

Small Acalypterate Families

Recording Scheme & Projects

Newsletter 2

Spring 2023

Founded June 1999 by Darwyn Sumner



Dryomyza anilis photo ©Darwyn Sumner (prefers dung to the fungi shown)

A brief history

A little late for a newsletter of a scheme formed 24 years ago but activity has been on hold until the time was ripe.

A few things occurred within the last couple of years to make the reanimation of this scheme feasible. Firstly the publication by Nigel Jones of a guide to one of those Families in the Bulletin: Piophilidae in Bulletin 89. Secondly the transfer of Steve Falk's historic records from BRC to Dipterists Forum whereupon several teams began to extract records for use in their Recording Schemes and upload to NBN Atlas as Open Data. Thirdly the opportunities offered by iNaturalist to help gather records from photographs.

Why is this the second newsletter? Simply because the pages of the last couple of Bulletins have been packed with a number of background articles as we began to revive this Recording Scheme in the form of a number of projects. To get our chronology correct those will be bundled together into Newsletter 1, not reprinted, just as an online version, and not compiled with any degree of urgency.

Recording Scheme - News

A fourth project has now been added, Steve Falk having given the thumbs-up to the Dryomyzidae. Pictures are gradually accumulating on our [iNaturalist](#) site and records are beginning to appear on the [NBN Atlas](#) due to the work of the team organising these projects. Finally we've done some research tracking down published keys and guides as Open Access downloads to most of these little Families. A few clicks on the hyperlinks in this newsletter and you've got a nice library.

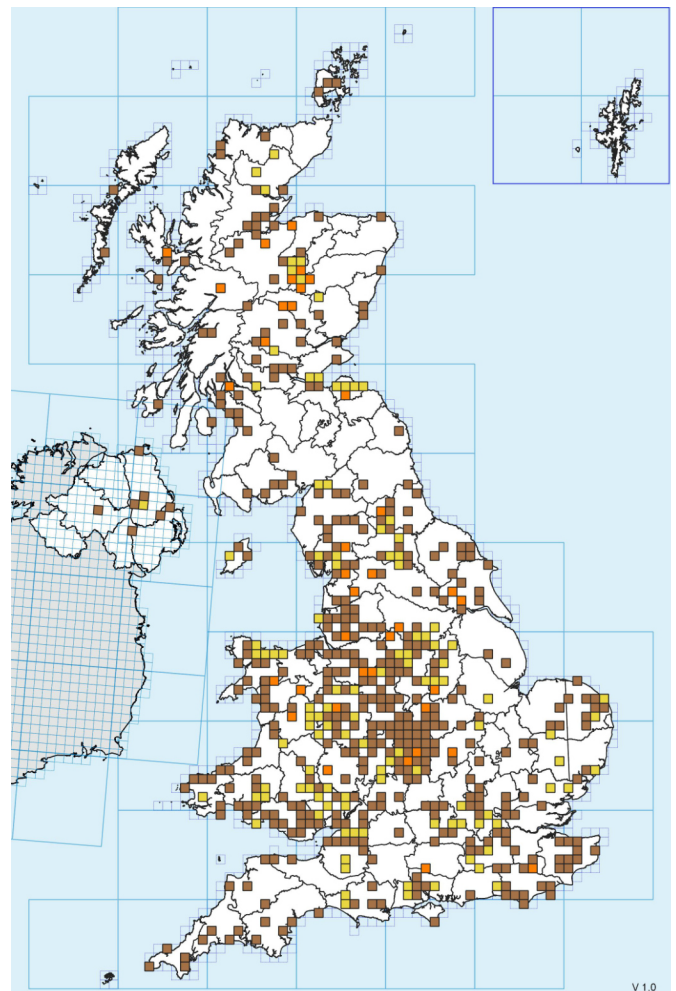
Adding more projects to the scheme

Expertise in each of these families is only to be found in the hands of a variety of different dipterists. As each expert comes forward to volunteer to deal with that family **plus** someone prepared to act as verifier so then a further project will be added to the current 4. Hopefully this initiative will stimulate more to come forward but it may well take decades before they're all addressed fully.

Bones, birds & bees

A very odd bunch when bundled all together. They vary from the big obvious *Dryomyza* which is attracted to fungi as they melt away in the autumn through to some quite tiny pretty flies such as *Amoena*. Some avoid the regular techniques that dipterists employ to catch flies by hanging around bones (Piophilidae) sap runs (Aulacigastriidae, Periscelididae) or birds (Carnidae) and bees (Braulidae) and as a result may be considerably under-recorded.

Dryomyzidae Open Data 2022



Dryomyza anilis {dark brown}, *Dryope luteola* {tan} and *Dryope decrepita* {orange} (overlapping). One possible pattern is altitude for the latter two.

Map generated in QGIS using Rich Burkmar's FSC tools

Contact the Recording Scheme if you've any more or simply add them to iRecord.

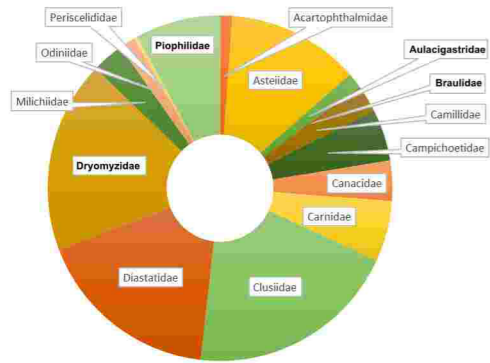
Small Acalypterate Families (UK) at <https://www.inaturalist.org/projects/smaller-acalypterate-families>

Online version (with hyperlinks) on [Newsletters](#) page at <http://micropezids.myspecies.info/>

Darwyn Sumner, Steve Falk & Nigel Jones

DIPTERA: Acartophthalmidae, Asteiidae, Aulacigastriidae, Braulidae, Camillidae, Campichoetidae, Canacidae, Carnidae, Clusiidae, Diastatidae, Dryomyzidae, Milichiidae, Odiniidae, Opomyzidae, Periscelididae, Piophilidae

Open Data: UK



NBN Atlas holdings for each Family ~6,500 records

Verification

The BRC uploaded a dataset to the NBN Atlas consisting of unverified records. It's a mixed bag of all sorts of records from a wide variety of Families not covered by Recording Schemes. Titled "Diptera records from iRecord for families not covered by a recording scheme" it contains some 70,512 records from 39 Families at <https://registry.nbnatlas.org/public/show/dr2046> Our projects aim to verify the Small Acalypterate Families, our NBN dataset is at <https://registry.nbnatlas.org/public/show/dr2704> and verified records from this scheme began to show up on that Open Data silo in December.

In addition there are numerous other datasets, both historic trawls and uploads of Dipterists Forum Field weeks which contain records of these Families and thus appear in any NBN Atlas search.

Flex your skills

Both iRecord and iNaturalist will provide an opportunity for you to attempt verification. The latter is a free-for-all, just join and try your hand. iRecord is more demanding but if you've expertise apply through BRC (+this scheme), it'll cope with multiple verifiers for the one group.

Up for grabs

The following list shows our progress, Families highlighted in dark green are up and running:

Family	spp	iNat	SJF	BRC	NBN	Scheme
Acartophthalmidae	2	0	11	74		Project
Asteiidae	8	6	131	132	655	Project
Aulacigastridae	1	1	1	1	47	Project - Darwyn Sumner
Braulidae	2	1	0	4	6	Project - Darwyn Sumner
Camillidae	5	1	141	20	151	Project
Campichoetidae	2	0	1	98	407	Project
Canacidae	11	1	19	20	238	Project
Carnidae	13	0	0	23	364	Project
Clusiidae	10	23	201	177	1267	Project
Diatatidae	6	2	262	233	1115	Project
Dryomyzidae	3	118	235	465	1284	Project - Steve Falk + DS
Milichiidae	19	6	0	23	192	Project
Odiinidae	9	1	0	13	97	Project
Perisclididae	4	0	0	1	21	Project
Piophilidae	16	8	154	94	520	Project - Nigel Jones

Columns show number of species in the Family (spp), iNaturalist records as images (iNat), Steve Falk's pre-2014 records (SJF), BRC's "not necessarily verified" records already added to NBN Atlas (BRC) and NBN Atlas totals (NBN).

Numbers on pale red give some indication as to the volume of records awaiting attention, those on pale green are already Open Data.

Opomyzidae, though they don't strictly qualify as small in terms of number of species are included in the iNaturalist project.

The expertise of European workers would be most welcome

Project Dryomyzidae NEW

Steve Falk joined us in Autumn 2022, it was his original idea to treat each Family as a "project" allowing us to explore the situation regarding the availability of keys and data before adding them to the Recording Scheme.

Steve is currently active on iRecord, uploading his more recent material. His historic records have been the subject of a Dipterists Forum project to digitise his pre-2014 records from scans of hand-written folders (Recording Scheme teams have been working on a variety of other Families from these, including Sciomyzidae, Conopidae & Anthomyidae). The extracted records of some 235 Dryomyzidae were submitted to NBN in October.

"All those dryomyzid records should be accurate and ready to upload. Had no idea I'd generated so many and I have more decrepita records from the Scottish Highlands to add but I've got a big Scottish dataset to submit this winter based on the trip Nigel Jones and I made last year so they will get into the system soon"

Steve also directs us to images on his Flickr site at <https://tinyurl.com/2ejf7sxb> where you will find his key and links to a range of additional resources as well as images of all three of our UK species (with the correct names.)



Dryope decrepita female [Steve Falk on Flickr]



Dryope flaveola [Rui Andrade on iNaturalist]

Contacts:

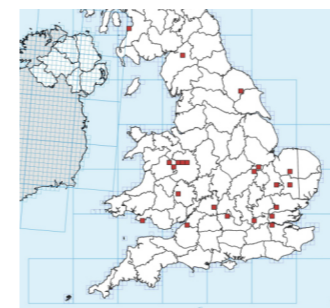
Technical and identification topics only to Steve Falk, records enquiries (iRecord, iNaturalist etc.) to Darwyn Sumner

Nomenclature

For this holarctic Family with only 3 UK members, there have been a surprising number of name changes. Expect to find (some of) the following used on various systems, accepted names are highlighted in green.

UKSI	NBN	GBIF	iNaturalist
<i>Neuroctena anilis</i>			<i>Dryomyza anilis</i>
<i>Dryomyza decrepita</i>			<i>Dryope decrepita</i>
<i>Dryomyza flaveola</i>			<i>Dryope flaveola</i>

Project Aulacigastridae



Aulacigaster leucopeza
All records, regardless of verification status or imprecise grid references.

Clearly it is very rarely encountered. Get up close to any sap runs you find for a chance at this one. Worth a "eureka!" and a note for Dipterists Digest if you get lucky.

After you've popped it on iRecord and/or iNaturalist of course.

Project Braulidae

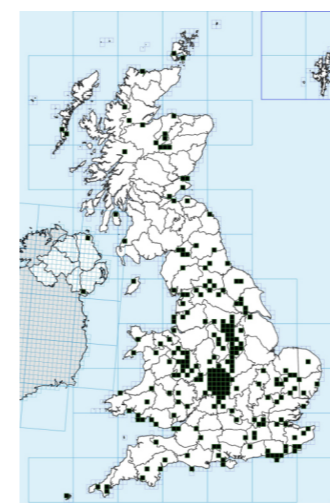
The specimen of *Braula coeca* recently posted on iNaturalist occasioned Murdo MacDonald to research and submit an article to Dipterists Digest. He kindly sent me a preview:

MacDonald, M. (2023). The Bee-louse *Braula* (Diptera, Braulidae) in Scotland. Dipterists Digest, (submitted), 1–9.

A thorough and extensive treatment of the subject. Tasks remaining now are researching historic records for the rest of the UK from the beekeeping community and other literature and flagging any new records infrequently submitted. Specifically, the NBU database referenced in Dobson, 1999 is sought, though it is anticipated that difficulties regarding precise locations (and consequently production of a UK distribution map) will be encountered due to the methods used to monitor their widely dispersing hosts.

Project Piophilidae

Nigel Jones began this project in Bulletin 89 (p14) as a guide



Recording effort
The entire records of all the UK Piophilidae on file.

This map shows the regions where recording is most focussed due to the activities of certain recorders notably Steve Falk in Warwickshire. To the west Nigel Jones and to the north through Leicestershire and Nottinghamshire and into the Sorby region the efforts of others. Scattered patches elsewhere may be from expeditions, either those of Dipterists Forum during their field weeks or to favourite spots such as the Spey, Breck or south east coastal regions.

Nigel continues to work on these 16 species, for maps of individual ones consult the NBN Atlas Open Data, for new records just put them on iRecord or iNaturalist and for identification issues have a word with Nigel.

Keys & resources

Some of these can be found in Dipterists Digest and thus available on the [Dipterists Forum website](https://dipterists.org.uk) at <https://dipterists.org.uk> others from elsewhere as detailed below. They are all Open Access, use the hyperlinks to obtain them directly.

Diptera Families

Ball & Ismay: Available to Dipterists Forum members on DF website. [Unwin, 1981](https://doi.org/10.1007/978-3-319-90306-4)

Aulacigastridae

[Roháček, J. \(2013\)](https://doi.org/10.2478/cszma-2013-0014). The fauna of the Acalypterate families Micropezidae, Psilidae, Clusiidae, Acartophthalmidae, Anthomyzidae, Aulacigastridae, Perisclididae and Asteiidae (Diptera) in the Gemer area (Central Slovakia): supplement 1. Časopis Slezského Zemského Muzea Opava (A), 62, 125–136. <https://doi.org/10.2478/cszma-2013-0014>

[Hagenlund, L. K. \(2017\)](https://doi.org/10.1007/978-3-319-90306-4). First record of *Aulacigaster pappi* Kassebeer, 2001 from Norway (Diptera, Aulacigastridae). Norwegian Journal of Entomology, (December), 2013–2016. [https://tinyurl.com/bddw37ns](https://doi.org/10.1007/978-3-319-90306-4)

[Rung, A., & Mathis, W. N. \(2011\)](https://doi.org/10.5479/si.00810282.633). Revision of the Genus *Aulacigaster* Macquart (Diptera: Aulacigastridae). (July 2015). <https://doi.org/10.5479/si.00810282.633>

Braulidae

[Dobson, J. R. \(1999\)](https://doi.org/10.1007/978-3-319-90306-4). A "Bee-louse" *Braula schmitzi* (Diptera: Braulidae) New to the British Isles, and the Status of *Braula* spp. in England and Wales. British Journal of Entomology and Natural History, 11, 139–148. [https://tinyurl.com/bdfzsubt](https://doi.org/10.1007/978-3-319-90306-4)

[Parmentier, T. \(2020\)](https://doi.org/10.1007/978-3-319-90306-4). Guests of Social Insects. (December 2019). <https://doi.org/10.1007/978-3-319-90306-4>

Dryomyzidae

[Falk, S. \(2005\)](https://doi.org/10.1007/978-3-319-90306-4). The identification and status of *Dryomyza decrepita* Zetterstedt (Diptera, Dryomyzidae). Dipterists Digest, 12, 7–12. [https://tinyurl.com/262vbw8a](https://doi.org/10.1007/978-3-319-90306-4)

Piophilidae

[Stubbs, A. and Chandler, C. \(2001\)](https://doi.org/10.1007/978-3-319-90306-4). A provisional key to British Piophilidae (Diptera) and Parapiophila flavipes (Zetterstedt, 1847) new to Britain. Dipterists Digest 2001, 8, 71–78 [https://tinyurl.com/3t5452xc](https://doi.org/10.1007/978-3-319-90306-4)

One of the tasks for organisers of this Scheme is to hunt down identification keys, the following may be of value to those interested: [full references & links tbd]

Acartophthalmidae

[Ozerov, A. L. \(1986\)](https://doi.org/10.1007/978-3-319-90306-4). "Review of the family Acartophthalmidae (Diptera) with description of a new species". Zoologicheskii Zhurnal. 65: 807–809 [Russian] [\[unavailable as Open Access\]](https://doi.org/10.1007/978-3-319-90306-4)

Asteiidae

[Online Key to Asteiidae](https://doi.org/10.1007/978-3-319-90306-4)

[Chandler, P. J. \(1978\)](https://doi.org/10.1007/978-3-319-90306-4). A revision of the British Asteiidae (Diptera) including two additions to the British list. Proceedings of the British Entomological and Natural History Society, 11, 23–34. [https://tinyurl.com/3d9wp73](https://doi.org/10.1007/978-3-319-90306-4)

[Gibbs, D., & L. Papp, 2007](https://doi.org/10.1007/978-3-319-90306-4). A review of the Holarctic species of *Leiomyza* Macquart, 1835 (Diptera: Asteiidae) with descriptions of two new species. - Studia Dipterologica 13(2)(2006): 241–248. [\[unavailable as Open Access\]](https://doi.org/10.1007/978-3-319-90306-4)



Asteia aoena [Marie Lou Legrand, France on iNaturalist]

Camillidae

[Beuk, P., & de Jong, H. \(2015\)](https://doi.org/10.1007/978-3-319-90306-4). De Nederlandse soorten van de Camillidae (Diptera). Entomologische Berichten, 54(1), 1–6. Retrieved from [https://tinyurl.com/4rv3vuu5](https://doi.org/10.1007/978-3-319-90306-4) [Dutch]

All western European species are keyed

Small Acalypterate Families

Campichoetidae

Chandler, 1986. The families Diastatidae and Campichoetidae (Diptera, Drosophiloidea) with a revision of Palaearctic and Nepalese species of Diastata Meigen [[unavailable as Open Access](#)]

Canacidae (beach-flies)

Collin 1966, Irwin et al 2001

[Munari, L. \(2011\)](#). The Euro-Mediterranean Canacidae s.l. (Including Tethinidae): Keys and Remarks to Genera and Species (Insecta, Diptera). Bollettino Del Museo Di Storia Naturale Di Venezia, 62, 55–86.

Carnidae (bird-flies)

Collin 1930, 1937

Jens-Hermann Stuke knows this group

Clusiidae

[Stubbs, A. E. \(1982\)](#). An Identification Guide to the British Clusiidae. Proceedings of the British Entomological and Natural History Society, 15, 89–93. <https://tinyurl.com/yexvujfv>

[Withers, P. \(1985\)](#). Notes on some British Clusiidae and reduction of Clusiodes facialis (Coll.) to synonymy. Proceedings of the British Entomological and Natural History Society, 18, 63–64. <https://tinyurl.com/wae55u7w>

Diastatidae

Chandler, P. J. (1987). The families Diastatidae and Campichoetidae (Diptera, Drosophiloidea) with a revision of Palaearctic and Nepalese species of Diastata Meigen, Insect Systematics & Evolution, 18(1), 1–50. doi: <https://doi.org/10.1163/187631287X00016> [[unavailable as Open Access](#)]

Milichiidae

MS key by Chandler - on request

Odiiniidae

Collin 1952;

Cogan 1969;

[MacGowan, I., & Rotheray, G. E. \(2002\)](#). A new species of Odiinia (Diptera, Odiiniidae) from Scotland. Dipterists Digest Second Series, 9, 67–69. <https://tinyurl.com/53d8y9j6>

MacGowan et al, 2004

Opomyzidae

[Drake, C. M. \(1993\)](#). A Review of the British Opomyzidae (Diptera). British Journal of Entomology and Natural History, 6, 159–176. Retrieved from <https://tinyurl.com/4bee4z9k>

Two further publications on Opomyzidae by Martin are to be found on ResearchGate

Periscelididae

Duda 1934

[Mathis, W. N., & Rung, A. \(2011\)](#). World Catalog and Conspectus on the Family Periscelididae (Diptera: Schizophora). MYIA, 12(February 2014), 341–377. Retrieved from <https://tinyurl.com/yep953up>

Good background reading; try sap runs

Irwin, A. G. 1982. A new species of Stenomicroa Coquillett (Diptera, Aulacigastridae) from Anglesey, North Wales. Ent. Mon. Mag. 119(1420-1423): 235-238

Thanks to Peter Chandler for providing an outline of the above keys, Tony Irwin, Alan Stubbs and Martin Drake for advice and encouragement. BENHS papers were downloaded from BHL and stored on a Scratchpad site for ease of download.

Authors of papers from journals not typically making their material available as Open Access may consider uploading to ResearchGate, though do follow their guidelines on copyright.

Potential progress

A number of keys have been compiled on [Online-Keys.net](#) following the traditional couplet pattern, allowing for prints to be made of them. For researchers interested in developing their own, Field Studies Council's [Identikit](#) system will facilitate the development of online keys using spreadsheet tables of characters ([example](#))

For the development of comprehensive research sites (taxonomy, bibliography etc.) the NHM's [Scratchpad](#) system is used by several Dipterists Forum Recording Schemes, some covering Europe and further afield. Setting one up for the above would be feasible / desirable but quite demanding for a single person; expressions of interest would therefore be welcome.

iNaturalist project

For the photographers, be they casual or dedicated, this Scheme has an iNaturalist project. Simply a filter on the photographs that naturalists have uploaded onto the site.

At its simplest level it acts as a gallery of the most popular flies but it also serves to indicate which of our dipterists are the most keen on looking out for these Families whilst armed with a camera.

If you've any expertise at identification then it's a simple matter to sign up and identify them. So far 78 of those 549 have been confirmed.

<https://www.inaturalist.org/projects/smaller-acalypterate-families>

Those submitting images would be glad of the identification, as I was with my first *Dryomyza anilis*. I keep trying to find a Piophilid to get one of mine on that site, so far without success but one day I'll find an attractive pile of bones.

iNaturalist to iRecord to NBN Atlas

The records on iNaturalist drift in to iRecord of course. Anyone set up with BRC to verify a specific Family will see the ResearchGrade (confirmed) ones lined up for expert scrutiny after which they'll sail through iRecord's more scrupulous verification system to end up as quality Open Data on the NBN Atlas.

Verifiers: So far on iRecord we've Nigel Jones verifying the Piophilidae, me doing the Aulacigastridae & Braulidae and Dryomyzidae (under supervision.)

If you've an interest or expertise in any of the other Families (see the above list) then drop a line to me and Martin Harvey to set you up as an iRecord verifier.

My [quick video guide](#) at <https://tinyurl.com/5cen23b4> shows how and there's a whole batch of detailed instructions on the iRecord site.

[Dipterists Forum Recording Schemes](#)