BULLETIN OF THE
Dipterists Forum
25th Anniversary
Bulletin No. 88 Autumn 2019

Affiliated to the British Entomological and Natural History Society

The Year of the Fly

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Autumn 2019

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Annual Subscription 2019

Obtainable via subscription to Dipterists Forum, contact John Showers
Annual Membership (N.B. Overseas = £25 total)
Forum - £8 (includes Dipterists Bulletin)
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Meetings

Please use the Booking Form downloadable from our website

Field Meetings

Now organised by several different contributors, contact the **Secretary**.

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Please refer to guide notes online (or in Bulletins) for details of how to contribute. Send your material to **both** of the following, with the word "Bulletin" in the title:

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Photographs: Front cover *Phaonia valida*, **Darwyn Sumner**, above *Noeeta pupillata*, **Malcolm Storey**
Other photographs as supplied by the authors or the editorial panel who would be pleased to receive illustrations for general purposes - many thanks for those already sent. If you want to catch the next front cover, please think about the orientation, it must be upright (portrait)

BULLETIN OF THE
Dipterists
Forum

Contents

Fly Sheets

Fly Ties

Contents

Empid & Dolichopodid Newsletter #24 (6pp)
Hoverfly Newsletter #66 (18pp)
Feature: Flowers for Flies: Judy Webb (8pp)
Feature: Deadwood & Diptera: Darwyn Sumner (8pp)
Events list (for updates see our Websites)
Treasurer's Report 2018

Back issues of Dipterist Forum Bulletin at http://micropezids.myspecies.info/node/301

Other items such as full details of training and workshops and our Membership form may be downloaded from Dipterists Forum website or by contacting the organiser. Online membership is now available on our newer website.

A Booking form for meetings can be downloaded at https://tinyurl.com/y9u3pc44

Access to all links in this Bulletin at https://tinyurl.com/y48vp35p

Desktop publishing: Darwyn Sumner

The Year of the Fly and of the Pig

anything could happen ...

Editorial

25th Anniversary of Dipterists Forum

Dipterists Forum – the early years

Roy Crossley

When Dipterists Forum was launched at the 1994 annual meeting of the 'Diptera Recording Schemes' at the Natural History Museum, I had the privilege of being asked to become Chairman of the fledgling organisation.

It's a long time ago and my recollections of those early years are hazy to say the least, but the recent availability of the full run of 'Bulletins' has helped to stir a few memories!

There was a great deal of hard work undertaken by members of that first Committee and I noted in my diary that at one of our meetings we had a 'marathon session' grappling with a line-by-line review of the proposed Constitution. Even then I think we had not got it quite right when it came up for approval at the next Forum a.g.m.! Eventually, however, all was agreed, and with Dipterists Forum up and running satisfactorily I handed over the Chair after three or four years. Since those days the Forum has gone from strength to strength and it has been gratifying to witness the growth – long may it continue!

Objectives of Dipterists Forum

1. To foster the study of Diptera, including linking with other disciplines where there is a relationship with other animals and plants.
2. To promote the recording of all aspects of the natural history of Diptera, including the advancement of distribution mapping.
3. To promote the conservation of Diptera.
4. To encourage and support amateurs in harmony with professionals in museums, institutes and universities.
5. To organise indoor meetings, workshops, field meetings and other relevant events.
6. To disseminate information through newsletters and publications.
7. To focus on the Diptera of the British Isles whilst maintaining an interest in those of continental Europe and elsewhere.

Honorary Member

In recognition of services to Dipterists Forum, Richard Underwood was given life membership by the Forum at our last AGM.

A Dipterology stalwart

Jon Cole celebrated his 90th birthday this year. Jon was Treasurer from before our founding until 2007 and has been very active in the Diptera recording schemes and in helping younger dipterists since long before Dipterists Forum's founding 25 years ago.

Jon Cole and Meghan Howe. DF Summer Field Meeting 2003. Wangford Warren, Suffolk. Photo Darwyn Sumner

Congratulations Jon.

Twin Pillars

Described as the "twin pillars of Dipterists Forum" by Phil Brighton, our two print publications, Dipterists Digest and Dipterists Forum Bulletin have been produced for many years.

Dipterists Digest dates back to 1988 and the Bulletin to the formation of Dipterists Forum in 1994.

Dipterists Digest Archive

There are several issues of these available for download on our website. At the March Committee meeting it was agreed that "*DD issues out of embargo should be made available as pdfs on the website*" Efforts are being made to digitise more of them but this is not a trivial task. Check our website periodically.

Bulletin Archive

If you are a relative newcomer to Dipterists Forum this Bulletin may well be amongst the first you've seen. All the others, going back well into the last millenium, can be downloaded as pdfs at http://micropezids.myspecies.info/node/301 please use these versions to replace any you downloaded elsewhere. Martin Drake sent me originals of issues 1 to 40 which is how we discovered our anniversary. Prior to 1994 they were called the Diptera Recording Schemes Bulletin. Digitising the rest of those is a job for a rainy day. Have a good read. (*Ed.*)

Situations vacant*

Volunteer needed for distribution of Dipterists Digest to subscribers

For the past six years this job has been carried out effectively by Richard Underwood, who now wishes to stand down, so a volunteer to take this on is now sought.

The journal is published on average twice a year and currently has around 320 subscribers, so the job involves sending it to all of them. The distributor receives the appropriate number of copies from the printers, as well as 20 cut copies from which separates of each article of two or more pages are sorted and sent to authors. A stock of envelopes to accommodate 2-3 years' issues is held by the distributor. When an issue is due the Membership Secretary generates a label list of subscribers' addresses, which is then supplied to the distributor, who labels and fills the envelopes. These need to be sorted according to domestic and overseas postage rates and promptly dispatched, so having a convenient and easily accessible local post office is a necessity. All expenses involved are quickly reimbursed.

Could anyone who is interested in taking on this role or has any queries about it please contact me.

Peter Chandler, chandgnats@aol.com

Features & photographs

The Bulletin is one of a small handful of print based publications in the UK so we try hard to provide interest. In terms of printing costs it's more economic to print it in page multiples of 16 rather than 4 so our target numbers are 64 and 80, excluding covers. The Recording Scheme Newsletters average 40 pages but this time there were just 16, so despite the editorial's best efforts (we wrote 2 features) we couldn't hit that upper target.

One key to providing useful content is the availability of suitable images. I am grateful to the many photographers who have supplied these, Alan Outen notably sent me around 400 recently and Flickr users have been posting images from our various field meetings. More are needed in order to develop theme-based articles.

Special features provide this other useful content. Mine is based substantially on available images, with a certain amount of explanatory text and made available both in the Bulletin and as an Open Access pdf. The theme chosen for this first one is habitat-based. Saproxylic in nature but omitting sap-runs which are reserved for a future issue (many more images will be needed for this - contributions most welcome.) Judy's is a revision of one she did a few years ago, with a few more images added.

Dipterists Forum is fortunate in having many skilled writers with good habitat knowledge. If any of those writers are interested in compiling a habitat feature of a similar nature to the ones in this issue then I would be happy to assist them. They would depend very heavily on images from everyone though. If you have good shots of typical habitats (fens, chalk streams, wet woodland etc.) or typical fly species related to such habitats then do let the Bulletin editors have the details or organise your Flickr material into topic-based Albums.

Summary of vacancies:

Dipterists Digest distributor

Bulletin Conservation editor/correspondent/feature writer (to liaise with both Rob Wolton and Bulletin)

Bulletin Features writers

Bulletin Social Media correspondent

* A tongue in cheek title, we're all volunteers.

Europe: Corse expedition

At the end of June this year, Mark Pollet, President of the Royal Belgian Society for Entomology, returned with his team from an 8 day collecting expedition in Alta Rocca, southern Corsica. They visited four forest sites and maintained 260 pan traps over that period. Just which forest sites is unclear to me at the moment but of the 167 European saproxylic invertebrate sites listed by McLean & Speight (1993) as "forest and pasture woodland sites of potential international importance", 3 are on Corsica

McLean, I. F. G., & Speight, M. (1993). Saproxylic Insects - the European Context . In K. Kirby & M. Drake (Eds.), Proceedings of the British Ecological Society (pp. 21–32). Dunham Massey Park, UK: English Nature. Retrieved from http://publications.naturalengland.org.uk/publication/2260356

A number of entomologists have volunteered to assist with the identification of all this material. Clearly it will all have to be sorted first and that will take several months. If I get just one specimen from my Recording Scheme it will be a new dot on the Europe map.

Record trees

Put a tape measure in your pocket next time you go out (alongside your camera and an accurate GPS.) Woodland Trust's Ancient Tree Inventory is becoming a valuable resource and it's well worth us helping record them, especially dead ones.

How about making a note of the "decay class" of deadwood too? A very simple guide can be found in:

Müller-Using, & Bartsch, N. (2009). Decay dynamic of coarse and fine woody debris of a beech (Fagus sylvatica L.) forest in Central Germany. European Journal of Forest Research, (128), 287–296. https://doi.org/10.1007/s10342-009-0264-8

A nice job for a rainy winter's day.

Darwyn Sumner

Chairman's Round-up

The passing of both Amanda Morgan and Liz Howe since the last Bulletin is tragic. Amanda died on 23 January, and Liz on 31 March. Both played a major role in the society, Amanda serving as our Secretary for four years (2014 to 2018), while Liz was our first Membership Secretary when the Dipterists Forum was launched in 1994. Both will be greatly missed. Appreciations of both will appear in this and future Bulletins. Our thoughts and deepest condolences remain with Mike Howe and Peter Vincent.

This year very sadly we have also lost Abby Rhodes, a new member who was already contributing valuable ecological observations, with her Digest papers on the anthomyiid *Lasiomma picipes* emerging from golden eagle pellets (she abseiled down a cliff to ring a chick in a nest, fetching the pellets at the same time), and on the rhiniid *Stomorhina lunata* in north Scotland. These papers were written with Phil Brighton and Murdo MacDonald respectively.

On a brighter note, this is our society's 25th year! We started in November1994, following development work done by Alan Stubbs, Martin Drake and Stuart Ball, although it was not until a year later, in November 1995, that the annual meeting of the Diptera Recording Schemes (the forerunner of the Dipterists Forum) voted by a large majority in favour of the name Dipterists Forum, the proposed constitution and BENHS affiliation. While the formal start date for the society may not actually have been until 1 January 1996, with Roy Crossley as Chairman and Alan as Secretary, it is reasonable to celebrate our first 25 years now: we intend to mark the occasion at Dipterists Day in Cardiff this November. There can be little doubt of the prescience of the founders of our society, and we must thank them for their leadership and vision.

It is also International Year of the Fly, and we have been making a particular effort to increase publicity, led by Erica McAlister. Although too early to assess fully how successful we may have been, it is pleasing to note not only a marked increase in relevant media, including social media, in blogs (notably for BBC Wildlife Magazine), in talks given and shows attended, but also in membership. Our thanks to Anglian Lepidopteran Supplies and GT Vision for responding positively to our request that they should mark the year by providing discounted products to our members – do please take advantage of these offers.

Congratulations to Erica for being awarded honorary fellowship of the Royal Entomological Society. On 16 April Erica was the subject of The Life Scientific BBC Radio 4 programme, talking to Jim Al-Khalili about the beauty of flies. Do listen to the podcast. She's also president of the Amateur Entomologists Society. An excellent ambassador for flies and for the Forum – thank you, Erica.

It was a great pleasure that in February, at the Preston Montford workshop, on behalf of the society and at the request of committee, I was able to offer Richard Underwood life membership to the Dipterists Forum, in recognition of all the support he has given to the society for many years, indeed decades. He has for eight years or more not only proofread the Digest but also placed copies in envelopes and posted them to members, a significant amount of work, all done reliably and efficiently with remarkable modesty. At our annual workshop he has also made available specimens from the Liverpool Museum collection, many of them his own, ever since the year 2000, including actually transporting the cabinet drawers back and forth in his own car. Without these specimens, the courses would really have struggled. Thank you, Richard.

Our summer field meeting based at Stirling University was a great success, but not without drama (as reported by Alan Stubbs elsewhere). This success was the result of great team working, our Secretary Jane Hewitt doing all the liaison with the university prior to our arrival and during our stay, our Treasurer Phil Brighton issuing invoices and making payments, Roger Morris providing training for post-graduate students on the first day (which I hear was very much appreciated), and myself leading on finding sites to visit and gaining any necessary access permissions, supported by Martin Drake and Andrew Cunningham. To think that Roger used to do most if not all these jobs on his own when he was Field Meeting Secretary, and for many years! My particular thanks to Jane for leading the response to the flooding of our laboratory so efficiently and calmly, ensuring that our equipment and that kindly loaned to us by GT Vision, was safe and that we were able to complete examining and sorting our catches in the evenings.

Members attend a number of events each year to promote our society and I would like to thank all those who help. On this occasion I would like in particular to acknowledge the help of Mark Welch, who together with Tony Irwin, Luke Welch and Dave Brice, arranged and ran a successful Dipterists Forum stand at the brand new Norfolk Bird & Wildlife Fair at Pensthorpe Natural Park, Fakenham, over the weekend 18/19 May.

Rob Wolton

Year of the Fly blogs

There are two sets of blogs inspired by the Year of the Fly.

Dipterists Forum blogs

This was initiated by the Dipterists Forum gang and finished up as a monthly series published online by the BBC. It has entailed lots of email messages looking for volunteers to a do each monthly blog, scraps over which was the best Family to represent each month and who was going to write it. All of it coordinated by Erica McAlister and fed through to the BBC Wildlife magazine who slung it onto their site (via "Immediate Media" who want to advertise at you - peculiarly un-BBC.)

One link to find them all:

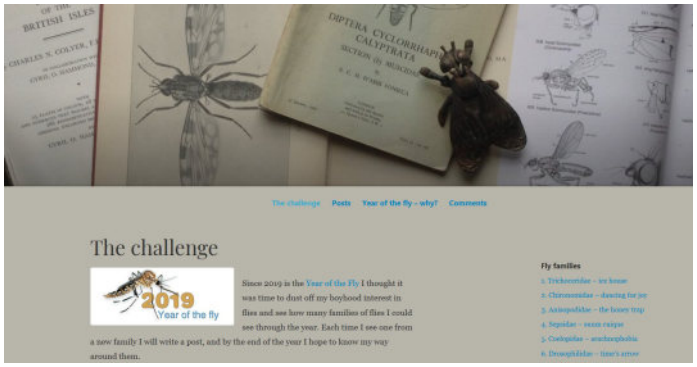
https://www.discoverwildlife.com/tag/year-of-the-fly/

1. January: Erica McAlister "Winter-gnats"
2. February: Craig Macadam "Fonseca's seed fly"
3. March: Erica McAlister "Bee flies"
4. April: Chris Raper "Tachina ursina"
5. May: Andrew Cunningham "the fancy-legged fly"
6. June: Malcolm Smart "the Clubbed General Soldierfly"
7. July: Erica McAlister "Hornet robberfly"

Donald Smith's blog

The second one was set up by member and enthusiast Donald Smith and is an amusing account of his reacquaintance with the study of Diptera.

www.theyearofthefly.home.blog



Donald has been working his way through all the Diptera Families since he started his blog, he's rattled through 57 funny stories (one per Family) so far. These are an amazingly good read, he should write a book.

Science article

Toward a world that values insects

The journal Science publishes the occasional Open Access article that's of great interest to us. This is a summary of the plight of insects across the globe. An informative read which provides background to other Conservation accounts in this Bulletin.

Download from https://tinyurl.com/yyfnfde8

Basset, Y., & Lamarre, G. P. A. (2019). Toward a world that values insects. Science, 364(6447), 1230–1231.

Recording

iRecord

New iRecord guide

If you've not used iRecord before then this Autumn would be a good time to have a go. Steve Garland has written a user guide which you can access at https://tinyurl.com/yy3eqw76

Try it out on an image you uploaded to Flickr or got identified by verifiers on our website.

Diptera records from iRecord for families not covered by a recording scheme

I received notification on 27th July that the above dataset had been uploaded to NBN Atlas by BRC. Find it at https://registry.nbnatlas.org/public/show/dr2046

It is worth looking at this list of 20,586 records, it contains species which contributors consider are readily identifiable such as *Mesembrina meridiana* (Muscidae). If there are species in there that interest you, there's nothing to stop you starting a recording scheme to study or record them. If you run a Study Group (i.e. no recording) then please tell me how that all works for you.

iRecord Activity

There has also been some discussion regarding the use of an iRecord function, the iRecord Activity which allows you to set up your own project. This is detailed at https://www.brc.ac.uk/irecord/make_activity Just how the use of this might pan out for Field Weeks is uncertain as it does not appear to result in a single uploaded dataset. It's an iRecord function that might be worth exploring though for recorders who make repeat visits to certain areas such as our Regional Groups.

Data management

Local Environmental Records Centres arose as a result of numerous enquiries received regarding data they manage. That's a full-time job for many. BWARS have chosen to manage their own datasets and respond to enquiries. Dipterists Forum has chosen not to - we don't have the staff - thus we publish to the NBN Atlas (Open Access.)

Darwyn Sumner

Records for the DF Summer Field Meetings

The NBN Atlas datasets of our records are to be found at https://registry.nbnatlas.org/public/show/dp172

I was asked by Jane Hewitt recently "*Should there be links to more recent datasets on that page Darwyn or have I missed something?*"

There's an account of the status of all these datasets up to 2014 in Bulletin 81 and an update, outlining principles, in Bulletin 82.

Thus one of our major objectives is to publish our findings:

2015 Nottingham: Darwyn Sumner (uploaded to NBN Atlas)

2016 Canterbury: Laurence Clemons (Bulletin 83 p8)

2017 Snowdonia National Park: Mike Howe

2018 Stafford: Darwyn Sumner (Bulletin 87 p23)

2019 Stirling: Jane Hewitt

Stafford 2018 update

By mid April this year contributions had increased to 12. As I remarked to Chris Raper, all in spreadsheets and all undoubtedly to different formats. I contacted Chris who is in charge of the UKSI (UK Species Index) as there's a useful NBN utility, the NBN Record Cleaner, which can check that all the species' names are the current ones. This set Chris off looking at that utility which hadn't been updated in a while and he did indeed update it for us.

We ran a couple of tests and found quite a number of errors. Mistyped species names of course are the bane of any compiler and collator trying to upload to a system that is totally unforgiving.

Thus April waned; outdoor pursuits and the Bulletin took priority, and the Stafford records work was deferred until late Autumn. Martin Harvey has kindly offered to "upload it into iRecord as a DF dataset that can go on the NBN Atlas" thus making it available in the two systems. Same offer applies to Jane's collated spreadsheets when the time comes. A real labour-saver.

Taxon match tool:

Find it at http://nbn-sd-dev.nhm.ac.uk/taxonmatch.php

There are instructions at that link and Chris's notes are:

1. create a new sheet in a spreadsheet
2. make it the first sheet
3. copy/paste the name column from your data into column B on the new sheet
4. if they provided an authority then copy/paste it into column C
5. copy any record ID number and paste it in column A on the new sheet (not essential but it allows you to quickly look-up the row in the original data)
6. then upload to my page and wait - it will take a while to return the data
7. the maximum is set to 5000 rows at the moment - if it takes longer than an hour then something is wrong so can it and try a smaller upload

RED rows are totally unfound names
BEIGE rows are where the name was found but authority is different
GREEN rows are a perfect match
PURPLE rows are possible gender ending differences
Obviously you're mainly interested in RED & PURPLE names

The above was in an email from Chris to me so apologies to him if it's a tad cryptic. It made sense to me.

In respect of the 2018 Stafford records I shall be using this method to check submitted records and you may get an email in the Autumn (unless you do the above check yourself first and contact me).

In respect of the 2019 Stirling records I'm sure Jane would be pleased if you ran that check first before sending her your records.

Bad dots

"***one of the biggest concerns of the "NBN nay-sayers" is that they need to remove the bad dots from the maps otherwise they perpetuate misinformation***"

NBN have implemented the "**Flag an issue**" facility on the **NBN Atlas**:

It is unavoidable that species records may contain inaccuracies. In order to continue to improve the quality of data on the NBN Atlas, we have added the ability for users to 'Flag an issue', if they see a problem with a record.

In brief, to raise an issue on a record, users should click on the 'Flag an issue' button on the top left corner of the occurrence record page.

Announcement and further details at https://tinyurl.com/y667bagy

Darwyn Sumner

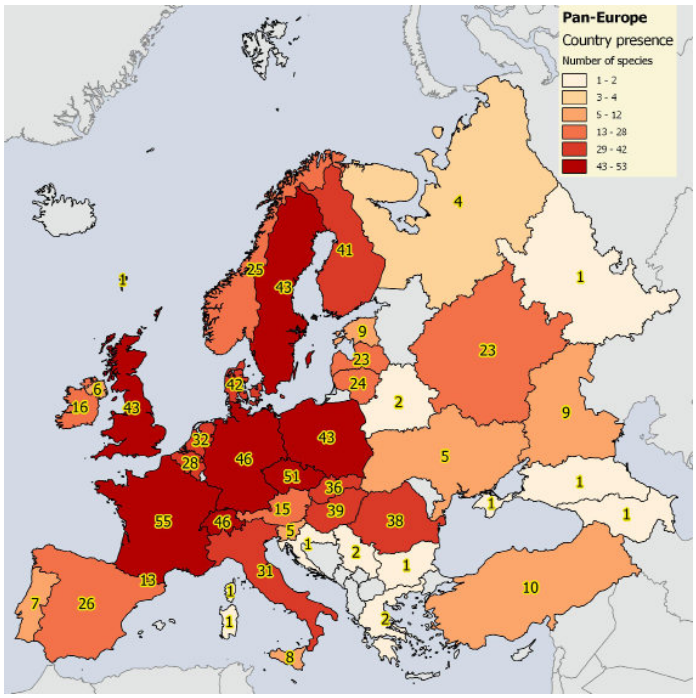
Recording Schemes

Stilt & Stalk Fly Recording Scheme

My Scratchpad at http://micropezids.myspecies.info/ for European Micropezids & Tanypezids is now fairly mature.

The major item I worked on was the development of a **Checklist for every European Country** using all available published georeferenced occurrence information (thus excluding Fauna Europaea). Something of a task as not many countries have published Diptera checklists. After working through all the published papers, the next good source (though few in number) are the online collections lists uploaded by national museums. The richest sources though are the images uploaded to online sites by various photographers. New country records arise from time to time on Diptera.info and the French, Spanish and Russian sites are invaluable. For example these are the main source for the list of 23 species from Central European Russia (the area around Moscow.) The absence of records from some regions is irksome though, in the Balkan countries one would hope to see some kind of pattern in the zone transition from the biogeographic regions Anatolian to Mediterranean and Mediterranean to Continental (*sensu* Mücher et al., 2010) and records from Northwest European Russia (St. Petersburg region) might give some idea as to dispersal routes via the Baltics or Central European Russia to Finland and beyond.

European Checklists (July 2019)



France comes top of the list with 55 species, thanks to information from Phil Withers. Others with long traditions of recording are not far behind (Czech Republic, Germany) whilst some are just getting off the mark (Slovenija, Turkey, Austria) thanks mainly to photographers. In the British Isles we're bit lower down the list with just 43, competing with Denmark, Sweden, Finland and Poland.

Not a new UK species

We got very close to a new UK species this year but quite rightly Peter Chandler says it doesn't count. So if you happen to find a dark form of *Loxocera aristata* as Ian Andrews did in Scotland then you've got something that may be recorded as *L. maculata*. The authors of the paper (Shatalkin & Merz, 2010) say it's not real but Chris Raper has kindly given it a UKSI so you can record it in iRecord as such.

The Black Reed (*Loxocera maculata*), a melanic form of the Black-faced Reed (*Loxocera aristata*) Photo Ian Andrews

Contributions are very welcome, photographs in particular (illustrations would be marvellous), but if you come across published Diptera Checklists for Austria, Crete, Greece, Macedonia, Albania through to Croatia then I would be very eager to hear from you.

Common Strider (*Neria cibaria*) female. Watermead Country Park. Photo Darwyn Sumner

Online keys

I have also constructed online FSC Identikit keys to species in this scheme. I'm unfortunately unable to upload these as I'd have to pay for a site and domain (as well as improve my web skills.)

Mücher, C. A., Klijn, J. A., Wascher, D. M., & Schaminée, J. H. J. (2010). A new European Landscape Classification (LANMAP): A transparent, flexible and user-oriented methodology to distinguish landscapes. Ecological Indicators, 10(1), 87–103.

Shatalkin, A. I., & Merz, B. (2010). The Psilidae (Diptera, Acalyptrata) of Switzerland , with description of two new species from Central Europe. Revue Suisse de Zoologie, 117(4), 771–800.

Darwyn Sumner

Cranefly Recording Scheme

John Kramer tells me he has insufficient copy for an issue of Cranefly News at the moment. He anticipates being able to do one for the Spring Bulletin so send him your stories.

John Kramer

Taxonomy

Biological Records Centre Meeting with National Recording Schemes

BRC holds occasional meetings to gather specialists from recording schemes, government agencies and research organisations to discuss areas of common interest. The meeting on 23 March this year was very well attended, with Diptera schemes represented by me, Phil Brighton and John & Barbara Ismay, while Martin Harvey was one of the organisers of the meeting.

The formal talks were short and varied. David Roy, head of BRC, summarised just how much recording effort there is in the UK. Flies were well up the scale and formed a gratifyingly large element of the species used in some of BRC's recent publications, and showing that all the effort is being put to good use beyond atlases. Michael Pocock, one of BRC's ecologists, expanded on this, making the point that recording data are the basic blocks used to provide advice to government, which is not what one thinks of when out on a summer's day collecting flies. Someone at BRC is doing their best to influence policy-makers. Another of Michael's points was that repeat 'survey' of sites is a lot more useful than one-off square-bashing for generating data that can be used in estimating trends – and trends are of particular concern to naturalists and ecologists as they usually head the wrong way these days.

Oli Prescott (BRC plant ecologist) also tried to persuade us to provide more quantitative data, as it allows their statistical techniques to show changes in abundance rather than just occupancy. This is probably OK for botanists but getting most dipterists to do more than record presence hasn't really worked with our recording schemes, despite efforts by the Hoverfly Recording Scheme to establish structured monitoring. But despite the low 'resolution' of much data making its way to BRC, they can be put to many innovative uses using contemporary statistical methods.

What must be the perfect model for establishing a new scheme was presented by Ashleigh Whiffin of National Museums of Scotland, whose new Silphidae Recording Scheme has got off to a cracking start, with wide publicity through social media, training workshops, and riding piggy-back on other schemes where silphids (burying beetles) are a by-product, including moth-recorders' light trapping and Olga Retka's calliphorid recording scheme. Dipterists are clearly being up-staged by this team of young beetlers, and we could learn a few tricks from them. It helps, of course, if you devise one of the wittier variation on the 'carry on' slogan: Ashleigh has carri-on recording.

I won't mention a couple of other talks (bees, bats) but the final one by Daniel Hayhow and colleagues at RSPB on the contribution of biological recording to the State of Nature report showed just how important our data are, however it is obtained, with the now-usual depressing graphs going down, more so for invertebrates than plants or vertebrates. There were afternoon break-out discussion groups but I am not convinced that these were particularly useful, and would rather have had more time on some of the analysis that had to be skipped over too briefly in the morning's talks. That is a minor quibble as I do think these meetings provide excellent feedback and congratulate BRC on organising them.

Martin Drake

Hoverfly Recording Scheme

Newsletter #66 included in this Bulletin.

David Iliff

Empid & Dolichopodid Newsletter

Newsletter #24 included in this Bulletin.

Martin Drake

Scratchpads

There are quite a number of Diptera sites constructed using the Scratchpad system. Some are set up by individuals and others by large groups of researchers. At first glance they may appear to remain fixed as regards content, but some of them are subject to continual maintenance and updates. They are thus worth revisiting periodically to check for new information. A good clue as to whether one of these sites has been updated since you last visited it is the "Recently added literature" list that is invariably indicated on the home page. If the date of that is recent then you know that there's at least one item you haven't seen yet. A better indication, as seen implemented on the Mosquito site is a "What's New" page; such a good idea, I implemented it on my site as soon as I saw it.

A lot of them are used as fixed reference sources for taxonomy, identification keys, distribution and so on and therefore not visited so often, even if they incorporate discussion forums. The busiest one I've seen is the Mosquito site which has thousands of visitors per month (they have a widget for counting visits but I can't get it to work on mine), I guess that's because of their medical interest. As for the rest, they're worth checking periodically especially if you are looking for information on a particular taxon.

Mosquito Taxonomic Inventory

http://mosquito-taxonomic-inventory.info/

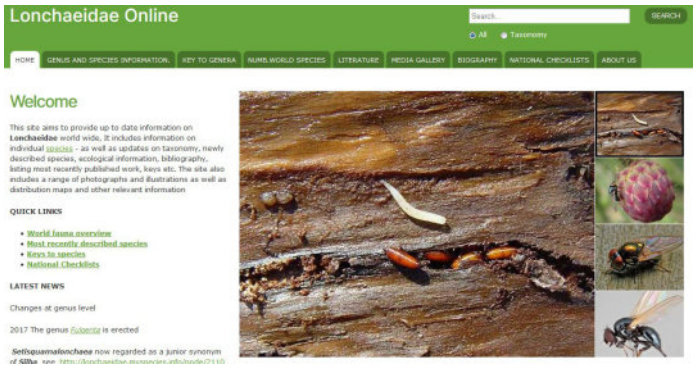
The busiest Scratchpad in terms of visits. With over 3,000 publications listed, keeping on top of it must be quite a job.

Fungus Gnats Online

http://sciaroidea.info/

Quite a popular site and one that is kept updated. It's a worldwide site with a good Literature list, amongst which are 69 of Peter Chandler's published papers.

Lonchaeidae Online



http://lonchaeidae.myspecies.info/

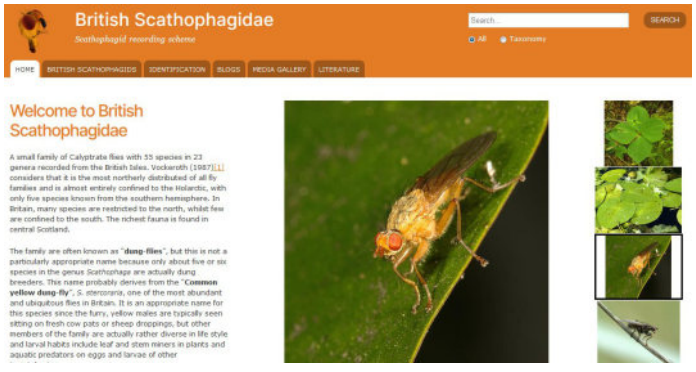
Iain MacGowan is responsible for this site. It deals with the world list of Lonchaeidae and is well maintained.

Milichidae online

http://milichiidae.info/

This too encompasses world species and is the work of Irina Brake in Germany.

British Scathophagidae



http://scathophagidae.myspecies.info/

Stuart Ball set this site up, it supports his Recording Scheme and is an essential component of a suite of initiatives which includes keys and his presentation at one of our Dipterists Forum workshops.

European Micropezids & Tanypezids

http://micropezids.myspecies.info/

I started this one last year so I'm very much a newcomer. Since there are only a few species in these Diptera groups I have been able to track down all available Literature (around 200). I suppose the innovative thing on this site is my attempt to produce Checklists to all European Countries. I'd like to be able to emulate Antkey and incoporate online keys, this time using FSC Identikit, there's a discussion about this on the new FSC Biodiversity Forum.

Others that have not been updated for a while are as follows:

Sciomyzidae	http://sciomyzidae.myspecies.info/	21/01/2016
Drosophilidae	http://drosophilidae.myspecies.info/	14/01/2016
Simuliidae (Black Flies)	http://simuliidae.myspecies.info/	30/09/2014
Tabanidae	http://tabanidae.myspecies.info/	29/09/2014
Scatopsoidea	http://scatopsoidea.myspecies.info/	05/09/2014
Syrphidae Community Website	http://syrphidae.myspecies.info/	26/07/2014
Flesh Flies (Diptera: Sarcophagidae)	http://sarcophagidae.myspecies.info/	02/05/2014
Tachinidae Recording Scheme	http://tachinidae.myspecies.info/	10/07/2013
Empidoidea	http://empidoidea.info/	13/10/2010

There are one or two disappointments as regards content in the above but some, such as Chris Raper's Tachinids were pretty thoroughly set up in the first place and are valuable resources even if it has proved not possible to maintain the Literature lists.

Three more UK Scratchpads from Recording Schemes are in the pipeline, the authors will no doubt provide us with details once they've got past the setting-up stages.

Further sites constructed using the Scratchpad template that are of interest are **The Diptera Site** (http://diptera.myspecies.info/) and those of the **International Commission on Zoological Nomenclature** (ICZN) at https://www.iczn.org/ and the **Irish Insect Checklists** at http://insectireland.myspecies.info/

For a really stupendous one, try **Antkey** (http://antkey.org/en) which is organised by a team at USDA and has Lucid keys built into it together with some amazing line drawings and detailed figures.

Setting up a Scratchpad

If any of the other Recording Schemes want to set up their own Scratchpad then I have prepared a guide and will be happy to help you set one up. They are ideal for a Recording Scheme.

Readily manageable ones, or at least ones I would like to see, would be Conopidae and UK or European Sciomyzidae. The system supports multiple contributors so if you have some relevant skills then contact the Scheme organiser. You will need to begin by collecting images, making sure to keep a record of the author and url (I suggest iMatch) and published papers using Mendeley.

Diptera of the British Isles anyone?

Darwyn Sumner

Photography

Archives

Digital assets do not fall under the same UK laws of succession as do material assets. Next of kin have no rights of access to any online data, be it social media accounts or any images you've thought safe.

So what happens to online collections of digital data stored in the cloud on the demise of its owner? It just sits there in cloud limbo, accessible only to corporate multinationals according to Elaine Kasket, author of *All the Ghosts in the Machine: Illusions of Immortality in the Digital Age*. In the case of Flickr PRO accounts, these will downsize to the standard 1000 images and the rest will be deleted unless someone else pays for the PRO subscription. They are after all a business.

Securing image collections

If you have collections of images, records or libraries that you wish to succeed you then buy yourself a capacious hard disk*, add a clear label to it and start to back up all your important stuff there. It's good practise to make backups anyway. Make sure the data is all clearly labelled too. This means adding your name and a title (identification) to the metadata of image files.

*Small (40g) Solid State Drives (SSD) with no moving parts are worth considering, for around £150 you can get 1TB of storage on something that can slip into your holiday camera bag (SanDisk, Samsung, WD etc.).

Kasket, E. (2019). All the Ghosts in the Machine: Illusions of Immortality in the Digital Age. Little, Brown Book Group.

Redwine, G. (2015). Personal Digital Archiving. Digital Preservation Coalition, (December 2015), 1–37. http://doi.org/10.1081/E-ELIS3-120044332

Galleries

Online galleries of Diptera images can be of considerable help when trying to identify something, or simply just to get an idea of what a particular Family looks like.

There are a number of these, variable in both content and reliability. They have been constructed within various formats (blogs, bulletin boards, image gallery formats and dedicated websites) but the factor that they all have in common is that they require some dedicated person(s) to manage them.

The most comprehensive of these is **Diptera.info** managed by Paul Beuk. It attracts a considerable amount of international expertise and so the identifications are very reliable. It's based upon the bulletin board format which supports both a forum and a gallery and is fairly modern piece of software (PHP-Fusion).

So what are the options available to devise such a gallery? Apart from individuals who add their own images to their own gallery (e.g. Steve Falk's Flickr, Malcolm Storey's BioImages), they all operate in the same way:

1. Photographer selects an image and gets it identified,
2. Posts image onto some online system,
3. Image is assessed by experts/volunteers,
4. Image is moved by expert/volunteer into the correct position on some kind of taxonomic display.

Bulletin boards

You will perhaps have used these to obtain an identification. Bulletin boards are a category of structured discussion forums, each powered by different "engines". An old engine is the PunBB one much disliked due to its propensity to attract spam unless closely managed, examples include our forum and the NBN's current forum.

Diptera.info uses a different engine called "PHP-Fusion", I simply daren't ask Paul Beuk about how hard that system is to manage - he does a terrific job and it's obviously time-consuming. The engine will support an image gallery but it has to be managed carefully. The French **Le mondes des Insectes** also uses this kind of system.

Other, more modern engines exist, such as MyBB which try to address various problems associated with older engines. They are used enthusiastically as forums by various sectors such as software developers, artists and photographers but none of them have any clear features (easy image posting + an hierarchical names system) that would suit such a gallery.

Flickr and its kind

Flickr is basically a photographic blog, images are displayed in the sequence they are uploaded. A bunch of tools however allow some sort of structure to be applied. A good example of this is the way in which Steve Falk has organised his Flickr site.

Several other dipterists use Flickr, you should take a look at those of Nigel Jones and Ian Andrews. Add species' name tags (enclose binomials in quotes) to your own Flickr uploads then click that tag to find those who photograph the same species. If it's a species you have a particular interest in then add the found picture to your "faves" and the photographer to your "following" list.

There has been a dedicated **British Diptera Group** since 2007 which you can explore at https://www.flickr.com/groups/413853@N21/ though it appears somewhat moribund.

Opinions about Flickr differ, people use it for a range of purposes and have different levels of commitment. I began to look for alternatives after I was denied access to my 5 year-old site:

Alternatives to Flickr

There aren't many of these, just a couple that come close.

The best of these is **500px** which has a similar structure to Flickr. The image upload system permits you to easily add a 500px watermark, a slight deterrent to those pinching images. It's a little more sales oriented, though if you are going to pursue that you might as well use Alamy.

Geotagging

Both have the capacity to read geospatial information from your uploaded image and show the location on a map. To take advantage of this system you will need to geotag (Bulletin #80, p20) your images before you upload them; use GPS or Google Earth. It's just a map though, there's no means of obtaining a geospatial reference from it, a severe shortcoming in the Flickr system.

Scratchpads

You will be able to find images on these sites, I went to a lot of trouble in mine to locate the most representative images and ask their owners for permission and you can assume managers of other sites have done the same. Though the hierarchical taxonomic arrangement is superb, the image management and display systems are awful. By all means send an image to one of the Scratchpad managers if you have one better than they do.

Custom built systems

It is possible to construct a website and add a widget that is designed specifically for handling image galleries. Again they are devised to fulfil sales or social purposes, few are scientific. Dipterists Forum have no plans to pursue this on our website.

Darwyn Sumner

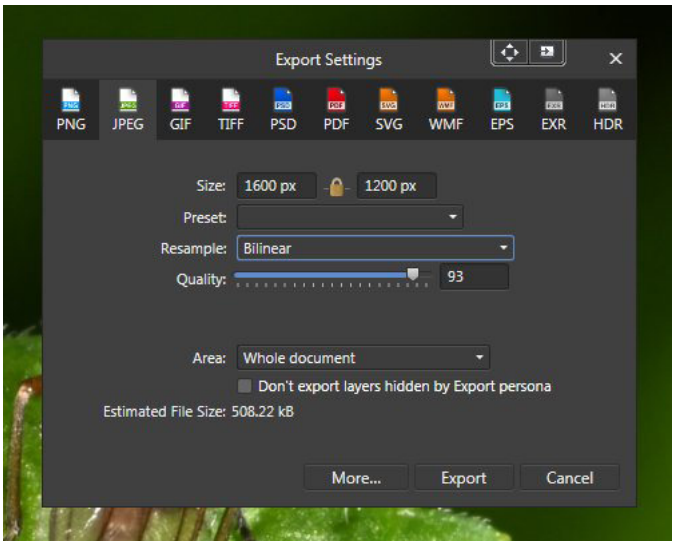
Preparing images for Identification sites

Many sites impose a restriction on the maximum size of an image that may be posted. In the case of **Dipterists Forum Forum** this is 1600 x 1200 with a maximum size of 512k. For **Diptera.info** the maximum size is 200k, width a maximum of 600 pixels and resolution need not be more than 72 dpi. For **iSpot** you need only crop, there is no size limit.

If your image is larger than the above then you have to prepare an image from your original that fits within those limits.

Here's how to do it in Affinity Photo:

1. Open your image in Affinity Photo
2. Crop (C) to select only the part of the image that is of interest, try a scale of 4:3. Apply
3. File | Export
4. In the Export settings window ensure that the width setting in the Size panel is 1600 or less
5. Read the Estimated File Size, if it's less than 512k then you are OK to Export, if not then tweak the Quality scale until it's just under 512k



Export the image, taking care not to overwrite your original: add some coding to the filename (e.g. "C" for cropped, "R" for resized, "Um" for unsharp mask)

If you are posting to the above identification sites then you will appreciate that you have downgraded the image quality and readers may not be able to see fine detail. Consider providing a link to your full-scale image stored on **500px** or **Flickr**.

Geotagging tips

If you have a GPS device then set it up to record tracks continually whilst you are out photographing. Then use the GPS application to write the Lat/Longs to your downloaded images.

Alternatively, after you've downloaded your image to your PC, use Google Earth to locate the spot, add a location pin then copy its Lat and Long to the image's metadata.

Use iSpot to get a grid reference

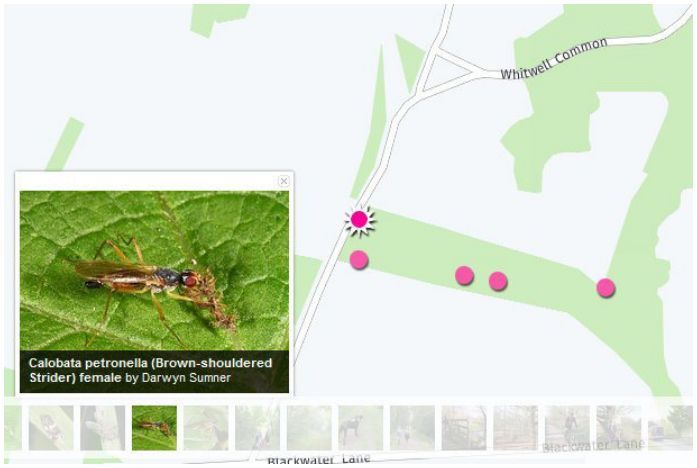
iSpot is extremely good at reading the metadata from your image, it's the fastest way to obtain an Ordnance Survey Grid Reference (OSGR) from the Lat/Long format in an image's metadata. Far quicker than other online systems (Ordnance Survey's own Grid Reference Finder https://gridreferencefinder.com/) Simply post an image to **iSpot** in the usual way until it has registered, then go to their second step (Location) and read off the OSGR (it's only 6 figure though). Abandon the process if you don't wish to actually post to **iSpot**.

iRecord doesn't read image metadata at all, you have to type out all the location and date information, but you'll have all the necessary information in each image if you geotag first.

Flickr & geotags

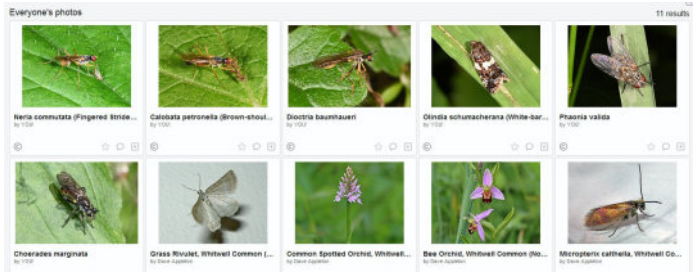
Flickr's map function can be useful; if you've not already geotagged before uploading then you can still place your image onto the correct location afterwards using their "Add this photo to your map" function. If you geotag your images then upload to Flickr, this function is automatic. Flickr chooses a default location name when you do this (so you'll still have to enter the reserve name in the "description" field.) Click on their default name (under the map) and it takes you to a page where everyone's Flickr photos from the same area are shown.

So for example I took several photographs at Whitwell Common SSSI, recording my track on a Garmin GPS which I added to my images using their Basecamp application:



Had I just recorded a single waypoint on a GPS then all these would be bunched together. Tracking provides valuable data as it shows *Neria commutata* at one end of the site and *Calobata petronella* at the other. Are the conditions different? maybe one could discover likely host plants.

Clicking on Flickr's location name under the map results in:



Botanists & lepidopterists have been there before me and recorded orchids & moths.

One could use this Flickr function to set up a photographic recording project on a nature reserve, provided it was sufficiently far away from popular photogenic areas such as town centres or tourist spots. At the very least you've now got a pictorial link that might interest the reserve managers. Maybe one day we'll get a fly picture on a reserve noticeboard somewhere.

If this sort of mapping piques your interest then you can, of course, map all the geotagged images stored on your desktop PC. Photool's **iMatch** has all this mapping functionality built in.

Darwyn Sumner

Conservation

UK Environment

UK's Department for Environment, Food and Rural Affairs (DEFRA) put together a "Draft Environment (Principles and Governance) Bill 2018 policy paper" last year, owing to the fact that we are leaving the EU. So that's a policy paper about a Draft Bill (two steps removed from an actual Bill.) The policy paper was updated this July so it's fairly fresh. By the time this Bulletin is published it will be finalised and things will come into effect.

What are these things? Well at the moment we rely on some fairly powerful tools we got from the EU such as the Habitats Regulations which have been transposed into UK law. Such laws will need to be properly resourced and enforced. How will that be implemented?

The above policy paper at https://tinyurl.com/y3j8fx75 tells us how; it will no doubt be covered more extensively in the future by writers with expertise in this area (e.g. Tucker & Baldock in British Wildlife, April 2018) as it begins to impact on UK wildlife.

Accordingly, the **Office for Environmental Protection** (OEP) comes into effect immediately we withdraw (obviating malicious damage.) If you want to stay informed just pop that term into a search engine together with the name of your news-source of choice (e.g. Guardian, Greenpeace, CPRE.)

Darwyn Sumner

Conservation News

Insect decline

Earlier this year a report was published which gained headlines. It was a review of 73 research papers on insect declines from across the world and it concluded that 40% of insects may become extinct over the next 40 years (Sánchez-Bayoa and Wyckhuys 2019). In terrestrial ecosystems the review found that Lepidoptera, Hymenoptera and dung beetles appear most affected but there's no reason to suspect that Diptera are not experienced the same fate, it's just that there are very few monitoring programmes in place for this order. The report concludes "*A rethinking of current agricultural practices, in particular a serious reduction in pesticide usage and its substitution with more sustainable, ecologically-based practices is urgently needed to slow or reverse current trends, allow the recovery of declining insect populations and safeguard the vital ecosystem services they provide*". This holds true in Britain: we must do what we can to support those environmental organisations pressing for urgent changes in policy: an extinction crisis faces us and we no longer have the luxury of careful deliberation and slow, step-by-step, change. Real, decisive, action is required, and now! Government may have a 25 Year Plan for the Environment, but given the rate with which that is being implemented, it is far too little, far too late.

Losses of pollinating insects

Further evidence, if any is needed, for the decline in insect abundance and diversity in Britain comes from a paper on losses of pollinating insects (Powney *et al*. 2019). The researchers, from the Centre for Ecology and Hydrology, together with our own Roger Morris, assessed over 700,000 records submitted to Bees, Wasps and Ants Recording Society and the UK Hoverfly Recording Scheme from 1980 to 2013. They found that in both hoverflies and bees a third of species assessed declined in range between 1980 and 2013, while just a tenth increased their geographic distribution. The authors reckon there's been a net loss of 4 bee and 7 hoverfly species per 1km square across the UK. They extrapolate this to estimate that there has been a net loss of over 2.7 million occupied 1 km^2 grid cells across all species – staggering! Rates of distribution declines were similar for bees and hoverflies (25% and 24% decline respectively), but bee declines mainly occurred after 2007, while hoverflies declined steadily between 1987 and 2012. In contrast dominant crop pollinator bees increased by 12%, probably in response to agri-environment measures specifically designed to support bumblebees. Declines in pollinator evenness suggest that losses were concentrated in rare species. The successful approach taken to bumblebees on arable land needs to be broadened vastly to include all pollinators (and indeed other insects) across all farmed habitats. A considerable challenge, but one we must meet if we are to save our insects and the services they provide us with. The paper concludes by saying that the declines highlight a fundamental deterioration in both wider biodiversity and non-crop pollination services.

Urban pollinators

Remaining on pollinators, a recent research paper confirms that some urban land uses can support substantial populations (Baldock *et al*. 2019). The authors took a comprehensive look at diversity and abundance across different land uses within four cities: Edinburgh, Leeds, Reading and Bristol. While bees were found abundantly in just allotments and gardens, hoverflies were also found abundantly in nature reserves, parks and cemeteries. Road verges were not favoured by either bees or hoverflies. Allotments, while the best habitat, occupied only a very small area of each city (less than 1%). On the other hand, both gardens and public green spaces (e.g. parks) occupied 24-36% of each city area, although the green spaces supported far few pollinators than the gardens. Interestingly, pollinator abundance was positively correlated with wealthy neighbourhoods – described as the 'Luxury Effect'. Creeping thistles, dandelions, creeping buttercup, common hogweed and non-native borage were outstanding in attracting pollinators, but the common daisy was poor (amongst other plants). The paper recommends that town planners and managers should increase the number of allotments, ensure new housing developments include gardens, and improve public green spaces for pollinators, in particular by increasing the diversity of flowering plants and reducing the frequency of mowing.

Hairy pollinators

Still on the theme of pollination, both flies and bees have been found to be effective pollinators of oilseed rape (Phillips *et al*. 2018). While bumblebees, mining bees (Andrenidae) and honeybees delivered more pollen, flies were also effective in this regard, especially and in order of abundance, Empididae, Bibionidae, Sarcophagidae and Syrphidae. Flies deposited pollen whether or not they were visiting the flowers for a nectar reward. Indeed most visits to flowers, whether by bees or flies, delivered more than enough pollen to achieve fertilization on just a single visit, so even though bees may deliver more pollen they may not be responsible for more seed set than flies given the numerical abundance of flies. As might be expected, the hairier the fly, the larger it is, and the more time it spends on a flower at each visit, the greater the chances of it effecting pollination.

Hoverfly migration

Finally on pollination, fascinating research led by Karl Wotton at the University of Exeter (Penryn campus, Falmouth) into mass migration by hoverflies using insect-monitoring radars has revealed that up to 4 billion hoverflies (80 tons of biomass) travel high above Britain each year, on seasonal migrations (Wotton *et al*. 2019). These long-range migrations transport billions of pollen

grains between Britain and Europe, and locally produced populations consume 6 trillion aphids and make billions of flower visits. Migrant hoverfly abundance fluctuated greatly between years, but there was no evidence of a population trend during the 10-year study period. Considering that, as already noted, many beneficial insects are seriously declining these results demonstrate that migrant hoverflies may be key to maintaining pollination and crop pest control, essential ecosystem services. Both Roger Morris and Stuart Ball are co-authors of this paper which uses data from the Hoverfly Recording Scheme.

Reprieve for Gwent Levels

Some good news. The proposal to build the M4 relief road to the south of Newport in south Wales has been turned down by the Welsh Government following a long public inquiry. This 14 mile stretch of motorway would have cut right through the northern edge of the Gwent Levels SSSI, a site a major importance for Diptera among other wildlife. The project has been shelved on grounds of cost and environmental impact. The Labour-led Welsh Government must be congratulated on this decision.

Coul Links

Let us hope for a similarly good decision following the inquiry this spring into the building of a golf course at Coul Links in eastern Scotland, site of the endemic Fonseca's seedfly. A strong coalition of environmental organisations, including Buglife, devoted substantial resources to giving evidence at the public inquiry and made a compelling case. I understand the witnesses were examined by the opposition's lawyers more on their credentials rather than on the evidence they gave, which suggests the developers recognise the strength of the nature conservation case and felt unable to discredit it. The Scottish Government are expected to make a decision later this year. Will they hold true to their environmental policies and aspirations? Our thanks must go to Craig Macadam from Buglife for presenting the case for invertebrates so well – he tells me he was grilled/quizzed for three hours mostly on the distribution and status of Fonseca's seed fly.

Baldock, K.C.R *et al*. 2019. A systems approach reveals urban pollinator hotspots and conservation opportunities. *Nature Ecology and Evolution* 3, 363–373.

Phillips, B.B., Williams, A., Osborne, J.L., & Shaw, R.F. 2019. Shared traits make flies and bees effective pollinators of oilseed rape (*Brassica napus* L.). *Basic and Applied Ecology* 32, 66–76.

Powney G.D, Carvell, C., Edwards. M., Morris, R.K.A., Roy, H.E., Woodcock, B.A. & Isaac, N.J.B. 2019. Widespread losses of pollinating insects in Britain. *Nature Communications* 10, 1018.

Sánchez-Bayoa, F. and Wyckhuys, K.A.G. 2019. Worldwide decline of the entomofauna: A review of its drivers. *Biological Conservation* 232 (2019), 8–27.

Wotton, K.R., Gao, B., Menz, M.H.M., Morris, R.K.A., Ball, S.G., Lim, K.S., Reynolds, D.R., Hu, G. & Chapman, J.W. In press. Mass seasonal migrations of hoverflies provide extensive pollination and crop protection services. *Current Biology* (2019), https://doi.org/10.1016/j.cub.2019.05.036

Rob Wolton - Acting Conservation Officer

UK BAP & **Adopt a species**

News from fly guardians

Barred Green Colonel ***Odontomyia hydroleon*** on the North York Moors July 2019,

by Ian Andrews

The weather was not particularly helpful on days when the site was visited this year, with rain hampering investigation. Finally, on 12th July, a hot day with light winds saw three males of the Barred Green Colonel hovering over the lower part of the flushes, just above the tops of the *Juncus subnodulosus*. All three were potted up for examination and looked to be fairly freshly emerged. As usual, none of them were found prior to 12 noon, in spite of arriving on site a couple of hours earlier, confirming the usual experience that the species is active only for a short time around midday on very warm days.

I am very grateful to Cath Bashforth, FC ecologist, who has again arranged a work party to come in this autumn to clear rushes, as well as organising grazing over the winter. This management is essential to the continued presence of the Colonel at this tiny site.

Barred green colonel (*Odontomyia hydroleon*), Ian Andrews

The pine hoverfly ***Blera fallax***,

by Iain MacGowan

Blera fallax Photo Steve Falk

There has been a major step forward with the successful captive breeding of *Blera* in captivity by the dedicated staff of the Highland Wildlife Park. Captive breeding of *Blera* was first carried out by Ellie Rotheray as part of her PhD studies over a decade ago but with Ellie moving on it was important for the *Blera* project that these skills be maintained and developed in Strathspey. The project has been fortunate to have staff time and facilities provided by the Wildlife Park where, with guidance from Ellie, the captive breeding has been successful. Larvae were collected from the wild in autumn 2018 and kept over winter at the park. Adults emerged in the spring and then the most difficult part of the captive breeding process - the mating and consequent egg laying was also suc-

cessfully achieved. Small larvae are now evident in the breeding chambers. This increased number of *Blera* larvae available opens up scope for further establishment of sustainable populations at pinewood sites under long term conservation management rather than at the present privately owned key site which is vulnerable to forestry actions.

The aspen hoverfly ***Hammerschmidtia ferruginea***,

by Iain MacGowan

The planned re-introduction of this species to the extensive stands of aspen on the Muir of Dinnet National Nature Reserve in Deeside was completed in the spring. Twelve large larvae/ puparia were collected from five trees at two sites in Strathspey in late April and transported to the Deeside site where there is a considerable amount of suitable dead wood. It is planned to undertake larval searches over the coming winter to determine whether the species has become successfully established.

Hammerschmidtia ferruginea Photo Steve Falk

Development of a surveying tool using environmental DNA:

The search for the bog hoverfly ***Eristalis cryptarum***,

by Catherine Mitson, catherinesmitson_95@hotmail.co.uk.

In Bulletin No. 84 (2017), I wrote a short piece describing a project I had then recently begun with the University of Exeter (supported by the Dartmoor National Park Authority, Whitley Wildlife Trust and the John Spedan Lewis Foundation). This project was focused on the beautiful but elusive bog hoverfly, *Eristalis cryptarum.*

E. cryptarum is critically endangered and listed as a UK BAP priority species. It was once found across the majority of the South West (albeit never in high abundance) in the boggy habitat of valley mires in Rhôs pastures until it was last recorded on Dartmoor National Park in 1978. Fortunately, *E. cryptarum* was rediscovered in 1993 on Dartmoor where it has only ever been recorded from since. Its undescribed larval stage is widely presumed to be aquatic and of the 'rat-tailed' variety, similar to its *Eristalis* relatives.

Due to the elusive behaviour of this species, and so the resultant difficulties of surveying the bog hoverfly, I tried to develop a tool to detect *E. cryptarum* environmental or 'free' DNA to determine the presence or absence of *E. cryptarum* larvae in water samples collected from habitat sites. Using environmental DNA (eDNA) allows the potential identification of *E. cryptarum* without the need to locate the adults or larvae, a useful technique for a famously flighty species. In reality, this did not quite go to plan, and I was unable to detect *E. cryptarum* eDNA from water samples. In some cases, I was able to amplify hoverfly DNA from my own water samples where I was housing *E. arbustorum* larvae and so I remain optimistic that maybe with more sensitive techniques, the use of environmental DNA could still have the potential to be a valuable tool in the search for the bog hoverfly, as it already is for the detection of a number of other species.

Eristalis cryptarum on marsh St John's wort *Hypercium elodes* © John Walters.

On a more positive note, I had the pleasure of spending an entire field season observing *E. cryptarum* for myself. After two long months of frantic searching, I finally saw a male *E. cryptarum* land on the sphagnum moss of a particular mire directly in front of me. From that point on, I was able to able to record *E. cryptarum* on most days up until the end of their flight season in late September to early October at this one particular location, as well a further sighting of a female at a completely different site. I saw for myself how the males hover and dart along the runnels in a seemingly territorial way, and how they can disappear in a flash at the slightest disturbance and yet return to the same exact spot. So far during this year, there have been a few reported sightings of *E. cryptarum* and I hope to return to Dartmoor myself to provide more valuable records of the elusive bog hoverfly.

A snippet from Martin Drake on the tiny but attractive dolichopodid *Lamprochromus semiflavus* (=*strobli*). He found it in summer 2019 still thriving at its known Devon reedbed on the Exe estuary. It's down as Data Deficient and, because of its small size, is likely to remain that way until more reedbeds are investigated.

Robert Wolton - Acting Conservation Officer

Regional groups

Northants Diptera Group

The group has met every Sunday morning since the last week in April. Like many other areas, numbers of flies have been down. Hoverflies especially seem to have been hit. Spring numbers were particularly low but have picked up for a limited range of species in late June, early July.

Probably the most significant Diptera event in the county was the first report of *Bombylius discolor* by Tim Pridmore, warden of Farthinghoe NR near Banbury. He recorded it on 1st April on the nature reserve. I immediately publicised the news and further records came in from Salcey Forest, just North of Milton Keynes and an area just south of Daventry. Despite searching in the wider county all the records so far have come from the south-west corner. My publicity prompted Chris Colles to check some photos he had taken in 2018 at Boddington churchyard and sure enough, he had taken a photo of one, making it the first county record.

Bombylius discolor the first record for Northants, Boddington Churchyard 19/4/2018, Chris Colles

Another first for the county came from my garden in Rothwell. On 20/4/2019 I was packing away my moth trap when I noticed a *Cheilosia sp.* on my note book. I took it and checked it in Stubbs and Falk but, having taken it to Pagana Group it failed. I had previously noted to check for *C. caerulescens* where it keyed out in van Veen to a female of that species.

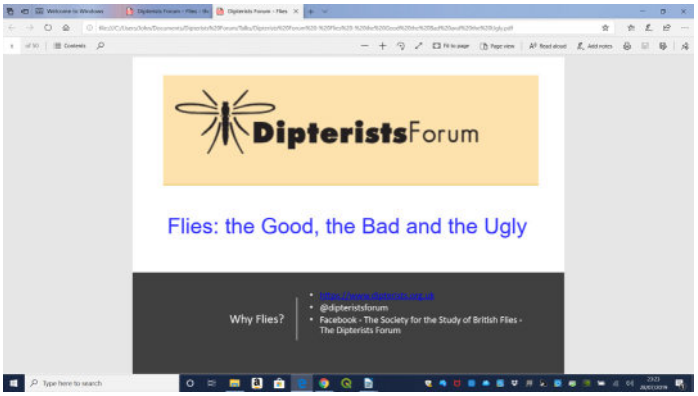
Cheilosia caerulescens Female. First record for Northants, Rothwell, 20/4/2019, John Showers

The cranefly *Dicranomyia sericata* was recorded at two field meetings both of which were held in former limestone quarries in the north of the county. The quarries had extensive patches of scrub, including birch, and areas of open, stony ground.

Our other field meetings have taken us back to previously visited sites, but at different times of the year in order to increase the species lists for the sites. Despite all out activity there are still quite large gaps in the coverage of the county, especially in the west and south-west. Dipterists from adjacent counties are welcome to join us if they wish. A special recording week was held at the Yardley Chase MoD area and several eminent naturalists took advantage of the chance to visit this superb site, unfortunately dipterists were not amongst them. The week was close to the DF Summer Field Meeting so was not ideally timed in that respect. Nevertheless, our group took advantage but the collection has not yet been examined.

Phasia hemiptera, Yardley Chase. Photo John Showers

Other activities we have undertaken included giving a talk on "**Flies – the Good, the Bad and the Ugly**" to the Northampton Natural History Society. This talk was put together by Erica McAlister and me in order to bring Diptera to the wider natural history community and publicise Dipterists Forum. If any member wants to use it in their local area I can put it on Dropbox for them. It contains some Northants specific parts but these can be dropped or replaced. The talk comes with notes pages and is in Powerpoint format.



Other activities have included running a one day workshop on picture wing flies for the Wildlife Trust, an identification workshop and helping at a couple of bioblitzes.

If anyone would like to start a local diptera group I am happy to pass on our experience. Organisation is not difficult or time consuming.

John Showers

Members

Membership Matters

By Mid July 2019 we had 370 paid-up members and 322 subscribing to the Dipterists Digest. This is higher than this time last year when the respective numbers were 353 and 313. 42 new or returning members have joined so far this year. Sadly, two of our long-standing members passed away earlier this year. We still have a number of 2018 members who have not resubscribed and these will not receive journals until up to date with their subscription.

New members have found out about Dipterists Forum from a variety of sources as shown below:

Training Workshops	3	New website	17
Other social media	3	Exhibitions etc	1
From existing members	8	Returning after break	7
Unspecified	3		

This shows the value of the new website in attracting new members

I do urge all members to keep up to date with subscriptions, which fall due on 1st January each year. I am happy to answer any email queries about subscriptions if you are not sure you have paid.

All subscriptions, changes of address and membership queries should be directed to John Showers at:

103, Desborough Road,
Rothwell,
KETTERING,
Northants,
NN14 6JQ
Tel.: 01536 710831
E-mail: showersjohn@gmail.com

Membership & Subscription Rates for 2019

Members and Subscribers are reminded that subscriptions are due on 1st January each year. The rates are as follows:

UK

Dipterists Forum: £8 per annum. This includes the Bulletin of the Dipterists Forum.

Dipterists Digest: £12 per annum.

Both of above: £20 per annum

Overseas

Dipterists Forum and Dipterist Digest: £25 pa.

There is only this one class of membership. Payment must be made in Pounds Sterling.

BANKERS ORDER PAYMENTS

You can set up a banker's order or bank transfer to pay the subscription via online banking using the following details:

Dipterists Forum
NatWest Bank
Sort code 60-60-08
Account no. 48054615

Please add your name to the payment reference or we will not know from whom the payment was made.

International payments should use:

IBAN: GB56NWBK60600848054615
SWIFT: NWBKGB2L

Alternatively you can send your bank the banker's order mandate form, which can be found on the DF website. This form explicitly states that it cancels previous payments to Dipterists Forum.

OTHER PAYMENT METHODS

Cheques should be made payable to:

"Dipterists Forum" and sent to the address above.

PayPal payments can be made to: dipteristsforum@outlook.com

Please e-mail me to let me know when you pay by PayPal.

John Showers

Bursaries 2020

The Dipterists Forum holds an annual weekend course at the Preston Montford field studies centre near Shrewsbury. These courses cover selected families of flies in detail, and the 2020 course will be about flies with patterned wings, including the Tephritidae, Ulidiidae, Pallopteridae and Opomyzidae. It will take place from Friday 16th to Sunday 18th February. Running simultaneously with this will be a beginners' course on hoverflies (Syrphidae).

The Forum also has annual residential summer field meetings lasting for one week. These take place at various venues around the country, and the 2020 meeting is expected to be based in Falmouth from the 27th of June to the 4th of July. Attendees spend their days in the field collecting and observing flies, and evenings in a laboratory where they can identify their catches alongside other dipterists. Beginners are made very welcome and can gain valuable knowledge from more experienced members. We offer up to two bursaries for the Preston Montford course and three for the summer field meeting. Each bursary covers half the total cost including accommodation costs. If you would like to apply for a bursary please send your application by e-mail to Howard Bentley, jhowardbentley@gmail.com

Your application should say what you hope to gain from attending, how you would expect to contribute to the Forum's aims of the study, recording and conservation of Diptera, and why you would benefit from financial assistance. If you are currently involved in a research programme please include brief details. We will be looking for evidence of enthusiasm and interest in flies. Preference may be given to those who have not received a bursary previously. Applications should not exceed 300 words. Successful applicants will be expected to write a short account of their experience afterwards, and this will be published in the Forum's Bulletin. Applicants must be members of the Dipterists Forum. The closing dates for applications are: Friday 29th November 2019 for Preston Montford; Friday 27th March 2020 for the field meeting. If you would like further details of what is involved in these meetings please send a request to the e-mail address above.

Howard Bentley

Website Matters

Logging on to the new website

Our new website is www.dipterists.org.uk

To log onto it for the first time you need to use your e-mail address as the login username. The site will then send you a temporary password that you can use to log in. Once logged in you should change your password.

If you do not have an email address or if the one we hold is now out of date you will need to email me or Martin Harvey to set it up for you.

John Showers

Insect collecting

Memories of insect collecting during the Second World War

I was eleven years old when the Second World War broke out, and I was on a ship returning from Jersey with my parents. We had been on holiday and during the first few days of the war it was thought that German submarines would be active in the Channel, so we all had to wear life-jackets. Fortunately it was a peaceful voyage to Weymouth.

My parents lived in Henleaze, Bristol at the time, a northern suburb very close to open countryside. So when I developed an interest in insects I was able to walk or cycle only a couple of miles and I was in woods and fields fairly quickly. In retrospect it seems surprising that young children of my age were allowed to disappear for several hours into rural areas on their own. But there was very little traffic then, and I was grateful for the freedom I had.

My first curiosity was ants, fuelled by acquiring a copy of Horace Donisthorpe's British Ants. I made several plaster of Paris homes for them (which my parents insisted I constructed in the garden), and managed to keep some going for a short period. Probably I failed to install a queen ant! Some what later just after the war had ended, my parents took me to London on a short trip, and I took the opportunity to visit the Natural History Museum to see if I could meet Mr. Donisthorpe. I remember the front of the museum was still sheathed in sandbags at the windows. Surprisingly an attendant showed me into the ant domain where Donisthorpe resided. He was very friendly and helpful, and I asked him if I could view some of the ant collections. He showed me into an adjoining room and invited me to look at anything that took my fancy. If I had any questions he would be in the next room. I was about 16 at the time and he must have thought I looked responsible!

I also visited Watkins and Doncaster to stock up on entomological supplies. They had premises in The Strand, up a flight of stairs at the top of an office building.

My next enthusiasm was beetles, fuelled by my discovery of a set of several volumes (by D. Sharp and W. Fowler ?) on British beetles which I found in a second-hand bookshop in Bath. I remember they cost only a few shillings. At this time I joined the Cotteswold Naturalists Field Club and attended several indoor meetings and one field trip in January where we all met near Tewkesbury on a bitterly cold day, searching under bark for beetles. This field meeting was lead by K. Airy-Shaw, who was a botanist from Kew Gardens specializing in Rhododendrons. The Kew herbarium had been moved to Cirencester during the war together with Airy-Shaw. The bus services from Bristol must have been still running during the war as I had no other means of venturing into Gloucestershire.

I also joined the Bristol Naturalists Society and attended many of their meetings. They had a small library which was housed in the Bristol Museum. I was allowed to have access to this room and to borrow books from there. So I was able to browse through complete copies of the Entomologist, Ent. Record and the E.M.M. Again I was amazed at the trust given to me to be able to do this. The Society had copies of Pierce & Metcalf's volumes of drawings of microlepidoptera genitalia, and I began collecting these interesting moths. The museum also had several excellent cabinets of microlepidoptera which I was allowed to view. It was not far to cycle from Henleaze to Leigh Woods, and I went there on many occasions in the Spring to collect lithocolletids (microlepidoptera) on beech trunks. Their striking Chinese-like gold and red linear wing pattern on a white background was easy to spot on the tree trunks. This would have been about 1943-4, and in the small clearing at the beginning of the wood a barrage balloon site was installed as part of the defence of Bristol. One day at about this time I visited Henbury Golf Course and found numerous small metallic purple-winged moths flying around birch branches. They must have been Micropterigidae. As I was netting some samples I heard a distance explosion and shortly afterwards a Heinkel bomber flew low overhead. I stopped waving my net around! Later I heard on the wireless that a lone German plane had dropped its bombs over Filton aerodrome, about 3 miles from Henbury, and it had been shot down over the south coast as it was returning to Germany. These bombers had a machine gun turret in the nose of the fuselage and on another occasion in the morning a Heinkel flew very low over our house in Henleaze. My father in his Home Guard uniform had just set off down the road for the local headquarters. One could see the gunner quite clearly. My father just stood motionless under a small cherry tree!

The war ended on September 2 1945. I was 18 years old in November, and was called up for National Service in February 1946. So unfortunately my entomological adventures ended by two years spent in the army, followed by several years studying stage design in London, and were not fully restored until the 1950's, when I got a job at the Bristol Old Vic Theatre School. Back in Bristol I met Fon (Mr d'Assis Fonseca) and Adrian Pont, both of whom lived there at the time. As a result I was converted to flies and Anthomyiidae in particular.

Michael Ackland

Obituary

Amanda Morgan

Amanda Morgan first appeared in my life whilst I was undertaking my PhD at Roehampton University back in the early noughties, and in many ways she made my time as a post graduate the wonderful experience that it was. She joined the department of Life Sciences as a Science technician, rapidly becoming an invaluable member of the department for both the staff and the students due to her enthusiasm, and her ability to quickly and efficiently complete all tasks and problems thrown at her, and most importantly her humour. I can't thank her enough for helping me there, whilst I was a student and then as a part time lecturer. Not only was everything at hand at work, but she was also there with a glass of wine and a diplomatic breakdown of the day's events whenever I needed it.

Amanda was always been interested in nature and science and is great on fieldtrips – always immersing herself with the practical side of fieldwork. Due to her inquisitive nature and thanks to various choice conversations, she decided to get more involved with flies and the Dipterists Forum. She was a regular attendee on fieldtrips and courses and brought with her a sharp wit and a no-nonsense attitude, both of which are needed when dealing with a room full of fly fanciers. I loved spending time with her after the evening's pinning was done, breaking down the day with a glass of wine (there may have been a theme with Amanda and myself).

Amanda's talents did not go unnoticed and when she offered to help out on the committee in 2014, she was gratefully welcomed into the fold, immediately taking up the role of Secretary. She fulfilled this role superbly, organising meetings and supporting the chairman and other committee members admirably, often doing more than was required or expected of her. For instance, she arranged the 2017 Snowdonia summer field meeting, including obtaining many of the necessary site access permissions, even though she knew that due to her failing health she would be unable to attend herself.

Amanda was one of the kindest, generous, and funniest of people that I am lucky to have met. I can still see her pulling a face at me as I have said something stupid or forgotten to do something vital. I have had the honour of meeting both her sons who all our thoughts are with, as are with Peter, her husband, and a man who gave her much joy as well as an opportunity to run around the countryside - I will miss Amanda greatly as I believe all that have got to know her will.

Erica McAlister

Field Meetings Dipterists Forum

Booking Form - for rates see Bulletin

Meeting location and dates			
Name			
Address			
Telephone number			
Mobile phone number			
email address			
Intended stay (please indicate days and dates)			
Dietary requirements	Omnivore		Please tick relevant box
	Vegetarian		
	Vegan		
Allergies (food)			
Deposit			
Signature		Date	

Please Note: We will endeavour to accommodate for part-weeks but this is dependent upon available accommodation and the policy of the host venue

Payment details:
Cheques made payable to Dipterists Forum

Deposits
Deposits will only be returnable if cancellation occurs before the published cut-off date for reduced rates.

Please send your booking form and cheques to:
Phil Brighton, Dipterists Forum Treasurer
32 Wadeson Way, Croft, Warrington, WA3 7JS
Email: helophilus@hotmail.co.uk

Review

Open Access

Dipterists Forum Reports

Online publishing

There has been much discussion about the need for a third form of publication by Dipterists Forum. The idea is for an online Open Access system and vehicle for articles which do not fit in well with our current print publications, Dipterists Digest (peer-reviewed) and this Bulletin.

Simply "**Dipterists Forum Report**"(s) with the optional addition, in the case of Recording Schemes, of that scheme's name thus: "**Dipterists Forum Report: Tephritid Flies Recording Scheme** "

The following are category candidates ("Series Volume" *sensu* Mendeley):

A: Recording Schemes

Distribution atlases and other materials produced by Recording Schemes. Atlases may be too long for print, some extending to around 100 pages. The atlas needs of Recording Schemes exceed the capabilities of online atlases in several ways. For example many Recording Schemes maintain more comprehensive and/or verified datasets, some atlases extend beyond the UK and authors may wish to comment on individual maps. They are subject to periodic revision and so become out of date at intervals, hence the need to incorporate Version numbers (see below.)

B: Special Reports

The clearest example would be Peter Chandler's item on *Drosophila suzukii* published in Bulletin #86. This Bulletin will remain under membership embargo for another year and so not seen by anyone outside Dipterists Forum membership. As with any such article Peter is able to distribute copies of it to anyone who enquires. However the topic of invasive non-native species is of current interest to a range of researchers far wider than DF members. It should be made available to read as Open Access (by posting the pdf on our website) at the same time as Bulletin #86 is published.

C: Technical documents & guides

A number of these have been produced from time to time as the need has arisen. They range from recording guides produced by Stuart Ball at workshops through biological recording software tips (Recorder & MapMate), guides to help Recording Schemes upload their data to NBN Atlas and Scratchpad and FSC Identikit tips to Phenology methodologies. Add to this all the guides produced by Martin Harvey (iRecord) and Chris Raper (UKSI and validation) and a whole host of introductions to technical tools and principles raised in the Bulletin.

D: Identification keys:

A complex area due to copyright issues. Recording Schemes generally manage the deployment of their own "paste-ups" or make recommendations. There is a need to acknowledge these in a more formal manner however. For example one of my "paste-ups" was simply referred to as: " *... and other Internet resources (Chapter 1; Nerioidea; prepared for Dipterists Forum Acalyptrate workshop, March 2004 [http://www.dipteristsforum. org.uk/documents/Nerioidea.pdf])"* in the body of an American article, there was no acknowledgement in the References.

I have been asked to set up some kind of system to implement the publishing of these types of documents so that they can be branded with the Dipterists Forum's name as publisher and thus conform to citation rules.

So for example, the special features in this Bulletin, which were compiled with the express intention that they be made available straight away as separate Open Access online documents:

Webb, J. A. (2019). Flowers for Flies. Dipterists Forum Report, B(1 V2), 8.
Sumner, D. P. (2019). Deadwood and Diptera. Dipterists Forum Report, B(1), 8.

Examples

Citation styles differ of course but the following are examples as managed using Mendeley:

Clemons, L. (2018). Distribution Maps of the Tephritidae of Britain and Ireland. Dipterists Forum Report: Tephritid Flies Recording Scheme, A(2), 76.
[A simple implementation on a typical Recording Scheme Atlas]

Sumner, D. P. (2018). Vernacular names: European Micropezids & Tanypezids (Diptera, Nerioidea & Diopsoidea). Dipterists Forum Report: Stilt & Stalk Fly Recording Scheme, A(3 V2), 14.
[Vernacular names have increasing value for use in conservation literature and books]

... and some recent category B items:

Chandler, P. (2018). An update on Drosophila suzukii - Spotted Wing Drosophila almost ubiquitous in the south and still spreading north. Dipterists Forum Report, B, 4.
[This one already has a different full citation as it was published in the Bulletin]

Sumner, D. P. (2019). Deadwood and Diptera. Dipterists Forum Report, B(1), 8.
[Issue is only an issue if you intend writing more in the future with the same title]

Webb, J. A. (2019). Flowers for Flies. Dipterists Forum Report, B(1 V2), 8.
[Judy's article is a reissue with additional images, hence "V2"]

... Phenology article (as yet unfinished) in category C

Sumner, D. P. (2018). Phenology and Polar Area Charts (Fantail Phenology). Dipterists Forum Report, C(5), 8.
[Issue 5 as it's my fifth technical document/guide for DF, so it's just the author who needs to keep track of their own numbering and versioning]

Using Mendeley

Example of how one would enter a Dipterists Forum Report in Mendeley. Though other information about a publication can be entered, the above are the only fields that find their way into a citation.

Publishing online

Now there is the issue of where to upload it online to make it available to all. It could go on to our DF website, if it relates purely to a Recording Scheme it could go on their website, but since it now has a full citation "label" it can also be posted in full onto ResearchGate where it may be discovered internationally. Or all three, according to the judgement of the author.

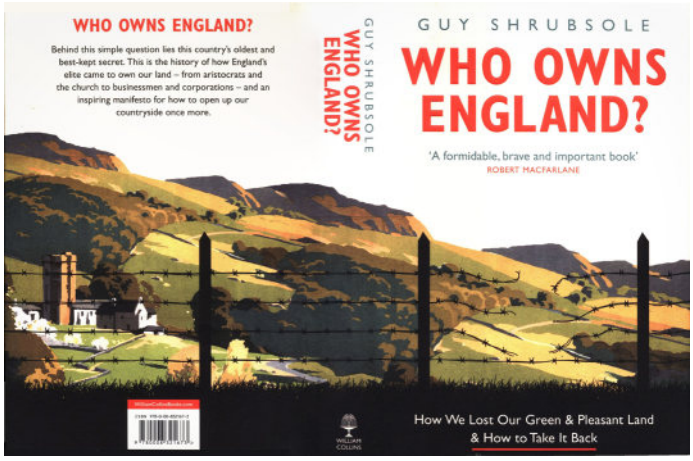
The above is entirely optional of course, and at the discretion of the authors of these items who may need to take into account issues such as copyright (especially Series Volume D) and frequent versions and updates (Series Volume A and distribution maps.)

Darwyn Sumner

Books

Land ownership

Who Owns England?
by Guy Shrubsole (2019)



Writing in his book about the map-maker William Smith, geologist Simon Winchester credits the Enclosure Acts of the late 18th century with turning "*plain and uninteresting*" landscapes into "*the English countryside that we see today, mannered, ordered and inordinately pretty*". Guy Shrubsole takes the opposite view regarding land that was owned in common being stolen via those Acts. Just one example of the tone that "Who Owns England" takes.

Shrubsole doesn't pull any of his punches, this book is packed with facts about land-ownership, covering the aristocracy, the Church, Royal estates, overseas investors and others and the vast sums of our "farm subsidy" money they all get paid just for owning it.

Owners are a secretive lot, even the Land Registry only know 83% of it, despite there being a financial record of all these subsidy payments. Public information paid for by public money and still they charge us for searches, it would cost you £72M to find out everything the Land Registry knows about who owns England

The Enclosure Acts is just one of the many threads that run through this book in which, centuries ago, common land was taken away from the people. One of Shrubsole's stories concerns the popular protest song "The Diggers" (it's still popular today, I've sung it in folk clubs) it goes:

In sixteen forty-nine to Saint George's Hill
A ragged band they called the Diggers came to show the people's will
They defied the landlords, they defied the law
They were the dispossessed, reclaiming what was theirs

He investigated Saint George's Hill and found that it is now a gated residential community for millionaire's homes, wholly inaccessible to the public. Residences include those of some Beatles, I wonder if that song is in their repertoire.

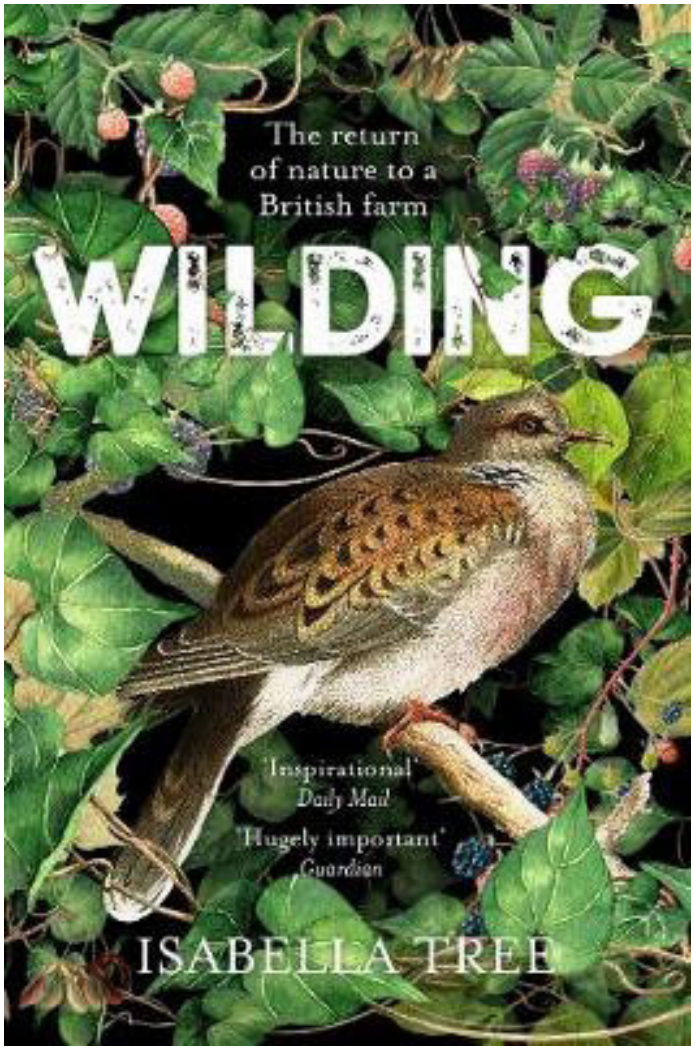
Strongly recommended; essential reading if you've ever hunted for wildlife in the UK, looked at an OS map for open access countryside, tried to get permission to visit a site of interest or just been anywhere.

Website at https://whoownsengland.org/

Darwyn Sumner

Conservation

Wilding
by Isabella Tree (2018)
Picador



Why review this book in the Dipterists Forum's Bulletin when flies scarcely get a mention? Two reasons. Firstly the site about which Isabella Tree writes is Knepp Castle Estate in West Sussex where the DF spring field meeting was held this year, and maybe the autumn one too. Secondly, it's a most inspiring comment on returning over-crowded south-east England to something that insects, along with other animals and plants, are likely to respond well to, and which feels vaguely natural. The estate, some 14 km^2 in size, lies on the claggy Wealden clay where expensive intensive farming still didn't produce a profit. So, starting nearly 20 years ago, the owners (Charlie Burrell, Isabella Tree) abandoned farming and let the site slip into a new and probably rarely seen condition. The book is not one of those 'isn't nature wonderful' tomes that fill bookshops these days but a beautifully and intelligently written account of what they did, who guided them and the scientific justification for their approach. The last – the science – makes this an excellent primer for any aspiring conservationist. You don't get far into any chapter before the arguments are supported by a barrage of research and statistics, not mere anecdote. Their advisory board reads like a who's who of our best conservationists, some of whom you will probably know yourselves, and the author has clearly listened attentively to their advice.

The book is the story of this landscape's rapid evolution after letting go of traditional farming where land is grazed regimentally, water is drained everywhere, nutrient enrichment is king, weeds are anathema and tidiness rules. So there are chapters on grazing animals, waterway restoration, and abandoning herbicides and pesticides. Interspersed throughout, the response by wildlife is documented, notably the largest British breeding populations of turtle doves, nightingales and purple emperors. Inspiration came from several quarters. Uppermost is Frans Vera's concept of the ancient European landscape being 'wood pasture' moulded by large herbivores, as has been demonstrated in the Dutch Oostvaardersplassen. There's a good summary of why this is a good way to go – let a lot of old-breed herbivores loose in a large area: longhorn cattle, Exmoor ponies, fallow deer and Tamworth pigs. And restore the waterway margins to swamp, pull up the field underdrains, let the scrub go, and stand back.

I have to admit a bias. I was bowled over by the fly fauna I found in the spring field meeting, including a species new-to-Britain. I don't know Sussex well, and there may be some other extraordinary sites for flies here. But this was arable fields 20 years ago, and already it has a wetland fauna that you'd expect from some ancient swampland. If we want to move towards a more benign countryside, I suggest you read this book, assimilate the arguments and badger your local landowners into relinquishing some of their inherited land to nature.

Martin Drake

Diptera Larvae

Ecomorphology of Cyclorrhaphan Larvae (Diptera) by Graham Rotheray.

This is not released until 24th September but it is available for pre-order.

Papers

Collections

Guralnick, R. P., Cellinese, N., Deck, J., Pyle, R. L., Kunze, J., Penev, L., … Page, R. D. M. (2015). Community Next Steps for Making Globally Unique Identifiers Work for Biocollections Data. Zookeys, 154, 133–154. http://doi.org/10.3897/zookeys.494.9352

Chris Palmer kindly gave me a small collection of Micropezids he'd collected across the world when we met again at our last AGM. I was pleased to note how good his specimen labelling was. Well it would be, he is a professional after all. Of particular note was his specimen numbering, a simple nn/year in the bottom left corner of the label. I suppose every collector uses something similar, that number will relate to a spreadsheet somehow, today's version of a field notebook.

But how does that numbering system scale up to a global system? Read Guralnick's article to learn more about the issue.

Darwyn Sumner

Diptera Family new to Britain

Even though this is in our own Dipterists Digest and many of you will have seen it, a new Family is worth remarking upon:

Whitmore, D., Notton, D. G., (2019). The family Cryptochetidae (Diptera) new to Britain, with the first European record of Cryptochetum iceryae (Williston . Dipterists Digest, 26(June), 71–72.

Download it as a separate article from ResearchGate at https://tinyurl.com/y5coqhne

Technology

Scratchpads

Recording Scheme websites

Scott, B. (2019). Scratchpads Training Documentation. Retrieved from https://buildmedia.readthedocs.org/media/pdf/scratchpads/latest/scratchpads.pdf

A welcome publication by the Natural History Museum's Ben Scott who was so very helpful when I began to set up my own Scratchpad to support my Micropezids & Tanypezids Recording Scheme.

Field Studies Council

Biodiversity Forum: https://forum.fscbiodiversity.uk

This new forum manned by Charles Roper came online this August. Its subject matter comprises FSC's various "Biolinks" projects with which Rich Burkmarr (now at BRC) has been so involved in recent years. Namely the GIS addons which permit the development of UK distribution maps and the Identikit online identification system (detailed in the last Bulletin).

I registered the minute I received the email and posted my first enquiry the same morning. Typical of Charles, I got a well thought-out response within an hour or so, even though my enquiry was about neither of the above two topics. Well, actually, there are links as I wanted to run some Identikits within my Scratchpad. Charles began investigating Scratchpads straight away and now the FSC team is anxious for a dialogue with the NHM team.

A promising development for all our online identification key and distribution mapping efforts.

Darwyn Sumner

Scotland

BRISC Newsletter: https://tinyurl.com/y6b7cmhq

A number of useful items in their latest newsletter.

In October there is a conference in Edinburgh entitled "Museums, Collections & Biological Recording" with speakers on the topics of "extracting biological records from a large museum collection" (Richard Sutcliffe) and Ashleigh Whiffin on "Entomological collections: a hive of biodiversity data"

In one of their Bursary Reports, Teresa Karckova gives an account of work carried out surveying hoverflies as a member of the UK Pollinator Monitoring Scheme, crediting Stuart & Roger's FSC course for providing her with identification skills.

Other items include an account of the work of SBIF (Scottish Biodiversity Information Forum) by Rachel Tierney which includes details of the important SBIF Review (https://tinyurl.com/yxp8gwb9) and a substantial update on the work of NBN, ranging from their launch of the NBN Atlas for Northern Ireland, various fixes and updates to the NBN Atlas and details of the NBN Conference to be held in Nottingham this November.

Another excellent newsletter, join up to get your own.

Darwyn Sumner

Meetings

Reports

2018

Annual General Meeting

Minutes of the Annual General Meeting of the Dipterists Forum

Oxford Museum of Natural History

10th November 2018

The chairman, Rob Wolton, opened the meeting at 2.15 p.m.

1. Apologies were received from

Peter Herkenrath (Germany), Barry Warrington, Ken Merrifield, Richard Underwood, Roger Morris, Richard Lane, Erica McAlister, Roy Crossley, Amanda Morgan and Victoria Burton.

2. Minutes.

It was proposed that the minutes of the 2017 AGM be accepted: proposer, John Ismay; seconder Andrew Halstead. The minutes were duly accepted.

3. Chairman's report.

The chairman then presented his report on the Forum's activities during the last year:

2018 has been another good year for delivery of our society's objectives thanks to the dedication and hard work of committee and other members. Our main field meetings, the spring one in the New Forest and the summer one based at Stoke-on-Trent, were both very successful and enjoyable as was the spring workshop at Preston Montford and indeed Dipterists Day a year ago in Liverpool. And the new all colour Bulletin and Digest editions are surely a great achievement and a tremendous asset for members. My thanks to all involved.

In March 2017, shortly after I took on the role of chairman, committee agreed three priorities for development of the society: to increase membership, an improved website, and thirdly publication of new and updated keys. Progress has been made in all three areas.

I am pleased to report that membership, at 360, is back up to the number before we raised the subscription fee three years ago (a process which led not to resignations but rather to the loss of some members who had been making direct payments by rote rather than intent). This year we have gained a further 31 members, with just 4 resignations. My thanks to John Showers our Membership Secretary, for administering this so well. I am hopeful that our new website, the ability to join on line, an increase in training, and 2019 International Year of the Fly will all lead to a further increase in membership next year.

Martin Harvey and his colleagues in the Biological Records Centre have been making real progress with our new website. It is very good news that we are now in a position to be able to announce it open for use.

There has also been progress on the development of keys, with several new ones in an advanced stage, for example Heleomyzidae, Calliphoridae, Sarcophagidae, Muscidae and Dolichopodidae. Martin Ebejer and Tony Irwin are planning a workshop on key writing next spring which will I am sure serve as a stimulus for further new keys. Nevertheless there remains a substantial body of draft keys, albeit many available to members, that are as yet unpublished – we have yet to find a way forward here.

Training is vital if more people are to become engaged with Diptera, including their study, conservation and recording. It is also one of the best routes we have for gaining new members. In view of this we have decided to have a new committee post, that of Training Coordinator, and I'm delighted that Matt Harrow has agreed to stand for election to this. One of his early tasks will be to reconvene the Training Group which will examine ways of adding to the already excellent training provision provided by Roger Morris, Stuart Ball, John and Barbara Ismay, Nigel Jones and Zoë Simmons amongst others - many thanks to all of them for the superb work they have been doing. I am grateful to Richard Lane for coming to our March committee meeting and presenting his views on how we may enhance the scope and appeal of training, in particular through working more closely in partnership with others such as museums, colleges, local record centres and field study centres.

Social media is an important way that we engage with people, in particular those who are not (yet) members of the society. I would encourage everyone please to make more use of our Facebook page and of our Twitter account. Would anyone willing to help, particularly with Twitter, please approach Erica McAlister?

Local groups are another good way of extending our reach. It is excellent that the Malloch Society in Scotland, and the Northants, Lancashire and Cheshire, and Devon groups continue to be active. 2018 saw the emergence of the Alpine group too, for the hardy and adventurous in Wales. It would be excellent to see more such groups form over the coming year – perhaps using 2019 International Year of the Fly as the trigger.

Early in the year our Secretary Amanda Morgan resigned due to ill health. Amanda was elected to committee as Secretary at the 2014 AGM and has done a superb job not only in ensuring the efficient running and reporting of committee meetings and AGMs, but also in supporting committee members across their various roles. She has been, and remains, a strong and enthusiastic supporter of our society. Personally, I am thankful for all the help and encouragement she has given me. She has asked me to pass on her best wishes to all.

Looking ahead, 2019 is International Year of the Fly, a "celebration of flies and their role in nature and human Society". This is a real opportunity for us to increase public appreciation of flies and how important they are to ecology, and to raise awareness of the Dipterists Forum. Committee, led by Erica and prompted with ideas from Alan Stubbs, has been thinking about what we can do. Each month we hope to work with museums and other organisation to celebrate a prominent dipterist, and there'll be a 'fly of the month' which we will use to engage the likes of BBC Wildlife and Countryfile Magazines, as well as social media. We are exploring what additional benefits we can offer to members, in part to encourage new people to join us. I would urge everyone, please, to do what you can to make the Year a success. Can you offer a talk to a local group? Please do keep an eye on our website and on the Bulletin for resources, such as model presentations, to help you.

4. Treasurer's report.

The treasurer, Phil Brighton, thanked his predecessor Victoria Burton, for her help in inducting him into the post. He said that copies of the accounts for 2017 were available to those present, and that they are simple and self-explanatory. We have only a single bank account which holds all of our cash assets. Phil told the meeting that we now have a new honorary auditor – John Flynn who is currently treasurer of the BENHS – to replace Tony Pickles and

Alec Harmer. Tony and Alec were our auditors for many years and have now retired. We are greatly indebted to them.

2017 saw us with a surplus of income over expenditure of £3000, as against a loss of £5000 in the previous year. However, as Phil explained, this is partly an artefact of our accounts being calculated on a calendar year basis, so that some major items, such as the publication of an edition of the Dipterists Digest, could fall into either of two years. In 2016 three editions were published, and this partly explains the deficit in that year. Other major expenditures in 2017 were the hiring of the workroom for the Snowdonia meeting and the cost of bursaries. Sources of income, apart from subscriptions, included royalties from the Publishers Licensing Society, profits from the sale of pooters donated by Ken Merrifield, and royalties from their WildGuide publication donated by Roger Morris and Stuart Ball. Phil believes that the best year-on-year comparison of our assets can be obtained by looking at the situation at the end of each September. On that basis we were about £900 better off in 2017 than we were in 2016. We currently have about £28000 in our bank account and a number of material assets which, being of fixed value, are not included in the accounts.

Phil was asked why we have no interest-bearing savings account. Howard Bentley, who was treasurer at the relevant time, explained that some years ago we had two accounts, but the interest being paid was at such a low level that we had decided to simplify matters by amalgamating the two accounts. This situation may be reviewed if interest rates rise in the future.

Barbara Ismay proposed that the accounts for 2017 be accepted. The motion was seconded by Nigel Jones, and the proposal was adopted.

5. Dipterist Digest editor's report.

Peter Chandler told the meeting that two editions of the Digest had been published this year, on the 16th February and the 28th August respectively. He is currently seeking contributions to the first edition for 2019; at present he has enough material for only about 40 pages of text. We have changed printers from Henry Ling to Latimer Trend. This has saved us money but there were problems with this year's editions. The first suffered from binding errors; these were corrected by the printer at no expense to us, but distribution of this edition was delayed. The second was affected by a breakdown of machinery, but again the problem was resolved. Peter thanked all those who had contributed articles, Richard Underwood and Mike Pugh for proof-reading, and Richard for efficient distribution.

6. New website.

Martin Harvey has been leading the development of the Forum's new website. He reported to the meeting that although the site is not by any means finished, it is now far enough developed to be made public. The site development is on-going: eventually it will be possible to pay subscriptions online via PayPal, but this function is not yet ready to be used.** Staff at BRC (the Biological Records Centre) have been developing the site at no expense to the Forum, but they are very busy and therefore development has been slower than we ideally would have liked. The Management Committee is considering paying other developers to complete various pages. Martin thanked Stuart Ball for his development and continued running of the old Forum website, which is still in operation and will remain so for some time to come. Thanks also to other DF members who helped administer the old site, including Ken Merrifield, Chris Raper and Howard Bentley.

7. Any other business.

It was announced that the 10th International Symposium on Syrphidae is to be held in Lesvos, Greece on the 8th to the 14th September 2019. Expressions of interest are requested by the 15th November.

A workshop on the writing of keys, led by Martin Ebejer and Tony Irwin, is to be held at Dinton Pastures on the 31st March 2019. Those interested in attending should contact Tony. Darwyn Sumner told the meeting that keys are being developed using the Field Studies Identikit System.

It was announced that Daniel Whitmore, a curator of the acalypterate collections at the London NHM, and an expert on the Sarcophagidae, has left his post in London and is to take up a position in Stuttgart.

Barbara Ismay emphasised the need for us to nurture the interest of young people in dipterology. She cited the case of Jann Billker who, although still only 13 years old, has been helping with training courses for beginners.

8. Election of Officers.

The list of officers of the Forum and other committee members seeking election or re-election to their posts is as follows:

Officers	**All for re-election**
Chairman	Robert Wolton
Vice Chairman	Howard Bentley
Secretary	Jane Hewitt (new committee member)
Treasurer	Phil Brighton
Membership Secretary	John Showers
Indoor Meetings Secretary	Martin Drake
Bulletin Editor	Darwyn Sumner
Assistant Bulletin Editor	Judy Webb
Digest Editor	Peter Chandler
Publicity Officer	Erica McAlister
Website Manager	Martin Harvey (succeeding Chris Raper)
Training Coordinator (new post)	Matt Harrow (new committee member)

Ordinary Members	**For re-election (elected 2016)**
Stuart Ball	Peter Boardman
Victoria Burton	Chris Raper
Malcolm Smart	

It was suggested that all could be elected under a single motion. This was proposed by Zoë Simmons and seconded by Andrew Halstead. The motion was approved. The chairman welcomed Jane Hewitt and Matt Harrow to the committee.

9. Thanks to our hosts.

The chairman thanked our hosts, the Oxford University Museum of Natural History, for allowing us to use their excellent facilities for this meeting, and for some of our committee meetings in the recent past. Special thanks went to Zoë Simmons and her colleagues for their very efficient organisation on our behalf.

**In the week which has elapsed since the AGM there has been further development of the new website, and the PayPal function is now active.

Howard Bentley

2019

The Year of the Fly

Diptera Workshops 2019

Empids and Hybotids

Preston Montford Field Studies Centre

15 - 17 February 2019

Martin Drake

Showcase 1: Staffordshire Invertebrate Science Fair

Staffordshire University

3 March 2019

Crowds gather at our stand at this lively event. Set up and manned by Malcolm Smart and Jane Hewitt. The facilities here are wonderful, Malcolm grabbed a great spot, immediately taking advantage of the wall-mounted monitors to exhibit collections of Asilidae images. Nice to see and chat with other invertebrate groups too. Don't miss the next one, 7th March next year.

Darwyn Sumner

Spring Field Meeting

West Sussex

17 – 19 May 2019

The major draw was the Knepp Castle Estate, the site of the largest (re)wilding project in lowland England. Here, between 2003 and 2009, some 1,400ha of farmland was taken out of production and internal fences removed. Longhorn cattle, Exmoor ponies, Tamworth pigs and fallow and red deer were introduced over a period of years, and nature largely allowed to take its own course. Isabella Tree, who together with her husband Charlie Burrell own and manage the estate, has written a superb book *Wilding: the return of nature to a British Farm* (2018) all about it.

Is the place any good for flies? Yes! Surprisingly so, given that just a couple of decades it was an intensive arable and dairy farm. We even found a species new to Britain! Some of us who came have yet to identify our catches but even so several flies with conservation status have been recorded and many added to the site list.

On the Saturday, by kind permission of Charlie and Isabella, we spent the morning in the central of the three blocks into which the wilding is divided, appropriately named the Middle Block. This resembles parkland with fine scattered veteran trees, along with patches of scrub and woodland. Here the main draw for us was the wetland areas, namely the Mill Pond (really a lake) which had been drained for sediment removal, and a stretch of the River Adur which in 2008-9 was returned to a more natural profile and course following early 19th century widening and straightening. At the same time, the opportunity was taken to create some shallow scrapes nearby in the floodplain. On the veteran trees we found two saproxylic large craneflies, *Ctenophora pectinicornis*, a splendid combhorn, and *Tipula selene*, a widespread yet uncommon species rarely found other than as singletons. (Thanks to Alan Stubbs who was unable to join us, for identifying the craneflies we caught.) The awl fly, *Xylophagus ater*, another species of decaying wood, was also encountered. The Mill Pond and its willow-fringed feeder stream yielded the muscids *Helina pubescens*, which is provisionally Near Threatened, and Nationally Scarce *Phaonia atriceps*, along with the scathophagid *Cordilura picipes*, typical of more boggy situations.

Xylophagus ater Photo: Alan Outen

Along the river and its scrapes we found the cranefly *Tipula marginella,* an uncommon rich fen species, and the all black soldierfly *Odontomyia tigrina*. Our only regret is that we were all so focussed on the ground and our nets that we missed a black stork flying right over our heads!

In the afternoon we went to the Southern Block, the heart of the wilding, a rich mosaic of scrub and grassland renowned for its nightingales, turtle doves and purple emperors. Here we focussed on the Hammer Pond and a strip of fen called Southgrounds. Good flies included the Nationally Scarce hoverfly *Psilota anthracina*, associated with sap runs, but the stars were among the dolichopodids. Martin Drake, who actually visited the following Monday, was moved so much as to say "brilliant site". Among the 35 species he recorded was *Nematoproctus praesectus*, never before found in Britain, along with the *N. distendens*, itself Nationally Rare. A paper is in preparation for the Digest.

Here at least some of us did look up, and saw circling white storks – the site is a focus of a reintroduction project – and even a pair nesting in an oak tree, apparently the first to do so outside captivity in Britain for some 600 years. They were featured on Springwatch soon after our visit.

In both Middle and Southern Blocks, Peter Chandler remarked upon a near absence of muscid, anthomyiid or sphaerocerid flies on dung, just a few *Scathophaga stercoraria*, *S. inquinata* and sepsids. Fresh deer dung in the woodland was, however, covered with *Calliphora*. Avermectin wormers are not used on livestock at Knepp, and it is known that the site hosts a strong dung beetle fauna, so the lack of flies on dung at the time of our visit is anomalous. There were surprisingly few fungus gnats too.

The day before our visit to Knepp, and on the following day, some of us visited a few other sites, the main one being Ebernoe Common, a Sussex Wildlife Trust reserve. Mainly this is a woodland with a meadow (Furnace Meadow) and large mill pond. But there is wilding too, on a series of former arable fields called Butcherlands. Here White Park cattle prevent the thorn and willow scrub from taking over completely, and just as at the Southern Block at Knepp, a rich mosaic of scrub and grassland has developed, complete with turtle doves and nightingales. The weather on the Saturday was cold and overcast, so catches on that day were low (apart from fungus gnats). *Xylophagus ater* was encountered in the established woodland, and the predominantly northern lauxaniid *Meiosimyza illota* was a surprise. Will there be others species of interest among catches yet to be identified?

There are plans afoot to revisit Knepp! Keep an eye out for details in the Bulletin and on the website.

Longhorn cattle, fallow deer and Tamworth pigs, Southern Block, Knepp. Photo Rob Wolton.

Hammer Pond, Southern Block, Knepp. Photo Rob Wolton.

Scrub-grassland, kept open by cattle, ponies, pigs and deer, Southern Block, Knepp. Photo Rob Wolton.

Fen at Southgrounds, Southern Block, Knepp, site of *Nematoproctus praesectus.* Photo Rob Wolton.

White Park cattle, Butcherlands wilding, Ebernoe, Sussex WT reserve. Photo Rob Wolton.

The combhorn cranefly *Ctenophora pectinicornis*, female. Photo Rob Wolton.

Dipterists alongside The Hammer Pond. Photo Peter Chandler

Rob Wolton and Tony Davis

Showcase 2: Norfolk Bird & Wildlife Fair

Pensthorpe Natural Park

18/19 May, 2019

Lake at Pensthorpe Natural Park. Photo Darwyn Sumner

On the weekend 18/19 May, Tony Irwin, Mark Welch, Luke Welch and Dave Brice ran the Dipterists Forum stand at the Norfolk Bird & Wildlife Fair at Pensthorpe Natural Park, Fakenham.

The stand was set up in the main marquee and the DF banner was erected at the entrance to the marquee (photo), upstaging the avian profile ! The six-panel DF display was set up and included information relating to "Year of the Fly". We took a lot of literature with us to display and refer to, including several Bulletins, copies of recent Dipterists Digest issues and DF-produced keys from recent workshops to show the breadth of activities that the society supports.

Crowds gather to see our stand. Photo Mark Welch

Our net cube (0.5×0.5×0.5 m^3) containing live flies got a lot of interest and enthusiastic participation with public handling of hovers. Tony Irwin brought a drawer from Norwich Castle Museum displaying pinned flies representing all families of UK Diptera. As with the net cube, this proved a popular starting point for engaging the public. Several Pensthorpe reserve staff also visited the stand.

We displayed a variety of pinned specimens under the microscope and took the opportunity tell people about the different reproductive strategies of flies by contrasting the Swift Lousefly *Crataerina pallida* (incubating a single egg to maturation at a time – and providing "milk" to its larva !) with a selection of satellite flies (Miltogrammines and *Leucophora* spp) that are kleptopara-

sites of solitary bees and solitary wasps. These kleptoparasites larviposit and have high larval loadings: our dissections have revealed females with up to 75 ready-to-go larvae inside them. On the Sunday we added a poster "*Dipteran kleptoparasites of solitary bees: recent field studies in Norfolk*" by MW and aculeate specialist Nick Owens, documenting the interactions between kleptoparasites of solitary bees at nine sites. Pinned specimens of Miltogrammines (*Miltogramma spp*, *Metopia spp*, *Senotania conica*) and *Leucophora* spp (*L. obtusa*, *L. grisella*, *L. personata*) and their bee/wasp hosts were used to illustrate the story.

Tony Irwin discusses flies Photo Mark Welch

We estimate that 30-40 people engaged with the stand, including a good number of family groups and a few invertebrate specialists. Given the avian bias of this wildlife fair, invertebrates were quite well-represented (DF, Butterfly Conservation, The Dragonfly Society).

Forays into the Pensthorpe grounds Photo Darwyn Sumner

Tony Irwin at our stand Photo Mark Welch

Useful contacts were made with three Pensthorpe reserve wardens, all of whom are very keen to increase the profile of invertebrates at Pensthorpe by site creation, restoration and raising public awareness. A small sandstone quarry de-scrubbed in 2018 has already attracted an aggregation of the RDB solitary bee *Colletes cunicularius* (Early Colletes). MW agreed to pay monthly visits to the quarry in June-September to develop a narrative of its evolution as a restored "cameo" invertebrate site.

Joyce Sumner with Tony Irwin at our stand. The cage looks very handy, we should have one at all our showcases and events. It looks as though it might work for photography too. Photo Darwyn Sumner

Mark Welch

Honeypot challenge 2019

Regular attendees of the summer field meeting will know all about the honeypot challenge. It is where I persuade dipterists to collect sawflies and bring them to me for identification. Each species per site earns a point and at the end of the week, the person with the most points gets a jar of honey. The timing of the summer meeting often falls after the main sawfly season but late June in Stirling was still very much a good time for recording sawflies. Thanks to the help of other people, at times overwhelming, a total of 99 sawfly species were recorded. On my own the total would have been just 45 species. The Stirling total of 99 species compares with 83 at Stoke in 2018 and 70 at the Snowdonia meeting in 2017. The winner of the honeypot challenge at Stirling was Andrew Cunningham (91points), with Rob Wolton second (71 points) and Chris Spilling third (32 points).

Notable species seen during the week were *Tenthredo maculata*, recorded by several people at various sites, *Hartigia xanthostoma* at Westerton water meadow (Rob Wolton), *Dolerus triplicatus* at Blackwater Marsh (Nigel Jones), *Ametastegia perla* at Creag Mhor (Alan Stubbs) and *Pamphilius stramineipes* at Tummel shingle beds (Imogen Burt).

Andrew Halstead

Summer 2019 Field Meeting

Stirling: Central Scotland

22–29 June 2019

As anticipated, our long awaited return to Stirling as a field meeting base proved well worthwhile.

Linn Mill. Photo Andrew Cunningham

Stirling University will be memorable for several reasons, not least the laboratory. In all my years, it is the first time that I have put on a white lab coat (compulsory and supplied). Among over 20 of us thus dressed, it could have been that us boffins were developing a genetic superfly, or the men and women in white coats were about to put me in a straight-jacket for the madness of compulsive study of craneflies. However, before either of those two outcomes, we went for supper during which we were marooned in a cafeteria with water pouring from the ceiling. A cloud-burst thunderstorm continued for ages, torrents of water rushing down from car parks and other sloping ground towards buildings. When the rain eased, the intrepid waded through corridors to reach a flooded laboratory (fortunately all belongings safely on dry benches). This was among some unique challenges for Jane Hewitt on her first experience as a field meeting organiser.

The last week in June proved nicely productive, an upturn from the prior couple of weeks in Scotland and elsewhere. The low rainfall last summer, winter and first half of 2019 led to drought prone flies being scarcer than usual; none-the-less 138 species of fungus gnats were recorded. A target of 120 species of craneflies was slightly exceeded. Hoverflies have been sparse this year, as experienced on the field meeting; *Sphegina* were among the most frequent, obtained by sweeping. For some species sparsity was because we were between broods (timing varies with climate year to year). The big advantage of having high mountains within range is finding an altitude where flies are at peak, as was the case on easily accessible areas in the Ben Lawers area.

"They dipterists won't fin' ony o' they scathophagids they're keekin fur, i've hud a gang oot bagging thaim a' week"

A few sites were visited in the afternoon that we assembled, mainly close to the University; indeed a second record for Scotland (the dolichopodid *Teuchophorus nigricosta*) was from within the university campus. The first full day saw small groups of dipterists dispersing widely so that by evening we had already visited

28 sites in 11 10km squares, and reached a total of 81 species of craneflies. The total number of sites for the week is a bit elastic since some sites were complexes but for cranefly samples alone the total is currently c. 55 sites in 26 10km squares.

There were plenty of goodies but in the space available I shall focus on some of the habitats. Visits were made to several raised bogs in the Central Lowlands belt, including the largest, Flanders Moss yielding expected species of acid bog plus some less frequent ones such as the cranefly *Euphylidorea phaeostigma*. Whilst acid faunas were present on many sites, I was struck by the fact many of those sites also contained non-acid species. This was not surprising on the Devonian rocks which occupy a strip south of the Highland Boundary Fault but was a more general experience. The mountains and valleys north of the fault include calcareous bands in the Pre-Cambrian rocks, for which Ben Lawers is botanically famous, but a calcareous or at least non-acid influence was met in faunas beyond the most famed districts. This aspect of the southern-most Highlands is in sharp contrast to Strathspey (Aviemore/Cairngorms) where acidic conditions predominate.

Tummel Shingle Islands. Photo Andrew Cunningham

The southern Highlands include a great variety of habitats, especially to the north-west of Stirling, including some excellent valley marshes. Among my new field meeting experiences was a boat ride to reach a rather inaccessible location. We were told the habitat was swamp, wellingtons essential, waders preferable. I had walking boots but carpet slippers would have been adequate over much of the site. Here at Loch Lomond NNR a drought extending from the previous summer, low winter rainfall and the current drought summer had meant that the incoming river had not inundated the floodplain: in 2 hours on site I only found one patch of wet mud, within otherwise dry carr, the open areas being even less productive of flies on a hot day. However, some very interesting species were found. Some of us then went to nearby Conic Hill, an absolute must for its serpentine seepages; it was no surprise that one had to identify the seepages by the flora because the ground was so parched: carpet slipper habitat again, but I did need boots for the very nice *wet* seepage carr at the bottom of the hill.

Among the rave sites were a series of shingle islands on the River Tummel, well to the north near Pitlochry. One of the islands was well known to be interesting for its fauna, one of the very few locations in Scotland for the hoverfly *Xanthogramma pedissequum*. The field meeting gave the opportunity to explore this and another 3 islands. They are islands when the river is in spate but can be reached (in a drought) by crossing a largely dry back channel. On some sites the landward flower rich meadows were impressive. On the island I visited, my progress along tree free shingle was thwarted by a large mound of tree debris; another new experience, the hazard of a beaver dam to negotiate; that was not in the risk assessment.

The Laird. "Now, who on earth might those people be, Donald, dressed like tourists?"

... perhaps Stuart Ball, Roger Morris, Iain MacGowan, Nigel Jones and Jan Billker. In search of rare upland Diptera on Meikle Kinrannoch. [Photo Nigel Jones]

I think you get the gist. We were full of enthusiasm for making the best of a very nice area of Scotland and no one ran out of sites they would like to visit. If I had to single out one special memory, it would be the wonderful subalpine flora in a grazing exclosure on part of Ben Lawers SSSI. One may expect such a sight in the Alps but not in Britain, an indictment of the overgrazed state that is all too familiar (park at the dam on the west side of Ben Lawers and walk across the dam).

Field meetings are always as much a social event as to record flies. It was especially pleasing this year that we had more than usual

newcomers and those who had rarely been before. Those who did not come missed the treat of an exceptionally fine and enjoyable meeting. Don't miss out on Cornwall 2020!

As usual, recording was not confined to flies. Andrew Halstead's Honeypot Challenge, for the most sawfly points, was easily won by Andrew Cunningham. Between us, 97+ species were recorded, an exceptionally good outcome for a summer meeting.

Enormous thanks to Jane Hewitt, DF Secretary who arranged the meeting and coped so efficiently with unanticipated challenges, and to Rob Wolton, our Chairman, who led the meeting, and to others who contributed to advance preparations.

Alan Stubbs at Comrie

Alan Stubbs

Records from the Stirling Field Week

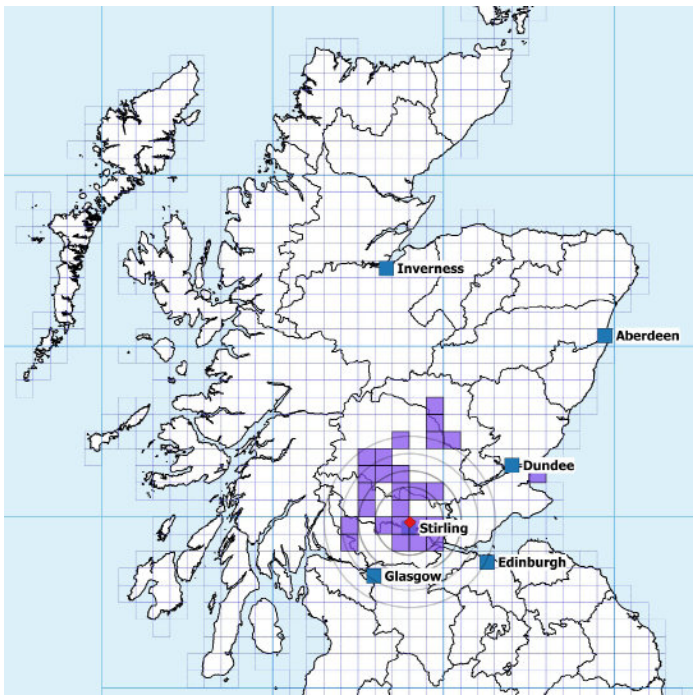
A spreadsheet template has been circulated to attendees asking for records.

Martin Harvey explains: The plan is for all records from this summer's field meeting to be collated by Jane Hewitt initially, and then for them to be uploaded to iRecord to make them available to national recording schemes, local environmental records centres and the NBN Atlas (where they will appear as a Dipterists Forum dataset). If you have records from the Stirling meeting that have not yet gone to Jane please send them in as soon as possible!

Jane Hewitt jane.e.hewitt@gmail.com

See "**Records for the DF Summer Field Meetings"** in this Bulletin for some useful tips, Steve Garland's iRecord user guide at https://tinyurl.com/yy3eqw76 and Dipterists Forum's NBN Atlas uploads from previous Field Meetings at https://registry.nbnatlas.org/public/show/dp172 (Ed)

Alan's Cranefly sites visited during the Field Week:



Scotland. Red diamond = Stirling University base, circles at 10km radius, purple 10km squares = cranefly visits. GIS by Darwyn Sumner, from a sketch by Alan Stubbs.

Forthcoming

Diptera Recording Schemes Meeting

Angela Marmont Centre, NHM, London

Saturday 21st September 2019

Contact Martin Harvey

Showcase 3: Amateur Entomological Society Exhibition

Kempton Park

Saturday, 12th October

Please see our website for details

Autumn Field Meeting

West Sussex

18 – 20 October 2019

We will be returning to the Knepp Estate, south of Horsham for the autumn field meeting. The estate is home to a major rewilding project and has a range of wetland and scrub habitats. Despite the very dry conditions during the spring field meeting we managed to record a number of interesting species including one new to Britain. As well as Knepp, we will be visiting a number of woodland and wetland SSSIs owned by Sussex Wildlife Trust.

Further details, including a list of local accommodation and details of meeting times and locations is available from the organiser:

Tony Davis tdavis@butterfly-conservation.org 07837 412820

25th Anniversary

Annual Meeting 2019

National Museum Cardiff

Cathays Park, Cardiff CF10 3NP

Saturday 9th & Sunday 10th November 2019

It has been a while since we were at Cardiff but we have always been welcomed to this splendid museum. There's a good line-up of speakers for Saturday. On Sunday we will have a no formal workshop but a clinic session when we hope to be able to put names to those specimens that have been sitting waiting for a determination label. The museum's collection will also be open for viewing, and it's a large one so worth taking a look at.

The usual prize for the best exhibit will be on offer, so do please bring something along; this can be anything from specimens, photos or displays of work you have undertaken.

Dipterists Supper is still being organised and will be at an Italian restaurant very close to the museum. I am making a block booking and the restaurant needs to know how many are coming. If you'd like to come, could you email me in plenty of time. Last year we got in a real muddle and it cost us rather more than expected as not all who said they'd come turned up.

Our speakers include three locals. Liam Olds is the ecologist for the Colliery Spoil Biodiversity Initiative and has been researching and campaigning for the protection of colliery-spoil habitats in South Wales for several years. His article in *British Wildlife* **30** gives a preview of what's in store for us. Abigail Lowe is studying pollinators, including hoverflies, using DNA barcoding to identify pollen loads for her PhD at the National Botanic Garden of Wales. She will present the results for her first year of sampling which includes data on 23 species of hoverflies. The third local is David Clements but he is talking at a more national or even global scale about conopids, and will no doubt include information from his long-running conopid recording scheme. Stuart Ball is well know for his excellent photography and honed computing skills, and his talk combines these as he discusses one approach to short-cutting the time-consuming task of identifying hoverflies from photos submitted to the recording scheme. Some light relief will be offered by Pete Boardman who will regale us with anecdotes from his recent oversees trips to study craneflies as funded by the Winston Churchill Memorial Trust. Finally, 2019 is the 25th anniversary of the Dipterists Forum so there will be a short, but as yet unplanned, item on this subject.

As far as we know, there are no big sports matches on this weekend but don't leave booking your B&B too late, just in case. The central train station is nearly one mile away.

Here is the draft programme.

Saturday

10.00	Meet – there's the museum cafe or DIY coffee
10.30	**Mike Wilson**, Collections Manager – *Introduction & welcome to the museum*
10.40	**Liam Olds** – *Spoilt for choice: Diptera of colliery spoil tips*
11.05	**Stuart Ball** – *Using AI to identify hoverflies from photographs*
11.30	Break for refreshments
12.00	**Abigail Lowe** – *Using DNA metabarcoding to understand hoverfly foraging at the National Botanic Garden of Wales*
12.25	**David Clements** – *Progress in the Conopidae - Britain, Europe and the World*
12.50	Lunch – bring your own, use the museum café or forage in town
2.15	AGM
2.45	Prize for best exhibit
2.55	**Pete Boardman** - *Live at the Fly Olympics*

Martin Drake

Annual General Meeting

National Museum Cardiff

Saturday 9th November 2019

The Chairman will open the AGM at 14:15

Agenda

1. Apologies
2. Approval of the Minutes of the last AGM and matters arising

   (See this Autumn 2019 Bulletin for the Minutes of the 2018 AGM)
3. Chairman's Report
4. Treasurer's Report
5. Dipterists Digest Editor's Report
6. A.O.B.
7. Vote of Thanks to retiring committee members
8. Election of Officers and ordinary members to committee

The Chairman is elected biennially. The Secretary, Treasurer and other Elected Officers with specific responsibilities (detailed below) require annual election. The constitution currently requires nominations 30 days in advance of the AGM. Ordinary elected committee members serve for two years.

The Officers and Ordinary Members proposed for re-election or election this year, 2019, are as follows:

Officers

Already elected (elected 2018)	
Chairman	Robert Wolton
For re-election/election	
Vice Chairman	Vacancy
Secretary	Jane Hewitt
Treasurer	Phil Brighton
Membership Secretary	John Showers
Indoor Meetings Secretary	Zoë Adams (new committee member)
Bulletin Editor	Darwyn Sumner
Assistant Bulletin Editor	Judy Webb

Digest Editor	Peter Chandler
Publicity Officer	Erica McAlister
Website Manager	Martin Harvey
Conservation Officer	***Vacancy***
Training Coordinator (new post)	Matt Harrow
[Dipterists Digest distributor	***Vacancy***]

Ordinary Members

For re-election (elected 2017)

Martin Harvey Tony Irwin

For election

Marc Taylor (new committee member)

Already elected (elected 2018)

Stuart Ball Peter Boardman Victoria Burton
Chris Raper Malcolm Smart

9. Chairman's thanks to hosts and formal closing of the Annual General Meeting.

2020

Diptera Workshops 2020

Picture-wing flies (advanced) and Hoverflies (beginners)

Preston Montford Field Studies Centre, near Shrewsbury

Friday 14th - Sunday 16th February 2020

Tutored by:

David Clements and John Showers (picture-wings) and Roger Morris and Stuart Ball (hoverflies)

Details on Field Studies Council website: from mid October (search in Courses, then Individuals & Families, then Natural History)

Herina nigrina (=germinationis) [Ulididae] Photo Alan Outen

The master class is on picture-wing acalyptrate flies, and includes several families. The largest is Tephritidae with 77 species, and smaller closely related families included in the course are the Pallopteridae (13 species), Platystomatidae (2) and Uliidae (20); rather more distantly related is the Opomyzidae (16). All but the last family fall into two recording schemes so, apart from being attractive flies to study, any records will find a good home. They are relatively straight-forward to identify, helped by their conspicuous wing patterns, but inevitably a few genera need closer attention. Most have herbivorous larvae although they show a wide range of ecologies within this apparently mundane life-style. A few are saprovores under decaying bark or in leaf sheathes, and even predators. But it is the adults' courtship behaviour that brings many of these flies to our attention as they use wing-waving and phermones to signal their intentions. The tutors are David Clements, whose long-running recording scheme includes several of the families, and John Showers who has many years of experience as county recorder for Northamptonshire.

Eyed Hawkweed Fly *Noeeta pupillata* (Tephritidae) Photo Malcolm Storey

This year we welcome back the beginners' hoverfly course, which is probably the earliest Dipterists Forum course held at Preston Montford. As the title implies, this is for those wishing to become familiar with hoverflies. Indeed this popular group is the starting point for most people who take up flies mores seriously, being attractive, large and well served with identification guides. Their ecology is better understood than that of many other fly families, as expounded in *The Natural History of Hoverflies* (Rotheray & Gilbert 2011). They have been long recognised as useful as aphid predators but recent research shows them to compete with bees as important pollinators. Less flashy lifestyles include feeding on decaying vegetable matter and living in rot-holes. The national recording scheme has produced a wealth of data on distributions, phenologies and statuses. Two very experienced tutors, Roger Morris and Stuart Ball, will make them seem so easy that you'll be submitting records to their national recording scheme in no time.

Handouts will include keys and a summary of ecology.

Dipterists Forum offers up to two bursaries for this course. Each bursary covers half the total cost including accommodation costs. If you would like to apply please see the separate advert about these bursaries in this Bulletin and on the Dipterists Forum website.

If you would like to attend, check the FSC website or contact Preston Montford directly. Bookings usually open in October. The cost of the course will be £295 for a single room, £270 for a shared room and £215 for non-residents. Dipterists Forum members get a £95 discount on these prices (which are then respectively £200, £175 and £120). If you do not bring your own microscope, one can be provided by the field centre but do please book with Preston Montford if you need one. Arrive on Friday evening in time for dinner (usually 6pm), and leave on Sunday afternoon. More precise information will be put on the website.

Martin Drake (Indoor Meetings Organiser)

Summer 2020 Field Meeting

Falmouth, Cornwall

27th June to 4th July 2020

It is many decades since we held a field meeting in West Cornwall, based at St. Agnes in a converted pigsty if I recall correctly. This time, we are going up market to be at Falmouth, at the Exeter University Penryn campus.

West Cornwall has the advantage of not just one coast but two. Both are very scenic, with rocky coasts interrupted by beaches and dunes. The north coast is especially flowery,and with some climbing dunes reaching cliff tops, and preferred by bumblebees. The south coast is preferred by the hornet and has the large drowned valley with Falmouth at its edge. I am sure East Cornwall will be on the agenda as well. We still have some recording to do before we understand the biogeographic differences for flies.

Large outcrops of granite include the ones at Land's End and Bodmin Moor, the intervening land largely comprising Devonian slate sediments, local metamorphosed or with granite decay material. The dunes by contrast tend to be calcareous. Far more base rich, the Lizard peninsula is renowned for its major outcrop of serpentine (uniquely with Cornish Heath *Erica vagans*; as well as one of the few locations for Dorset Heath *Erica ciliaris*) and significant outcrops of gabbro; there are some important ponds on the peninsula.

A notable feature is the number of small valleys reaching the coast, often with streams extending out onto the beach, promising habitat for special flies. The cliff tops should have the hoverfly *Eumerus sabulonum*. The rocky coasts are the place for various flies, including the doli genus *Aphrosylus* on barnacle covered rocks (it would be nice to sort out habitat preferences for the species) and we shall be looking out for cliff seepages. The coast can be especially rich in solitary bees and wasps, a potential for the parasitic shadow flies (various sarcophagid genera). Locally the cliffs have saw-wort, the foodplant of the tephritids *Urophora spoliata* and *Terellia vectensis*.

Inland offers many opportunities, including flowery sunken lanes. There are some important mires and wet heaths. Some of these sites have good representation of tormentil; we will need to keep a look-out for the hoverfly *Sphaerophoria potentillae*, as yet only know from a few sites in NW Devon, at tormentil flowers on the Culm Measures (Devonian rocks).

And, as far as I am aware, they still sell ice cream in Cornwall. A meeting too good to miss.

Alan Stubbs

Dipterists Forum Core Events

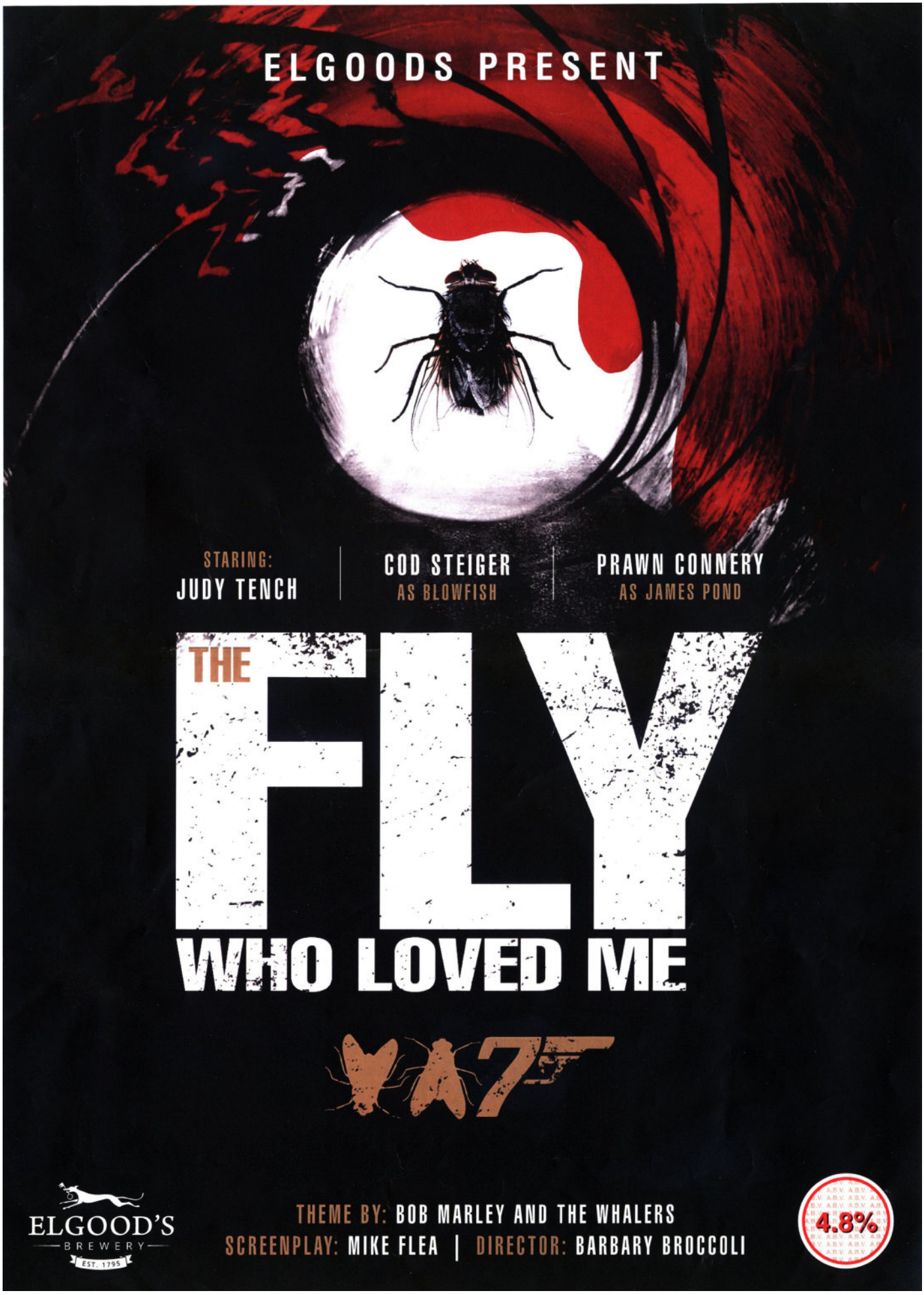
See our websites for many more

More from the Stirling Field Meeting

Lake of Menteith: Peter Chandler, Andrew Halstead, Rob Wolton, Chris Spilling & Malcolm Smart. Photo Jane Hewitt *and two invisible one-legged people (Ed)*

Flanders Moss NNR. Photo Rob Wolton

Lunch at Blackwater Marsh: Nigel Jones, Imogen Burt, Andrew Halstead & Kenneth Watt. Photo Jane Hewitt



Bar Flies: Thanks again to Richard of Leicestershire Woodcarvers for obtaining this poster for us. This Wisbech brewery seems also to be celebrating the Year of the Fly.

And now ...
The Twirly Pinning Method

For those not on the DF Twitter account, such as me who is oblivious to bird song, a novel pinning method does away with strips of dried bract fungus or plastazote for staging small flies. This will be welcome news for those dipterists who live in areas where fungi are rarer than flies's teeth or who have run out of plastazote.

All one needs to do is get a very long micro-pin, twist the blunt end in a coil round a large pin, bend the rest at right angles, then bend again so the pointy end is upright, and plonk a fly on the point. Hey-presto, in a flash you have a neatly staged specimen. Couldn't be simpler.

Erica MacAlister has provided a picture of this apparently unique pinning method adopted by Tonnoir, a Belgian dipterist. He was busy describing types between the wars. By quirk of the English Channel having flooded some 7,000 years ago, English dipterists continued in a time warp with ye ancient old technology.

This news was so shattering to Ken Merrifield that he informed me, clearly badly shaken that he had been pipped to the post on this invention. Ken is famed for his improvements of dipterological technology, not least in pooter design – I have lost track whether we now on Mark4 or Mark 44.

In a lightbulb moment, even I can recommend one improvement. If the horizontal arm of the pin were long enough there would be no need to take a specimen out of a drawer – simply twist the main pin until the fly is visible under the microscope. One could avoid clashes with other specimens by having main pins that are extendable by one press of the head (2 presses for retract). However, I am still reliant on Ken producing a gadget for coiling of the base of the micro-pin, which by Mark 4 would be perfection.

Apparently twirly pins are still marketed in Japan. Perhaps they have origami versions,a challenge too far even for Ken.

Alan Stubbs

Contributing Bulletin items

Revised 2018

Text

1. Articles submitted should be in the form of a word-processed file via E-mail which should have the phrase "DF Bulletin" in the Subject line **or placed in the appropriate Dropbox, details of which are emailed out by the editors to committee members (others please enquire)**. Email text alone will not be accepted.
2. Please submit in native format (http://en.wikipedia.org/wiki/Native_and_foreign_format) and in "text-only" Rich Text Format (.rtf) and additionally send pictures in their original format. An accompanying print-out (or pdf) would also be useful.
3. Please note the width of the borders used in Dipterists Bulletin; for conformity with style would newsletter compilers please match this format. The document must be A4.
4. **Do not** use "all capitals", underlining, colouring, blank lines between paragraphs, carriage returns in the middle of a sentence or double spaces.
5. **Do not include hyperlinks in your document.** Since they serve no purpose in a printed document and the editor has to spend time taking them out again (the text is unformattable in DTP if it has a hyperlink attached), documents containing hyperlinks may be returned with a request for you to remove them. There's a guide on how to remove Word's default hyperlink formatting at https://tinyurl.com/ybfpxlj6 Scientific names should be italicised throughout and emboldened only at the start of a paragraph.
6. Place names should have a grid reference.

Illustrations

7. Colour photographs are now used extensively in the Bulletin, they appear coloured only in the pdf versions of older Bulletins prior to 2018.
8. Please include all original illustrations with your articles. These **should** be suitably "cleaned up" (e.g. removal of partial boxes around distribution maps, removal of parts of adjacent figures from line illustrations) but please do not reduce their quality by resizing etc. .
9. Please indicate the subject of the picture so that a suitable caption may be included, in some cases it will be possible for the picture file's name to be changed to its caption (e.g. 049.jpg becomes Keepers Pond NN045678 12 Oct 2008.jpg).
10. Add the appropriate metadata to your picture. Your camera instructions will tell you how to add **your own name** to every shot you take. There is also a field for title (species name) and location which would have to be added afterwards.
11. All group pictures should identify all the individuals portrayed.
12. **Powerpoint** and Word files are a useful means of showing your layout but this is not an appropriate method of sending images. We'll be glad of AGM presentations in Powerpoint if that's all we can get.
13. **Dropbox** or similar is appropriate for submitting images for larger files.
14. Line artworks are also encouraged - especially cartoons
15. Colour pictures and illustrations will be printed in colour from 2018
16. A suitable colour photograph is sought for the front cover (and inside front cover) of every copy of the Bulletin, note that it must be an upright/portrait illustration and not an oblong/landscape one for the front cover.
17. Due to the short time-scales involved in production, the editors will not use any pictures where they consider there to be doubt concerning copyright. **Add your personal details to the metadata of the picture**, guidelines to this in Bulletin #76.

Tables

18. Tables should be submitted in their original spreadsheet format (e.g. Excel)
19. Spreadsheet format is also appropriate for long lists

When to send (deadlines)

Spring bulletin

20. Aims to be on your doorstep before the end of February, the editorial team has very little time available during January and so would appreciate as many contributions as possible by the middle of December; the deadline for **perfect copy is the 31st Dec**, it will be printed then distributed in late February. Please note that the date for contributions is now earlier than for previous Bulletins.

Autumn bulletin

21. Aims to be on your doorstep by early October, contributions should therefore be made to the editor **by the end of July**. It will be printed then distributed in time for final notification of the Annual Meeting. although late details may be posted on our website. Please note that the date for contributions is now considerably earlier than for previous Bulletins.

Where to send

22. Would Bulletin contributors please ensure that their items are sent to **BOTH** Darwyn Sumner and Judy Webb.
23. Compiling and proofreading take place immediately upon receipt. Please send only your final proofs.

Newsletters

24. Please ensure that your newsletters have an EVEN number of pages so that they can start on recto and end on verso.

Determining resolution and dimensions

Different graphics applications have different means of displaying this information but typically, even if you use the default system that came with your camera, you should be able to find out the following image information:

25. **Dimensions:** Bulletin columns are 9cm wide. Your picture should be at least this size, but double that is excellent. At that size it must have the following resolution:
26. **Resolution:** Commercial offset printing (this Bulletin and Dipterists Digest) requests 300 dpi. Images larger than the required dimensions we scale down, thus increasing their resolution. This makes no difference to the commercial print quality but the pdf version will have better resolution when one zooms in.

Image metadata

The manual that came with your camera provides instructions on how to set the camera up so that your own name is automatically placed in the image metadata. This is a good practise for a variety of reasons.

The software that came with your camera (or you downloaded) will give you access to other metadata fields which you can add afterwards, many of them can be useful in managing your collection of images.

Consider adding the species name to the "title" field and location details to the "location" field.

Third party image organisers (termed "digital asset managers") may be obtained and were discussed in Bulletin #76

Newsletter No. 24
Autumn 2019

Editorial

We are now three! Nigel Jones is taking responsibility for Empididae, leaving Stephen to concentrate on Hybotidae and making the distribution of effort more equitable. Nigel is the County Diptera Recorder for Shropshire and co-author of a provisional atlas of bees, wasps and ants in this county. He earlier worked for Natural England but is happier beavering away at insects.

Interesting dolichopodids from the Dipterists Forum meeting at Stoke, 23-30 June 2018

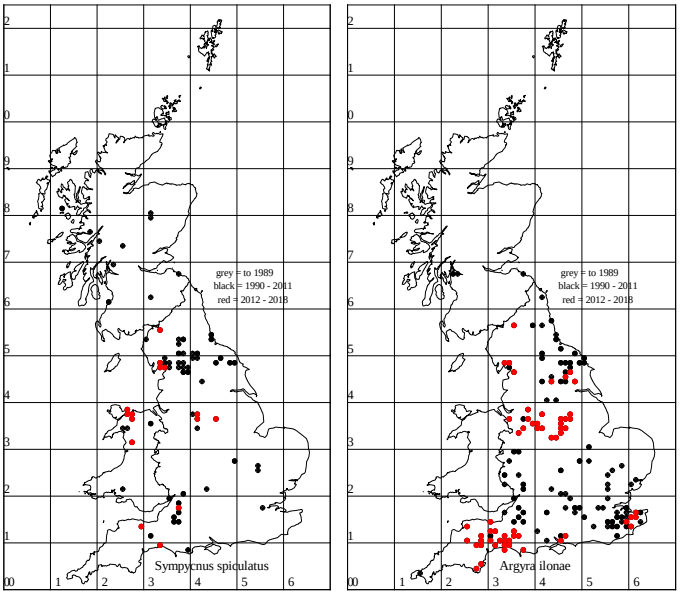
Martin Drake

We beat all previous records for the number of species, with 116 clearly distinct species. They came from 62 sites in 30 hectads. Top sites were Cholmondeley Park and Chee Dale with 34-35 species, and Lynton Moss, Jackson's Coppice and Shavington Park not far behind with 27-29 species. Unsurprisingly, these top sites also supported most uncommon species.

The ranking of the most frequent species was fairly predictable, with *Dolichopus plumipes* heading the field at 57 sites, followed by *Chrysotus gramineus* at 52 sites, but then a gap before the tail of slightly less frequent species starting with *Sympycnus pulicarius*, *D. trivialis* and *D. ungulatus* at 40 to 41 sites. Of the marginally less common species, it is worth mentioning that *Argyra ilonae* (12 sites) was the second most frequent in the genus, after the ubiquitous *A. leucocephala*, and as frequent than the usually common *A.* '*argyria*' group (females of three indistinguishable species, and frustratingly more common than their males)

There were a number of rare or scarce species. The most unexpected was *Campsicnemus magius* (Vulnerable) at the inland saltmarsh of the Northwich Flashes. This is published in our article in *Dipterists Digest* so I won't go into any more detail here. Among the nationally scarce or otherwise rare species, none was frequent although *Medetera* '*borealis*' and *Sympycnus spiculatus* were each found at four sites, and *Systenus bipartitus* at two, while the rest were found at just one site each.

Sympycnus spiculatus is an upland species closely associated with limestone geology, and usually found in woodlands, often but not always with streams and seepages. Three of the four sites for this species were squarely within the Carboniferous Limestone of the Dales and the last probably on the Permian or Triassic red sandstones, although of course there may have been base-rich influence here at Rod Wood. *Medetera* '*borealis*' is a species that I give several names to, depending on which way the wind is blowing, it seems. The



key will take you to four different names, *abstrusa*, *borealis*, *jugalis* and *oscillans*, that may or may not refer to a single species - their genitalia look very similar. Nevertheless, I came up with three of these names, *borealis* being the most frequent. *Medetera parenti* appeared to be a correct identification for this rarely recorded species (from the University's small lake reserve in the middle of town). *Systenus bipartitus* (Data Deficient) was an interesting find as whole genus is difficult to obtain by sweep-netting and many records are derived from rearing material from rot-holes. So getting it at two sites by sweeping was good (Loynton Moss, Millers Dale), and even more remarkable was finding a second poorly recorded species, *S. scholtzii*, at Loynton Moss – quite why these dead-wood species found this site so good is not clear. Other uncommon species included *Rhaphium antennatum* (Shavington Park) and *Thrypticus tarsalis* (Thorswood) which I regard as one of the genuinely uncommon *Thrypticus* (many records are misidentifications). Other uncommon species, which have Nationally Scarce status, although they are quite widespread, were *Neurigona suturalis*, *Syntormon fuscipes* and *S. monilis.*

I am most grateful to the other members of the field meeting, eleven of whom contributed specimens during the week, and

which contained 19 species that eluded me. I note that my top three contributors were also the top three for Andrew Halstead's Honeypot Challenge for the most sawflies.

Reflective surfaces of dolichopodids

Martin Drake

There's a general presumption that male dolichopodids use their fancy legs and sometimes their wings for courtship. However, there are other parts that may also be important in attracting likely mates. The 'flashing' palps of *Aphrosylus* on seashore rocks is very obvious, and must surely be a signal from males to females, wholse palps are less silvery. The scutellum of *Campsicnemus* is always shinier and more metallic than the rest of the thoracic dorsum, and may be used in recognising a likely partner when flying over grounded individuals, even if recognition cannot be not species-specific. Then the small flat area in front of the scutellum, given some prominance by dolichopodid taxonomists, can act as a brilliant mirror that shines a pinpoint of sunlight if viewed at the right angle – again, from above like the scutellum. I've seen this in a possible *Anepsiomyia* (it flew away too quickly to get a good view). So there's a field of endeavour for the lazy dipterist to look down at sitting flies to check how conspicuous they may be.

Dolichopodid name change

Marc Pollet and Andreas Stark have discovered that our *Orthoceratium lacustre* is in fact *O. sabulosum* (Becker) (Pollet & Stark 2018 – reference at end of newsletter). *O. lacustre* turns out to be a southern, more Mediterranean species, and the fly in the middle and north of Europe that everyone has been calling *lacustre* is *sabulosum*.

Females of the *Campsicnemus curvipes* group

Martin Drake

We've all struggled to identify females of the commonest *Campsicnemus* which fall into a group of convenience with no taxonomic justification comprising *armatus*, *curvipes*, *loripes* and *scambus*. They fall out together at the end of d'Assis Fonseca's (1978) key which is based on Parent's monograph (1938) with some re-arrangement and additional characters. I here show part of the reason why we fail to make sense of this key, and at the end I present a new set of couplets for this group.

To separate these four species, Fonseca uses two wing vein ratios, the relative width of the face and the colour of two characters. I have always had greatest trouble with the ratios, contrary to expectation, since structural characters are often more stable than colour. However, if it were not for the reliability of the colour, I would have been unable to put names to my specimens. To investigate the usefulness of the ratios, I measured the relevant vein lengths and minimum width of the epistoma (the narrow upper part of the face) and the widest bottom edge of the clypeus (the lower wide part of the face), although Fonseca compares the minimum face width to the distance between the ocellar setae which I find sometimes difficult to see except in tidy specimens. Fonseca and Parent say that the proximal section of vein M_1 is measured to the 'root' (racine in French, meaning root or base) – a term that is not defined and has always baffled me. So I measured the distance from the cross-vein dm-cu to three identifiable points near the base of the wing (see my points b, c & d on the *armatus* wing figure in key). Deciding where the base of the wing is in flies is easy at low magnification but when looked at closely it becomes very difficult to fix on an easily recognisable structure where the 'base' starts owing to the complexity of the emerging veins. I measured ten specimens since I have been measuring ten of each sex of every species for body and wing length for the handbook that is in progress. This is too low a number of specimens for a proper publication but adequate for the point that I am trying to make.

I ran a principal component analysis for the following ratios: a) apical section of Cu : dm-cu, b) M_1 from wing-tip to dm-cu : dm-cu to point b - the result was the same whichever 'root' point I used - and c) the face ratio. These three ratios separated *armatus*, *curvipes* and *scambus* into nearly non-overlapping clusters, but *loripes* was all over the place (yellow triangles in Fig. 1). I am fairly confident that my identification of *loripes* is correct because the face and front coxal colour fit consistently with what Parent and Fonseca say, even if these ratios do not; as *armatus* is an obligate saltmarsh species, that eases the identification of inland specimens. So the ratios are just, but only just, helpful for three of the species but become useless owing to the muddling by *loripes*.

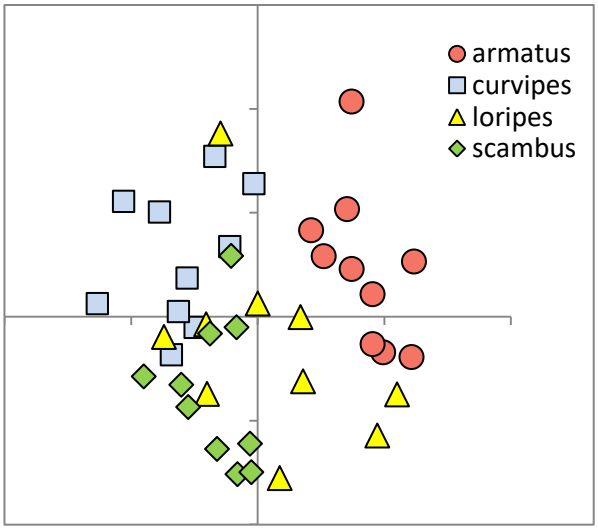


Fig. 1. First two axes of a principal component analysis for the four *Campsicnemus* species.

Are the ratios really different between species? Mean values are similar, although those for *curvipes* and *armatus* are probably significantly different as they lie at either end of the spectrum in Fig.2, but probably not different from the other species (if different, the 95% error bars do not overlap – I didn't bother with a formal test). But the ratios are too close for comfort in a key where most users will not actually measure the characters using an eye-piece graticule. And most damning is the opening part of the couplet saying "Basal section of discal vein [M_1], measured to root, obviously shorter than apical section" for *armatus*, compared with "Basal section of discal vein subequal in length to apical section" for the other three species. So is the root my point 'd' very close to the base, or my point 'b' which is the first clearest landmark moving back along M_1? Neither gives a workable fit to the Parent / Fonseca couplet.

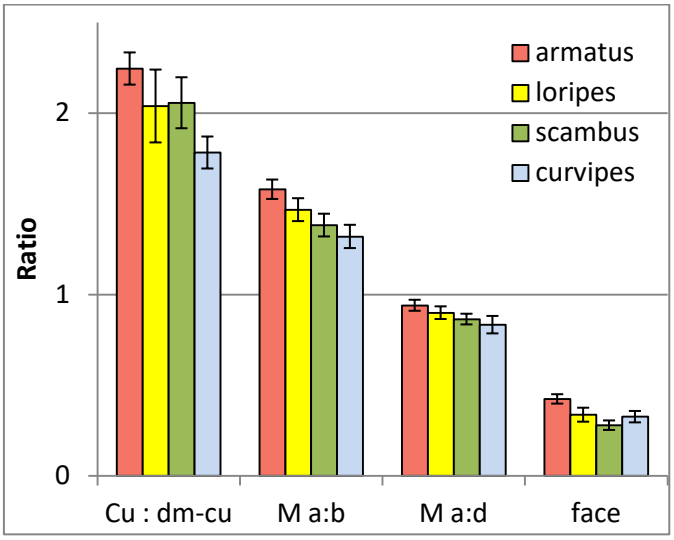


Fig. 2. Mean with 95% confidence limits of the ratios for the distal section of Cu to the dm-cu crossvein, the basal to distal sections of M_1 (two alternatives for M_1), and narrowest to widest parts of the face, for the four *Campsicnemus* species.

Enough of the minutiae! Ignore Fonseca's and Parent's last couplets and use mine instead, replacing couplet 8 onwards in Fonseca and couplet 16 in Parent. This is my provisional key for the handbook so the couplet number relates to its position there. Characters in square brackets are additional and may be shared with other species but are helpful pointers. My figures are pencil drawings so not perfectly crisp.

5(3) Lower postoculars black almost or completely to lower margin of eye, no or very few white setae (black setae may have yellow reflections so view from different angles); anal vein short and wide to its tip, fuzzy-edged, reaching no further than half-way to wing margin (if imaginarily extended), and no faint fold continuing its projection near margin; outline of hind margin to where anal vein points slightly indented so anal lobe is broader; costa spinules between R_1 and R_{2+3} always identical, none differentiated; clypeus brown, not or only slightly paler than brown epistoma. [epistoma narrow, about ½ width of tip of clypeus; front femur usually mostly yellow, always yellow on internal faces if largely black; frons shiny to front corners by antennae]. ..... *scambus*

- Lower postoculars black to about half-way down eye then obviously white in lower half; anal vein tapered from base to tip which extends more than half-way to wing margin and is extended by a curved fine fold running just posterior to vein, at low magnification appearing as vein itself reaching margin; outline of wing margin smoothly curved near end of anal vein; costa between R_1 and R_{2+3} with a few spinules near R_{2+3} slightly longer and stouter between every 2-5 fine setulae; clypeus usually a shade of yellow (sometimes almost pale grey), contrasting with paler grey epistoma. [occasional intermediate specimens of the following three widespread species cannot be identified] 6

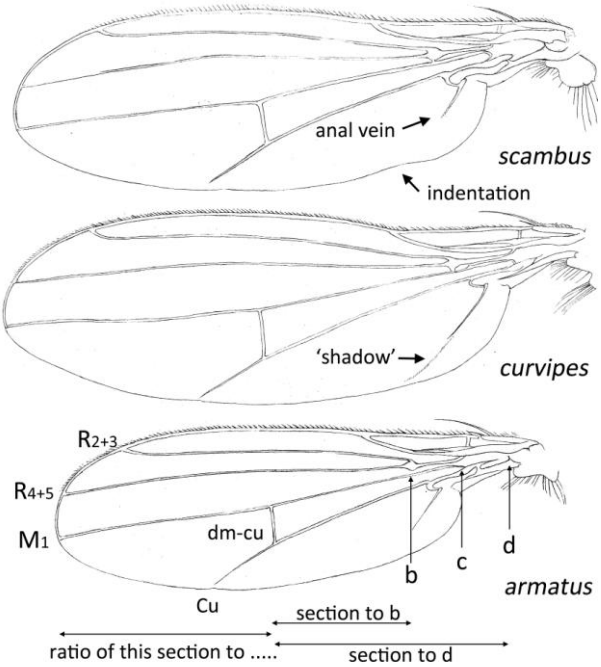
6 Front coxa black with yellow tip; frons pale-dusted in front corners next to antennae, completely obscuring ground colour, dusting continuing same quality as on epistoma. [crossvein dm-cu more than half length of apical section of Cu; apical section of M_1 beyond dm-cu less than 1.5 times distance from fat node on R to dm-cu; mid femur with well marked dark ventral streak in basal half; hind metatarsus slightly shorter than second segment]. ..... *curvipes*

- Front coxa yellow, at least on internal face in dark specimens; frons shining or glistening in front corners next to antennae, ground colour showing through, not dusted like epistoma. 7

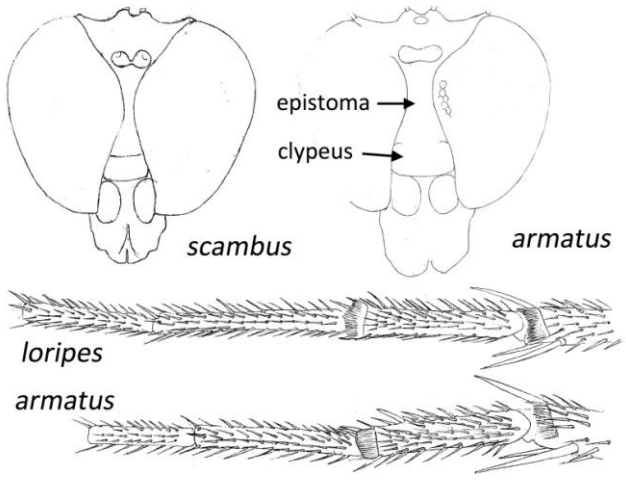
7 Clypeus pale yellow, contrasting clearly with pale grey epistoma; hind metatarsus slightly shorter than second segment when viewed on ventral or posterior faces; mid femora with dark ventral streak in basal half. .... *loripes*

- Clypeus very pale yellow-grey or sometimes pale grey, similar in colour and shade to epistoma; hind metatarsus and second segment same length when viewed on ventral or posterior faces; mid femora without dark ventral streak in basal half. [apical section of Cu twice length of crossvein dm-cu; apical section of M_1 beyond dm-cu more than 1.5 times distance from fat node on R to dm-cu; epistoma wider, about 0.4 times width of tip of clypeus; habitat saltmarsh]. ..... *armatus*

Wings of *Campsicnemus*



Face and hind tarsus of *Campsicnemus*



The Empids and Hybotids of Lancashire and Cheshire

Phil Brighton

The publication in 1959 of *The Diptera of Lancashire and Cheshire, Part I* by Leonard Kidd (see Obituary in DF Bulletin No 77) and Allan Brindle in 1959 was a landmark in going beyond a simple checklist to providing distributional and phenological data. This was in the form of the specific locations for species found at 4 or fewer sites in each of the three vice-counties of the region (VCs 58, 59, 60) and the seasonal range of dates. The main source of information was the record cards compiled by Harry Britten, a large of proportion of the data being from his own collecting in the region between 1920 and 1950 (see Ref 1). Part 1 covered the Nematocera and lower Brachycera, leaving the Acalyptrates and Calyptrates for a projected Part 2, which sadly never appeared. There were however two updates with newly recorded species in 1964 and 1971.

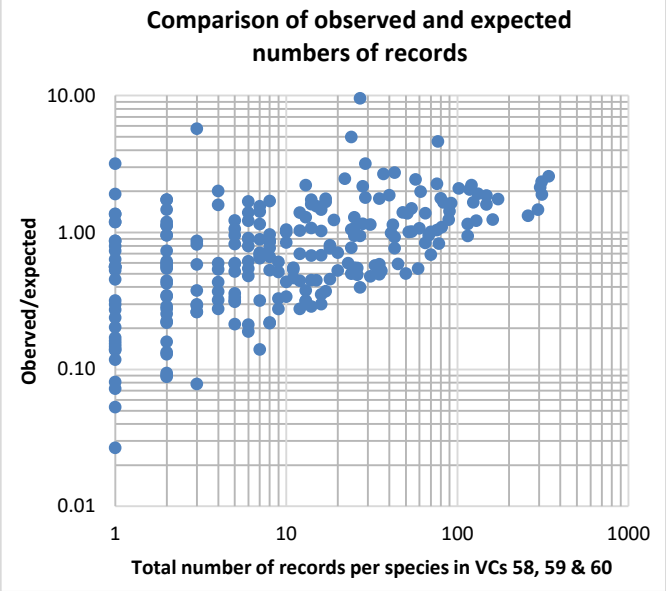
As mentioned in my "Beginners Corner?" article in the previous DF Bulletin (No 87) I have been engaged in updating this regional data review over the last few years. This project has grown out of my investigations of the large amount of Diptera data held in the Cheshire local records centre (see DF Bulletin No 77). I have also been inspired by Pete Boardman's atlas of the craneflies of Shropshire (ref 2) and Steve Hewitt's compendium of the Diptera of Cumbria published on the Carlisle Natural History Society website (ref 3). In Lancashire and Cheshire, the Tanyptera Project at Liverpool Museum has set up a website where comparable regional publications across the whole range of terrestrial invertebrates are being published (ref 4). These include a revision of Kidd and Brindle's list of fungus gnats published by Peter Chandler in 1991 in the journal of the Lancashire and Cheshire Entomological Society (ref 5), all the volumes of which from 1881 onwards are also available on the website.

Amongst this rapidly growing body of information, you can also find four new regional diptera lists by me, for Soldierflies and Allies, Sepsidae, Craneflies, and, most recently, Empidoidea, Part 1. This last rather clumsy title results from the division of Empididae as described in J. E. Collin's great monograph of 1961 into Empididae and Hybotidae and the two small families of Atelestidae and Brachystomatidae. The full superfamily Empidoidea also includes the Dolichopodidae for which Glenn Rostron is currently working on the regional data.

All my lists follow a similar format to that used for the Cumbrian lists, boiling down the available data into the number of records, the number of hectads and the earliest and latest years recorded for each species. I have combined data from the local records centres and national recording schemes, as well as my own records and also my transcriptions of the full data from Harry Britten record cards at Manchester Museum (ref 1).

In the case of the Empididae s. l., as we can perhaps call the Empidoidea minus the Dolichopodidae, few of the regional records are yet available on the NBN Atlas for various reasons. They amount to 7,232 in number across 243 species, amounting to 62% of the British checklist. As well as the individual vice-county lists in the alphabetical order of families and species, I have also compiled a regional list ranked in descending order of number of records. These statistics of observed relative abundance show a striking parallel with the figures derived from my own records across a wider range of Diptera in my article in Bulletin 87: 51% of the records come from just 8.6% of the species while at the other end of the scale just 2% of the records account for 32% of the species.

When I compiled the data for Sepsidae, I found that the ranking of numbers of records was very close to that for the national data published by Steve Crellin in DF Bulletin No 79. This suggests that the commonest species are the same everywhere in most of the UK. To investigate whether the same is true for the Empididae s. l., I have used numbers of site records kindly supplied from the national recording scheme by Martin Drake – a total of 69,045 records. With the much longer list of species, a comparison of ranks is more difficult, so instead I have plotted the number of regional records for each of the 243 species and the "expected" number based on the number of national records factored down by 7,232/69,045. Because of the large variation in both the numbers of records and the ratios of "observed" and "expected" numbers, logarithmic (base 10) scales are used on both axes.



This scatter plot shows that a large proportion of the data is within a factor 3 or so from equality of the observed and expected. The commonest species, with over 100 records, are almost all recorded more often than predicted. This may be partly because the ERS data refer only to presence at "sites" without account of repeated records, whereas most of the recent regional records are to 100m accuracy and resolved to specific dates. Another factor is that the ERS data of course includes data from species not yet recorded from the region.

At the lowest end of the scale, the singleton records have a wide range of observed/expected (O/E) ratios between 0.03 and 3.18. Lower values represent species which must be commoner in some other parts of the country, but scarce in north-west England, while high values relate to scarce or rare species which appear to have a regional stronghold. The three species with over 10 records and an O/E greater than 3 are *Dolichocephala guttata* (4.6), *Hilara clypeata* (5.0) and *Hilara albipennis* (9.6).

Following on from my article in the last Bulletin, I will wind up with the list of 20 most commonly recorded species in the Lancashire and Cheshire data – ones which are highly likely to be encountered very soon by anyone starting to record this group, accounting for 49.7% of all the regional records. Like almost all the Empididae and Hybotidae, these species are all predators on smaller insects to be found in well-vegetated habitats. Of course one would expect the commonest species to be generalists, but it seems that overall few Empids and Hybotids are specifically associated with wetland or coastal habitats, in contrast to the Dolichopodidae.

1. *Hybos culiciformis*

The two common *Hybos* species are instantly recognisable, though not separable, in the net by their long swollen (or "incrassated" according to Collin) hind femora. They start appearing relatively late in the season from July onwards in both open and shaded habitats. *H. culiciformis* records amount to 4.7% of the total number.

2. *Ocydromia glabricula*

This is a small (around 4mm) and slender hybotid which I associate much more with woodland. The short and rounded third antennal segment marks it out from the many rather similar genera. There is a second British species which is very much rarer.

3. *Bicellaria vana*

While the genus is readily identifiable from the pattern of wing veins, the identification of the 11 *Bicellaria* species covered in Collin (1961) relies on subtle differences in features such as the lengths of legs and the bristles on them. This is particularly true for distinguishing between *B. vana* and *B. sulcata.* In fact Kidd and Brindle (1959) listed only *sulcata* as occurring in Lancashire and Cheshire, while all the more recent records relate to *B. vana.* Collin's main character for separating the females is whether the thorax is more or less shining, and the differences in the male genitalia seem rather small from the diagrams in the book. In fact, Adrian Plant has reported that even Collin's separation of these two species has been found wanting (see DF Bulletin 72, ref 6). *B. sulcata* is regarded as much scarcer and more northern in distribution. Despite this aura of uncertainty about the status of these two species, it would be a greater error to leave these records out of the reckoning altogether.

4. *Empis tessellata*

As the largest of the group, around a centimetre in length, and with a penchant for feeding off hogweed flowers, this species must be the most obvious to the general recorder and a popular subject for the digital photographer, and so possibly better recorded than most.

5. *Empis livida*

This species is only slightly smaller than the previous one and similar in its habits. I am not sure that it is that easy to distinguish the two in the field or on photographs – the distinguishing feature of veins stopping short of the wing margin being difficult to see in such circumstances. It is the most frequently recorded species in the Recording Scheme database.

6. *Platypalpus pallidiventris*

It is quite surprising that a *Platypalpus* should be this high in the rankings, as individual species are not particularly memorable or noticeable in the field: *P. pallidiventris* is actually second in the national ranking. This genus has the most species within the group and they are all rather small, often 3mm or less. Nevertheless their thickened mid femora and their strutting gait as they march up the inside of the net make them not too difficult to pick out. Small trees or scrub and the edges of woods seem to be good places for finding the genus. Quite a few species have been added to Collin's (1961) list with a new key being provided by Adrian Plant in DF Bulletin No 73 (ref 7).

7. *Hilara maura*

Hilara is another large genus, for which Collin (1961) remains the main identification resource. While there are some tricky couplets comparing terms such as "greyish black" and "dull black" in the key, *H. maura* soon becomes familiar from its fairly large size (4mm) and the pattern the thorax of strong white bands which vanish or reappear with different angles of view. Like many other *Hilara*, the species tends to form large mating swarms over still or flowing waters.

8. *Hybos femoratus*

On close examination this is easily distinguished from the other *Hybos* species by the extensive yellow on the anterior legs and the shiny zones of the thorax. I have often found it together with *H. culiciformis* (No 1 above).

9. *Empis nigripes*

There are numerous small black *Empis* species, but the male genitalia are mostly distinctive. In the females the extent of fringes of pennate bristles on the legs can be helpful for identification as well as the colour of hairs on the abdomen and the number of bristles on the scutellum.

10. *Platypalpus longicornis*

Little more can be said than has been for *P. pallidiventris* at No 6 above. The regional top 20 includes 4 *Platypalpus* species which are also the top 4 nationally.

11. *Rhamphomyia sulcata*

There are several *Rhamphomyia* which can seem quite abundant early in the season, so it is surprising that only two appear in the top twenty (though No 19 was also a *Rhamphomyia* in Collin). They are generally distinguished from *Empis* species by lack of a fork near the apex of the cubital vein and a shorter proboscis. Also they mostly have very distinctive, even baroque, male genitalia.

12. *Platypalpus minutus*

In 1989, a very similar species *P. australominutus* was defined, with minor differences in the male genitalia and indistinguishable in the female. So many records of this species are best referred to as *P. minutus* agg. The national data indicate that *P. australominutus* constitutes over 10% of the combined population.

13. *Hilara obscura*

Specific names such as *variabilis*, *intermedia* and the like suggest that there may be difficulties in identification. *H. obscura* is no exception, being distinguished from *H. flavipes* mainly by the very long rear claws of the male. Furthermore both are reasonably common. The males are at least distinguished from almost all other *Hilara* in lacking the inflated metatarsus on the front legs. Both sexes have extensively yellow legs, another feature greatly narrowing the field. In the national data the ratio of *obscura* records to those of *flavipes* is 3.2:1 whereas for the regional data it is 2.2:1, a reasonable degree of consistency.

14. *Rhamphomyia nigripennis*

This is a rather small species but the dark wings and extent of yellow on the forelegs make it not too difficult to distinguish from the otherwise similar and not uncommon *R. umbripennis.*

15. *Empis trigramma*

This belongs to the subgenus *Xanthempis* containing 9 mainly yellow British species species. While they vary in the number of stripes on the thorax, some species pairs require care in separation, as with *trigramma* and *punctata*. The national ratio of records for these two is 1.6:1 while for the regional data it is 2.8:1.

16. *Hilara chorica*

This is small and all black like many other *Hilara*, but the very chunky swollen metatarsus on the forelegs make this species reasonably distinctive. Both sexes are also distinctive in having the second and third segments of the front tarsi broader than long. I have found that this species particularly numerous in open locations on moorland fringes.

17. *Platypalpus longiseta*

This species was named by Collin as *P. extricata*, but this was superseded later: Collin considered that *P. longiseta* (Zetterstedt, 1842) was a synonym for *P. pallidiventris* (Meigen, 1822), which stands at rank 6 above. The two species are similar with the males being distinguished by the presence or absence of dark annulation on the fore tarsi, though for the females a red tinge at the base of the third antennal segment is the main feature denoting *longiseta.* The ratios of the record numbers for *P. pallidiventris* and *longiseta* are very similar nationally and regionally, 2.0 and 2.3 respectively.

18. *Empis praevia*

This species stands out as the only one in the regional top twenty not to have been recorded in Kidd and Brindle (1959): the first regional record was in 1989. The species was first described by Collin in 1927, distinguishing it from *E. aestiva* Loew, 1867. Both belong to the subgenus *Empis* of small, black species which also includes *E. nigripes* at No 9 above. The male genitalia are quite distinct, and only the females of *aestiva* have pennate fringes on the legs. Interestingly, Collin described *E. aestiva* as common and widely distributed, whereas he had specimens of *E. praevia* from only six British locations. The *praevia*: *aestiva* ratio is 1.7 for the region but only 0.45 nationally. The NBN Atlas shows *praevia* having a southern range only just extending into South Lancashire while *E. aestiva* has been found up to Northern Scotland. So it appears that *E. praevia* may have both extended its range and increased in relative abundance in part of that range.

19. *Empis albohirta*

This species lacks the forked cubital vein of genus *Empis.* Until 2015, this species was a *Rhamphomyia*, along with *E. longipes* – both these species have a long proboscis like *Empis* rather than the shorter stubby one of most *Rhamphomyia*.

20. *Dolichocephala irrorata*

The *Dolichocephala* species are amongst the smallest of the strict Empids, but have a characteristic head shape and wing venation, which can be rather puzzling when first encountered. This species accounts for 90 or 1.3% of the regional records, which is a factor 1.43 greater than the proportion of national records – well within the range of variation seen in the scatter plot above.

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[4] http://www.northwestinvertebrates.org.uk/publications/

[5] P. J. Chandler, "Some corrections to the fungus gnats (Diptera, Mycetophiloidea) of Lancashire and Cheshire", Lancs & Ches. Ent. Soc. 114th Annual Report and Proceedings (1991), pp38-53 [accessible via Ref 4]

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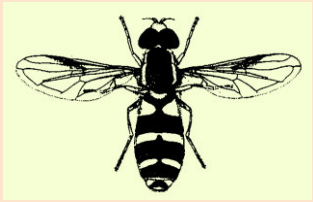

By the time that this newsletter is published the 10th International Syrphidae Symposium will have taken place; it is scheduled for the period 8th to 14th September in Lesvos. An announcement of this event was included in the last newsletter. Details can be found at: https://iucn-hsg.pmf.uns.ac.rs/iss10/.

There was a substantial UK presence at the first three hoverfly symposia (which were held in alternate years beginning in 2001), and, not surprisingly, also at the 6th Symposium in Glasgow in 2011, and feedback from these was sometimes included in hoverfly newsletters. If any reader who will have attended this year's symposium would like to offer an article about it, it would be most welcome.

Two splendid new additions to the growing treasury of books on hoverflies have recently been published: from the Netherlands comes **Veldgids Zweefvliegen (Field Guide to Hoverflies of the Netherlands and Belgium)** by Sander Bot and Frank van de Meutter, published in 2018 by KNVV, and from Canada the **Field Guide to the Flower Flies of Northeastern North America** by Jeffrey H Skevington and Michelle M Locke, published in paperback in 2019 by Princeton Field Guides. Both feature colour photographs (mainly of museum specimens) of every species covered.

Copy for **Hoverfly Newsletter No. 67** (which is expected to be issued with the Spring 2020 Dipterists Forum Bulletin) should be sent to me: David Iliff, **Green Willows, Station Road, Woodmancote, Cheltenham, Glos, GL52 9HN, (telephone 01242 674398), email:davidiliff@talk21.com**, to reach me by 20 November 2019.

The hoverflies illustrated at the top right of this page are a mating pair of *Volucella inflata*.

Ted Levy – a stalwart of more than 45 years

It was with great sadness that I recently heard that Ted Levy, one of the longest-standing contributors to the HRS, had died in May 2018. Ted's contribution to hoverfly recording was considerable: at least 37,790 records (often with his son David). According to the database, Ted's first contributions date back to 1971 which seems to correspond with the time he first became interested. In a letter to Peter Chandler, dated 10 January 2003, Ted described how he started collecting hoverflies to help to encourage Ron Payne who had recently joined the same Natural History Society and was working on an Essex list. At the time Ted was a birder and did not have access to collections or keys: Ron provided the identifications.

Ted and his family subsequently moved to Dorset where another chance event took Ted's interest to a new level. Bill Dean, who was a stalwart of the Sorby Natural History Society's hoverfly recording, had migrated to Dorset where it turned out he was Ted's postman. Bill noticed the packages from the Natural History Museum and started to mentor Ted and Dave. There followed a very productive partnership of research and

field work between Ted, Dave and Bill that led to an atlas of Dorset hoverflies. Ted and Dave went on to do the same for Somerset, but Bill departed for Canada and dropped out of hoverfly recording.

Producing a county atlas is no mean feat; producing two is remarkable. The fieldwork alone is a massive undertaking but raising the funds for publication is even more creditable. Ted and Dave Levy achieved a great deal.

In recent years, Ted was afflicted by Parkinson's Disease, a cruel twist that made it difficult for him to pursue his natural history passions. He alluded to greater frailty in his letter of 2003 at the age of 72, but clearly kept going for a further 15 years; during most of which he was still an extremely active recorder.

Ted and Dave's collection of around 8,000 specimens of UK and European hoverflies has been donated to Oxford Museum.

Roger Morris

Abigail Rhodes – a rising star

Just occasionally someone bursts on the scene in spectacular ways. When such livewires die early, the community is robbed of an untested leader; Abby Rhodes had just that potential.

I first encountered Abby on the UK Hoverflies Facebook page when she started posting amazing finds from her garden in Dalcharn, near the Kyle of Tongue, including remarkable numbers of *Xanthandrus comtus*. Over the following couple of years she became increasingly interested in Diptera, and when our four-day course at Preston Montford was organised she was one of the first to enrol. That course was memorable because we had a fantastic group, several of whom are now very active Dipterists. Abby definitely led the way and was obviously capable. When she found that our hoverfly course was running immediately afterwards, she promptly booked a place to stay on: goodness knows how she broke the news to husband Gary!

Abby rapidly graduated from hoverflies to many other Diptera families and readily travelled south when she knew there was a gathering of Dipterists. We last saw her at Strathpeffer in August 2018. Despite having been diagnosed with terminal cancer, and having refused a second course of chemotherapy, she still made the journey south to join us. By that time the cancer had started to take its toll, but she was brave and resolute.

Diptera were not, however, Abby's first love; she was passionate about monitoring breeding eagles in Caithness & Sutherland. How many Dipterists abseil down cliffs to ring eagle chicks? She was seemingly fearless. We saw one result of this passion in a paper published in Dipterists Digest [Emergence of *Lasiomma picipes* (Meigen) (Diptera: Anthomyiidae) from Golden Eagle pellets. *Dipterists Digest* **25**(2): 139-141]. That paper emerged shortly before her death on 11 March 2019 and I hope she got to see it in print. Under different circumstances, I think we could have looked forward to a substantial contribution of records and observations spanning many aspects of Dipterology, including hoverflies. She will be greatly missed, especially as there are so few active Dipterists that far north.

Roger Morris

Hoverfly Recording Scheme Update – summer 2019

Stuart Ball, Roger Morris, Joan Childs, Geoff Wilkinson & Ellie Rotheray

By the time this report reaches readers, the summer will be almost over. What will have happened and will hoverfly numbers be any better than they were in early June when this update was written?

This last winter was warm, with long periods of sunshine and lots of hoverfly activity. The omens looked good in March and early April: it seemed that there were plenty of hoverflies about! Spring came exceptionally early, and this may have caused problems later on. For example, there were two records of *Epistrophe eligans* in February; early March dates were a surprise when they first happened, but February is unnerving! The second and third weeks of April seem to have been the peak for this species in south-east England, which is probably ten days earlier than normal.

Several species showed strongly this spring. *Melangyna quadrimaculata* is always dependent upon the weather, but was seen in various places this year. There were also lots of records of *Meligramma euchromum* and *M. trianguliferum*. Conversely, a general impression emerged that some normally abundant species were far less obvious. *Eristalis pertinax*, in particular, was decidedly scarce in some places.

One of the big changes to have happened in the past five years is recorders looking for charismatic species. As hoverflies have gained popularity and wildlife tourism has grown, such a shift was inevitable. This approach is helpful because it has been very difficult to know how some of these species were faring (most traditional Dipterists tend not to visit known localities but prefer to find new ones).

Doros profuges has been an obvious target and was re-found this year both at Yealand Allotment and Martin Down from which there are ongoing sequences of records. A similar situation obtains for *Caliprobola speciosa*: until recently, we have received almost no records of this species despite its occurrence in The New Forest, which must be visited by considerable numbers of potential recorders. We simply don't have the data to say what is going on there, despite anecdotal reports that it is getting rarer. A developing pool of regular reports would be a huge boost to understanding its situation in The Forest (even less is known of its status at Windsor).

There has also been a very welcome surge in interest in hoverfly larvae. Several very active new recorders have started to generate greater activity. Facebook posts of how to find larvae (and eggs) of *Parasyrphus nigritarsis* have stimulated a lot of interest (even RM regularly turns over dock leaves in the hope of success). That higher profile has led to some remarkable new finds (of *P. nigritarsis*), including from southern England. The discovery of the large, extraordinary looking, black larva of *Eriozona syrphoides* feeding in a colony of Giant Willow aphids along with *Didea fasciata*, provides a further point of excitement. How many people actually find, let alone investigate these aphid colonies? Hopefully others will be stimulated to look more carefully at aphids on willow.

With so many enthusiasts creating artificial habitat for semi-aquatic hoverfly species, so called Hoverfly Lagoons, five species have now been recorded from this habitat, including *Syritta pipiens* which turned up in 2018. Amazingly, over 300 larvae can develop in just one of these simple yet effective Lagoon habitats. This is a project that will fascinate all ages and is well-worth the effort – give it a try!

By the time this Newsletter reaches readers, autumn will be approaching. Leaf-fall is a great time to look for larvae too. What better way to while away a wet autumn evening than to work one's way through a bag or two of fallen leaves. Damper ones seem to be better for *Melanostoma*, but it is worth checking out a wider range of leaf piles from different tree species. Beech may yield *Melangyna cincta*, whilst the much-maligned

sycamore can be a gold-mine for a wide range of species; from *Syrphus* to *Parasyrphus punctulatus* and *Epistrophe grossulariae*.

We hope that interest in larvae will continue to grow: there is so much more to be learned from a better understanding of juvenile stages, especially as these are most likely to be affected by extreme weather.

In the last Newsletter (No 65), the issue of detecting change was discussed in two notes by RM. This spring we have watched the incoming records with great interest. What has happened to potential indicator species such as *Rhingia campestris*? When this update was written, there were insufficient data to make any meaningful statement about the effects of 2018 heatwave. Most of what can be said is anecdotal, and very localised. For example, RM has regularly commented on an almost complete lack of *Cheilosia* on his 'patch' in Mitcham. Normally, one might expect to see reasonable numbers of *Cheilosia* at *Anthriscus* flowers; but this has been far from the case in 2019. Is this a heatwave effect? Up until now, it might have been assumed that larvae feeding within stems and roots might not have been significantly affected by the heatwave, but is this really the case? Unfortunately, so few people make comprehensive records of *Cheilosia* that it is unlikely that any realistic analysis will be possible.

iRecord

Increasing numbers of records arrive via *iRecord* but have as yet to be absorbed onto the HRS database. We have a few problems to sort out; not least that one Local Records Centre placed its entire dataset on *iRecord* and we are faced with a huge task of reconciling what we have/have not got on the dataset already. This job is unlikely to be dealt with before next winter. We also get a small number of people who place occasional records on *iRecord* that we also think have been extracted from the Facebook group. There are some who submit to local recorders but also place on iRecord; those data will reach us twice. These reconciliations may be tricky!

There have been enquiries about local recorders taking on verification. In principle, we would be keen to develop such a system, but we do need to be sure that the verifiers have competency to deal with often tricky records. So, if you are minded to get involved, a starting point should be to get involved with the UK Hoverflies Facebook group and contribute to identification of posts. In that way, we can start to develop a feel for your approach and competency (photo ID is not always straightforward). A detailed analysis of *iRecord* issues is needed – a job for RM when time permits, as this may help to illustrate the pitfalls facing the potential verifier.

A few statistics

At the time of writing, the dataset comprised 1,114,236 records from 1950 onwards. The numbers of records received for 2018 are about the same as for 2017, which is probably a reflection of the difficult recording conditions of 2018. There are doubtless more datasets to be incorporated, so the true situation for 2018 will probably only be clear in a couple of years' time. Nevertheless, it does look as though recorder effort is moving towards a new asymptote (figure 1).

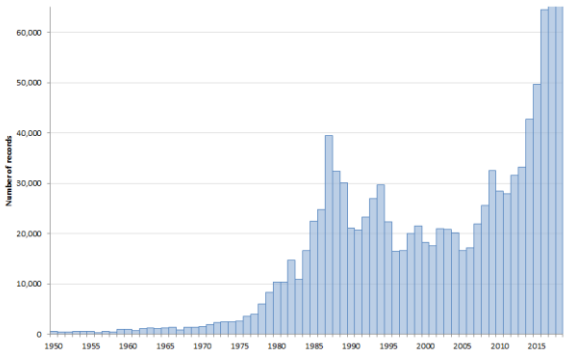

Figure 1. Numbers of records in years 1950 to 2018

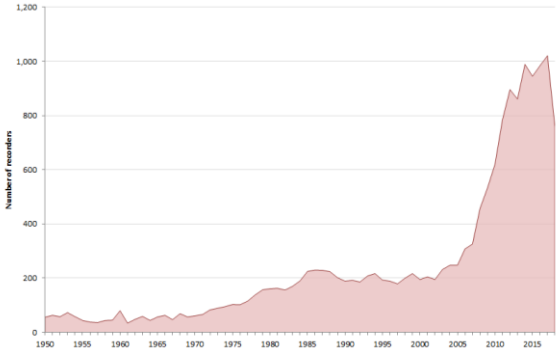

Figure 2. Numbers of recorders in years 1950 to 2018

The UK Hoverflies Facebook group continues to attract new members, but the pace of growth seems to have slowed. New active members do appear, but we have also seen several formerly active members move on. Again, it looks as though we might be approaching a new asymptote; indeed, Figure 2 suggests that the overall number of contributors to the scheme has dropped in the past 3 years. The main reason for this perceived drop is that RM no longer scans Flickr and other media for occasional records.

Coverage in 2018 is shown in Figures 3, 4 and 5. As might be expected, it comprises hot spots where exceptionally active recorders are present and more diffuse records that represent lower levels of activity of small numbers of visits.

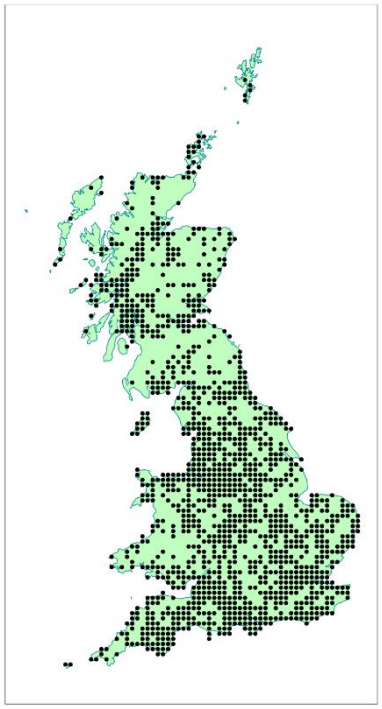

Figure 3. Coverage in 2018.

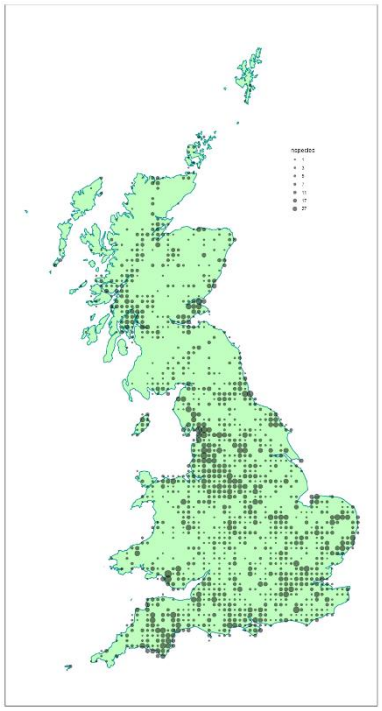

Figure 4. Numbers of species 2018.

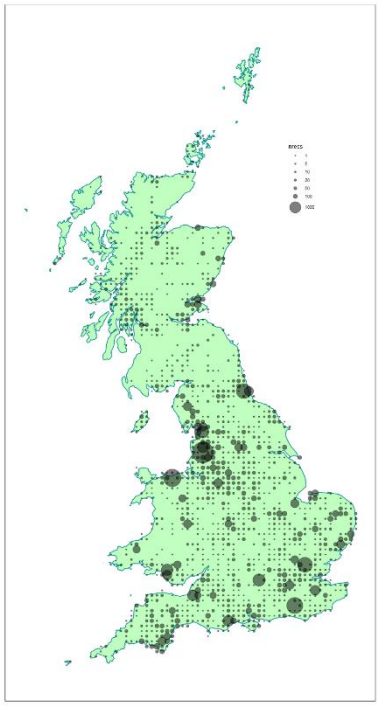

Figure 5. Numbers of records in 2018.

Further cases of avian predation

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In the last Newsletter (No 65: 15-16) photographs by Rob Salem of *Eristalis intricaria* fallen prey to a Stonechat showed that at least some birds are not fooled by bumblebee mimics. It seems that honeybee mimics may fare no better, as these photographs by Mike Mullis show. Mike captured this Grey Wagtail at Abbots Wood (East Sussex) on 20 April 2019. The unfortunate hoverfly is an *Eristalis* and looks as though it is probably *E. pertinax*.

For the original post see:
https://www.facebook.com/groups/609272232450940/permalink/2368414509870028/

Mike returned to Abbots Wood on 24 April and made a further amazing record – this grey wagtail obviously finds hoverflies a suitable food for its brood. In the third photograph we see it carrying a *Syrphus* and also what appears to be a *Helophilus*.

Taken in combination, these three records start to build a picture of avian predation of hoverflies that has hitherto been undocumented. Mike's record is also another example of the superb wildlife photography by members of the UK Hoverflies Facebook group, which is adding greatly to the data on hoverfly occurrence and is also filling in valuable insights into other aspects of hoverfly ecology. Hopefully more examples will emerge in due course.

There is also a post by Bruce Kerr on Twitter from 24/06/2016 of a Spotted Flycatcher with *Sericomyia silentis* at Gladhouse Reservoir (Midlothian); so, it seems, mimicking a wasp confers no greater advantage either!

The big question, of course, is whether these are rare examples where mimicry failed to confuse a bird; or, perhaps, birds are rarely fooled because they are equally likely to take bees, wasps or hoverflies?

Does *Rhingia borealis* occur in the UK?

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Last summer (2018) there were two reports of extremely dark *Rhingia* supported by photographs. One, by Rebecca Nason, from Shetland, involved a considerable number of very dark specimens that seemed to represent a mass emergence or a migration. Another, by Paul Johnston, from Inverness, showed a male specimen with a completely black scutellum. Both reports coincided with a major mass occurrence of *Episyrphus balteatus* and *Eupeodes corollae*. I was therefore alert to the possibility of *Rhingia borealis*, which occurs in Scandinavia (Bartsch *et al*., 2009) and has been reported from The Netherlands and Belgium (van Steenis, 1998; also see map in Bot & de Meutter, 2019).

It is unclear whether records from Belgium and The Netherlands represent resident populations or vagrants, but clearly there is a possibility that *R. borealis* could occur in the UK. The most likely region for it to turn up seems to be Scotland, including Orkney and Shetland, but it may occur elsewhere. It therefore makes sense to check all *Rhingia* with an unusually dark scutellum and pale abdomen, and especially where the scutellum is black (bearing in mind that they are often very dark in Scotland).

Rhingia borealis can be separated from *R. campestris* on the basis of the length of the facial prominence (less than 2x the length of the antennae, as in *R. rostrata*), and the presence of black hairs on at least part of the orange parts of tergite 4 (see Bartsch, *et al*., 2009). The length of the facial prominence may be difficult to assess, so it is also important to check the hair colour on tergite 4. It is separated from *R. rostrata* on the basis of pubescence on the arista (bare in *R. rostrata*). In male *R. borealis* the hind femur is also almost completely black (about half black basally in *R. rostrata*).

References

Bartsch, H., Binkiewicz, E., Nasibov, E., Nordin, A., Rådén, A. & Östman, T., 2009. *Tvåvingar. Blomflugor : Diptera : Syrphidae : Syrphinae (Nationalnyckeln till Sveriges flora och fauna)*. ArtDatabanken SLU. 2 Volumes.

Bot, S. & de Meutter, F., 2019. *Veldgids zweefvliegen*. KNNV Uitgeverji, Zeist. 386pp.

van Steenis, J.,1998. *Rhingia borealis* nieuw voor Nederland en Belgie, met een tabel tot de Europese Rhingia-soorten (Diptera: Syrphidae). *Entomologische Berichten* 58(5):73-77.

Volucella inanis larvae on my stairs' carpet !!!

Rob Foster

I spotted this large strange looking grub on the stairs' carpet. I realised it was a hoverfly larva and closer inspection showed it to be that of *Volucella inanis* – a queen wasp mimic and a known parasite of social wasps. The larva, seeking somewhere to pupate after consuming its fill of wasp larvae, must have found a route from a wasp nest in the roof space into my house.

Photo Rob Foster

Wasp nest drilled into the roof insulation foam panels Photo Rob Foster

This was all last autumn. I was prepared to tolerate the wasps since the nest was clearly being abandoned as the queens left. And although some hundreds of wasps entered my bedroom, I only received one sting - when one crawled inside one of my socks before I put it on. Even so, it was spring before I felt it safe enough to stick my head into the roof space to discover the nest. It was inserted into the insulation of the roof. Only the lower lobes are visible in the photograph. It must have been about 2 feet across and 4 inches thick. The wasps were Common Wasps (*Vespula vulgaris*) judging from the anchor-shaped mark on their faces.

Diapaused larvae Pupae Photos Rob Foster

Eventually three hoverfly larvae made their way out this way. I collected them with the idea of breeding them out. For the whole winter they were in diapause – a semi-hibernatory state prior to pupation. It was not until early May that they pupated. This was awkward, since I was going to be on holiday in late May when I expected the adult hoverfly to emerge. Fortunately my friend and expert photographer John Leach offered to act as hoverfly-sitter whilst I was away. He kept an eye on the pupae and photographed and released the adults as they hatched. I arrived back just in time to see the last one to emerge.

The final emerged adult (a female) prior to release Photo John Leach

Volucella inanis, a queen wasp mimic, is primarily a hoverfly of Southern England, but with global warming it has penetrated further and further north. Last year, its progress was given a boost by the southern winds of the exceptionally hot summer and I saw one for the first time in the Upper Derwent Valley. So it was surprising to find its larvae already occupying my house. I cleared away the old wasp nest, but I notice already a stream of wasps going into a gap between the tiles of my roof. I can probably expect to find more hoverfly larvae on my carpet this autumn.

Chrysotoxum cautum: a return visit

David Iliff, Green Willows, Station Road, Woodmancote, Cheltenham, GL52 9HN

We have become accustomed in recent times to the disappointment and frustration of finding very few hoverflies, due probably to multiple causes, but from time to time there may be pleasant surprises, for example when an apparently declining species turns up in numbers, especially if it is a charismatic one. This happened in my garden during a period of over a month in 2018 and this was repeated in the almost identical calendar period of this year.

Chrysotoxum cautum was described in the first edition of **British Hoverflies** as probably the commonest of those members of its genus that are obvious social wasp mimics. The species was recorded in Gloucestershire regularly over the years until 2008 after which the number of records dwindled dramatically (in spite of the presence of a healthy number of active hoverfly recorders in the county). There was just one record in 2008 and one in 2009 and then no more until 2013. Clearly this was not just a local phenomenon as the **Atlas of the Hoverflies of Great Britain**, published in 2011, referred to a significant decline in the species. After the four year gap in Gloucestershire records there was a gradual resurgence, numbers returning to former levels from 2015.

On 14th May 2018 I saw a male *C. cautum* in my garden. This was the beginning of a period of over a month, ending on 18th June, during which I found the species in the garden on nine separate days. On the 18th May a male and a female were present, though not seen together. This year surprisingly there was a virtual repetition of this activity: *C. cautum* was seen in the garden on a total of twelve days between 13th May and 22nd June, in a period when very few other hoverflies were observed. In a remarkable parallel to the previous year, a male and a female were both present on 17th May (again seen separately). All the other sightings in the 2019 period were of females. On both 20th and 22nd May the species was seen several times – in fact each time that I went into the garden on those two days a *Chrysotoxum cautum* was visible. Although I never saw more than one individual at a time, it is clear that several were involved; comparison of photographs of the 2019 females showed variations in patterns of markings, and in one instance a specimen with intact wings was seen on a later date than one that had suffered wing damage.

Chrysotoxum cautum: male (above, 2018), female (below, 2019) Photos: David Iliff

Events Calendar Autumn 2019 - Spring 2020

4 October 2019 Tanyptera Project workshop 'Advanced Mosquito Identification' with Thom Dallimore. World Museum Liverpool, L3 8EW. See http://www.northwestinvertebrates.org.uk/events/category/workshops/ for further details.

18 October 2019 Tanyptera Project workshop 'An Introduction to the Identification of Dolichopodidae Flies' with Martin Drake. World Museum Liverpool. See http://www.northwestinvertebrates.org.uk/events/category/workshops/ for further details.

12 October 2019 AES Annual Exhibition and Trade Fair, Kempton Park, London Sunbury-on-Thames, TW16 5AQ, UK. DF will have a publicity stand and some nice flies on show plus publications for sale. See www.amentsoc.org

2 November 2019 BENHS Annual Exhibition and Dinner, Conway Hall, 25 Red Lion Square, Holborn, London WC1R 4RL. See http://www.benhs.org.uk . Bring your best fly exhibits for the Diptera table.

9-10 November 2019 DF AGM, Dipterists Day and Indoor Meeting. National Museum Cardiff, Cathays Park, Cardiff CF10 3NP. See full details in separate entry.

2020

13-18 February 2020 DF Advanced Identification Workshop. Flies with patterned wings, Families: **Tephritidae, Ulidiidae, Pallopteridae and Opomyzidae.** Preston Montford Field Studies Centre, Shrewsbury. Details & booking on FSC website: http://www.field-studies-council.org/prestonmontford

13-18 February 2020 DF Beginners course on Hoverflies runs simultaneously with the above advanced course at Preston Montford Field Studies centre, Shrewsury Details & booking on FSC website: http://www.field-studies-council.org/prestonmontford. Two bursaries are offered for the Preston Montford course. Each bursary covers half the total cost including accommodation. If you would like to apply please send your application by email to Howard Bentley, jhowardbentley@gmail.com

07 March 2020 Staffordshire Invertebrate Science Fair, 10:30-4pm. A host of recording societies will be in attendance raising awareness of invertebrate conservation and recording. The event is very family friendly with most stalls being interactive including learning how to identify flies and other insects. There is also a series of talks throughout the day. Cafe on site, free entry and free parking. The event is on facebook https://www.facebook.com/staffsbugfest/ and twitter @sisf_2020 Staffordshire University, Leek Road Campus, ST4 2DF. **Andy Jukes (@ConopsEnto) tweet –ask him**

27 June-4th July 2020 DF Summer Field Meeting to Falmouth. We offer up to three Bursaries for this meeting. Each bursary covers half the total cost including accommodation. If you would like to apply please send your application by email to Howard Bentley: jhowardbentley@gmail.com

***Throughout the Year*:**

BENHS Dinton Pastures Open Days in the Pelham-Clinton Building, Hurst, Reading. Open 10:30-16:00 on second and fourth Sunday in each month except April to September when only on the

second Sunday of each month (except for August when there are no Open Days). We encourage you to bring along your pinned flies and use the Diptera Collections and library for identification. Other Dipterists are usually present meaning good chat and assistance with identifications may be possible. The grid reference for Dinton Pastures is SU 784718, turn left off the B3030 driving North from Winnersh. The site is about 15 minutes walk from Winnersh station, which has trains running on a half-hourly service from Reading and Waterloo. See: www.benhs.org.uk

The Northants and Peterborough Diptera Group hold meetings every weekend from end of April until sometime in September/October. See: northantsdiptera.blogspot.co.uk or contact John Showers on email: showersjohn@gmail.com

The Devon Fly Group will be holding regular field meetings throughout the year. Contact Martin Drake (01460 2206650, email: martindrake2@gmail.com).

Flowers for flies

J A Webb

Version 2

I'm principally a botanist, but I'm very keen on flies and I have been looking into how to encourage them in a garden, considering that many flowers they depend on are declining in the general countryside these days. Many flies need to stock up on nectar for energy and of course some, especially hoverflies, need to feed up on protein-rich pollen to produce eggs. Thus flowers for flies do not always need to be ones which produce lots of nectar, often big pollen-producers like some wind-pollinated plants, are favoured by pollen-gathering hoverflies (they even visit the anthers of grass and mugwort flowers plus catkins of wind pollinated trees like hazel, oak).

Eristalis tenax on ivy. Photo: Steve Woodward

Generally flowers for flies need to be:

- Open at the right time of year when the fly is on the wing (garden full of winter flowering shrubs is no good). The main garden hoverfly peaks tend to be in May and late July/early August, into September if the weather is favourable.
- Open and flat or with many flowers in a flat or globular head to provide a good landing platform (only bee flies with their long tongues can hover and feed at the same time).
- Have nectar exposed or down only a short flower corolla-tube. Flies do not, with exception of a few like bee flies (*Bombylius*) hoverflies (*Eristalis. Rhingia, Volucella*) tachinids (*Siphona*) conopids and some empids, have the long probosces necessary for drinking deeply hidden nectar in longer corolla-tube flowers (these are usually specialized for bees or moths)

So what can you do to feed flies in your own garden by selective planting? The Royal Horticultural Society has produced a 'Perfect for Pollinators' list (see ref.) which will give you lots of ideas, but my impression is that it is dictated by the needs of bees and butterflies. For flies, my researches and conversations with other Dipterists indicate that if space and aesthetics are no object, the simple answer would be hogweed, hogweed and yet more hogweed, but of course life is not that simple. In a garden, one needs acceptably attractive plants and of course small gardens cannot host such big tall 'thugs' in a border. It is also nice to have a succession of tasty things coming into flower throughout the year, rather than only in one month. One also needs to consider the type of soil in your garden, whether acid or alkaline, dry and free draining, or heavy and prone to water-logging and buy plants appropriately. Flowers for flies need to be in warm sunny positions to be useable, as they will not go to those in cool shade – especially important in spring. However if you do have some semi-shade and want a fly food plant there, a carpet of enchanter's nightshade (*Circaea lutetiana*) will be just great for small hoverflies of shady situations like *Neoascia* and *Syritta.*

Phasia hemiptera (Tachinidae) enjoying hogweed (*Heracleum sphondylium*) Photo: Steve Woodward

Webb, J. A. (2019). Flowers for Flies. Dipterists Forum Report, B(1 V2), 8.

Dipterists Forum Report
open access www.dipterists.org.uk

Border Perennials

Fly-friendly small spring flowers for a border? Well it has got to be primroses, cowslips and lungwort (*Pulmonaria*) in full sun for the bee flies *Bombylius* and *Rhingia* hoverflies. These can also make use of spring bulb flowers such as grape hyacinth (*Muscari*) and bluebells. Anemones provide only pollen, but this may attract spring hoverflies. *Rhingia* can also use bugle (*Ajuga*) flowers and this can come in pretty variegated leaf ground cover varieties.

Rhingia campestris on red campion *Silene dioica*. Photo: Steve Woodward

Small perennials for the front of the border? Anything with open flowers in a cluster for easy landing and short corolla tubes with abundant nectar – sedums (stonecrops), marjoram, mints and thymes are good. Saxifrages of all sorts have small open starry flowers with exposed nectar that would enjoy such a position. For medium height in a hot sunny position, what about garden varieties of the common yarrow (*Achillea millefolium*). These come in every shade from the normal white flowers through sugar pink to yellow and are a good mid-summer nectar source used by flies.

Taller perennials for middle to back of a border? I suggest for later summer flowering hemp agrimony (*Eupatorium*) is a must (good for butterflies as well). Ornamental members of the Apiaceae (Umbelliferae) are a big draw. This family of plants is extremely important for flies in the wild (see 'Hoverflies of Surrey' by Roger Morris and see how often they are mentioned as being visited). If you don't fancy hogweed, what about tall, elegant, ferny-leaved fennel (*Foeniculum*) with its yellow flower clusters (and you can eat the leaves) also garden angelica is very pretty but ever so tall (wild angelica is almost as pretty and much shorter). If you want to go for the really enormous, try *Ferula communis*, you will need binoculars to actually see if there are any flies on the flowers up high. Umbellifer (Apiaceae) family herbs like lovage, coriander, parsley and chervil, will all produce those flat plates of tiny white nectar-rich flowers that flies love to land on (if you don't eat all the leaves and let them actually flower). Alexanders (*Smyrnium olusatrum)* is a herb introduced by the Romans that is the first umbellifer to flower in spring for very early flies. Ivan Perry finds the most amazing variety of flies, including rare tachinid flies, on his bush of perennial 'shrubby hare's-ear' (*Bupleurum fruticosum***) in his garden. This is an umbellifer with large flower heads of tiny yellow-green flowers which rival hogweed for nectar production. Of course Ivan lives next to some wonderful habitats in Cambridgeshire that produce the exciting tachinids as they provide the plants that feed their Lepidoptera hosts, but you never know what special flies might be just round the corner in your neighbourhood looking for a good dinner.

Continuing thinking about the Apiaceae, if you have a largish garden, how about a patch of common cow parsley (*Anthriscus sylvestris)* for an early spring bite for the flies. If you can't have such a wild area why not look into a plant I'm very interested in trialling - a pretty pink garden variety of the greater burnet saxifrage, which is normally white-flowered and is used by flies in damp calcareous grasslands, but has become rare as a wild plant in my area. If you put its garden variety name '*Pimpinella major* Rosea' into any search engine, you will come up with photos and lots of suppliers of potted plants. Pretty blue sea holly (*Eryngium)* of all sorts seem very useful as well, later in summer. Here, rather surprisingly, I have a good word for that 'gardener's bane' plant known as ground elder (*Aegopodium*). It is a creeping perennial thug with rhizomes that are the very devil to eradicate from a border once it has a hold. However, as an umbellifer, it has heads of tiny white flowers very attractive to flies out in May. In my local fen in Oxford city, there are often no flies to be found at this time by sweeping the fen vegetation which is mostly rushes and sedges. All the flies breeding in the fen are to be found on the nectar-rich large patch of ground elder flowers on an adjacent drier bank (where they have spread out from previous dumping of waste garden rubbish). I read that one can buy a prettier variegated-leaved garden variety of ground elder which is less invasive. Worth a try in a confined area like a large tub, perhaps sunken in the border in a good sunny spot?

Chrysogaster solstitialis hoverflies enjoy ground elder (*Aegopodium podagraria*). Photo: Judy Webb

Flies in the wild go for knapweeds and thistles (*Centaurea* and *Cirsium* spp.). These are perfectly attractive plants with purple daisy-type flowers for growing in the garden. Don't forget that if you do that you may attract lovely tephritids like *Urophora* spp. to actually breed in the flower-heads. Big- flowered thistles like musk thistle or woolly thistle are attractive enough for a garden. Spear thistle is a biennial, so might be tolerated for one year on an allotment in a way that the perennial pest creeping thistle would not be. Sow thistles (*Sonchus* spp.) are also useful 'weeds'. Daisy-type flowers that are similar to the common wild oxeye daisy (*Leucanthemum*) are good (but why not have a mini meadow full

of buttercups and wild oxeye daisies in a sunny corner?). Plants in the Scabious family are also useful with attractive lilac/purple flowers (*Knautia* and *Scabiosa* spp.). Devil's-bit Scabious (*Succisa*) is a useful late summer flowerer, when the only other thing out in late summer to early autumn are michaelmas daisies (*Aster* spp.). These last are useful for flies, -but I cannot bring myself to plant them, as I spend such a lot of time pulling them out of my local nature area where they are thugs, having escaped from gardens and are romping away in a monoculture, excluding native, useful, earlier-flowering plants. Good for a garden where they can be controlled more easily. The yellow-green flowered spurges (*Euphorbia* spp.) are sometimes used as ground cover. There are short and tall flowered versions, but all have open flowers with exposed nectar and are used by hoverflies. Mallows, Lavateras and hollyhocks (*Alcea*) produce such an abundance of pollen in open flowers they must surely be useful to pollen-consuming hoverflies, but I have no observations on this and would welcome input from other people with views on these plants.

In wild habitats there is a 'nectar gap' in late July/August which is admirably filled for flies by that often reviled plant ragwort (several *Senecio* sp). Nothing to stop you having plenty of ragwort in your garden in your mini-meadow if you want! The daisy bush from New Zealand (*Olearia haastii)* flowers exactly in that August gap and I wonder if it is popular with flies? Personally I quite like the alien Oxford Ragwort (*Senecio squalidus)* as a sunny border plant as it has bigger flowers and starts flowering earlier than other ragworts, here in Oxon as early as April and certainly by May.

Syritta pipiens on ragwort (*Senecio* sp.) Photo: Steve Woodward.

Garden Ponds

Even if your pond is very small, how about some water plantain (*Alisma plantago-aquatica*) as a tall emergent and some floating frogbit (*Hydrocharis morsus-ranae*). Their open small 3-petalled white flowers are both visited by hoverflies and ephydrids. What about my personal favourite pretty emergents – the arrowhead (*Sagittaria*) with large white open flowers and the flowering rush (*Butomus*) with clusters of open 3-petalled pink flowers. Marsh Marigold (*Caltha*) with its large buttercup-style flowers would also be good for the pond edge along with the water forget-me-not (*Myosotis scorpioides*). Creeping jenny (*Lysimachia nummularia*) perhaps in the garden golden-leaved version, could creep over the damp paving around such a pond and if in sun, will produce abundant open yellow flowers used by flies. Common valerian (*Valeriana officinalis*) or marsh valerian (*V. dioica)* will attract flies in any marginal marsh/bog garden, but the all-time winners for such a positions have to be wild angelica (as good as hogweed) and water mint (*Mentha aquatica*) with lilac flower heads late in the year - loved by all sorts of flies, perhaps combined with the cheerful yellow button-shaped daisy-type flower heads of fleabane (*Pulicaria*). Meadowsweet (*Filipendula*) will supply abundant pollen but no nectar. Fool's water-cress (*Apium nodiflorum*) is an umbellifer much used by flies in wild ditches and ponds, so nothing to stop you putting it in your garden pond along with white flowered water-cress from the brassica family. All the dolichopodids and ephydrids from your pond will love those.

Every pond should have water mint (*Mentha aquatica*) [top] and fleabane (*Pulicaria dysenterica*) with the Marmalade fly *Episyrphus balteatus*. Photos: Judy Webb

Allotments or Vegetable Gardens

On the allotment, why not allow some of your un-harvested carrots, celery and parsnips to grow up and flower ?– these umbelliferous plants have flowers that are some of the most favoured by flies in wild habitats. As these are biennials, if you want more instant results in one year, why not buy some carrots with green tops in a shop and actually plant them out in a border – they will then grow flowers that year. Un-harvested cabbage, broccoli or cauliflower should be left to go to seed where the yellow four-petalled flowers can be used by flies. A clump of chives produces abundant spherical purple flower heads that are much used and what about a patch of wild ramsons with their white globular flowerheads for flies and delicate garlic-scented leaves for salads? Do you have a bindweed problem on the allotment? Perhaps don't eradicate it all, but leave some in a hot sunny portion where it will flower abundantly with those pretty pink trumpets and attract hoverflies. How about leaving the poppies that pop up as weeds? These produce only pollen (no nectar) but the pollen is abundant as a reward to pollinators, so they will be good for hoverflies which can be attracted to lay eggs on your crop plants and then their larvae can usefully consume lots of greenfly and blackfly. The best plant sold as a hoverfly-attractant for allotments or for organic farming to control aphids is the scorpion weed, *Phacelia tanacetifolia*. This is a tall annual, flowering continuously from July to September in with curled racemes of pretty blue-lilac flowers. Once the hoverflies are attracted to this plant they are very likely to lay eggs on the aphid-infested crop plants nearby and their larvae will consume the pests. I'm sure it will be good for other flies as well as hovers, but I would welcome some feed-back on this from gardeners. If you have room for soft fruit, blackberries have flowers much used by flies in mid-summer and red currants and black currants have small green flowers useful for early flies.

Scorpion weed (*Phacelia tanacetifolia*) a favourite with hoverflies. Photo: Judy Webb

Annuals for the edge of a sunny border or corner of an allotment? All sorts of weeds of the scented and scentless mayweed type of open daisy flower (*Tripleurospermum* & *Matricaria* spp.) should be left. Feverfew (*Tanacetum parthenium*) is also very good, along with annual candytuft (*Iberis*). Forget-me-nots (*Myosotis* spp.) are pretty and attract hoverflies like *Platycheirus* and *Syritta*. In full sun the proper perennial chamomile (*Chamaemelum nobile*) is useful as it has attractive grey-green scented leaves and white daisy flowers which can be used for herbal tea (or preferably leave them for flies).

Lawns

What about a fly-friendly lawn? Well, I have been trying that for some years. A mix of native species with the mowing relaxed a little at flowering time is working quite well. Yes, encourage celandines and buttercups of all sorts *(Ranunculus* sp for e.g. *Cheilosia* hoverflies) and common daisies and dandelions, but what I have also added are mouse ear hawkweeds (*Pilosella officinarum)*. This spreads by runners, loves mowing and produces a flush of lemon yellow dandelion type flowers in early summer. It is very drought tolerant so good for a hot dry lawn. Also good in this situation are the other dandelion look-alikes of cat's ear and various hawkbits (*Hypochoeris* and *Leontodon*) especially the late summer autumn hawkbit, *Leontodon autumnale.* Plantains are thought of unattractive flowers that are wind pollinated, but the hoary plantain (*Plantago media)* is scented and has flower spikes with attractive lavender-coloured filaments to the anthers, so is designed for insects. I have seen hoverflies feeding on the pollen. Some speedwells like lawns and flowers of the germander speedwell (*Veronica chamaedrys*) is liked by hoverflies e.g. *Baccha* and *Melanostoma* spp. I'm hoping to be able to introduce the meadow saxifrage (*Saxifraga granulata*) to the lawn in future years and see what likes that. All these lawn things will need the mowing relaxed for a bit around June to flower abundantly, but will survive regular mowing at all other times.

Shrubs

Shrubs I have found to have flowers very attractive to flies include dogwood (*Cornus* spp.) and hawthorn (*Crataegus* spp. but not the ornamental double-flowered, go for the wild type). Privet and elder flowers are used but don't seem so popular and my impression is that there are a lot of common garden shrubs that are not useful, for instance – oleaster (*Elaeagnus,* flowers in winter) japonica, kerrya, snowberry, forsythia, berberis, hydrangea, griselinia, hebe, aucuba, escallonia, fuchsia, buddleia …there are loads. It is not that these are completely unused, maybe some people have seen the odd fly on e.g. buddleia (especially big hoverflies) it is more that they are bulky and take up a lot of space, which in a small garden would be better used for a really good fly-friendly shrub (like the shrubby hare's-ear mentioned previously). Rhododendron and azalea flowers can be visited by flies, but are not hugely attractive. Think about these that follow. Why not find room for a couple of small native spindle (*Euonymus europaeus*)? This has a profusion of small green flowers with exposed nectar for flies and you have the benefit of the attractive pink/orange berries later for birds. Other white and yellow variegated *Euonymus fortuneii* shrubs used for ground cover have similar flowers so I expect them to be useful as well. Small yellow-flowered members of the rose family in the genus *Potentilla*, like tormentil, silverweed and cinquefoil are used by flies in the wild, so shrubby Potentillas (varieties of *Potentilla fruticosa*) are useful in a garden context. Other useful garden

shrubs are species of *Viburnum*, *Cotoneaster* and *Pyracantha* and shrubby yellow-flowered relatives of ragwort *(Brachyglottis)*. Single roses can be useful, but fully double roses are of no use to any insect*. Rosemary and lavender seem unattractive as they are definitely bee-plants. Shrubby St John's worts (*Hypericum*) don't seem much good and especially not that ground cover one with the fibre-optic lamp stamens known as Rose of Sharon (*H. calycinum*). If anyone thinks I'm I'm wrong, please let me know. Also let me know if you have a really good shrub for flies.

Volucella pellucens on guelder rose (*Viburnum opulus*). Photo: Steve Woodward

Trees

What trees are best for flies? If you are talking about early to midsummer flowering my answer would be lime, lime and yet more lime – native small-leaved lime or large-leaved lime (*Tilia* spp.). If you could manage one tree of each species, there will be abundant nectar and pollen from mid-June (large-leaved lime flowers first) into July (small-leaved lime). You can extend the dinner for flies if you plant the later-flowering Crimean lime (*Tilia euchlora,* which flowers later in July). Sweeping the accessible regions of three species of lime flowers in my local nature park has produced the most amazing variety of flies, with rare hoverflies like *Criorhina* spp. (must be some good rot holes nearby) and hordes of tiny hybotids in the genus *Platypalpus* (that is if you can fight your way past the numerous bees, wasps and beetles that are also feasting on the flowers). Bee-keepers note that the lime is known as the 'honey-tree'!

Common Lime (*Tilia x europaea*) Photo: Steve Woodward

At other times of the year one can feed flies by planting trees of single-flowered (**not double***) *Prunus* species – blackthorn, plum, cherry and cherry plum for early hoverflies and bee flies. Later, apples (*Malus* spp.) pears (*Pyrus* spp.) and rowans and service trees (*Sorbus* spp.) are all useful to some degree. Maples (*Acers*) like field maple, sycamore and Norway maple produce yellow-green flowers with abundance of nectar in spring to early summer that are highly attractive to flies. Early spring-flowering willows (*Salix* spp.) produce catkins with abundant nectar (and pollen, but **only** on the **male** trees) which can be extremely important for early flies – if you have room only for one, how about a small male pussy willow in a sunlit corner? – can be pruned to keep it small. A later spring-flowerer that is useful to flies is the holly tree (choose male or hermaphrodite versions to make sure pollen available).

Bombylius major enjoys single wild cherry flowers. Photo: Judy Webb

One interesting thing about some trees and other plants is that they have so much attack by sap-sucking aphids (e.g. blackfly and greenfly) that there is usually a good coating of honeydew actually on the leaves. This is especially noticeable with sycamore and lime trees (don't plant a lime tree over where you park your car). This honeydew is dried sugary secretion of the aphids and attracts a lot of flies. I think it may be very important in areas or at times of year where there are not many suitable flowers. I have seen flies attracted to nettle leaves and when I looked closely, the nettles were covered in aphids and the flies were feeding on the honeydew drops which had accumulated on the leaves just below the aphid colonies. Adults of the fungus associated platypezid flies never visit flowers, but spend a lot of time rushing about on leaves and feeding on honeydew there. Perhaps one could help flies by leaving aphid infestations alone to generate honeydew and putting the insecticide spray away!

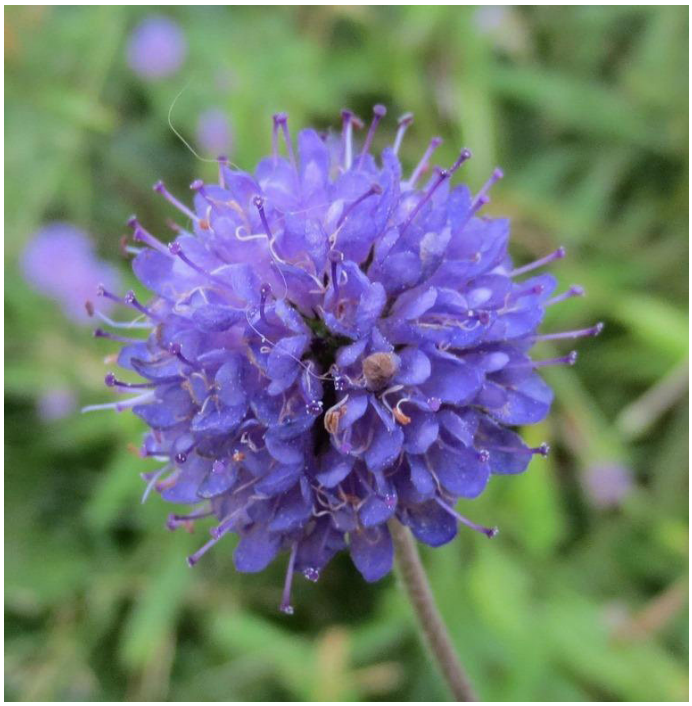
Climbers

This is simple – the best has got to be ivy, but not in that boring non-flowering evergreen vegetative sheet version that covers shady borders and is a thug that excludes more useful plants, **but** the excellent sort of ivy that is allowed to climb up a wall or fence in the light so it can **flower** – we all know how important ivy flowers are to late summer flies (and butterflies like red admirals) as it has little green flowers with exposed nectar drops. It really does not matter what type of ivy one has – all manner of variegated and interesting leaf shape ornamentals will do, the important thing

being that they are allowed to get up into the light and **flower** (non-flowering ivy can actually be a suffocating thug in a border, see below). For a small garden I would advise against the very large rampant sorts like *Hedera colchica* and go for a more delicate small-leaved ivy that is less work to control each year and get it growing up something, not covering the ground. One must not forget the benefit a fence covered in ivy is in terms of hibernation sites for insects and nest sites for birds. What about other climbers? Honeysuckles and jasmines have the nectar down too long a tube for the generally shorter tongues of flies to get at (these flowers are good for moths). Wisteria is bee adapted and I've never seen any flies using spectacular passion flower (*Passiflora*) but the small unspectacular, greenish, open flowers of Virginia creeper or Boston ivy (*Parthenocissus* sp) and the vine (*Vitis vinifera*) certainly look to be fly-adapted. How about an ornamental grapevine for flowers and fruit? *Clematis* spp. of all sorts have open flowers with abundant pollen, so they may be attractive to hoverflies, but I have only noted these on the flowers of wild clematis.

Myathropa florea on Ivy (*Hedera helix*) flowers. Photo: Steve Woodward

Hemp Agrimoney Photo: Judy Webb



Devil's bit scabious Photo: Judy Webb

Hogweed *Heracleum sphondylium* Photo: Judy Webb

Marsh Marigold *Caltha palustris* Photo: Judy Webb

Male purple willow catkins Photo: Judy Webb

Variegated Euonymus Photo: Judy Webb

Variegated male holly Photo: Judy Webb

Vitis (vine) Photo: Judy Webb

Time for a change?

What border flowers take up space and are not good for flies? Well, anything that is mainly adapted for other pollinators like bees and moths i.e. tobacco (*Nicotiana*) with its really long corolla tubes. Flowers in the Fabaceae (pea/bean/vetch/clover) family have specialized closed flowers that are generally in need of the strong arm tactics which only bees and wasps can apply to prize open the petals to get at the nectar. Most weak-armed, delicate-bodied flies cannot open up these flowers like strong bees can (with the noted exception of a few largish hoverflies). Thus the following garden flowers are pretty useless as fly-attractants: lupins, sweet peas, everlasting sweet pea, broom, gorse, laburnum, snapdragon, toadflax, foxglove, sidalcea, delphinium, monk's hood (*Aconitum*) and others. Flowers in the dead-nettle family (Lamiaceae) are more commonly bee-adapted with long corolla tubes and nectar thus out of reach (except for the likes of *Rhingia* and those already mentioned). The really long-corolla ones like Sage and other Salvias, woundworts (*Stachys*) Jerusalem Sage (*Phlomis*) obviously cannot be used, but short-tubed mint and oregano (marjoram) are great for flies. Also not useful are garden busy lizzies, although other members of the family like balsams (*Impatiens*) can be used by some flies, including the alien plant Himalayan Balsam, which is romping away and changing so many of our river corridors and wetlands. Please don't grow that though, as it may spread from your

garden to the wild and cause problems. Begonias of all sorts are useless. Campions seem used only by the likes of *Rhingia* and other pinks and carnations are equally unattractive, along with irises and most of the lily family. Ericaceous things like bell-heathers (*Erica*) and *Pieris* are not much good but wild ling (*Calluna vulgaris*) is enjoyed by flies in summer. Large garden pelargoniums seem useless, but small wild versions of the geranium family like herb robert (*Geranium robertianum*) are used. I've never seen any fly using the big-flowered or open-flowered bell flowers, like Canterbury bells (*Campanulas*). Trees that are not very attractive (except to some early hoverflies) include all the wind-pollinated sorts with no nectar such as ash, hazel, beech, oak, birch, alder.

So what would the worst garden for fly foods be? Full of those easy-maintenance conifers that are prostrate, evergreen mats, or tall cupressus 'Leylandii' hedges casting dense shade, with only winter-flowering heathers, *Ericas* and similar plants. Or with mainly ferns, shaded, non-flowering ivy mats and other evergreen ground cover like rose of Sharon. I see plenty of 'low maintenance' borders like this in municipal plantings and despair for flies and other insects. Beds can be full of shrubs that flower only in winter, when no flies are around like *Viburnum tinus* and oleaster (*Elaeagnus*) or wind pollinated things like sea buckthorn (*Hippophae*). Or one could even have a very pretty flowery garden full of only bee- or moth-adapted flowers and not realize you are starving the flies.

No insects enjoy double cherry flowers! Photo: Judy Webb

Away with all that kind of plant and get in some good fly-food plants instead when you take your spring trip to the garden centre! Also if you find any plant in your garden that has flowers that are a real winner with flies, I would be very pleased if you would let me know. I have just received a packet of *Bupleurum fruticosum* seeds as a birthday present, so I'm looking forward to growing them and conducting the Oxfordshire 'Tachinid attraction trial'! More information on flower visiting by flies is to be found in the latest edition of the Dipterists Handbook in the article by Martin Speight and if you are interested in pollination and pollinators of all sorts, I recommend the New Naturalist book on this topic by Proctor, Yeo and Lack.

*Double flowers of all sorts are where the extra petals in the middle are modified stamens that no longer produce pollen. Thus they are poor pollen-food for flies, they also do not produce as much nectar as the single flower versions.
** Thompson & Morgan stock the seeds, but plants available in garden centres

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Proctor, M, Yeo, P. & Lack, A. (1996) The Natural History of Pollination, Collins New Naturalist Series No 83

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Speight, M D. 'Flower-visiting Flies' in Dipterists Handbook, (2nd Ed.) 2010, Edited by P J Chandler

Stratiomys chameleon on Angelica

Judy Webb
Email: judy.webb@virgin.net

Bulletin of the Dipterists Forum

Feature

Fallen beech, Lion's Mouth, Felbrigg Woods SSSI. Photo Darwyn Sumner

Deadwood and Diptera

Darwyn Sumner

Within the timber industry which manages woodlands as a resource, it is generally acknowledged that "*deadwood is an important part of the woodland ecosystem*" (Rodney Helliwell in Woodland Heritage Journal 2017.) The June 2019 edition of Woodworking Crafts magazine even made mention of the "Log-jam hoverfly" (*Chalcosyrphus eunotus*) amongst a top ten of most interesting species of wildlife living in woodlands. Unfortunately this was one for which they were unable to source an image. We can surely do better, here's a bunch of saproxylic Diptera for which we are able to source images:

Hoverflies
1 *Chalcosyrphus eunotus*
2 *Pocota personata*
3 *Caliprobola speciosa*
4 *Callicera rufa*
5 *Myathropa florea*

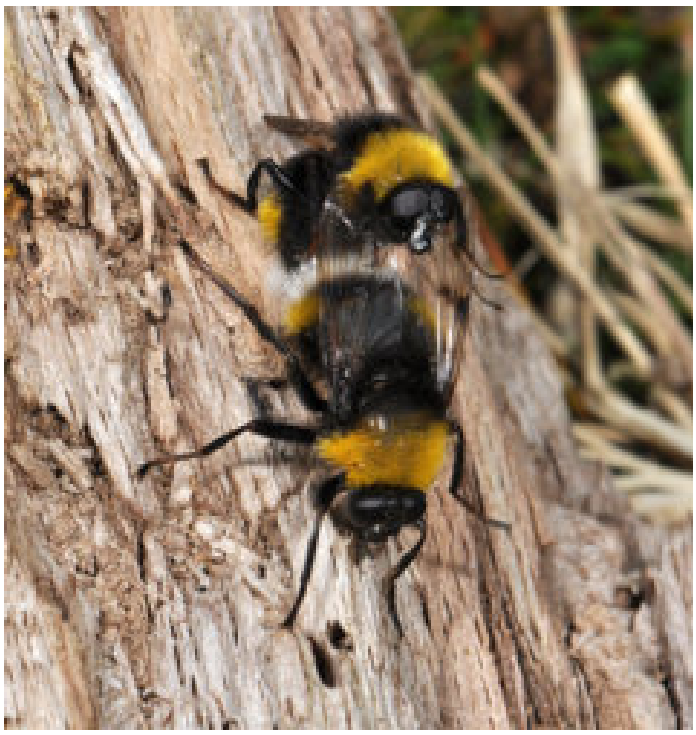
Craneflies
6 *Ctenophora pectinicornis*
7 *Ctenophora ornata*

Micropezids
8 *Rainieria calceata*

Tanypezids
9 *Tanypeza longimana*

Soldierflies
10 *Xylophagus ater*
11 *Choerades marginata*

Clusiids
12 *Clusia tigrina*



Pocota personata Breeds in rot holes in Beech (New Forest) Photo Rob Kemp

Woodland Heritage.
Visit their website for free copies of their journal and details of work that this charity is undertaking to ensure the survival of British woodlands and tree species.

Sumner, D. P. (2019). Deadwood and Diptera. Dipterists Forum Report, B(1), 8.

Habitat inventories

Habitat Action Plans (JNCC, 1995)
The following HAPs may contain trees:
- Wood pasture & parkland
- Wet woodland
- Upland mixed ashwoods
- Lowland beech & yew woodland

Biodiversity Action Plans

UK counties began to adopt BAPs many years ago when the concept was first introduced, HAPs being the habitat component. The Wildlife Trust and Local Environmental Records Centre partnerships chose the habitats that were present in their counties, began to relate them to their previous field by field survey work and then prioritise conservation work and survey of those they had selected. The focus changed however with the publication of the **UK Post-2010 Biodiversity Framework**

Then, following a Natural Environment White Paper in 2011, UK government published **Biodiversity 2020: A strategy for England's wildlife and ecosystem services**, which has a mission "*to halt overall biodiversity loss, support healthy well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people*."

So whilst the overall strategy changed, the core list of HAPs did not much, JNCC publish an updated list: **UK BAP list of priority habitats**.

In 1992 the UK also adopted the **Habitats Directive**, an important piece of European legislation, now much discussed by various organisations (Buglife, Guardian)

You are still able to find accounts of each counties BAPs on their respective partnership websites and of course the work is still highly relevant. If you have an interest in a particular habitat in a county then check their HAPs first.

Some LERCs have added "Mature Trees" to their lists so there may be an inventory of those on their websites.

Additionally, Tree Preservation Orders are legislative measures which ensure the protection of trees with significant local amenity value. Thus some trees are subject to a degree of regular attention and some measure of protection. Planning guidance for ancient woodland and veteran trees by UK Government also affords some level of local protection.

Deadwood may be a different matter though.

Alan Stubbs, Yardley Chase, 2017. Photo Darwyn Sumner

Ancient Woodlands and Statutory Sites

In addition to the above local inventories there are a number of other tree-rich areas contained within sites which have a measure of statutory protection. Sites of Special Scientific Interest are one example.

A visit to Natural England's MAGIC website map will reveal a whole host of such sites. Each SSSI found has its own document and may require some reading to discover likely habitats. The Ancient Woodland layer is less informative but can be further explored via the Woodland Trust.

Chalcosyrphus eunotus Log-jam Hoverfly. Newent Lake, April 2001
Photo David Iliff

Deadwood is our most threatened and least protected habitat

Flies in Wood

Each stage that a tree passes through, from early growth through to maturation, injury, decline, death and decay offers a range of distinct and different opportunities for a wide variety of wildlife. For the range of habitat features see Lonsdale (2013), Fig.5.2.

Over 10% of our entire Diptera fauna depends in some way on trees. Alexander (2002) lists 730 species within 68 Families in Great Britain. Many are at risk.

The term **Saproxylic**, defined as "feeding on dead and decaying tissues" is used to describe many such species, 7% of all invertebrates in fact.

Dry wood is about 30% lignin and only the fungi have ever evolved the enzymes to break this down, so fungi are involved in everything.

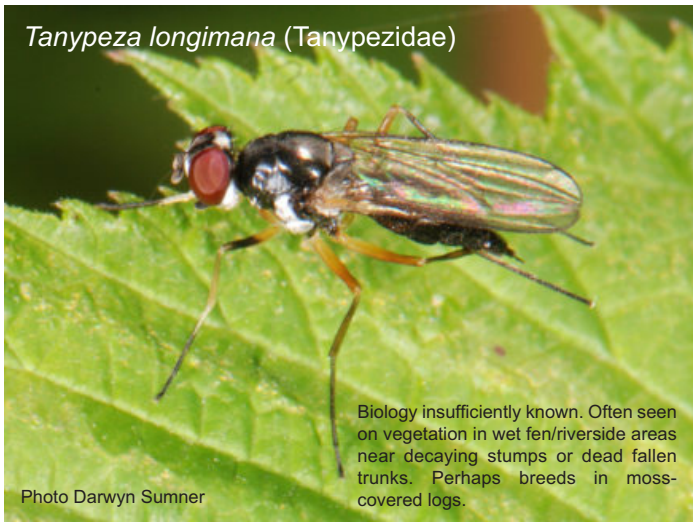
The wood habitats studied by naturalists fall into several different categories, each of which is subject to different investigative methods:

A. Deadwood

This wood habitat is as dead as your roof joists but still attracts its natural inhabitants. The kinds of creatures depend upon many factors such as water, temperature, situation, time since death and scale. Read Lonsdale (2013) for details of this on ancient trees, Rotheray et al., (2009) for an account of processes and Muller-Using & Bartsh, 2009) for time-scales.

Coarse Woody Debris (CWD)

This refers to dead wood with a diameter of more than 2.5cm. It's often called this when found lying in watercourses, the wood that is, not you.



B. Rot Holes

These can occur in many situations and a large proportion of them are on living trees, even healthy ones. A typical rot hole forms when a lateral branch breaks off and fungi begin to break down the exposed dead heartwood. The bracket fungus *Polyporus squamosus* is a typical cause but a whole range of microorganisms set up home in these microhabitats, amongst which may be Diptera and other invertebrates. It's a good home as it's full of food & water and is insulated from thermal extremes.

Recording & surveying

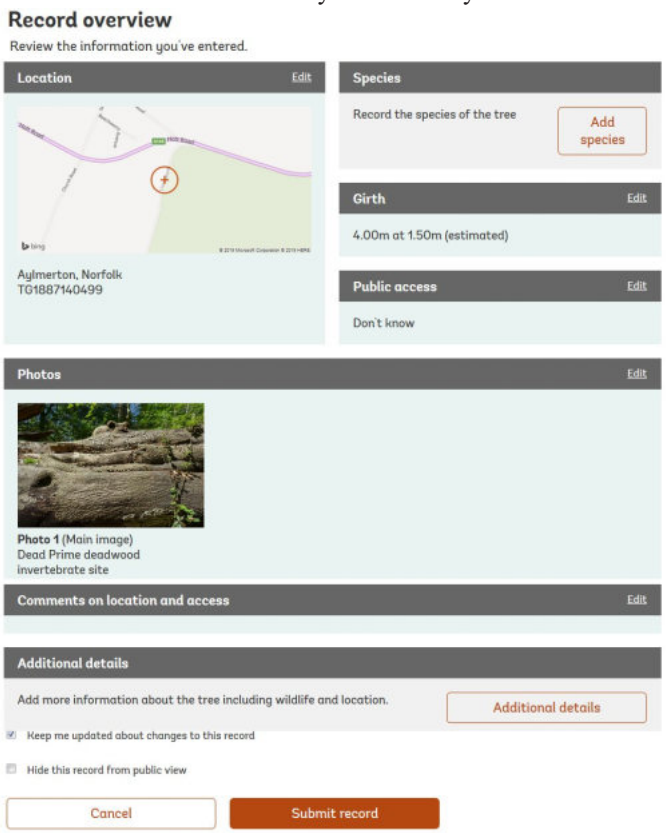
Woodland Trust

Ancient Tree Inventory

The Woodland Trust are conducting an online survey which is becoming increasingly valuable as a resource for conservation. Anyone with a tape-measure and an ability to record geospatial coordinates (map, GPS) can take part.

The survey accepts a wide range of trees: ancient, veteran and notable, any of which categories may also include "dead". One feature of their survey database is that a tree can be recorded as "lost" if it is cut down. How close we can come to directly recording fallen trees?. The tree illustrated on the title page was processed as follows:

1 Determine exact location (TG 18871 40499 from GPS),
2 Take one or more pictures (including any flora & fauna on it),
3 Reduce image file size (unspecified, but 600px width works, big images don't),
4 Register with Woodland Trust.
5 Add details as indicated by the summary below:



After posting a record, there is a delay "*Until a verifier has visited and checked ...*" so I seem to have set some local expert the task of visiting that site.

C. Sap runs Scheduled for Part 2 of this Feature.

Don't forget to record any flies you find too. Dipterists Forum is formed from many different Recording Schemes who will deal with records and help with identification.

The deadwood guide

Most entomologists are familiar with deadwood habitats, they are attractive to a wide range of interesting and unusual fauna. If your interest is not primarily insects (e.g. Lichens, Fungi) and you are wielding a camera then approach slowly so as not to scare anything off. And be safe, log piles are very dangerous.
Literature on the subject of deadwood is widely scattered and takes a bit of hunting down. The following list should provide a useful background to the topic:

Ten top reads

1 A **Dipterists Handbook** for Ivan Perry and Graham Rotheray's account and tips on looking for and rearing dead wood and sap run diptera and Peter Chandler's chapter on diptera in Fungi.

2 **Ancient and other veteran trees: further guidance on management** (Lonsdale, 2013) - a free book

3 Woodland Trust's "Practical Guidance" guides:
1: Trees and farming
2: Trees in historic parks and landscape gardens
3: Trees and development
4: What are ancient, veteran and other trees of special interest
5: Trees and climate change
6: The special wildlife of trees
7: Ancient trees for the future
8: Trees and events

4 Keith Alexander's "**The invertebrates of living and decaying timber in Britain & Ireland**" . This gives you a list of species and known ecology of each.

5 Any or all of the "**A Review of the Scarce and Threatened**" (JNCC) and Natural England's **Species Status Reviews** for more details of individual species:
1: Acalypterate Flies 3: Hoverflies 5: others
2: Calypterate Flies 4: Soldierflies
Natural England also publish many relevant reports on **Parkland, trees and woodland inventories and action plans**

6 Mason, Nardi & Tisato (2003). **Dead Wood: A Key to Biodiversity**. International Symposium bundle full of interesting accounts on many topics.

7 Other Diptera books which feature saproxylic diptera such as "**British Hoverflies**"

8 Robinson, Kirby, et al. **Veteran Trees: A guide to good management**. English Nature.

9 Rotheray, et al., (2001). **The Biodiversity and Conservation of Saproxylic Diptera In Scotland**.

10 Saproxylic Insects. Just the chapter **Saproxylic Diptera** by M.D. Ulyshen which is £23.94 as a download. Reviewed by Peter Chandler in Bulletin 87.

All the above except 1, 7 & 10. are free downloads
Use hyperlinks in the pdf version to discover them.

Exploring Rot Holes

The life-history of many species is a mystery. Much knowledge has been gained in recent years by looking for larvae in rot holes

Rob Wolton explores a rot hole, discovering a rat-tailed larva. Meathop Moss, Lancashire, 2013.
Photos Phil Brighton

... more than likely it will be *Myathropa florea*

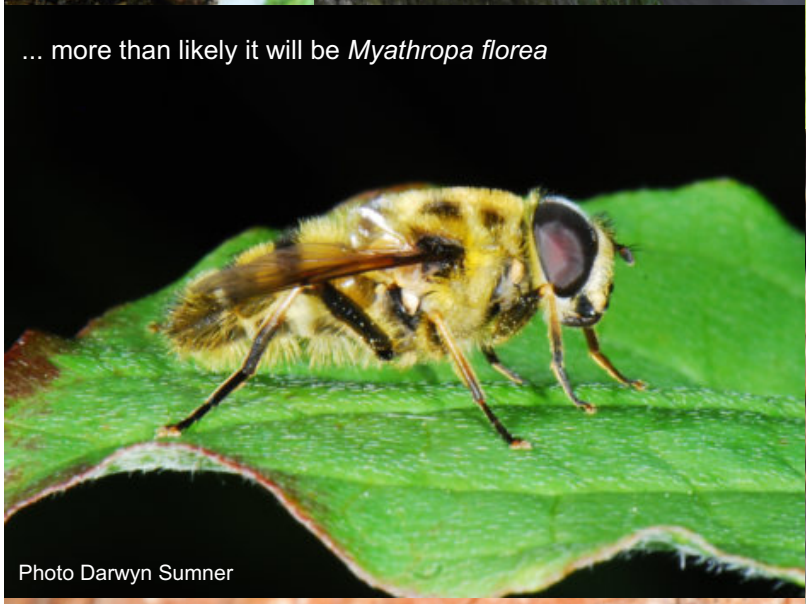


Photo Darwyn Sumner

... or possibly the scarce *Callicera rufa*, though perhaps that rot hole should be in pine

Photo Rob Kemp

If an ancient tree is destroyed or allowed to die for want of suitable care and protection, the planting of new trees cannot replace all the aspects of its value that have thereby been lost (Lonsdale 2013)

Xylophagus ater [Xylophagidae], Woburn Safari Park, 2015. Photo Alan Outen

< *Xylophagus ater* lays eggs on freshly cut broadleaf logs, larvae predate other insect larvae under the bark, stabbing them with a fierce awl - hence the name “awl-flies”

Log piles and cut stumps are always worth checking out Shavington Park, 2018. Photo Darwyn Sumner

Rainieria calceata (Micropezidae) ... ... and its ovipositing site on Beech in Windsor Great Park

Though capable of dispersing over considerable distances on occasion, suitable habitats are scarce. Felbrigg Woods in North Norfolk is one, according to its SSSI citation, its beeches are an outlying native population at the edge of its range. Whilst there may be sufficient habitat there, this species is unlikely to reach it in one “hop”, it would need to establish intermediate populations in suitable habitats - which do not exist. Far less likely would be a westward dispersal to the New Forest beeches.

Photos Steve Falk

Although the processes of decay and aging are vital for biodiversity, they eventually lead to the death of any ancient tree. When this happens, the tree remains a valuable habitat for wildlife for many years or even decades thereafter and should always be retained (after being made safe if necessary) (Woodland Trust)

Saproxylic Diptera


Cranefly *Ctenophora ornata* (Tipulidae)

Photo Martin Harvey


Clusia tigrina (Clusiidae)

Photo Martin Harvey


Cranefly *Ctenophora pectinicornis* (Tipulidae) and its Birch rot hole.
Ulverscroft, Leicestershire.

Photos Darwyn Sumner

Inside the box

People's Trust for Endangered Species is also conducting an online survey, specifically on **Woodpasture & Parkland**. As they point out "*there are no reliable statistics on their extent, loss or fragmentation*" **Buglife**'s initiative is their "Ancients of the Future Project" which seeks to establish habitat continuity by filling the age gap between current ancient trees and more recent plantings.

Other UK groups with an interest in deadwood:

- British Lichen Society,
- British Mycological Society,
- Bees, Wasps & Ants Recording Scheme,
- UK Beetle Recording,
- Buglife

Many associated specialist species are already rare and becoming rarer. It is vital that we retain and care for our ancient and veteran trees, even when they are dead, to ensure the survival of the species that depend upon them (Woodland Trust)

Hoverfly *Caliprobola speciosa*

A fallen beech tree will take about 35 years to decay down to the point where it is hard to distinguish from humus, thinner brash half that time. Four decay classes, each supporting different communities, are recognised (Muller-Using & Bartsh, 2009).
Caliprobola speciosa with its strongholds in Windsor Great Park and New Forest, seems to favour the last class (D4) which begins at 16 years (or equivalent decay in the base of living trees.) Larvae occur in rotting heartwood, deep down into the roots.

Photo David Iliff

Golden-Haired Robberfly *Choerades marginatus*.
Whitwell Common, Norfolk, 2019

A predatory robberfly. Larvae occur in stumps and decayed deciduous wood where they are probably also predatory on other wood-dwelling larvae.

A good deadwood indicator species, a map of its distribution is a map of potentially good deadwood regions. Easily spotted on woodland rides even with close-focus binoculars.

Photo: Darwyn Sumner

Photo Paul Brock

Outside the box

The uses to which dead wood is put are as innovative as the material is versatile. From crafts through construction and pharmaceuticals to fire. The following websites will prove informative:

- Woodland Heritage
- Woodland Trust
- Forestry Commission
- Community Wood Recycling
- **Which** guide to wood-burning stoves

Veteran trees should be recorded and valued as such after death, even though dead trees are sometimes paradoxically deemed not to be trees, according to certain aspects of planning and other procedures (Lonsdale, 2013)

Threats

The following statements regarding the threats to all our "at-risk' saproxylic species feature frequently in the Species Status Reviews:

- "Clearance of woodland for agriculture or intensive forestry and removal of old or diseased trees with sap runs"
- "Removal of old or diseased trees and dead wood."

Management

The management of this most valuable of resources is highly variable. At one end of the scale deadwood on sites well known to be of value is managed extremely sensitively and allowed the scores of years to decay down through all its natural processes (New Forest, Windsor Great Park), at the other it's rubbish.

Even on well-protected SSSIs management may be questionable or poor. In view of recent threats of tree extinctions (e.g. Ash, Alder), traditional management systems require reappraisal (Alexander, Green & Morris in British Wildlife. Vol 28, Issue 1).

Development

In the case of large-scale developments such as highways, there is a legal obligation for developers to investigate before carrying out any work. The investigations may be complex but however they are carried out, any recorded important wildlife features will be revealed and mitigation measures taken. Local Plans and Local Environmental Records Centres are at the core of such consultations, the government agency Natural England are only brought in when high level statutory sites (SSSIs, NNRs) are involved.

Responses & responsibility

A simple enquiry to a local Planning department or LERC is all it takes if you have concerns. Local Authorities have a legal obligation under the Environmental Information Regulations to respond to such enquiries.

For example, the destruction below is on an Ancient Woodland (Priority Habitat Inventory.) Care of this is the responsibility of the Local Authority under Section 40 of the NERC Act, 2006 via the 2019 National Planning Policy Framework (170a). However, it's amongst the 31% of Priority Habitats which fall outside the protection of all formal schemes and thus not even monitored by Natural England (but see Biodiversity 2020.)

Saproxylic home to many species for many years, now their funeral pyre. Rothley Park (Ancient Woodland), Leicestershire. May 2019.

Perception

Alexander & Green (2018) discuss the problem of landowner perception, indicating that there has been no progress in changing "tidiness" ideas over the past 25 years. In the comic victorian novel Cold Comfort Farm the heroine opines "*Nature is all very well in her place but she must not be allowed to make things untidy*". Make that 125 years.

Deadwood dipterists Rob Wolton, Roger Morris & Alan Stubbs

I am indebted to the help provided by Keith Alexander, advice from Iain MacGowan and Peter Chandler, observations from Chris Palmer and Paul Brock, tips from David Iliff, Martin Harvey, Matt Shardlow, Alan Stubbs and Barry Warrington and to the many photographers who have provided images for use in the Dipterists Forum Bulletin

Dipterists Forum accounts for the year ending 31 Dec 2018

Income and expenditure in 2018

The figures from the audited report and balance sheet are reproduced below. Many thanks to John Flynn for taking over the auditing of our accounts this year.

A surplus of £768 was recorded in 2018. This represents a return to near equilibrium since the large deficit in 2016 and the bounce back in 2017. We are again grateful that Roger Morris and Stuart Ball pass on their royalties from the WildGuide hoverfly book, and we also received a share in the proceeds of John and Barbara Ismay's diptera course at Oxford Museum. Subscriptions fell back by approximately 10%.

On the expenditure side, the normal complement of two editions of each of the Bulletin and the Digest were produced. We are grateful to the CEH at Wallingford for continuing to distribute the former. The editors obtained some competitive quotes from a new printer, Latimer Trend in Plymouth, which has enabled us to move to full colour in the Bulletin with only a 7% increase in the overall costs.

The venue for the 2018 summer field meeting in Stoke-on-Trent was agreed to be particularly good value, resulting in a reduction in both income and expenditure passing through the accounts. As usual the Forum funded the laboratory facilities, as well as a bursary for one participant, accounting for the apparent mismatch in the field meeting figures. Two bursaries were also awarded for the February workshop at FSC Preston Montford, for which participants pay the venue directly.

The original hard copy of these accounts signed by the Treasurer and Auditor may be inspected at the AGM in Cardiff on 9th November.

Income & Expenditure Account to 31st December

		2017		2018
Income	**£**	**£**	**£**	**£**
Subscriptions		7,305		6,699
Back issues	346		142	
Donations	852		70	
Refund of spurious insurance DD payments	-		160	
FSC Workshop	48		-	
Training courses	106		694	
Pooters	3		-	
Summer Field Meeting 2017	7,278		405	
Summer Field Meeting 2018	-		5,394	
Summer Field Meeting 2019	-		65	
WildGuide royalities	424		487	
Publishers Licensing Society	1,853		-	
		10,910		7,417
Total Income		**18,215**		**14,116**

	2017		2018	
Expenditure	**£**	**£**	**£**	**£**
Dipterists Digest 23.2	1,636		-	
Dipterists Digest 24.1	1,621		-	
Dipterists Digest 24.2	-		882	
Dipterists Digest 25.1	-		906	
Digest postage etc.	940		1,000	
		4,197		2,788
Bulletin 83	794		-	
Bulletin 84	694		-	
Bulletin 85	-		1,355	
Bulletin 86	-		1,022	
Envelopes for Bulletin	137		-	
		1,625		2,377
Training courses & workshops	95		529	
Bursaries	-		450	
Book illustrations	-		280	
Buglife subscription	10		10	
NBN Membership	-		30	
AES Exhibition	41		41	
Dipterists Day refreshments	-		78	
Back issue postage	87		178	
Committee expenses	277		192	
Insurance	63		138	
Summer Field Meeting 2017	8,480		-	
Summer Field Meeting 2018	-		5,862	
Summer Field Meeting 2019	-		375	
Mini-freezer	115		-	
Subscription refunds	40		20	
		9,208		8,183
Total Expenditure		**15,030**		**13,348**
INCOME OVER EXPENDITURE		**£3,185**		**768**

Balance Sheet as at 31st December 2018

	2017 £	2018 £
CASH DEPOSITS		
Natwest current account	27,645	28,413
	27,645	**28,413**
GENERAL FUND		
Opening Balance at 1st January	24,460	27,645
(Deficit)Surplus for the year	3,185	768
	27,645	**28,413**

County Recorders

Dipterists Forum

Map themed by standard UK regions subdivided into Local Environmental Records Centre counties (see boxes)

Scotland
- Dumfries & Galloway
- Fife Nature Records
- Lothian Wildlife Information
- Glasgow
- Highlands & Islands
- North East Scotland
- unassigned
- Outer Hebrides
- Shetlands
- Orkney

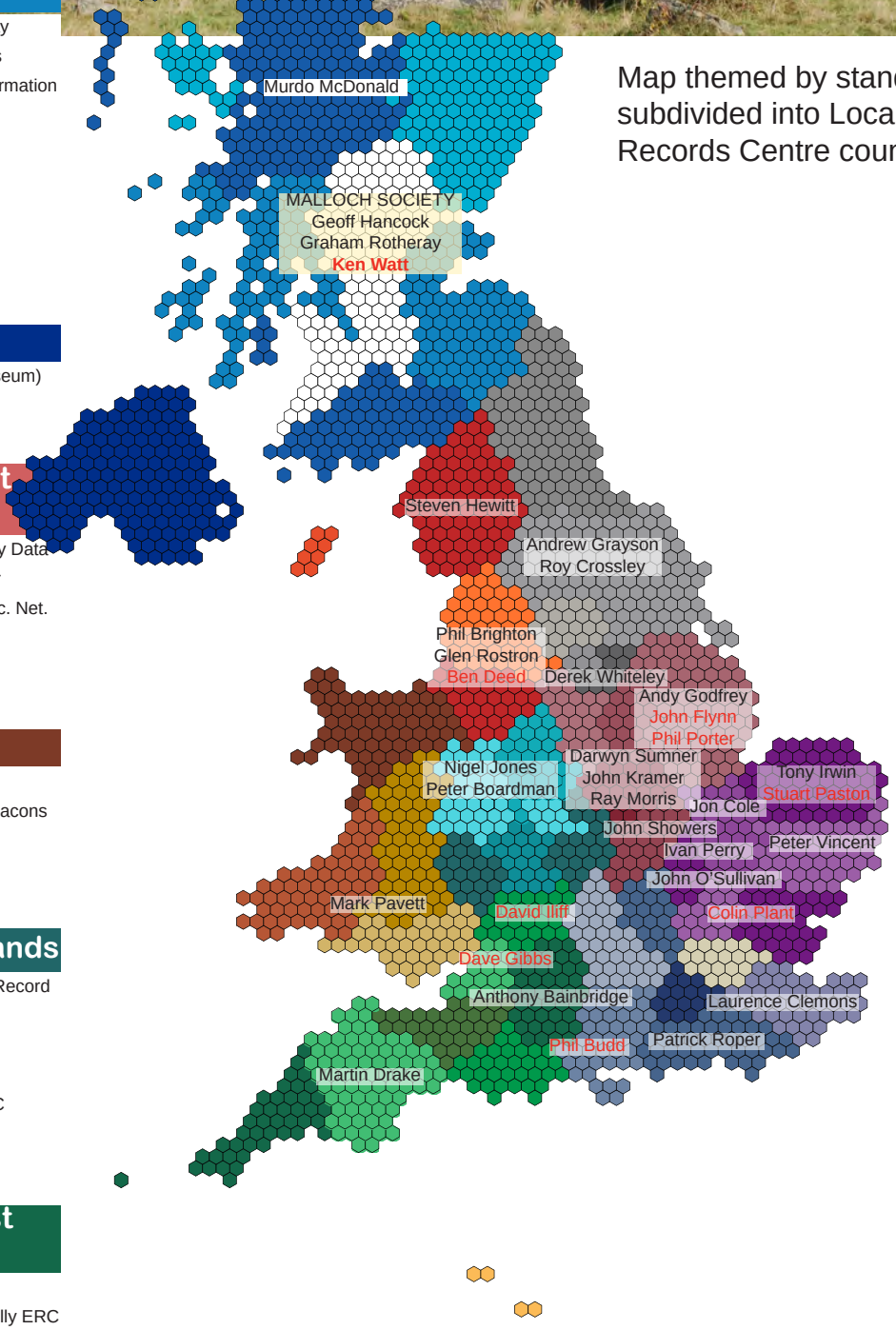
Ireland
- CEDAR (Ulster Museum)

North West England
- Cumbria Biodiversity Data
- Greater Manchester
- Lancashire Env. Rec. Net.
- Merseyside
- rECOrd
- Isle of Man

Wales
- North Wales
- Powys & Brecon Beacons
- South-East Wales
- West Wales BIC

West Midlands
- Staffordshire Ecol. Record
- EcoRecord
- Herefordshire BRC
- Warwickshire BRC
- Worcestershire BRC
- Shropshire

South West England
- Bristol ERC
- Cornwall & Isles Scilly ERC
- Devon BRC
- Dorset ERC
- Gloucestershire Centre ER
- Somerset ERC
- Wiltshire & Swindon BRC



North East England
- North & East Yorkshire
- West Yorkshire
- North East
- Rotherham, Doncaster
- Sheffield
- Barnsley

East Midlands
- Leicestershire & Rutland
- Lincolnshire
- Northamptonshire
- Nottinghamshire
- Derbyshire

East of England
- Norfolk BIS
- Bedfordshire & Luton
- Cambridgeshire, Peterboro
- Herefordshire ERC
- Essex (closed)
- Suffolk

Gtr. London
- Greenspace Info. for G.L.

South East England
- Hampshire BIC
- Thames Valley
- Kent & Medway BRC
- Surrey BIC
- Sussex BRC
- Buckinghamshire & Milton
- Isle of Wight

The Dipterists indicated have good local knowledge and work closely with their LERC. Red text = hoverflies only.

ALERC
Association of Local Environmental Records Centres

www.alerc.org.uk

A joint ALERC & Dipterists Forum project by Darwyn Sumner

Dipterists Forum Recording Schemes and Study Groups

Craneflies
Cranefly Recording Scheme
Tipuloidea & Ptychopteridae

Pete Boardman
pete.ento22@gmail.com
Newsletter: John Kramer
john.kramer@btinternet.com

Chironomids

Patrick Roper
patrick@prassociates.co.uk

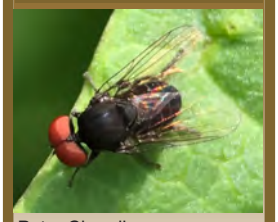
Dixidae & Thaumaleidae

Julian Small
julian.small@naturalengland.org.uk

Fungus gnats
Mycetophilidae & allies

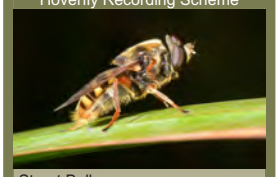
Peter Chandler
chandgnats@aol.com

Flat-footed flies
Platypezidae



Peter Chandler
chandgnats@aol.com

Hoverflies
Hoverfly Recording Scheme



Stuart Ball
stuart.ball@dsl.pipex.com
Roger Morris
roger.morris@dsl.pipex.com
Newsletter editor: David Iliff
davidiliff@talk21.com

Soldierflies
Soldierflies & allies & Recording Scheme

Martin Harvey
kitenetter@googlemail.com

Empid & Dolichopodid
Recording Scheme

Martin Drake martindrake2@gmail.com
Steven Hewitt smhewitt@hotmail.co.uk
Nigel Jones nipajones@talktalk.net
Martin=Dolis, Nigel=Empids, Steven=Hybotids

Culicidae
Mosquitoes Recording Scheme

Jolyon Medlock
jolyon.medlock@hpa.org.uk

Pipunculidae
Study Group

David Gibbs
DavidGibbs@Sky.com

Chloropids
Chloropidae Study Group

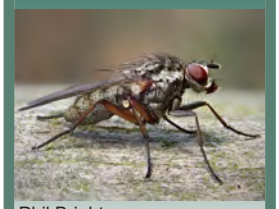
John & Barbara Ismay
schultmay@insectsrus.com

Heleomyzid
Study Group

Ian Andrews
syrphus@hotmail.co.uk

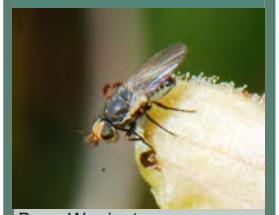
Dipterists Forum

Anthomyiids
Anthomyiidae Recording Scheme



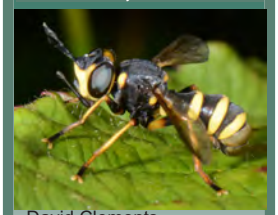
Phil Brighton
helophilus@hotmail.co.uk

Agromyzidae
Leaf-miner Recording Scheme



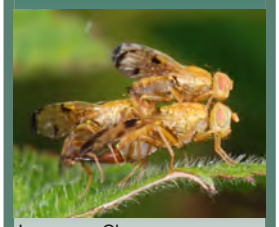
Barry Warrington
agromyzidaeRS@gmail.com

Conopids
with Lonchopteridae, Ulidiidae, Pallopteridae & Platystomatidae



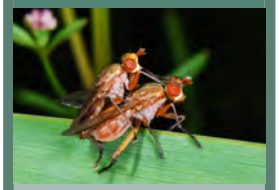
David Clements
dave.clements1@ntlworld.com

Tephritids
Tephritid flies Recording Scheme



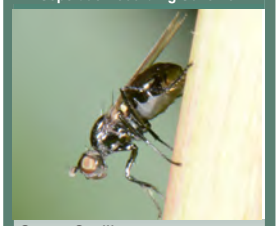
Laurence Clemons
laurenceclemons56@gmail.com

Sciomyzids
Snail-killing flies Recording Scheme



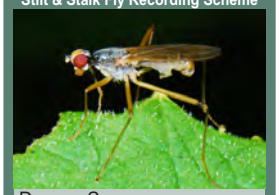
Ian McLean
ianmclean@waitrose.com
Darwyn Sumner
Darwyn.sumner@ntlworld.com

Sepsids
Sepsidae Recording Scheme



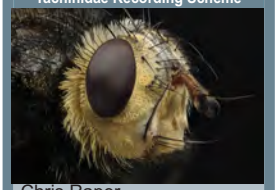
Steve Crellin
steve_crellin1@hotmail.co.uk

Micropezids Tanypezids
Stilt & Stalk Fly Recording Scheme



Darwyn Sumner
Darwyn.sumner@ntlworld.com

Tachinids
Tachinidae Recording Scheme

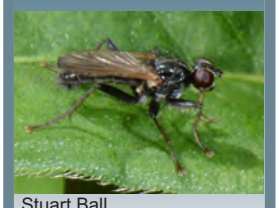


Chris Raper
chris.raper@hartslock.org.uk
Matthew Smith
MatSmith1@compuserve.com

Iconography

- Recorder 6 or earlier versions
- MapMate
- MS Excel
- iRecord
- MS Access
- GIS tools used by organisers to create maps and atlases (e.g. QGIS, DMap)
- Website available, faded icons = temporary sites
- NBN Atlas: Datasets are uploaded to publicly accessible site

Scathophagids
Scathophagid Recording Scheme

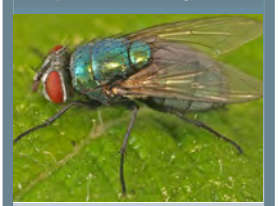


Stuart Ball
stuart.ball@dsl.pipex.com

Oestrids
Oestridae Recording Scheme

Andrew Grayson
andrewgrayson1962@live.co.uk

Calliphorids
Calliphoridae Recording Scheme



Olga Retka
aruma@wp.pl

Other recording initiatives

Recording initiatives ongoing or under consideration:

Dipterists Forum Field Weeks. Currently available on NBN Atlas

Non-recording scheme species/groups, non-native species, regional diptera groups

Interactive pdf. Click on the panels to access internet sites. Upper half = website, lower half = Atlas datasets

Download this guide as a pdf from
http://micropezids.myspecies.info/node/301

Photographs by John Bridges, Ian Andrews, Steve Falk, Darwyn Sumner, Alan Outen, Harry R, Chris Spilling

Design: Darwyn Sumner