*, and would welcome all recent records. Interestingly, reports from Roger Payne in Essex suggest that *V. inflata* is also becoming more common; is it, too, expanding its range? We would be pleased to hear your views and of course to learn of new records. We will make a fuller investigation this winter.

3. We hope to launch a new Hoverfly Recording Scheme web-site next year. One of the possibilities we are looking at is a web-page to report sudden influxes of *Episyrphus balteatus* (in your garden for example) in an attempt to resolve the question of whether the mass occurrence of *E. balteatus* is immigration from continental sources or from massive build-ups in local populations?

Current Research:

Old Sulehay Forest is a piece of ancient woodland with adjacent limestone quarries that is both a SSSI and Wildlife Trust reserve which is close to Peterborough. Despite its small size (37 ha) and the absence of many venerable trees it is well known for its invertebrate interest and holds a remarkable dead-wood fauna. *Criorhina* species are abundant at both dogwood and privet, and there is an excellent sap run on a horse chestnut that yields *Brachyopa insensilis*. We have also noted *Mallota cimbiciformis*, *Myolepta dubia*, and *Xylota xanthocnema* on two occasions each. *Brachypalpoides lentus* has become a regular friend, as have some splendid specimens of *Xylota sylvarum*.

However it is the numbers of *Volucella inflata* that are most remarkable. We decided that the site would make an ideal locality for studying aspects of the population dynamics of *V. inflata* and this summer have been busy marking all *Volucella* species that we encounter. So far (to 20 July) we have marked and recaptured:

V. bombylans	97 / 22
V. inflata	182 / 23
V. pellucens	673 / 107

The numbers speak for themselves, although the recapture rates also indicate that the populations are considerably bigger, into many thousands in the case of *V. pellucens*. In collecting these data, we also have substantial information on flower visiting behaviour and preferences, timing of activity throughout the day, and of course aspects of phenology. Distinct differences in male behaviour between the three species are emerging, and a distinct pattern of favoured nectar sources is also becoming apparent. We have been amazed at just how popular dogwood *Cornus* and wild privet *Ligustrum vulgare* are as nectar sources, especially for *V. inflata*. Those of you who see numbers of *V. inanis* and *V. zonaria* in your garden might wish to do something similar, so this is our technique:

We use Humbrol enamel paints applied using a cocktail stick to the thorax. On each recording day, we use a different distinct colour following a pre-determined marking pattern (spots to the sides, centre and rear of the thorax and on the scutellum) that gives us perhaps forty options. If we get too many specimens for the range of marking options, a second colour is used in combination with the original to give an even greater range of options. If you would like more details please ask Roger for a copy of our marking patterns. As part of the data collection we also record the time the specimen was taken, where it was released and what it was feeding on or doing. In the case of recaptures, we record the above, but instead of release point we record capture location. Currently we get around 16% recapture rates and have some evidence that individuals will survive for as long as five weeks after initial marking.

Training events:

This year we held the annual Hoverfly Identification course at Preston Montford at the beginning of June. Sadly we had just four pupils, but we also enjoyed the company of four members of DF who also stayed for the weekend and made their own forays into the wilds of Shropshire. Perhaps there will be more takers next year, and of course we would be pleased to arrange for DF members to stay at the same time (contact Roger).

We have also held a number of events as part of an initiative by the Northants Wildlife Trust to train new entomologists. This has been fun and stimulating, and we have a number of new enthusiasts as a result – watch out for the creation of the Northants Hoverfly Group!

Concluding comments:

We hope this brief note gives a flavour of what is going on and what we hope to do in future. Perhaps we will see you at the DF weekend meeting in Edinburgh or at the DF workshop in Preston Montford in March. If not, happy hunting – we look forward to hearing about new finds, and of course welcome all records – not just the rarities.

SIMILARITY OF HOVERING MALES OF *ERISTALIS HORTICOLA* TO THOSE OF *HYBOMITRA DISTINGUENDA* (TABANIDAE)

Andrew Grayson
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On 30 June 2000, a very windy day, I spent a few minutes in a sheltered woodland glade in Forge Valley, v.c. 62 (north-east Yorkshire), SE98-86-, during which time there were frequent intermittent periods of sunshine and cloud. Approximately five *Eristalis horticola* males commenced hovering in the glade whenever the sun shone, but immediately ceased to do so as soon as it was obscured by a cloud: when sunshine returned, they immediately resumed hovering. The flies were hovering at approximately two metres above ground level, and maintained a distance of several metres between each other. Whilst hovering, *E. horticola* males are remarkably similar to hovering males of the horsefly *Hybomitra distinguenda*, with which they could easily be confused, especially as, whilst hovering, both species tend to maintain a distance of at least a couple of metres from humans, and it is difficult to obtain a close view of them, or indeed effect a capture. (Editor's comment: I remember having the same experience in reverse, while observing a large hovering fly in Pembrokeshire in 1987. Assuming it to be a hoverfly, my first thought was that it was *Eristalis horticola*. It was only when eventually the fly settled that I realised that it was not a Syrphid at all, but *H. distinguenda*)

PLATYCHEIRUS ROSARUM IN YORKSHIRE DURING 2002

Andrew Grayson
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Platycheirus rosarum is usually regarded as being an uncommon local species in Yorkshire. The following 2002 Yorkshire records represent four newly-discovered sites for *P. rosarum*.

v.c. 61

♂ The Keld, Great Driffield, (Yorkshire Naturalists' Union 'Elmswell' meeting), TA01-57-, 6 July 2002, A. Grayson

v.c. 62

♂, Cockerdale, Oldstead, SE533807, 17 June 2002, A.G.

♂, Gormire Lake, SE503811, 16 June 2002, A.G.

♀, The Kelds, East Ness, SE70-78-, 11 August 2002, A.G.

A SECOND SPECIMEN OF *PLATYCHEIRUS AMPLUS* FROM YORKSHIRE

Andrew Grayson
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Platycheirus (*Platycheirus*) *amplus* Curran, 1927 was formally added to the English list by Grayson (2002) on the basis of a male specimen collected by Don H. Smith from Sleightholmedale, v.c. 62 (north-east Yorkshire), SE645913, on 28 June 1987. A second Yorkshire male *P. amplus* has subsequently been recognised, the details of the record being as follows : Crimsworth Dene, v.c. 63 (south-west Yorkshire), SD98-29-, 26 June 1990, R. Crossley, (teste A. Grayson).

Thanks are due to Roy Crossley for alerting my attention to his specimen.

Reference

Grayson, A. 2002. *Platycheirus amplus* Curran, 1927 (Diptera, Syrphidae) new to England. *Dipterists Digest* Second Series **7**: 15-16.

A POSSIBLE EXPLANATION FOR SIMULTANEOUS HOVERING BY *RHINGIA CAMPESTRIS*

Roy Merritt
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I was interested in David Iliff's item on page 7 of **Hoverfly Newsletter No. 35** (February 2003), in particular the report of synchronous flight by several male *Rhingia campestris* in a patch of sunlight, not repeated in later patches.

When I used Low Energy Laser as a dentist, I read about absorption of photons. Our eyes are, as we all know, sensitive to red light photons at about 660nm wavelength of the electromagnetic spectrum. We interpret the absorption of photons as seeing the colour red. We as mammals are warm fleshed at about 35°C external temperature. Like any other body at 35°C we radiate or glow in the infrared at about 10,000nm. We cannot see this wavelength. Pit vipers such as rattlesnakes have the mechanism to receive and recognise photons at 10,000nm and can. In the cold desert night they can see the warm rodent against the cooler background. We have all seen on TV where a computer has assigned colours to temperatures in the 35°C region to give us an impression of how the snake sees its mammalian prey in the dark of night. Those of us who saw Arnold Schwarzenegger in "Predator" will have seen this effect on the big screen. I have read that mosquitoes and other blood-sucking Diptera can see us at 35°C and thus radiating like a beacon, "come and get me", in the 10,000nm region.

At the time of my study I read **Tuning into Nature, Solar Energy, Infrared Radiation and the Insect Communication System** by Philip. S. Callahan (Routledge and Kegan Paul Ltd., London 1977, ISBN 0 7100 8694 6). I had just read this book for a second time when the newsletter came. Callahan wrote mainly about moths and said that pheromone molecules absorb background radiation (moonlight, starlight and infrared from warm ground) and reemit it as a narrow band of infrared light which the males can "see". Not only that, but the male "sees" the wavelength gradually change as he moves upwind from the dilute pheromones to the more concentrated molecules nearer the female. This is the same principle as that used in tuneable dye lasers. By altering the concentration of the dye one can change the wavelength of the laser. Plants, as we know, give off scent which like the pheromones can glow in the infrared when lit up by background light, perhaps one way of guiding in dipterous females to site for egg-laying? Plants vary their output of scent by the time of day and perhaps such a passing cloud of scent (the fitful breeze) was lit up by the first patch of sunlight, stimulating the flight of the dipterous Red Arrows and was gone by the time of the later sunny spells. Or perhaps it was just a little bit too cool (it was May).

OBSERVATIONS ON *RHINGIA CAMPESTRIS*

Roy Merritt
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2002 was only my third year with hoverflies. I had only ever seen *Rhingia campestris* twice before, in our garden. On a visit to Silverdale Moss (SD474774) on 15 August 2002, I was very pleased to find them common. I entered them on my site list as "many" as opposed to 1, 2 or several. Being bright orange they were easy to see against the green background and seemed to be feeding only on the pink marsh woundwort.

When I revisited the site on 2 September 2002 I found that the flowering season for marsh woundwort was over. The *Rhingia campestris* were now feeding alongside the other flies on the *Angelica*; the choice was either the *Angelica* or a few flowers of knapweed or even fewer of meadowsweet.

HAIR COLOUR VARIATION IN *HERINGIA VERRUCULA*

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Most species of *Heringia* are elusive. *H. verrucula* has only 9 recent 10km. square records according to the **Provisional Atlas of British Hoverflies** (2000, BRC), making it the least known of all.

Until this year my only specimen was a male taken on 23 May 1977 at Haugh Wood, Herefordshire, when I had the amazing good fortune to find *H. pubescens* and *H. heringi* also. Haugh Wood is one of the major ancient

woodlands in the county, with open rides and partial coniferisation, managed by Forest Enterprise.

On 13 April 2003 I took a male *Heringia* in Bourne Woods, South Lincolnshire (basic site description similar to Haugh Wood). Since the thorax was black haired it appeared to be *H. pubescens* which is known from the Peterborough area.

Back home it was found that the Lincolnshire specimen had a projection in the middle of sternite 4 which is lacking in *H. pubescens*. Hence the notion rushed through my mind that it could be *H. fulvimanus*, a black-haired species which is not on the British list. The main snag was that the latter species is supposed to have a projection on sternite 3. However the Lincolnshire specimen was the same as my earlier *verrucula* as regards sternite 4, the male genitalia, the frons angle, the front metatarsus and the wing microtrichia.

Thus, whilst *H. verrucula* typically has pale brown hairs on top of the thorax and scutellum, one must now allow for the occurrence of specimens with black hairs.

INTERESTING RECENT RECORDS

Volucella zonaria: Heavitree, Exeter, on shrub in garden, 3 August 2003 (Keith Alexander)

Pipiza lugubris: Trealy Farm, Mitchel Troy, Monmouth, female on *Heracleum* at field edge, 1 September 2002 (John Harper)

Parasyrphus nigritarsis: male and female; Capel-y-Fin, Black Mountains, Llanthony Valley (vc42), 15 May 2003, on large patch of marigolds (John Harper)

Microdon myrmicae: Hirwaun Common, Glamorgan, 29 May 2003 (Simon Warmingham, det. John Harper)

Rhingia rostrata: males at Strawberry Banks and the adjacent Three Groves Wood nature reserves in Gloucestershire, 12 April 2003. An exceptionally early date for this species (David Iliff).

Brachyopa scutellaris: male in Gotherington Wood, Gloucestershire, 4 May 2003. There are very few county records for any *Brachyopa* species. (David Iliff)

REVIEW: Rojo, S., Gilbert, F., Marcos Garcia, M.A., Nieto, J.M., Mier, M.P. 2003. *A world review of predatory hoverflies (Diptera, Syrphidae: Syrphinae) and their prey.* Centro Iberoamericano de la Biodiversidad (CIBIO), Alicante, Spain.

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Each participant at the Hoverfly Symposium at Alicante was given a CD ROM with this major review. A book version (inclusive of CD) was also available for purchase.

Combing through for worldwide information on prey relations of Syrphinae has been a massive undertaking, and sorting out nomenclature of hoverflies and prey no doubt a challenge. Most of the 319 pages comprise a catalogue arranged alphabetically by hoverfly genus, and then species, with prey items arranged by family. In tabular format, each prey record includes host plant, country and source reference. An appendix with references is extensive.

A brief introduction is given first in English and then in Spanish. This explains the purpose and limitations of such a review. Some general facts will be of interest. The described world hoverfly fauna is currently about 200 genera and over 5,800 species. Syrphinae comprise 1,800+ species, c. 35% of the family. Microdontinae have 403 known species, mainly Neotropical. The weight range in Syrphidae is a factor of 400, from *Neoascia* at 0.5 mg to *Volucella* and *Milesia* at 200 mg. or more.

It is difficult to fully digest and summarise the implications of the review for the British fauna but I offer a few initial points from a first scan through:

- Remarkably few records are available world wide for such genera as *Chrysotoxum* (in this case mainly incidental observations). There is no entry for *Doros.*

- Quite a few 'aphid feeding' species also have some non-aphid prey records.

- Tree genera such as *Dasysyrphus* species also have some herb layer aphid/plant associations. Some 'herb layer' species also include scrub and tree records. This could mean that far more species are flexible in choice than might earlier have seemed the case. However, one needs to know the ecological context, as to whether a herb record came from under a tree (larva may have dropped off tree) or whether a 'tree' was a sapling.

- In some countries much of the focus has been on crops, such as cereals, *Brassica*, beet and fruit trees. This can result in bias if the relative proportion of host records is taken at face value.

- Whilst associations known to be of laboratory origin are annotated as such, one suspects that the frequency of some aphid/host-plant data has

much to do with convenience of rearing on certain aphids in captivity.

- *Xanthandrus comtus* has a considerable range of Lepidopterous prey on trees and shrubs. plus psylids, and on aspen a sawfly and a beetle, but the only records from aphids were on *Brassica oleracea* (cabbage)!

- Some differences in the balance of plant associations seems to emerge. For instance there is plenty of data on the main three British species of *Syrphus* which gives the clear impression that *S. torvus* is much more biased towards trees and shrubs than *ribesii* or *vitripennis.*

- It is useful that country is listed so prominently since it is more than likely that there is geographic variation in prey/plant association. It is worth taking account of the fact that many butterflies vary their foodplants across their range, and that the ecological setting, such as tall or short vegetation, may vary with climate.

The compilation is a research tool for those investigating the biocontrol of aphids and other such pests of crops. It is also a useful knowledge baseline for those interested in the biology of hoverflies for other purposes.

Our Spanish colleagues must be congratulated on such a useful initiative, and it is excellent to see that authorship collaboration includes Dr. Francis Gilbert of Nottingham University.