

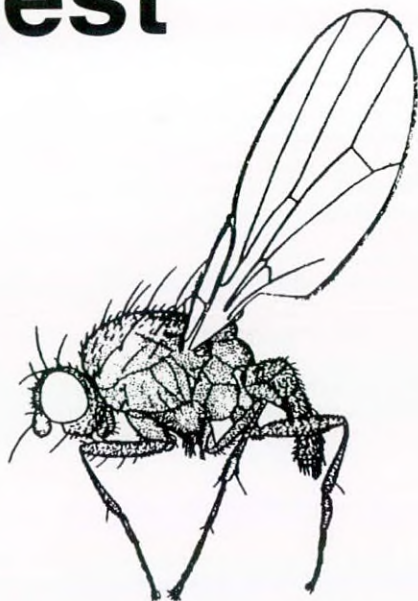
Dipterists Digest



2009 Vol. 16 No. 2

Cover illustration: *Dorycera graminum* (Fabricius) (Ulidiidae), male above, female below, from *Typical Flies* 1928, Fig. 122, photograph by Ethel K. Pearce. The specimens are in her collection at the Oxford University Museum of Natural History and are labelled "Colchester", suggesting that they were collected by the Harwoods.

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Dipterists Digest is the journal of the **Dipterists Forum**. It is intended for amateur, semi-professional and professional field dipterists with interests in British and European flies. All notes and papers submitted to **Dipterists Digest** are refereed.

The scope of **Dipterists Digest** is:

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- the conservation of flies;
- provisional and interim reports from the Diptera Recording Schemes, including maps;
- records and assessments of rare or scarce species and those new to regions, countries etc.;
- local faunal accounts and field meeting results, especially if accompanied by good ecological or natural history interpretation;
- descriptions of species new to science;
- notes on identification and deletions or amendments to standard key works and checklists.

Articles must not have been accepted for publication elsewhere and should be written in clear and concise English. Items exceeding 3000 words may be serialised or printed in full, depending on competition for space. **Contributions should preferably be supplied either as E-mail attachments or on 3.5" computer disc or CD in Word or compatible formats and accompanied by hard copy.**

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Style and format should follow articles published in the most recent issue. A short Summary (in the form of an Abstract) should be included at the beginning of each article. References to journals should give the title of the journal in full. Scientific names should be italicised. Authors of scientific names should be given in full and nomenclature should follow the most recent checklist, unless reflecting subsequent changes. Figures should be drawn in clear black ink, about 1.5 times their printed size and lettered clearly. **Colour photographs will also be considered.** Descriptions of new species should include a statement of the museum or institution in which type material is being deposited.

Authors will be provided with twenty separates of papers of two or more pages in length.

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***Leucostoma anthracinum* (Meigen, 1824) (Diptera, Tachinidae)
new to Britain**

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Summary

Leucostoma anthracinum (Meigen) is added to the British list and compared with *L. simplex* (Fallén).

The genus *Leucostoma* comprises smallish black species most notable for the presence of particularly large whitish lower calyptrae. The first encounter with the genus by SJF was made during a survey of Finham Sewage Works, near Coventry, Warwickshire (SP3374) on 3 August 1996. A single male was swept from a ruderal habitat and presumed to be *L. simplex* (Fallén, 1815), which was the only species on the British list (Belshaw 1993). That author's next encounter with *Leucostoma* was on 6 July 2006, when several of each sex were swept at Shatterford Bottom in the New Forest (SU3405). The habitat was very different to that of the Finham location (valley mire with *Molinia*, *Myrica* and *Sphagnum*) and when the new material was compared to the Finham specimen, it was clear that two species were involved. Using the key to Central European tachinids by Tschorsnig and Herting (1994), the New Forest specimens keyed to *L. simplex*, whilst the Warwickshire specimen seemed to be *L. anthracinum* (Meigen, 1824), a new species to the British list. This was confirmed by Chris Raper and Matt Smith, who kindly checked the material in 2009.

Further specimens of *L. anthracinum* were obtained in 2009 during the Dipterists' Field Meeting held at Swansea, when it was found at two South Wales coastal sites. At Nicholaston Burrows, Gower, Glamorgan (SS514878) on 7 July IP and MAH each found a male and on the following day IP obtained a further two males at the same site. All were swept from an area of dune grassland containing abundant rest harrow *Ononis repens* and with some patches of kidney vetch *Anthyllis vulneraria*. They were restricted to a very small area and extensive searching of the site failed to reveal any more of this species. MAH recorded a single male at Merthyr Mawr Warren NNR, Glamorgan (SS869767) on 8 July, also from dune grassland, but of a much more fixed and rank condition than the Nicholaston site, with fewer herbs and more grasses.

The Tachinid Recording Scheme web site (www.tachinidae.org.uk) and the Fauna Europaea web site (www.faunaeur.org) reveal that *L. anthracinum* is a widespread species in the Western Palaearctic, including the nearest parts of continental Europe. The hosts are unknown, but are presumed to be heteropteran bugs; the hosts of *L. simplex* include species of the families Lygaeidae, Coreidae and a single old record from Nabidae.

Distinctions from *L. simplex*

Leucostoma anthracinum is on average a slightly larger species than *L. simplex* (the range of body length overlaps), has conspicuous dusting on tergites 4 and 5 when viewed from the rear

(Fig. 1) and the subsequent dorsal segment (= fused segments 6–8) is very small and markedly convex (this character separates *L. anthracinum* from other species with dusted male abdomen which could potentially also occur in Southern England, i.e. *L. crassum* Kugler, *L. tetraptera* (Meigen) and *L. turonicum* (Dupuis). These tergites are entirely shining black in *L. simplex*. A further eleven *Leucostoma* species are found in Central Europe and are tentatively keyed by Tschorsnig and Herting (*op. cit.*), though the genus requires revision; the males of several species are hardly separable, but *L. anthracinum* is distinct in the male.



Fig. 1. *Leucostoma anthracinum* (Meigen), Warwickshire male, showing abdominal dusting.

References

- Belshaw, R. 1993. Tachinid flies. Diptera: Tachinidae. *Handbooks for the Identification of British Insects*. Vol 10 (4a(i)), 169 pp. Royal Entomological Society of London.
- Tschorsnig, H.P. and B. Herting. 1994. Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. *Stuttgarter Beiträge zur Naturkunde. Serie A (Biologie)* 506, 170 pp.

Cylindromyia auriceps (Meigen, 1824) (Diptera, Tachinidae) new to Britain

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Summary

Cylindromyia auriceps (Meigen) is added to the British list and compared with the other two British species.

Cylindromyia species are amongst our most distinctive tachinids, with a very narrow build and the basal tergites extensively marked with red. Two species have been previously known to occur in Britain (Belshaw 1993): *C. interrupta* (Meigen, 1824) is a relatively small species (wing length typically about 5mm) that has been recorded widely in southern England from grassland, heathland and disturbed open habitats; *C. brassicaria* (Fabricius, 1775) is a considerably larger (wing length about 8mm) and much rarer species, with most recent records from the Lizard Peninsula of Cornwall where it is associated with coastal heathland and grassland

On 24 July 2007, the author swept a male and female of a *Cylindromyia* species at Cradle Hill National Nature Reserve in East Sussex (TQ5001), that seemed to represent a species that was neither of the above two. The size was intermediate, and the thoracic marking most resembled *C. brassicaria* (with a relatively strong pattern of dusting) rather than *C. interrupta* (relatively little dusting). However, the abdominal markings and chaetotaxy showed that it was not conspecific with the single male *C. brassicaria* specimen I had in my collection.

I checked the Sussex specimens against the key to Central European tachinids by Tschorsnig and Herting (1994) and the various *Cylindromyia* images available via Google, concluding that *C. auriceps* was the likely identity of the material. This was confirmed by Chris Raper and Matt Smith, who kindly checked the material in 2009. Their Tachinid Recording Scheme web site (www.tachinidae.org.uk) and the Fauna Europaea web site (www.faunaeur.org) reveal that *C. auriceps* is a widespread species in the Western Palaearctic, and is present in the Channel Islands.

Distinctions from *C. interrupta* and *C. brassicaria* (Fig. 1)

Identification of *C. auriceps* is relatively straightforward. Like *C. interrupta* it belongs to the subgenus *Neocyptera* Townsend, 1916. It has strong posteroventral setae on the hind tibiae like *C. interrupta* (missing in *C. brassicaria*) and has a distinct pair of apical scutellars between the much stronger subapical pair (apicals missing in *C. interrupta*). As noted above, the thoracic markings most resemble *C. brassicaria*, with a pair of narrow black vittae within the pale dusted median zone behind the head. In *C. interrupta*, the front of the thorax is mainly black with a narrow pale median stripe that lacks any vittae.

The abdominal markings most resemble *C. interrupta*, with a broad median stripe, running down T2 and T3, that fully separates the lateral red markings. In my single *C. brassicaria* specimen (a male), the lateral red markings are broadly fused on the anterior part of T3, resulting in a much redder-looking insect; *C. brassicaria* also has the anterior half of T4 conspicuously grey dusted in contrast to the other two species, where dusting is restricted

to the extreme anterior part of T4 and is not conspicuous. A further seven *Cylindromyia* species are included in Tschorsnig and Herting's key.



Fig. 1. *Cylindromyia* species: left *C. interrupta* (Meigen), middle *C. brassicaria* (Fabricius) and right *C. auriceps* (Meigen).

Habitat and biology

On the mainland of Europe *Cylindromyia auriceps* seems to be a species of dry grasslands. Cradle Hill NNR is a 2km long curved chalk escarpment, which is north-facing at its east end and east-facing at its west end. Habitats present include chalk grassland of variable height and character (very species-rich and flowery in some areas, but dominated by *Brachypodium pinnatum* in others), plus areas of scrub, tall herb and adjacent arable and pasture land. The mostly north-facing aspect creates slightly damper and less drought-prone conditions than some of the south-facing escarpments nearby. Recorded hosts in Europe include the pentatomid bugs *Aelia* species and *Dolycoris baccarum* (Linnaeus).

References

- Belshaw, R. 1993. Tachinid flies. Diptera: Tachinidae. *Handbooks for the Identification of British Insects*. Vol 10 (4a(i)), 169 pp. Royal Entomological Society of London.
- Tschorsnig, H.P. and B. Herting. 1994. Die Raupenfliegen (Diptera: Tachinidae) Mitteleuropas: Bestimmungstabellen und Angaben zur Verbreitung und Ökologie der einzelnen Arten. Stuttgarter Beiträge zur Naturkunde. Serie A (Biologie) 506, 170 pp.

Mass occurrence of the yellow swarming fly *Thaumatomyia notata* Meigen (Diptera, Chloropidae) in a house in Madehurst, West Sussex

C. MALUMPHY

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Summary

An aggregation of *Thaumatomyia notata* Meigen is reported and this behaviour is discussed.

A maintenance company reported huge numbers of insects invading a private house in Madehurst, West Sussex, during October 2009 to the Plant Health and Seeds Inspectorate (PHSI) of Defra. Thousands of insects aggregated on sunny windows inside the building and as they died, two 15 cm wide windowsills became black with dead bodies. The quantity of these flies was large enough to be a considerable nuisance. A small sample consisting of about 400 adults was submitted to The Food and Environment Research Agency, where they were identified as the yellow swarming fly *Thaumatomyia notata* Meigen (Chloropidae). There were approximately equal numbers of males and females in the sample and there was only one other fly species present, a single adult muscoid that was in pieces and could not be identified further.

Thaumatomyia notata occurs right across the Palaearctic Region and its range extends into adjacent parts of the Oriental and the Afrotropical Regions. It develops 3-4 generations per year depending on the latitude. The adults feed on sugary liquids such as nectar and the larvae are predatory on root aphids in grassland. The adults overwinter under or in any natural cover, such as bark cracks, bird nests, coniferous pinecones, etc., and can survive temperatures as low as -30 °C (Nartshuk 2000). The adults become active again in early spring, usually in March or April.

The flies enter buildings in the late summer and autumn to overwinter. The mass occurrence of this species in buildings is a well-documented phenomenon that has recently been reviewed (Nartshuk 2000, Kotrba and Nartshuk 2009) yet it is only recorded from Europe (mostly from England and Germany). Swarms of *T. notata* naturally occur outdoors, usually around tall structures and they occasionally enter buildings. Several species of chloropid fly have been reported swarming in England but due to confusion in identifying these insects, most or all of the older records may really be referable to *T. notata* (Nartshuk 2000, Sabrosky 1940). This phenomenon has been reported in England (usually under the synonym *Chloropisca circumdata* Meigen) by Barnes (1933), Colyer and Hammond (1968), Imms (1922), Jenyns (1832), Kearns (1929, 1930), Phillips (1874), Scott (1916) and Sharp (1909). Swarms of flies often enter the same or adjacent buildings during consecutive years. Once inside the flies are passive and usually rest on the ceiling. Vast swarms have been recorded covering the ceilings and windows, making it impossible to use the infested rooms. Hase (1929) recorded the collection of 35 to 40 litres of flies in one outbreak and calculated that there were 12 to 14 million individuals concerned. Estimates in other instances have been as high as 30 million individuals (Sabrosky 1940). The flies, however, cannot survive in heated buildings and usually die after 10-14 days, probably due to loss of moisture.

How these swarms form remains unclear but Nartshuk (2000) and Kotrba (2009) suggested that the males might produce an aggregation pheromone with their pair of eversible pregenital vesicles. Nartshuk collated data on mass occurrences of *T. notata* in Europe between 1805 and 1997 and found that outbreaks are cyclical, occurring nearly every 11 years, which she associated with the 11-year cycles of solar activities. Mass occurrences of the fly usually coincided with the beginning of the solar cycle. These periods are characterized by more frequent eastern and meridional atmospheric conditions, when the weather in Europe is warmer and drier. Emergence of the adult flies, however, requires that the puparia have contact with water droplets. As a result puparia accumulate in the ground and mass emergence of the adults occurs after autumnal rains.

The frequency of these mass occurrences has increased markedly in Germany during the last decade (Kotrba 2009, Kotrba and Nartshuk 2009) and it would be interesting to see if the frequency also increases in Britain.

Acknowledgements

I would like to thank Andrew Gaunt of the PHSI for providing information on the mass occurrence of the fly.

References

- Barnes, H.F. 1933. Two further instances of flies swarming of Rothamsted Experimental Station, with some references to this phenomenon. *Entomologist's monthly Magazine* **69**, 230-232.
- Colyer, C.N. and Hammond, C.O. 1968. *Flies of the British Isles*. Frederick Warne & Co. Ltd. 384 pp.
- Hase, A. 1929. Weitere Fälle von Massenaufreten der Fliege *Chloropisca notata flavifrons* Macq. (Chloropidae) und nahe verwandter Arten. *Anzeiger für Schädlingskunde* **5**, 159-160.
- Imms, A.D. 1922. Note on swarms of *Chloropisca circumdata* Mg. (= *ornata* Loew, *nec* Mg.). *Entomologist's monthly Magazine* **43**, 20.
- Jenyns, L. 1832. Account of an extraordinary swarm of flies. *Annals and Magazine of Natural History* (ser. 1) **5**, 302.
- Kearns, H.G.H. 1929. The swarming of *Chloropisca circumdata* Meigen. *Entomologist's monthly Magazine* **65**, 205-206.
- Kearns, H.G.H. 1930. Early spring swarming of *Chloropisca circumdata* Meig., with notes on the control of the flies in autumn. *Entomologist's monthly Magazine* **66**, 166-169.
- Kotrba, M. 2009. Male flies with yellow balls – New observations on the eversible vesicles on the postabdomen of male *Thaumatomyia notata* (Diptera: Chloropidae). *European Journal of Entomology* **106**, 57-62.
- Kotrba, M. and Nartshuk, E. P. 2009. Massenaufreten der Gemeinen Rasenhalmfliege *Thaumatomyia notata* (Diptera, Chloropidae) an Gebäuden: Determination – Biologie – Verbreitung. *Studia dipterologica* **15**(2008), 193-209.
- Nartshuk, E. P. 2000. The periodicity of the predatory fly *Thaumatomyia notata* Meig. (Diptera, Chloropidae) outbreaks and its probable reasons. *Entomologicheskoe Obozrenie* **79**(4), 771-781.
- Phillips, F.J. 1874. Congeries of Diptera. *The Entomologist* **7**, 165-166.
- Sabrosky, C.W. 1940. Chloropids swarming in houses. *Journal of Economic Entomology* **33** (6), 946-947.
- Scott, H. 1916. Another swarm of chloropid flies. *Entomologist's monthly Magazine* **52**, 43-

The Agromyzidae (Diptera) on lousewort (*Pedicularis* species) (Scrophulariaceae) in Scotland —

Common lousewort *Pedicularis sylvatica* is much more widespread in Scotland than its larger erect relative marsh lousewort, *P. palustris*. All British literature records of *Pedicularis*-feeding agromyzids refer only to *P. palustris* (Spencer, K.A. 1972. *Handbooks for the Identification of British Insects* X, 5(g)). Reality is somewhat different, at least in Scotland.

***Phytomyza tenella* Meigen, 1830.** This species has long been known from Scotland (Spencer *op. cit.*) but only as a seed-feeder in *Pedicularis palustris*. Records from *P. palustris* are known for Watsonian vice-counties 75, 80, 88, 89, 95, 96, 98, 99, 101 and 103. Recently *P. tenella* has been reared from the seedheads of *Pedicularis sylvatica*. Seedheads of *P. sylvatica* collected at Rannoch (NN5455; V.C. 88) on 25.vii 2000, Meall Ghaordaidh (NN5037; V.C. 88) on 20.vii 2008 and Arinambane, South Uist (NF7928; V.C. 110) on 27.vii 2005, all produced *Phytomyza tenella*.

In all cases pupation occurred at the larval feeding site amongst the seeds. The species is obviously widespread in *Pedicularis sylvatica* in Scotland.

***Phytomyza diversicornis* Hendel, 1927.** This species mines the pith within the stems of *Pedicularis* and in Scotland has been recorded from the stems of *P. palustris* from Watsonian vice-counties 75, 80, 82, 88, 89, 90, 103, 106 and 108. In the past I have found larval mines in the ovary wall in the seedhead of *Pedicularis sylvatica* but they had already been vacated. On 20.vii 2008 two such mines were found in *P. sylvatica* on Meall Ghaordaidh, Perthshire (NN5037; V.C. 88), from which a single *Phytomyza diversicornis* was reared indoors on 21.xii 2008. The larvae left the mine prior to pupation. The previously seen similar mines, presumably also belonging to *P. diversicornis*, were found at Loch Airigh, Coll (NM2156; V.C. 103) on 10.vii 1982. At Kilmory, Rum (NG3502; V.C. 104) a collection of seedheads of *P. sylvatica* containing the larvae of *Opsibotys fuscalis* (Schiffermüller) (Lepidoptera, Pyralidae) was made on 27.viii 2000. A single puparium appeared and this later produced *P. diversicornis*. It appears that *P. diversicornis* may be widespread in *Pedicularis sylvatica* in Scotland but its mine terminating in the ovary-wall is easily overlooked as it is partially concealed by the sepals.

***Phytomyza pedicularifolii* Hering, 1860.** This species is a true leaf-miner and is recorded by Spencer (1992. *Host Specialization in the World Agromyzidae*(Diptera). *Series Entomologica* 45) solely from *Pedicularis palustris*. In Scotland it has so far only been recorded mining the leaves of *P. sylvatica* ! Only three localities for this species are known to me, namely Camghouran, Rannoch (NN5455; V.C. 88), Laggan Wood, Comrie (NN7623; V.C. 88) and Dun Moss, Fife (NS9892; V.C. 85). Mines have been found from late July to late October, with flies successfully reared from mines collected in August, September and October.

It thus appears that all three species of *Pedicularis*-feeding agromyzids in Scotland are able to utilize both *P. palustris* and *P. sylvatica*. Ironically *Phytomyza pedicularifolii* has not yet been found on *Pedicularis palustris* — its primary host in Europe — **K.P. BLAND**, 35 Charterhall Road, Edinburgh, EH9 3HS, Scotland

***Dorycera graminum* (Fabricius, 1794) (Diptera, Ulidiidae) rediscovered at Bradlaugh Fields, Northamptonshire (V.C. 32) –**

On 13 June 2009, three members of the Northants and Peterborough Diptera Group and two staff members of the University of Northampton's School of Applied Sciences visited an area of Bradlaugh Fields known as the Hills and Hollows Reserve. The objective of the visit was to search for *Dorycera graminum* (Fabricius), a species of Ulidiidae last recorded on this site on 28 June 2003, during a British Entomological and Natural History Society field meeting (Boyd, G. 2004. *British Journal of Entomology and Natural History* 17, 198-199).

The Hills and Hollows Reserve is one of two small nature reserves, which together with a central grassland area form part of Bradlaugh Fields, itself an extensive area of some 60ha of public open space. Bradlaugh Fields (SP770632) is located approximately three kilometres from the centre of Northampton, Northamptonshire (V.C. 32). Once a limestone quarry, the Reserve is now overgrown with a mixture of calcicole and calcifuge herbs and grasses, together with some gorse and broom scrub (Boyd *op. cit.*).

Dorycera graminum is a UK Biodiversity Action Plan (UKBAP) priority species, currently classified as rare, with records in recent years only from Kent, Essex, Oxford, Surrey and Worcestershire and has been included in the Dipterists Forum's 'Adopt a Species' scheme. The species is associated with grassland and brownfield sites, but its ecology remains uncertain. Adults seem to spend most of their time resting on various leaves, stems or flowers and have been frequently associated with umbellifers (Apiaceae). Larval ecology is unknown, but decaying vegetation has been suggested as the most likely habitat. The species has a short flight period, lasting from approximately the end of April until the end of June, peaking in mid to late May (UKBAP *D. graminum* Species Plan (www.ukbap.org.uk) and Essex Field Club *D. graminum* species account (www.essexfieldclub.org.uk)).

The objective of the visit was completed by the author in under a minute. Entering the Reserve with net held idly at knee height, after barely half a dozen strides a downward glance revealed *D. graminum* resting inside the net. Using the species description and photograph provided by the team leader for the purpose, the individual (a female) was duly identified on site and confirmed as such by the rest of the team. Despite an extensive search, no further specimens were discovered. This was ascribed to the site visit occurring towards the end of the species' flight period.

This was a somewhat fortuitous discovery, which has nevertheless re-confirmed the presence of *D. graminum* at Bradlaugh Fields. Scheduling a return visit during the peak flight period should reveal more individuals, enabling behavioural observations to be undertaken and hopefully making additions to the sparse ecological knowledge of this UKBAP priority species. This will be an interesting task for 2010 – **JOLYON ALDERMAN**, School of Applied Sciences, Environmental Sciences, The University of Northampton, Park Campus, Boughton Green Road, Northampton, NN2 7AL

Some new records of saproxylic Brachycera for Wetland Kerkini, northern Greece (Diptera: Megamerinidae, Strongylophthalmyiidae, Xylomyidae and Xylophagidae)

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Summary

A report on the faunal and ecological distribution of some Brachycera of the Greek National Park associated with Lake Kerkini, known as Wetland Kerkini, is presented. The national park is the largest in Greece and includes a wide variety of habitats. From the areas sampled I recorded six species from five genera, all of which are newly recorded for Greece: *Megamerina dolium* (Fabricius, 1805), *Strongylophthalmyia ustulata* (Zetterstedt, 1847), *Solva marginata* (Meigen, 1804), *Solva varia* (Meigen, 1820), *Xylomya maculata* (Meigen, 1804) and *Xylophagus ater* (Meigen, 1804).

Introduction

Greece is one of the least entomologically surveyed countries in the whole of Europe. For this reason it was decided in August of 2003 to undertake a biodiversity assessment of the nature reserve associated with Lake Kerkini and known as Wetland Kerkini (Fig. 1) in as far as such a project could be carried out on a voluntary and unfunded basis.

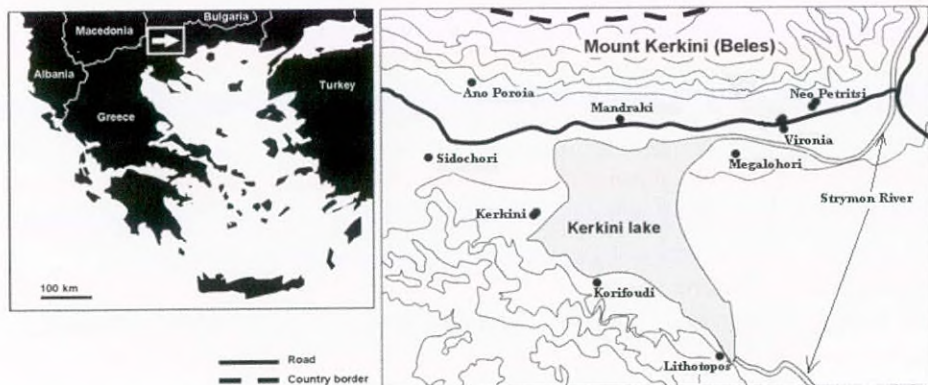


Fig. 1. The Geographical position of Wetland Kerkini within Greece.

It was obvious from the start that recording the diversity of the invertebrates, and within them the hexapods, would comprise the bulk of the work. The survey work, called Project Kerkini, has so far involved the assistance of more than 100 scientists in 17 countries around the World and the organisers are extremely grateful for all the help that has been freely offered.

As far as I know no systematic survey of any national park has ever been attempted in Greece and this is the first time that Malaise traps have been used on a large scale for

sampling purposes in the mainland of Greece.

Study Area

Lake Kerkini is an artificial lake, created in 1932 on the Strymon River immediately south of the Greek border with Bulgaria and 80 km north of Thessaloniki. The area was originally an inland delta, a huge marsh where the river unloaded the debris it had collected on its journey past the Ryla and Pirin mountains of Bulgaria, and as a wetland habitat it was unique in Europe. The area is currently a RAMSAR and NATURA2000 site as well as a Wetland of International Importance for birds.

To the north the lake is bounded by the 2000 metre Serbo-Macedonian massif (Kerkini Mts) which forms the border with Bulgaria but which is split by the narrow Ruppel Gorge through which the river enters Greece. To the south-west the lake is bordered by the 1000 metre Mavrovouni Mts. The nature reserve includes parts of both of these mountain ranges, extending to the summit of the Kerkini Mts, all of the riverine habitat between the border and the lake, about 20 km, and has a total area of about 200 square km. The vegetation of the area is classified as para-Mediterranean and mountainous Mediterranean.

Methods

Although a variety of sampling methods were used throughout the survey all the specimens recorded in this report were collected using a variety of Malaise traps, or similar flight interception traps. Descriptions of all the trap sites along with GPS co-ordinates and vegetation records have been published on the Diptera.info website (Ramel 2009). All the specimens mentioned in this report have been deposited with the NHM in London.

Xylophagidae

This is a small family, normally associated with forested habitats and comprising one genus and five species in Europe (Oosterbroek 2006). According to the Fauna Europaea database (Rozkošný 2004) none have been recorded from Greece before. One species, *Xylophagus ater* (Meigen, 1804) was recorded from two sites and three dates during this survey. Six individuals were recorded of which five were male and one female. Both sites were montane sites, Beabies 1150m with *Fagus sylvatica* and *Abies alba* as the dominant tree species and Sultanitsa 1485m with *Fagus sylvatica* as the dominant tree species.

Xylophagus ater (Meigen, 1804)

Site Name	Trap type	Altitude	Trapping Date	Male	Female
Beabies	Malaise	1150	25.v – 1.vi 2008	1	0
Sultanitsa	Malaise	1485	25.v – 1.vi 2008	2	1
Sultanitsa	Malaise	1485	16.vi – 22.vi 2008	2	0
			Total	5	1

Xylomyidae

This is a small family, normally associated with forested habitats and comprising two genera and eight species in Europe (Oosterbroek 2006). According to the Fauna Europaea database (Rozkošný 2004) none have been recorded from Greece before. Three species, from two genera (*Solva marginata* (Meigen, 1804), *Solva varia* (Meigen, 1820) and *Xylomya maculata* (Meigen, 1804)) were recorded from nine sites and 19 dates during this survey. A total of 1110 individuals were recorded of which 1105 were *S. marginata*. Sites ranged in altitude

from 35 to 1485 metres a.s.l. The highest single catch of *S. marginata* was from the Timber Yard site; a trap was only run here for one week. The timber yard was primarily involved in cutting commercially grown poplar (*Populus nigra* x *P. canadensis* hybrids, mostly varieties i214 and i267) into planks. Freshly cut timber was stored there until dried, and sawdust and shavings accumulated for years without being removed. Aside from this highly anthropogenic site the unlogged wet riverine forest of the Procom site (with *Populus alba*, *Juglans regia* and *Corylus avellana* as the dominant tree species) produced most of the records of *S. marginata*. *Solva varia* was recorded from two sites and two dates and *X. maculata* from one site and three dates. The dominant tree species at the Pumping station site was commercially grown poplar (as above), and willow *Salix* sp. The Ramna site was beside a stream in a mixed deciduous forest. The dominant nearby tree species were *Alnus glutinosa* and *Platanus orientalis*; other prominent species included *Carpinus betulus*, *Acer campestre* and *Acer platanoides*.

Solva marginata (Meigen, 1804)

Trap Site	Trap Type	Altitude	Trapping Date	Count
Pumping St.	Malaise	35	2.v – 8.v 2007	1
Pumping St.	Malaise	35	9.v – 15.v 2007	3
Pumping St.	Malaise	35	16.v – 22.v 2007	2
Pumping St.	Malaise	35	23.v – 29.v 2007	1
Kerkini Marsh	Malaise	42	18.iv – 24.iv 2007	1
Timber Yard	Malaise	42	23.v – 29.v 2007	279
Procom	Malaise	60	30.iv – 5.v 2008	2
Procom	Malaise	60	23.v – 29.v 2007	93
Procom	Malaise	60	30.v – 5.vi 2007	143
Procom	Malaise	60	6.vi – 12.vi 2007	50
Procom	Malaise	60	13.vi – 19.vi 2007	51
Procom	Malaise	60	20.vi – 26.vi 2007	70
Procom	Malaise	60	27.vi – 3.vii 2007	111
Procom	Malaise	60	4.vii – 10.vii 2007	76
Procom	Malaise	60	11.vii – 17.vii 2007	63
Procom	Malaise	60	18.vii – 24.vii 2007	51
Procom	Malaise	60	25.vii – 31.vii 2007	59
Procom	Malaise	60	1.viii – 7.viii 2007	29
Procom	Malaise	60	8.viii – 14.viii 2007	9
Procom	Malaise	60	15.viii – 21.viii 2007	3
Procom	Malaise	60	22.viii – 28.viii 2007	1
Ecotourism	Malaise	65	16.v – 22.v 2007	1
Krousia	Malaise	190	30.v – 6.vi 2007	1
Ramna	Malaise	630	14.vii – 20.vii 2008	1
Farfara	Malaise	750	30.vi – 6.vii 2008	1

Farfara	Malaise	750	7.vii – 13.vii 2008	1
Farfara	Malaise	750	14.vii – 20.vii 2008	1
Sultanitsa	Malaise	1485	16.vi – 22.vi 2008	1
Total				1105

Solva varia (Meigen, 1820)

Trap Site	Trap Type	Altitude	Trapping Date	Count
Pumping St.	Malaise	35	2.v – 8.v 2007	1
Procom	Malaise	60	30.iv – 6.v 2008	1
Total				2

Xylomya maculata (Meigen, 1804)

Trap Site	Trap Type	Altitude	Trapping Date	Count
Ramna	Malaise	630	23.vi – 29.vi 2008	1 male
Ramna	Malaise	630	30.vi – 6.vii 2008	1 male
Ramna	Malaise	630	14.vii – 20.vii 2008	1 male
Total				3

Megamerinidae

This is a monotypic but widespread family in Europe (Oosterbroek 2006). According to the Fauna Europaea database (Ozerov 2004) it has not been recorded from Greece before; *Megamerina dolium* (Fabricius, 1805) is therefore a new record for Greece. A total of 52 individuals were recorded from one site, Procom, on 11 dates. Of the 52 individuals collected, 35 were male and 17 female.

Megamerina dolium (Fabricius, 1805)

Site	Altitude	Trapping Date	Male	Female
Procom	60	5.v – 11.v 2008	0	1
Procom	60	23.v – 29.v 2007	8	4
Procom	60	30.v – 5.vi 2007	8	2
Procom	60	6.vi – 12.vi 2007	5	1
Procom	60	13.vi – 19.vi 2007	3	2
Procom	60	27.vi – 3.vii 2007	3	2
Procom	60	4.vii – 10.vii 2007	2	0
Procom	60	11.vii – 17.vii 2007	1	2
Procom	60	25.vii – 31.vii 2007	0	1
Procom	60	1.viii – 7.viii 2007	4	1
Procom	60	8.viii – 14.viii 2007	1	1
Totals			35	17

Strongylophthalmyiidae

This is a small family, normally associated with forested habitats and comprising one genus and two species in Europe (Oosterbroek 2006). According to the Fauna Europaea database (Pape 2004) none have been recorded from Greece before. One female specimen of *Strongylophthalmyia ustulata* (Zetterstedt, 1847) was recorded during this survey.

Strongylophthalmyia ustulata (Zetterstedt, 1847)

Trapping Site	Altitude	Trapping Date	Male	Female
Procom	60	8.viii – 14.viii 2007	0	1

Discussion

Even though all six species reported here are newly recorded for Greece, this is not unexpected. Their previous unrecorded state is most likely a result of lack of data arising out of the paucity of recording that has been carried out in Greece, more than the result of any change in their current distribution.

Acknowledgements

I would like to thank Theodoros Naziridis of the Management Authority of Wetland Kerkini for facilitating this survey both legally and materially and Yannis Kalagoroudis of An.E.Ser. for supplying me with the microscope required for this work. I would also like to thank Paul Beuk of the Maastricht Natural History Museum and Diptera.info for reading through this paper and for making online keys available through the Online-keys.net web portal (<http://www.online-keys.net>).

References

- Beuk, P. 2008. Key to some European species of Xylomyiidae, http://www.online-keys.net/infusions/keys/keys_view.php?key_no=10 (consulted 30 September 2009)
- Kahanppää, J. 2006. Key to European *Strongylophthalmyia* (Strongylophthalmyiidae). <http://www.elisanet.fi/jere.kahanpaa/diptera/strongyl/> (consulted 30 September 2009)
- Kahanppää, J. 2006. The European species of *Xylophagus* (Diptera: Xylophagidae), http://www.online-keys.net/infusions/keys/keys_view.php?key_no=3 (consulted 30 September 2009)
- Oosterbroek, P. 2006. *The European Families of the Diptera. Identification, diagnosis, biology*. 205 pp. KNNV Publishing. Utrecht.
- Ozerov, A.L. 2004. Megamerinidae. In Pape, T. (Ed.) Fauna Europaea: Diptera, Brachycera. Fauna Europaea version 1.1, <http://www.faunaeur.org> (consulted 30 September 2009)
- Pape, T. 2004. Fauna Europaea: Diptera, Brachycera: Strongylophthalmyiidae. Fauna Europaea version 1.1, <http://www.faunaeur.org> (consulted 30 September 2009)
- Ramel, G. 2009. Wetland Kerkini Survey: Trap summary 01; Malaise traps, http://www.diptera.info/downloads.php?cat_id=18&download_id=116 (consulted 30 September 2009)
- Rozkošný, R. 2004. Xylomyiidae, Xylophagidae. In Pape, T. (Ed.) Fauna Europaea: Diptera, Brachycera. Fauna Europaea version 1.1, <http://www.faunaeur.org> (consulted 30 September 2009)

Larvae of *Borophaga femorata* (Meigen, 1830) (Diptera, Phoridae) in larval columns of *Sciara militaris* in west Scotland in 2009 –

Moving columns of larvae of *Sciara militaris* Nowicki (Sciaridae) appeared in 2009 at the usual site near Kilmelford, Argyll, for a fourth successive summer. The first column was noted on 12 July and the last on 4 August. Numbers of columns and of larvae were considerably lower than in 2008 (for previous occurrences at this site, see Craik, J.C.A. and van der Kraan, A. 2009. Armyworms (Diptera: Sciaridae) at Kilmelford, Argyll, in 2008. *Entomologist's Record and Journal of Variation* **121**, 183-191 and references therein).

On 17 July, a very few maggot-like larvae were seen singly here and there in some of the moving columns. They were an opaque white colour that was conspicuous against the almost translucent light grey of the much more numerous sciarid larvae that surrounded them. It was not clear whether they were moving independently or being carried along by the continuous movements of the latter.

On 22 July, two of these larvae were collected. They were kept in a small tightly-stoppered glass tube that was placed indoors at normal room temperature. Within about two days they had pupated and, on 27 August, two small flies emerged. These were sent to Peter Chandler, who identified them as females of *Borophaga femorata* (Meigen, 1830) (Diptera, Phoridae).

The family Phoridae are often known as "scuttle flies" because the adults run around rapidly on foliage. Many are parasitoids of other Diptera; for example, *Peromitra incrassata* (Meigen, 1830) is known to parasitise soil-dwelling larvae of the family Bibionidae. *Peromitra* is treated as a subgenus of *Borophaga* by some specialists and was regarded as synonymous with it in the 1998 British checklist. Little appears to be known about the larvae of *B. femorata* (Disney, R.H.L. 1994. *Scuttle Flies: The Phoridae*. 467 pp. Chapman & Hall, London). Adults of this species were among those obtained in emergence traps attached to trunks and branches of woodland trees (Büchs, W. 1983. Jahresperiodische Aktivität und Wechselbeziehungen von Arthropoden aus der Stammregion eines Hartholzauenwaldes (Fraxino-Ulmelum). *Verhandlungen der deutschen Zoologischen Gesellschaft* **1983**, 210; Büchs, W. 1988. *Stamm- und Rinden-zöonosen verschiedener Baumarten des Hartholzauenwaldes und ihr Indikatorwert für die Früherkennung von Baumschäden*. Bonn: Rheinische Friederich-Wilhelms-Universität; Ph.D. Thesis).

The nature of the relationship between *B. femorata* and *S. militaris* remains unknown.

I am most grateful to Peter Chandler for identifying the adult flies, and to both Henry Disney and Peter Chandler for all the above information on Phoridae – **CLIVE CRAIK**, Grendon, Barcaldine, Oban, Argyll PA37 1SG

Sciara militaris Nowicki (Diptera, Sciaridae), a probable occurrence in northern England –

The occurrence of *Sciara militaris* Nowicki in Britain was first reported in 2005 (Craik, J.C. *et al.* Long columns of 'army worms' in west Scotland – the first record of *Sciara militaris* Nowicki (Diptera, Sciaridae) in the British Isles. *Dipterists Digest (Second Series)* **12**, 21-27).

In August, 2009 I received an enquiry from Mr Graham Gill, Forest Management Director, North-East England Region, Forestry Commission. Two ladies, Mrs Betty Doyle and Mrs Sue Moorhouse, had been walking in Redesdale Forest near Byrness Village (NT767025; V.C. 67, South Northumberland) in the week commencing 27 July 2009 and had

come across a column about 30cm long, of larvae crossing the forest road. Mrs Doyle observed another column on the following day, this time about 1 metre long. Photographs were taken and these were attached to Mr Gill's e-mail, showing a strong resemblance to the columns of *S. militaris* that have been recorded in Scotland.

I passed the enquiry to Peter Chandler who informed me that these larvae were most likely to be *Sciara militaris*, which would constitute the first record of the species for England. However, as some other species of Sciaridae have been recorded as forming larval columns overseas, examination of reared adults would be necessary to confirm their identity. Collection of larvae for rearing should be a priority if there is any recurrence in Northumberland to enable confirmation to be achieved.

It is assumed that the occurrences in the west of Scotland have been due to recent introduction with young trees of continental origin. As far as can be ascertained there has been no recent planting in the vicinity of the discovery in Northumberland, so it is uncertain if this represents a separate introduction or is the result of natural spread of the species from other areas in this country.

We are obliged to Mr Gill for his enquiry and to the ladies for drawing attention to this occurrence – **ROY CROSSLEY**, 1 The Cloisters, Wilberfoss, York YO41 5RF

First record from a parakeet of *Ornithomyia avicularia* (Linnaeus, 1758) (Diptera, Hippoboscidae) – On 2 July 2009 I was catching Rose-ringed (Ring-necked) Parakeets *Psittacula krameri* (Scopoli, 1769) (Psittacidae) in my garden in Heston, West London (TQ1277, V.C. 21, Middlesex). As I was ringing a young bird (number EW70630) a flat-fly left the body and was captured.

This was identified as *Ornithomyia avicularia* (Linnaeus, 1758) by Peter Chandler and appears to be a new record from this bird family. Carl Dick of the Field Museum, Chicago commented that this was not, however, unexpected. He added that, based on T.C. Maa's work, *O. avicularia* is not known from any of the Psittacidae, but it is known to be widely polyxenous, having been taken from 10 orders, 23 families, and 65 genera of birds.

Psittacula krameri is popular as a cage/aviary bird and there has been a feral population in west London since the 1960s. Breeding has been recorded since 1980, birds often enlarging holes used by Green Woodpecker *Picus viridis* and Starling *Sturnus vulgaris*, thereby providing an easy transfer for this mobile fly which is common on many British Isles bird species. In 2009 the first fledged parakeets were seen on 9 June and this is the first fly noted from 160 parakeets ringed in the garden since 2006 – **DAVID G. HARRIS**, 22 Blossom Waye, Hounslow, TW5 9HD, daveharris@tinyonline.co.uk

Corrections and changes to the Diptera Checklist (22) – Editor

It is intended to publish here any corrections to the text of the latest Diptera checklist (publication date was 13 November 1998; the final 'cut-off' date for included information was 17 June 1998) and to draw attention to any subsequent changes. All readers are therefore asked to inform me of any errors or changes and I would like to thank all those who have already brought these to my attention. Changes are listed under families; names new to the British Isles list are in bold type. The notes below refer to loss of no species due to synonymy and addition of 5 species, resulting in a new total of **7014** species.

Keroplatidae. The following changes result from J. KJÆRANDSEN, S. MARTINSEN, K. HEDMARK and N.L. EVENHUIS (2009). On the genus *Urytalpa* Edwards (Diptera: Keroplatidae) in the Nordic and Nearctic Regions, with the fixation of a new type species and a key to world males. *Zootaxa* **2160**, 29-50):

Orfelia ochracea (Meigen, 1818 - *Platyura*) = *O. unicolor* (Staeger, 1840)

Urytalpa dorsalis (Staeger, 1840 - *Platyura*) = *U. ochracea*: authors, not Meigen 1818

Culicidae. J.F. REINERT, R.E. HARBACH and I.J. KITCHING (2006. Phylogeny and classification of *Finlaya* and allied taxa (Diptera: Culicidae: Aedini) based on morphological data from all life stages. *Zoological Journal of the Linnean Society* **148**(1), 1-101) proposed the new genus DAHLIANA Reinert, Harbach & Kitching, 2007 for *Aedes geniculatus*:

Dahlia geniculata (Olivier, 1791 – *Culex*)

The following species is added in the present issue:

Aedes (Aedes) geminus Peus, 1970

Empididae. The following species was described by I.V. SHAMSHEV and B.J. SINCLAIR (2009. Revision of the *Iteaphila setosa* group (Diptera: Empididae). *European Journal of Entomology* **106**, 441-450). This species was included in the checklist under the generic name only, so was already counted in the total of species recorded from the British Isles:

Iteaphila arundela Shamshev & Sinclair, 2009

Agromyzidae. The following species is added in the present issue:

Phytomyza astraintiae Hendel, 1924

Ephydriidae. The following species was added by W.N. MATHIS, T. ZATWARNICKI and H. KUBÁTOVÁ-HIRŠOVÁ (2009. A revision of the shore-fly genus *Philotelma* Becker (Diptera: Ephydriidae). *Insect Systematics & Evolution* **40**, 121-158), based on material collected by G.H. Verrall and without stating that it was a new national record:

Philotelma rossii (Canzoneri & Meneghini, 1979 – *Scatella*)

Tachinidae. The following species are added in the present issue:

Cylindromyia (Neocytera) auriceps (Meigen, 1824 – *Ocytera*)

Leucostoma anthracinum (Meigen, 1824 – *Tachina*)

Changes to the Irish Diptera List (12) – Editor

This section appears as necessary to keep up to date the initial update of the Irish list in Vol. **10**, 135-146 and the recent checklist of Irish Diptera (Chandler *et al.* 2008). Species are listed under families, but with references listed separately. The addition cited below brings the total Irish list to **3315** species.

Chloropidae

Lipara lucens Meigen, 1830 (added by Ronayne and O'Connor 2009)

References

Ronayne, C. and O'Connor, J.P. 2009. *Lipara lucens* Meigen (Dipt., Chloropidae), a first confirmed Irish record and an earlier unconfirmed record. *Entomologist's monthly Magazine* **143**, 210.

Pearce's photographs in *Typical Flies*

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Summary

It has been overlooked that an early photographic identification guide to flies (Diptera) contains valuable historic pictures of the condition of sites for rare flies in east Dorset, together with some useful information in captions and maps. This is so for the bee-flies *Villa venusta* (Meigen) (as *Anthrax circumdatus*) (now extinct in Britain), *Bombylius minor* Linnaeus and *Thyridanthrax fenestratus* (Fallén), the horsefly *Chrysops sepulcralis* (Fabricius) and the robberfly *Asilus crabroniformis* Linnaeus. For the extinct *Villa* this is the first visual evidence known to the author of habitat condition when it was extant. The ecology and conservation management of the other (still extant) species are matters of current concern. Records of a number of other interesting flies are collated.

Introduction

Anyone setting out to study flies in the early decades of the 20th century would have regarded Pearce's slim books of black and white photographs of representative flies as an essential guide.

Verrall had just about sorted out the chaos surrounding the British list and having revised crane-flies in some detail, he published his epic monographs on British Hoverflies (1901) and British Soldierflies etc. (1909). In 1906, Wingate produced a key covering all families and most species of flies then known in Britain, a remarkable undertaking, but there were no illustrations. Thus it would have been a revelation in 1915 when Ethel K. Pearce first published photographs showing examples of flies from various families. She went on to publish two further sets of photographs, in 1921 and 1928. It was not until 1951 that *British Flies* by Charles Colyer and Cyril Hammond appeared, with colour and black and white plates accompanying their review family by family. The latter book did not even mention Pearce's illustrations, perhaps because they were out of print and difficult to obtain. Hence when I started to look at flies in the mid 1950s I was unaware of Pearce's photographs which would have been a very useful supplement to the relatively few whole flies depicted by Cyril Hammond.

Per chance I recently found myself glancing through Pearce's volumes and realised that here was an important historic source about localities and ecology that I had overlooked, especially for some of the rare heathland flies occurring near Wareham, East Dorset. Some remarkably good sketch maps are included: grid references have been devised though some latitude in accuracy is required. The latest nomenclature is used here, with the names used by Pearce indicated where they differ.

Villa venusta (Meigen) (as *Anthrax circumdatus*) (Bombyliidae) (Fig. 1)

This bee-fly is now considered extinct in Britain, having last been recorded at Wareham Heath, Dorset, in the late 1950s. Pearce (1915, Fig. 36a) (Fig. 3 of the present paper) has a photograph of Wareham Heath, apparently of the Old Decoy Pond (as Decoy Pond on map in Fig. 7), as habitat for *Haematopota pluvialis* (Linnaeus), close to the bog/heath transition referred to below as a *Villa* location.

More significant is a photograph (1921, Fig. 48) captioned 'Habitat of *Anthrax circumdatus*, Wareham Heath', thus solving the mystery as to the appearance of the habitat

supporting this fly (Fig. 2 of the present paper). Black and white can be difficult to interpret but the whitish sheen on much of the ground layer suggests that grass heath was dominant, apparently with some heather. There is no sign of sandy tracks but in the same volume the caption to Figs 46 and 47 (a female and male) (Fig. 1 of the present paper) says 'Taken in numbers on bare paths, Wareham Heath by N.D.F. Pearce and E.K. Pearce August 1917, 1918'. This caption also says that the species is parasitic in the nests of bees (*Megachile* and *Anthophora*), citing Westwood on Insects (Vol. II, p. 544).

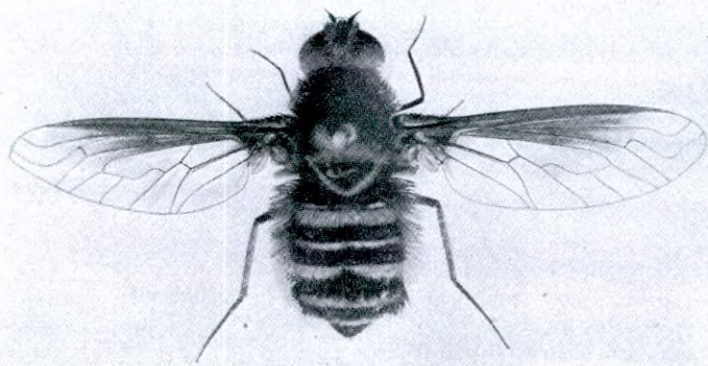


Fig. 46. ♀.



Fig. 47. ♂.

Fig. 1. *Typical Flies* 1921, Figs 46 and 47. *Villa venusta* (Meigen), female above and male below (as *Anthrax circumdatus*).

The 1928 publication displays (Fig. 39b) a sketch map by Rev. O. Pickard-Cambridge of part of Bloxworth Heath which marks four exact locations where *Villa venusta* was found, within areas annotated 'Heath & Furze' (furze = gorse, *Ulex europaeus*): interpreted as SY87359375, SY87609370, SY87409355, SY87559320. Fig. 48 (1928) (Fig. 7 of the present

paper) displays a sketch map of Morden Heath by the author which gives just one location for *Villa* in 1917-18, at the heath/bog boundary on Decoy Heath, possibly 250m south of the smaller decoy pond at SY914910 (note in 1915 this area was referred to as Wareham Heath). Fig. 50 (1928) (Fig. 8 of the present paper) is a photograph of Wareham Heath Bog, a location for *Villa*, the foreground being either grass (*Molinia*) or rushes (*Juncus*); within perhaps 3m the slightly higher ground appears to have heather, and more than 100m away a hillock has extensive patches of bare ground, presumably accompanied by heather.

Under Fig. 153 (1928), it is stated that F.C. Adams took *V. venusta* on flowers of hogweed *Heracleum sphondylium* and *Angelica sylvestris* at Matley in the New Forest in July 1899 and also at White Meadow, close to his house Fern Cottage (on the south edge of Lyndhurst).



Fig. 2. *Typical Flies* 1921, Fig. 48. Original caption: Habitat of *Anthrax circumdatus*, Wareham Heath.



Fig. 3. *Typical Flies* 1915, Fig. 36A. Wareham Heath.

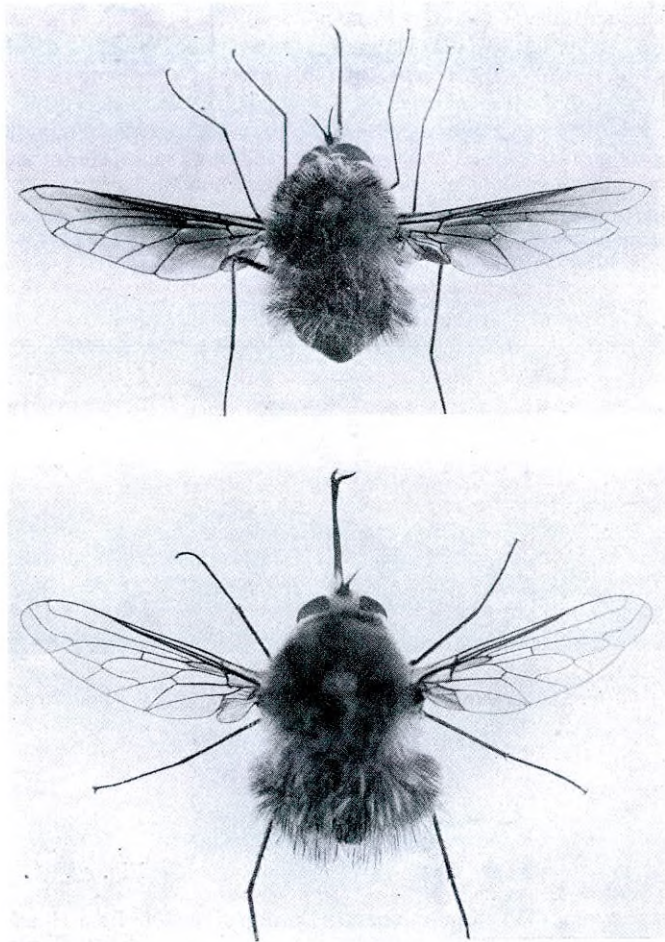


Fig. 4. Typical Flies 1928, Fig. 153. *Bombylius minor* Linnaeus: male above, female below.

***Bombylius minor* Linnaeus (Bombyliidae) (Fig. 4)**

Pearce's photographs (1921, Figs 49-50) are of adults from Morden Heath where they were hovering over heather and ditches, probably coincident with a bee host, and also seen hunting along banks, evidently for the purpose of oviposition. The map (1928, Fig. 48) (Fig. 7 of the present paper) marks two locations for this fly along the road north of Wareham (the boundary between Decoy Heath and Gore Heath), interpreted as SY91909195 and SY92159095 (the location of a car park on recent maps).

Thyridanthrax fenestratus (Fallén) (Bombyliidae) (Fig. 5)

There is nothing said about the national status of this species. However, it was sufficiently worthy to mark on a map of the heathland north of Wareham (1928, Fig. 48) (Fig. 7 of the present paper). Notably, only one location is given, by the road north of Wareham, interpreted as SY918009185. Either the dates of survey were out of peak or the species was even then rare in this district (now regarded as possibly extinct in Dorset).

In 1928 (Fig. 153) Dr Haines (who lived in Dorset) is cited as saying that most specimens were males; the female was rarely taken. Ethel Pearce commented that they generally bask on hot sandy paths and roads near bogs (Morden Park Lake upper bridge; Matley Bog, New Forest in a sand pit) and added that she saw 12 on the sandy road near Sherford Bridge (Wareham and Morden Heath), of which 6 or 7 taken were all apparently males; the late Mr Adams had found "a colony on Umbelliferae" (Apiaceae) in the New Forest.



Fig. 5. Typical Flies 1928, Fig. 153. *Thyridanthrax fenestratus* (Fallén), male above, female below.

Chrysops sepulcralis (Fabricius) (Tabanidae) (Fig. 6)

A specimen from Bloxworth Heath was illustrated in 1915. The boggy habitat of *C. sepulcralis* had not then been located on Wareham Heath, but was first discovered during 1915 (Pearce 1916, 1932) and the 1921 publication featured this discovery. Solitary or sparse males were found on grass or rushes in bogs, and were observed to have very fast movement. Females occurred in swarms and alighted on people (no reference to biting). These flies were said to be abundant in certain marshy localities near Wareham. On Morden Heath 140 females were taken in 2-3 hours; this evidently refers to the 1915 find, July 1917-1918 in the caption (Fig. 6 below) referring to the catches of males mentioned.

One photograph (1928, Fig. 51) shows the path on Morden Bog where so many females were reported in 1915 (see above), while Fig. 50 (Fig. 8 of the present paper) is of Wareham Heath Bog, as referred to under *Villa*. The sketch map of record locations north of Wareham (1928, Fig. 48) (Fig. 7 of the present paper) shows that the horsefly was taken well south of the smaller decoy pond; with an emphasis on a path and causeway, the location would appear to be at SY92008925 where a footpath over a now straightened stream is shown on modern maps. Another photograph (1928, Fig. 154) (Fig. 11 of the present paper) depicts Wareham Bog in winter, at the foot of Great Ovens, which is at SY927904, but without indicating on which side.

Bloxworth Heath was a source of *C. sepulcralis*, though the exact location is ambiguous. A map of part (1928, Fig. 39b) had been compiled and passed to Ethel Pearce in 1911 by Rev. Octavius Pickard-Cambridge, rector of Bloxworth and arachnologist, who according to Verrall (1909) had estimated in 1904 that he had taken 20 of this species in the previous 30-40 years; this was confirmed by him when the map had been given to her. Ponds are shown at SY87359335 and SY87309325, a bog at SY87509335 and a neighbouring stream that is still evident on modern maps.



Fig. 41. ♂.



Fig. 43. ♀.

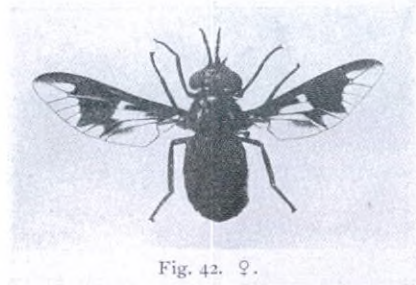


Fig. 42. ♀.

Figs. 41, 42, 43. *Chrysops sepulcralis* F. In these flies the ♀ vary in length from 6 mm. to 8 mm. In case of ♂ solitary or sparse, found on grass or rush in bogs, and very swift in movement. In case of ♀ in swarms, and alighting on people. Abundant in certain marshy localities near Wareham, Dorset. On Morden Heath, in three days of two or three hours, 140 were taken, all ♀. The ♂ were taken in twos or threes, July 1917, 1918, mainly in swamps. ♂ 7 × 15 mm. In ♀ spread of wings 13 to 16 mm.

Fig. 6. Typical Flies 1921, Figs 41-43, including original caption. *Chrysops sepulcralis* (Fabricius)

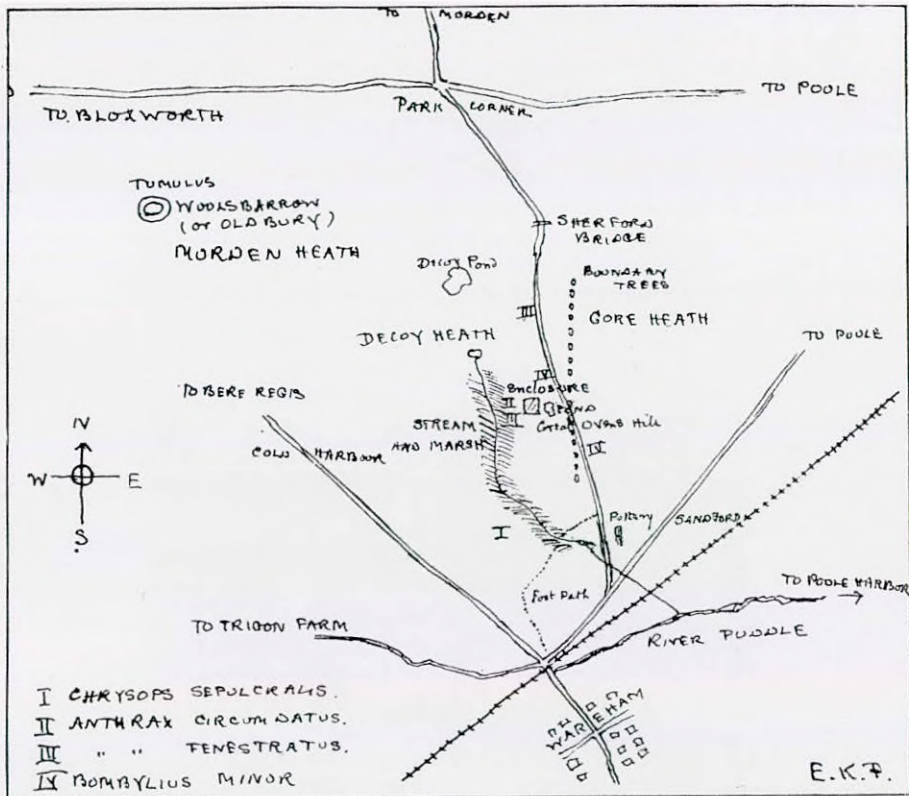


Fig. 48. Map showing areas of *Diptera* (in Dorset, near Wareham); as given on its margin, these are generally found on special oases; with wide heath areas destitute of specimens. I. also found, to right of bog, vii. viii. 1917, 1918.

Fig. 7. Typical Flies 1928, Fig. 48, including original caption.

Asilus crabroniformis Linnaeus (Asilidae)

A view along Wareham Road (1915, Fig. 64a), with heath either side, is labelled as habitat for this robberfly. Fig 64b displays a huge bare patch of sand near Wareham (a now lost landform on this scale), annotated as favourite habitat for this species. Perhaps the robberfly did come to this situation to sunbathe, but the dung it requires would presumably have been deposited on neighbouring heath or fields.

Comments on above Wareham and Bloxworth records

Both these heaths were accessible from Wareham Station, though the Bloxworth site was a long trek from here or from Wool Station; the Bloxworth information was supplied by Pickard-Cambridge so Ethel Pearce may not have visited the site. There were vast areas of open heath and bog in this area, including patches of pines and other trees and scrub. The area was too large to be investigated fully before being planted with pines, as well as being subject to natural spread from planted trees.

The part of Bloxworth Heath discussed above became afforested, as did a great tract running east to Morden Heath. Current Ordnance Survey maps show headwater streams that suggest there were major bogs and boggy streams, such as south and west of Woolbarrow Hill Fort. Ditching and drainage for forestry, and shade would be unsuitable for the above species. Huge areas of open heath, that were suitable habitat for the dry ground species, have been lost. Morden Bog NNR is a relatively small remnant compared with the situation in 1915-1928. The demise of *Villa venusta* seemingly coincides with a sequence of exceptionally poor summers in the early 1960s but the wider story is that its population and distribution in this area was much smaller than in the past, and hence more vulnerable during difficult periods.



Fig. 50. Wareham Heath Bog. The habitat of *Chrysops*, *Anthrax*, *Bombylius*. See *Typical Flies*, Series 2. Williston (U.S.A.) mentions that the larvae of *Anthrax* have been found parasitic upon *Megachile*, *Odynerus*, etc. (the arid heath regions of Dorset are so populated. E.K.P.).

Fig. 8. *Typical Flies* 1928, Fig. 50, including original caption.

A large part of Bloxworth Heath (around SY886925) has recently been cleared of conifers and the ground scarified; part has been replanted but the remainder has been allocated for heathland restoration (Chris Spilling *pers. comm.*). On Morden and Wareham Heaths there remain areas of heathland with suitable habitat for some of the species discussed here. Figs 9 and 10 show photographs taken near the Old Decoy Pond at SY913916, in November 2009 by Chris Spilling. Fig. 9 is looking towards the Old Decoy Pond from the south and part of Morden Heath is visible in the background. Fig. 10 is looking towards the western side of the pond and shows some afforestation to the west. These are considered to show the same general area as in Fig. 3 above.

The area near Great Ovens Hill, shown with winter flooding in Fig. 11, was also visited by Chris Spilling in November 2009 and is the subject of Figs 12-13, taken at SY922905. These show the pond at the foot of Great Ovens on its western side and were taken looking south. In Fig. 12 the area behind the pond is mainly *Molinia* heath, while the area in front comprises *Calluna*, *Molinia* tussocks and some gorse *Ulex europaeus*. Fig. 13 includes more of the foreground to show that flooding has begun among the *Molinia* tussocks.



Fig. 9. Wareham Heath, looking north towards the Old Decoy Pond, in November 2009.



Fig. 10. Wareham Heath, looking north towards the western side of the Old Decoy Pond, in November 2009.



Fig. 154. Wareham Bog in winter, the summer haunt of rare flies : foot of Great Ovens. (Photograph, J. Pearce.)

Fig. 11. Typical Flies 1928, Fig. 154, including original caption.

Other species

Locality details and interesting comment do not accompany all photographs, but often there is information on other records and observations apart from those relating to the specimens shown. Below are some selected records of note, with locality data as stated in the books. Comments are in square brackets. Additional information on some records has been obtained by examination of the specimens photographed where they are present in the Pearce collection at the Oxford University Museum of Natural History (Peter Chandler *pers. comm.*).

Tanyptera atrata (Linnaeus) (as *Xiphura atrata*) (Tipulidae). 1928, Fig. 149. Glemmorew [evidently a typographical error as the locality name appears on the label as Ganarew, no date or collector; the site is near the River Wye in Herefordshire (SD5316)].

T. nigricornis (Meigen) (Tipulidae) (as *Xiphura nigricornis*). 1921, Fig. 28. Hut Wood, New Forest, Hampshire.

Tipula confusa van der Wulp (Tipulidae). 1928, Fig. 16. Commonly found breeding on moss on the Roman Wall, Colchester, Essex, coll. Harwood. [The reference to windows of a house at Blairgowrie, ix.1921, will refer to a record by A.E.J. Carter].

Haematopota grandis Meigen, 1830 (as *H. italica* Meigen) (Tabanidae). 1915, Fig. 38. Mersea Island and St. Osyth, both Essex. The specimen illustrated was from Alresford, Essex. [Identification would have been doubtful but these records probably relate to *H. grandis* Meigen on present knowledge of distribution].

Aylotus fulvus (Meigen) (Tabanidae). 1915, Fig. 41. [Said to be fairly common on Essex coast; this must be an error]. 1928, Fig. 26, Park Hill, New Forest, Hampshire, coll. H. Jones; Wareham Heath, Dorset, 1917, 1918, E.K. Pearce.

Tabanus autumnalis Linnaeus (Tabanidae). 1921, Fig. 39. Photograph of Charborough Park, Dorset, as habitat for this species [not obvious from photograph].



Fig. 12. Pond on western side of Great Ovens Hill, looking south, in November 2009.



Fig. 13. Pond at foot of Great Ovens Hill, same view as in Fig. 12 but showing flooding in the foreground, in November 2009.

- T. bovinus* Linnaeus (Tabanidae). 1928, Fig. 31. Six males were taken over water, New Forest, Hampshire, vii.1921, coll. H.P. Jones.
- Odontomyia argentata* (Fabricius) (Stratiomyidae). 1928, Fig. 24. Henny, Essex, coll. Harwood, 25.iv-10.v, by sweeping and searching.
- Acrocerus orbiculus* (Fabricius) (as *A. globulus* (Panzer)) (Acroceridae). 1928, Fig. 59, an unlocalised specimen supplied by Harwood [but Chichester (Sussex) on the label]. Records cited include Glanville's Wootton, Dorset, coll. Dale; Ower Quay, Poole, coll. Haines; also reported from Corfe Castle, Dorset.
- Machimus cingulatus* (Fabricius) (as *Epitriptus cingulatus*) (Asilidae). 1928, Fig. 46. On the sandy wastes, W. Suffolk [Tuddenham on label]; also Royston Heath, Hertfordshire, coll. Harwood.
- Philonicus albiceps* (Meigen) (Asilidae). 1915, Figs 65-66. East Coast sands. A large local race is found at Yarmouth [labels indicate this to be the Norfolk locality of this name] 1921, Fig. 45. Southbourne [presumably Dorset], July 1918.
- Callicera aurata* (Rossi) (as *C. aenea* (Fabricius)) (Syrphidae). 1921, Fig. 66. New Forest, on leaves of briar rose, coll. Miss Chawner, vi.1901-2; Rhinefields, New Forest, Hampshire, six at rhododendron flowers July 1918; also at bramble and wild rose, coll. F.C. Adams.
- Criorhina berberina* (Fabricius) var. *oxyacanthae* (Meigen) (as *C. oxyacanthae*) (Syrphidae). 1915, Fig. 114. At hawthorn, raspberry and other flowers in May, Newbury, Berkshire.
- C. floccosa* (Meigen) (Syrphidae). 1921, Fig. 64. Reared from root of poplar by W. Harwood, in v.1914 [locality not stated but presumably in Essex].
- Melangyna quadrimaculata* Verrall (Syrphidae). 1921, Fig. 59. Painswick, Gloucestershire.
- Microdon mutabilis* (Linnaeus) (Syrphidae). 1921, Figs 123, 124. [These specimens, which survive in her collection, were from Grassington, Yorkshire, collected in June 1920 by H.P. Jones]. The text cites the following records: Butterfield, Yorkshire, coll. Rosse; Lymington, Hampshire, larvae in ant nests, generally of *Formica fusca*, under bark on stumps of trees long cut down, generally ash *Fraxinus* and [at] Aldridge Hill pine *Pinus*. 1928, Fig. 77. This shows a male from Roydon, New Forest, 15.v.1921, coll. Jones and a larva from Aldridge Hill enclosure, New Forest, Hampshire, 15.iv.1920, larvae in ant nests under bark and in stumps. [Only the larva is present in the collection]. [The Yorkshire records are difficult to interpret without accompanying ecological information. The species that develops in rotten wood in Britain is *M. analis* (Macquart) associated with the black ant *Lasius fuliginosus*. *Formica fusca* as a host is abnormal in Britain so voucher puparia need to be located].
- Myopa polystigma* Rondani (Conopidae). 1928, Fig. 82. On apple *Malus* blossom, Great Waldingfield, near Sudbury, Suffolk, v.1922, coll. Harwood.
- Allopiophila vulgaris* (Fallén) (as *Piophila vulgaris*) (Piophilidae). 1928, Fig. 145. Puparia in and under hard fungi thrown up by the tides, Clacton-on-Sea, Essex, coll. Harwood. [An unlikely habitat unless carrion was present].
- Ceroxys urticae* (Linnaeus) (as *Anacampta urticae*) (Ulidiidae). 1921, Fig. 86. Erith Marshes, Kent, 1906 "and in similar localities, but generally scarce", coll. H.W. Andrews.
- Dorycera graminum* (Fabricius) (Ulidiidae). 1928, Fig. 122. Regarded as a local species at the time; beaten from wych elm *Ulmus glabra* [locality not stated but the male and female illustrated, which are in her collection, are from Colchester].
- Dithryca guttularis* (Meigen) (as *Carphotricha guttularis*) (Tephritidae). 1921, Fig. 96. New Forest, Hampshire, coll. F.C. Adams. [A record of it being found by sweeping among

- Galium verum* at Copford, Essex, is not attributed to a collector but was probably from the Harwoods].
- Merzomyia westermanni* (Meigen) (as *Ictericia westermanni*) (Tephritidae). 1928, Fig. 134. Sway, New Forest, Hampshire and Isle of Wight, coll. F.C. Adams.
- Tephritis hyoscyami* (Linnaeus) (Tephritidae). 1921, Fig. 98. Taken in a patch of thistles, Bishop's Stortford, Hertfordshire, coll. P. Harwood.
- Acidia cognata* (Wiedemann) (Tephritidae). 1921, Fig. 90. Sway, New Forest, Hampshire, coll. F.C. Adams.
- Cryptaciura rotundiventris* (Fallén) (as *Aciura rotundiventris*) (Tephritidae). 1921, Fig. 89. Matley Bog, New Forest, Hampshire, on *Angelica*. [The reference to it being bred from burdock *Arctium* by Mr King and by Mr Adams must be in error].
- Trypeta zoe* Meigen (as *Spilographa zoe*) (Tephritidae). 1921, Fig. 72. Colchester, Essex. [References to larvae in decaying animal and vegetable matter or in rotten wood are erroneous, due to it having been initially cited in error as the muscid genus *Spilogaster* rather than the tephritid genus *Spilographa*, corrected in the Errata].
- Coremacera marginata* (Fabricius) (as *Limnia marginata*) (Sciomyzidae). 1921, Fig. 78. St. Osyth, Essex; Roman Road, near Cambridge, Cambridgeshire, viii.1918, both records coll. Harwood.
- Cordilura ciliata* Meigen (as *Cordylura*) (Scathophagidae). 1921, Fig. 75. Colchester, Essex.
- Dexia rustica* (Fabricius) (Tachinidae). 1928, Fig. 95. Near Peterborough, Cambridgeshire; Royston, Hertfordshire, viii.1916, coll. Harwood.
- Prosenia siberita* (Fabricius, 1775) (as *Dexia vacua* (Fallén), corrected in Errata) (Tachinidae). 1928, Fig. 96. Tuddenham, West Suffolk, coll. Harwood.
- Trixa conspersa* (Harris) (Tachinidae) (as *T. oestroidea* (Robineau-Desvoidy)). 1928, Figs 91, 92. "Wiltshire", 1915, coll. P. Harwood; Wantage, Oxfordshire, 16.vii.1907, collector not stated.
- Phasia hemiptera* (Fabricius) (as *Alophora hemiptera*) (Tachinidae). 1915, Figs 131-132. Near Matley Bog, New Forest, Hampshire; in fields on Umbelliferae (Apiaceae) at end of summer.
- Gasterophilus intestinalis* (De Geer) (as *G. equi* (Fabricius)) (Oestridae). 1915, Figs 126, 127. Great Horkelesley, Essex [collector not stated but other specimens from this locality came from the Harwoods].

Other comments on habitat photographs

Woolbarrow, Dorset. 1928, Fig. 89. [Given as habitat for *Linnaemya vulpina* (Fallén) (Tachinidae), but more significant as showing a few pines on otherwise extensive heath, now afforested].

Acknowledgements

I am grateful to Chris Spilling for taking the photographs shown in Figs. 9-10 and 12-13.

References

- Colyer, C.N. and Hammond, C. O. 1951. *Flies of the British Isles*. Warne, London.
- Pearce, E.K. 1915. *Typical flies. A photographic atlas of Diptera including Aphaniptera*. xii + 47 pp. Cambridge University Press.
- Pearce, E.K. 1916. *Chrysops sepulchralis* F., and *Anthrax fenestratus* Fln., in Dorsetshire. *Entomologist's monthly Magazine* **54**, 208.
- Pearce, E.K. 1921. *Typical flies. A photographic atlas. Series II*. xiv + 38 pp. Cambridge

University Press.

Pearce, E.K. 1928. *Typical flies. A photographic atlas of Diptera. Series III.* xv + 64 pp.

Cambridge University Press.

Pearce, E.K. 1932. *A Dipterous Oasis. Entomologist's monthly Magazine* **68**, 116-117.

Verrall, G.H. 1901. *British Flies*. Vol. VIII. *Platypozidae, Pipunculidae & Syrphidae of Great Britain*. Taylor & Francis, London.

Verrall, G.H. 1909. *British Flies*. Vol. V. *Stratiomyidae and succeeding families of the Diptera Brachycera of Great Britain*. Gurney & Johnson, London.

Wingate, W.J. 1906. *A preliminary list of Durham Diptera, with analytical tables*. Durham and Newcastle-upon-Tyne, Natural History Society of Northumberland.

***Parasetigena silvestris* (Robineau-Desvoidy, 1863) (Diptera, Tachinidae) rediscovered in Britain** —

On 18 May 2009 I found a male *Parasetigena silvestris* (Robineau-Desvoidy) on the flowers of wood spurge *Euphorbia amygdaloides* at Crab Wood, near Winchester (SU439299, V.C. 11, South Hampshire). Subsequent visits, on 20 May and 22 May 2009, each resulted in the capture of a further male, also on *E. amygdaloides*. Crab Wood is an ancient oak *Quercus* wood on clay with hazel coppice and has a well maintained ride system and coppicing programme.

This appears to be the first record in this country since 1936, when it was found at Ham Street Woods NNR, Kent (Falk, S. Pont, A.C. and Chandler, P.J. in preparation). There had previously been several records from the New Forest, the last made by J.E. Collin and C.J. Wainwright in the early 1930s (1934. *Journal of the Society for British Entomology* **1**(1), 17-28). In the field it looks very similar to large specimens of *Phorocera assimilis* (Fallén) and may have been overlooked because of this. On the continent it has been reared from the Black Arches *Lymantria monacha* (Linnaeus) (Lepidoptera, Lymantriidae), which is well distributed in Southern England and the Gypsy Moth *L. dispar* (Linnaeus), which is no longer resident in this country, although it is an occasional migrant and is known to have become temporarily established locally in the south-east in recent years. Thus it may also be a host in Britain for this and for *Blepharipa schineri* (Mesnil, 1939), which was interestingly present on each of the three occasions that *P. silvestris* was found; *B. schineri* has been reared frequently from *L. dispar* in mainland Europe, but has never been reared from *L. monacha*. Both species and *Blepharipa pratensis* (Meigen, 1824), another parasitoid of *L. dispar*, have been found together in large numbers in Southern Germany when there was a mass occurrence of *L. dispar* (Hans-Peter Tschorsnig *pers. comm.*). The identity of the hosts used in Britain can only be established by rearing.

In the Handbook by R. Belshaw (1993. *Handbooks for the Identification of British Insects* **10** (4a(i)), 1-169), there appears to be a problem with one of the confirmatory characters used to distinguish *P. silvestris* from *Phorocera*. In that key, *P. silvestris* was given as having 4 postsutural dorsocentral bristles, as opposed to *Phorocera* which has 3. However, my three specimens exhibit considerable variation in this respect, with one having only 3 such bristles, another has 3 on one side and 4 on the other, whilst the last has 4 on both sides. This type of variation is common in Tachinidae. All three specimens lack median discal bristles on abdominal segments 3 and 4, which is the main external character used for separating *P. silvestris* from *Phorocera*; the male and female genitalia of these genera are quite different and can be seen without preparation — **IVAN PERRY**, 27 Mill Road, Lode, Cambridge, CB25 9EN

Ethel Katharine Pearce (1856-1940) and her contribution to dipterology

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Summary

The paper by Alan Stubbs in the present issue highlighted how the early photographic work by Ethel K. Pearce, published in her three volumes of *Typical Flies* was practically unknown to recent generations of dipterists, although a paper written in 1985 by Julian Vincent had sought to redress this omission and restore knowledge of her work. The present account owes much to his extensive research and seeks to build on that assessment of her life, and her contribution and that of her brother Nigel to the study of Diptera. A list is provided in systematic order of all species illustrated in *Typical Flies* and corresponding specimens in her collection are documented.

Introduction

As Alan Stubbs has described (Stubbs 2009), the appearance of the three volumes of *Typical Flies* (Pearce 1915, 1921 and 1928), mainly comprising black and white photographs of set specimens of a wide range of Diptera, was an important step forward in British literature on this order. This had been recognised at the time by E.E. Austen of the Natural History Museum, who had written to the author on 14 December 1928 after receiving the final volume; he offered his hearty congratulations, commenting that many of the photographs, especially of the Stratiomyidae and Tabanidae, were excellent, and added that as an introduction to the Diptera he could not think of anything better or more attractive. Pearce (1915) stated in the introduction that the study of Diptera was rendered difficult by the lack of elementary works on the subject; her work did not claim to fill the gap but it was hoped that it would be of use to the beginner and that as a picture book it would appeal more to the eye than would many pages of letterpress. The importance of rendering the diagnostic character of wing venation with fidelity was stressed (Fig. 1 is an example from the 1915 volume).

The gender of the author of these works is not immediately apparent as she is always cited simply as E.K. Pearce. There are frequent references to a brother but again always by the initials N.D.F. Pearce. Their full names were Ethel Katharine Pearce and Nigel Douglas Frith Pearce, the two youngest of four children of Thomas Pearce, Vicar of Morden in Dorset.

Ethel was, however, clearly well known to contemporary dipterists who provided her with many of the specimens illustrated. She was asked to give an account of her photographic techniques, and this was published in the *Entomologist's monthly Magazine* (Pearce 1932a) with the authorship Miss E.K. Pearce.

Having established by an internet search that specimens and other effects relating to Ethel K. Pearce were held at Oxford University Museum of Natural History, a visit to study these quickly revealed that she had been extensively researched in the 1970s by Julian Vincent, then of Reading University, leading to an article about her that appeared in *Antenna* (Vincent 1985). His interest had been initiated quite fortuitously as he had in 1971 purchased from a bookshop in Reading a set of *Typical Flies* that had been annotated by the author and also contained various items of correspondence. His enquiries led to the discovery that these volumes had been given to the Hope Department at Oxford together with her collection; the conclusion was that a member of staff had borrowed them and they had then found their way

to the bookshop following his death. The museum later provided him with a new set in exchange and he generously deposited at the Hope Department library all the other documents he had gathered concerning the Pearce family.

A typed letter dated 3 November 1938 from Ethel Pearce, addressed to a Miss Pilley, which Julian Vincent found with these copies, indicated that she was then offering her collection to the museum and he published the text of this letter verbatim (Vincent 1985). Her collection is in three drawers at the end of the general British collection in the Hope Department. Specimens illustrated in the three volumes are arranged in sequence of the book plates, with some miscellaneous specimens that had not been photographed following them. Not all specimens photographed are present (see Appendix). It is possible that some went to Cambridge with Nigel Pearce's collection, which was incorporated with the general collection and a search for some relevant specimens there was negative (Russell Stebbings *pers. comm.*). There are specimens of some species (e.g. *Villa venusta* (Meigen) (Bombyliidae), *Chrysops sepulcralis* (Fabricius) (Tabanidae)) in the general collection at Oxford, but these may have been previously donated. According to the museum catalogue the photographic negatives were also deposited at Oxford but it appears likely that they no longer exist (Darren Mann *pers. comm.*).

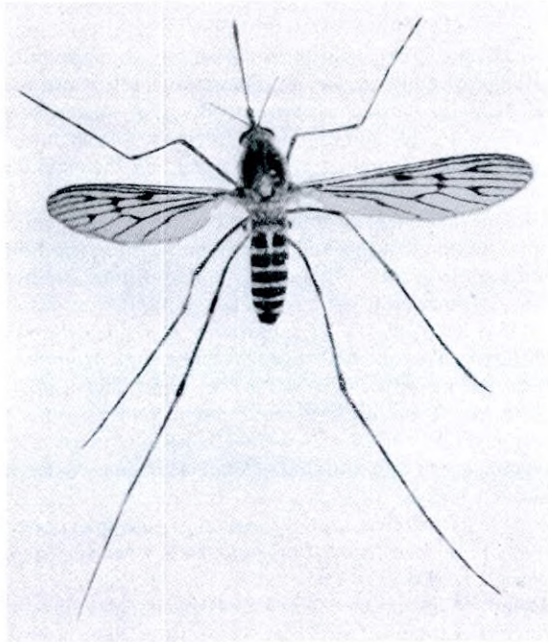


Fig. 1. *Culiseta annulata* (Schrank) (Culicidae) (*Typical Flies* 1915, Fig. 16).

The Pearce family

Ethel's father Thomas Pearce (1820 – 1885) (Fig. 2), who was vicar of Morden from 1853 to 1882 and rector of Charborough from 1871 until his death on 24 September 1885, had a strong influence on her life. Morden is a small village, surrounded by diverse countryside, situated in a chalky area but with extensive heathland to the south. Thomas was well known

for his involvement in rural sports, and contributed to *The Field* under the pseudonym Idstone (a village where his grandfather, also Thomas Pearce, was a farmer); a collection of his articles was published as *The Idstone Papers* (1872). He also wrote books on dogs (*Dogs of the British Isles* 1866 with H. Cocks and *The Dog* 1872) and was the breeder of champion setters. Apart from sporting interests, such as shooting snipe, he had a collection of birds that was given to the Museum of the Bournemouth Natural History Society (Pearce 1931a); among them were a snowy owl that had arrived in Dorset during a severe winter in the 1850s, a squacco heron and a hoopoe that had adorned the vicarage in Ethel's childhood. These various influences may have led his two younger children to take an interest in natural history.

Kerr (1972) gave an account of Thomas' life at Morden. She also described visits to France and Algeria and a close encounter with a bear in America. The timing and duration of these travels is unclear, but were said to be following his graduation from Lincoln College, Oxford, where he received a BA in 1843. Her suggestion that he decided to enter the church on returning to find his father mortally ill is wrong, as his father had died when Thomas was aged two. Thomas was born at Hatford, Berkshire, second son of a curate Francis Joseph Pearce, but after being widowed his mother, Mary Ann (née Rickards), returned to her home county of Leicestershire, where Thomas apparently developed his interest in rural pursuits.



Fig. 2. Thomas Pearce (from Kerr 1972).



Fig. 3. The Old Vicarage, Morden, in 1931 (from *The Story of Morden*, Pearce 1931a).



Fig. 4. The Old Vicarage, Morden, in 2009.



Fig. 5. Churchen Green in 1931 (from *The Story of Morden*, Pearce 1931a).



Fig. 6. The entrance to Churchen Green (Ethel Pearce's home, 1928-1940) in 2009.

The family apparently moved to Oxford when both sons attended the university from 1838, and Mary lived there until her death in 1854. Thomas' elder brother Francis went to Exeter College, Oxford in 1838 but does not appear to have graduated and it is unknown if he

had planned to enter the church. According to *Crockford's Clerical Directory* (1878 Edition), Thomas was ordained in 1845 and was a curate at Golden Hill, Staffordshire (1845-47), Highcliffe, Hampshire (1847-51) and Waterperry, Oxfordshire (1851-52), where he was at the time of the 1851 census. He married Fanny Georgina Blake at St Marylebone on 14 July 1852 and was briefly a curate at Sparsholt, Berkshire (1852-1853), where Frank Charles, their eldest son, was born in 1853. Their three younger children were born at Morden - Evelyn Thomas (1854/5), Ethel Katharine (1856) and Nigel Douglas Frith (1862).

It is not known if Ethel's elder brothers had an interest in natural history, although she related that her brothers fished in the decoy pond. Frank was an articulated clerk at Faversham, Kent in 1871 and a solicitor at Harpenden, Hertfordshire by 1891. He was married twice, in 1884 to Sarah Benison and in 1907 to Sarah Ann Phillips, but does not appear to have had children. Later in life he returned to Morden where he died in 1942; he and his second wife Sarah Ann, who died in 1950, are buried alongside Ethel in Morden churchyard.

Evelyn followed his maternal grandfather in becoming an indigo planter at Behar in India and then a tea planter at Cecher and Sylhet, but apparently contracted an illness there. Vincent (1985) stated that he died of cholera in India but he evidently returned to England, as records show that he died aged 39 at Bournemouth in 1894. Their grandfather Charles Henry Blake (1794 - 1872) was born in Calcutta, initially following his father as an indigo planter; after settling in England in 1842 he became a property developer in the Notting Hill area.

Ethel Katharine Pearce – biographical details

Ethel was born in 1856, her baptism at Morden taking place on 13 July of that year. She and her brothers lived as children at the Old Vicarage (Figs 3-4) in Morden, now a private residence. Reminiscences of her childhood are included in *The Story of Morden* (Pearce 1931a), which is a manuscript account of the village as she knew it and of its history and natural history; in the Preface dated October 1931 she says that her heart will always be with Morden.

There were Roman snails *Helix pomatia* in the vicarage garden, where goldcrests *Regulus regulus* nested in the deodar tree (*Cedrus deodara*) and deadly nightshade *Atropa belladonna* also grew, as it did at Charborough Park, to the north of Morden. Charborough was a deer park and the seat of the lords of the manor, the Erle-Drax family, and was the locality for some of the flies illustrated (1921, Fig. 39 shows this habitat). Ethel commented that its glory was its fine trees, including "once perfect Mulberry trees, long since gone, from which the writer picked up abundance of beautiful mulberries in her childhood" (Pearce 1931a). In Morden Park to the south, hornets *Vespa crabro* nested in the hollow trees.

Vincent (1985) reported that Ethel went to France for her education and contracted an illness there, which left her deaf. This information evidently came from her housekeeper Mrs Margaret Billett, who was well aware that she was deaf as well as suffering failing eyesight later in life. No confirmation has been found of her spending any time in France. The above mentioned travels of her father (Kerr 1972) may have been the origin of the suggestion.

Following her father's retirement from incumbency at Morden in 1882 (due to ill health) the family moved to Bournemouth. After his death in 1885, Ethel and her mother (Fig. 7) continued to live at Kempstone, West Cliff, Bournemouth, where their address was 6 Chine Crescent Road and this was where her photography of Diptera took place. According to Vincent (1985) their large house there had since become a nursing home.

Ethel had employment as a journalist but it is not known whether she had any professional training in this field. It has not been practicable to trace much that she wrote in

this capacity, apart from some anonymous items about local events, apparently from the *Western Gazette*, for which she often wrote (Vincent 1985), as was mentioned in an obituary that presumably appeared in that paper. She was on the staff of the *Cambridge Examiner* from 1884, of *The Gentlewoman* from 1891 to 1913 and was also periodically employed by the *Illustrated Sporting & Dramatic News* in the period 1888 to 1917. Other journals to which she contributed were *Madame*, *Ladies' Field*, *Queen* and *The Field*. She joined the Institute of Journalists in 1893 and was a member of the Society of Women Journalists, the Teachers' Guild and of the Lyceum Club.



Fig. 7. Ethel Katharine Pearce standing, with her mother Fanny Georgina seated (from *The Story of Morden*, Pearce 1931a).

By chance a book plate composed in 1906 (Fig. 8) and removed from a badly-damaged copy of Mrs Ward's book on the microscope that had belonged to Ethel, was documented in *Microscopical Bookplates (Ex Libris)* by J.G. Delly, who commented that the microscope and lamp for illumination in the evening indicated the owner's interest in microscopy and natural history and the phrase *Solitudinis libri solamen* that the owner found comfort in the solitude of books. He added that "the phrase around the hour glass says something about wasting or pining away" – "the hour glass reminding us about how little time we all have here".



Fig. 8. A book plate composed by Ethel Pearce.

The short section on Diptera in *The Story of Morden* (Pearce 1931a) reads: "In old days in Morden quite a number of rare insects were identified, and some of these still continue. I can speak only, and mainly, for Diptera (the fly family) of which my brother, N.D.F. Pearce, and I have taken a record of a few rare specimens – one hundred and forty within a day or two in the War Years of *Chrysops sepulcralis*, a large number of *Anthrax circumdatus* and *Bombylius minor*, also of *Anthrax fenestratus* on Morden and Wareham Heath. *Asilus crabroniformis* is ever eluding its captor."

Her entomological publications other than *Typical Flies* were a few notes in the *Entomologist's monthly Magazine* (Pearce 1916, 1931b, 1932a and 1932b). That entitled *A Dipterous Oasis* (1932b) enlarges on the capture of the above species at Wareham and Morden Heaths, also discussed by Stubbs (2009). She described her first encounter with *Chrysops sepulcralis* (Tabanidae) in July 1915; she was seated on a causeway over the bog, watching the stream for a trout when, glancing down at her black clothes, she saw dozens of bright green eyes of the females of this species and she tubed many without a net, then netting one male by the water's edge. A day or two later Nigel came and "mounted the treacherous bog, known to him from boyhood and found several males that were swift on the wing and hard to take". The specimens taken were distributed widely to other dipterists and while visiting F.C. Adams at Lyndhurst a few living females were released near his cottage. She added that she did not believe in taking too many of a rare species, but that principle had evidently not been followed on this occasion. There are 23 Wareham specimens of *C. sepulcralis* in the general collection at Oxford (12 collected by Nigel and 11 by Ethel), 33 at Cambridge (31 collected by Ethel and 2 by Nigel) and 4 labelled "Wareham Heath E.K. Pearce" in H.W. Andrews' collection (BENHS at Dinton Pastures).



Fig. 9. Ethel Katharine Pearce.



Fig. 10. Nigel Pearce and his wife Elfrida.

The same note included a brief description of Morden and Wareham Heaths, where it was "believed an ancient lake of some extent once existed"; in her "younger days it was a resort of wild fowl of all descriptions." There were "isolated pools", "a well-defined stream and many characteristic bog flowers". The "scattered fir trees" attracted "in summer *Atylotus*

fulvus [(Meigen) (Tabanidae)] in full beauty", of the bee-flies *Bombylius minor* Linnaeus hovered "over the sunny banks" and *Villa venusta* (Meigen) (as *Anthrax circumdatus*) was "met with on bare sandy pathways". In 1932 the ground was still trenched from its use as a military training ground, but it was again a "perfect haven of rest in wild Dorset", while "the curlew still comes over" (Pearce 1932b).

After the death of her mother, aged 92, in 1919 she initially remained at Bournemouth but later returned to Morden and from 1928 lived at Church Green (Figs 5-6), a cottage next to the village green a little further along the same side of the road as the Old Vicarage. She died there, aged 83, on 8 January 1940 and was buried in the churchyard in front of the grave of her father. An obituary in *Nature* (Haines 1940) recognised her contribution to entomology through her authorship of *Typical Flies*, and described her as amiable and benevolent, commenting that her passing left the ranks of entomology the poorer.

Nigel Douglas Frith Pearce – flies and mites

Nigel was born on 10 November 1862 and christened at Morden on 28 December 1862. He attended Wellington College in Berkshire (1881 census) and went from there to Trinity College, Cambridge where he was admitted on 13 June 1881. He gained a BA (Classical Tripos, Part I, 1st Class) in 1884. He married Elfrida Mary Visger on 11 September 1884; they had four children, Ann Cynthia (1885), Thomas (1887), Stella Mary (1890) and Andrew Harman (1892), and have many descendants today. They lived at Cedar House, Grantchester and Nigel obtained an MA from Trinity College in 1888. As Nigel then remained at this residence for the rest of his life, Vincent (1985) suggested that he might have been a don at the University. This appears not to be the case as his occupation was given as classical tutor on his own account in the 1891, 1901 and 1911 censuses.

Apart from his interest in Diptera Nigel studied oribatid mites and was the author of several papers on that subject (N.D.F. Pearce 1906, 1910; Warburton and Pearce 1904, 1906, 1907). Warburton and Pearce (1906) commented that they had spent two years searching in the vicinity of Cambridge and particularly Grantchester (where Warburton also lived), as well as searching moss from many other parts of the country, and had met with 82 known and 7 previously undescribed species of oribatid mites. Nigel also wrote some articles for the *Dictionary of National Biography, 1885-1900*. Nigel died on 21 September 1939 and was buried at Grantchester. His collections, both of Diptera and Oribatida, had been received by the Cambridge University Museum in February of that year. Nigel's son Thomas was probably the T. Pearce to whom one photograph (1928, Fig. 43) is attributed but the identity of J. Pearce similarly cited (1928, Fig. 154) is unknown, unless a printing error for T.

Ethel's contacts with other entomologists

The shared interest with her brother Nigel was clearly very important to Ethel and he assisted her in many ways throughout her studies of Diptera. In a copy of the first volume presented to him she had written "to my brother Nigel whose skill & enthusiasm started me in this work in appreciation & love. June 23 15 EKP." In a copy of Series II was written "To N.D.F. Pearce (who started me on this difficult road) Nov 10 1921. From EKP."

Ethel's three volumes of *Typical Flies* were published by the Cambridge University Press, possibly due to Nigel's contacts there. Vincent (1985) referred to a congratulatory letter to Ethel from G.H.F. Nuttall of Magdalene College, in which he said that he had helped to get her first volume published. George Henry Falkiner Nuttall (1862 – 1937) was Quick Professor of Biology from 1906 to 1931, when he was succeeded by the dipterist David Keilin

(1887 – 1963) who had previously been his research assistant. In the introduction to the first volume she thanked Professor Nuttall and Mr Warburton, both of Cambridge, for encouragement. Cecil Warburton (1854 – 1958) was her brother Nigel's collaborator on mites; he was of Christ's College, Cambridge and a lecturer in agricultural zoology and demonstrator in medical entomology until 1931; the University celebrated his 100th birthday on 6 February 1954.

In the introduction to all volumes the assistance of Professor Theobald is acknowledged and he supplied many of the biological notes that are attributed to him in the captions. It was also he who drew up a list of species that she should include, and this was used as a guide for the content of the first two volumes. Frederic Vincent Theobald (1868 – 1930) was primarily an economic entomologist, who wrote monographs on mosquitoes and aphids. When he was aged 24 he had started to produce a general account of British Flies that was due to appear in two or more volumes. Only the first part on the Nematocera was published (Theobald 1892) and it may be for this reason that he encouraged Ethel Pearce to produce a work that would cover and popularise the other Diptera that he was not able to complete himself.

Many of the specimens illustrated were collected by Ethel (Dorset) or by Nigel (Dorset and Cambridgeshire). Many other specimens are indicated to have been supplied by F.C. Adams (especially those from the New Forest; he obtained the cheese skipper *Piophilidae casei* (Linnaeus) (Piophilidae) in a London club). Frederick Charlstrom Adams (1836 - 1920) lived in London but also had a cottage at Lyndhurst in the New Forest, where she visited him as related above. In her second volume (1921) a footnote states that she regrets having heard of the death of Mr Adams, since this volume went to press. Many specimens were from Mr Harwood (of Colchester, 1915 volume; of Sudbury, Suffolk, later volumes, Mr B. Harwood of Sudbury in 1928). Harwood specimens are from many areas, especially Essex and East Anglia, but it is usually unclear which member of the Harwood family is intended: the father William Henry (1840 – 1917) or either of his sons, Bernard Smith (1876 – 1933) or Philip (1882 – 1957). Occasionally there is an initial, e.g. W. Harwood for *Criorhina floccosa* (Meigen) (Syrphidae) (reared 1914, 1921 volume) or P. Harwood for *Pamponerus germanicus* (Linnaeus) (Asilidae) (1921) and *Blera fallax* (Linnaeus) (Syrphidae) (1928). It was Bernard whose comments on *Chrysops sepulcralis* are mentioned (Pearce 1916, 1932b).

Others acknowledged are Frederick Haslewood Haines (1864 – 1946) of Dorset (e.g. *Gonia* species (Tachinidae)) who wrote her obituary, David Sharp of Brockenhurst (formerly Cambridge) (*Ctenophora ornata* Meigen (Tipulidae), *Laphria flava* (Linnaeus) (Asilidae)), H. Waddington of Bournemouth (slides of Culicidae), T.F. King (*Meliera crassipennis* (Fabricius) (Ulidiidae)), Ethel Frances Chawner (1866 – 1953) of Lyndhurst (the scarce syrphid *Callicera aurata* (Rossi)), Albert E.J. Carter (1863 – 1925) of Monifieth (the bee-fly *Bombylius canescens* Mikan) and Percy H. Grimshaw of Edinburgh (Scottish specimens), Hugh Parry Jones (1893 – 1937) of the New Forest and from 1923 of the Nottingham Natural History Museum (Tabanidae), Rev. Octavius Pickard-Cambridge (Bloxworth records; see Stubbs 2009) and the Rothschild collection at Tring (slides of Nycteribiidae).

Henry W. Andrews is only mentioned once (1921, Fig., 86, *Ceroxys urticae* (Linnaeus) (Ulidiidae)) but other specimens originated from him (e.g. *Proctoclythia modesta* (Zetterstedt) (Platyezidae) from Farningham, *Drymeia hamata* (Fallén) (Muscidae) from Stradbally) and some others of his specimens are among her unphotographed material at Oxford. It is probable that these reached her through Adams, with whom Andrews exchanged specimens. In view of Andrews' frequent visits to the New Forest it is perhaps surprising that there seems to have been no direct contact between them, but this may be due to the gap in his visits between 1912 and 1926, when she was most active.

The assistance of Carter and Grimshaw, as well as species mentioned above as supplied by the Harwoods and Sharp, probably account for the strong Scottish representation in the books. There appears to be no evidence from the books or from examination of her collection that she collected outside her home areas in the vicinity of Morden and Bournemouth.

In 1928, Major Ernest Edward Austen (1867 – 1938) and Frederick Wallace Edwards (1888 – 1940) of the Natural History Museum were acknowledged for assistance with identifications. Austen also contributed some of the Tabanidae illustrated. A congratulatory letter from him has been mentioned above; another dated 18 April 1935 refers to her recent letter telling him that her eyesight was troubling her. As Vincent (1985) has noted, she also corresponded with Professor Edward Bagnall Poulton (1856 – 1943) of Oxford University, although there is no indication that he supplied any specimens; a letter sent by him in 1934 enclosed a copy of a lecture that he thought might help with her nature study class. It was apparently through contact with him that she decided to donate her collection to the Hope Department in Oxford. She had in 1918 given a collection of 260 specimens of Ichneumonidae to the Cambridge University Museum and at that time had considered bequeathing her flies to Nigel, but that was pre-empted by his death occurring four months before hers. A letter dated 25 June 1930 from Hugh Parry Jones (of the museum at Wollaton Hall, Nottingham) asks to see her Ichneumon plates and for her collaboration on a popular book on wild bees that he was planning. This appears not to have come to fruition and Jones died aged 44 in 1937. It would appear that Ethel had photographed some Parasitica but it is unclear if any of these photographs were published or have been preserved.

As Nematocera did not dominate her studies (only 44 of the 305 species covered) it is of interest that her application in 1922 to join the Entomological Society of London was proposed by F.W. Edwards (Austen was not a member); James Waterston (1879 – 1930) and John Hartley Durrant (1863 – 1928) were supporters. Julian Vincent by chance found the application form among material to be discarded from the Society's cellars and this is now preserved with her other memorabilia at Oxford (Vincent 1985).

Truffles

From notes made in the copy of the 1928 volume Ethel evidently had an interest in truffles. An annotation against the photograph of *Suillia variegata* (Loew) (Heleomyzidae, as *Helomyza rufa*) states that this species had been found hovering over truffles and had been bred from them. This is followed by the remark that Mr Newlyn of Exeter Hotel, Bournemouth gave her a basket of truffles found in the New Forest by Yeats, who employed "even mongrel dogs". A list followed of 6 species of *Suillia* (as *Helomyza gigantea* Mg., *hispanica* Lw, *ustulata* Mg., *rufa* Fall., *notata* Mg., *olens* Mg.), also species of *Mydaea*, *Muscina* and Mycetophilidae, that Séguy had reported to breed in truffles in correspondence with E.E. Austen (letter to Ethel from Austen dated 3 March 1932).

Kerr (1972) stated that Thomas Pearce had studied the management of truffle dogs while in France. Ethel related (Pearce 1931a) that "truffles were found under the fine beech trees growing on chalk even on the surface" from "October to March"; her father hunted for them "with his poodles trained for the purpose, on chalky districts, and under oaks".

Collecting and handling of specimens

In the introduction to the first volume (Pearce 1915) advice was given on techniques for the collection and preparation of specimens, which are of interest in giving details of the methods familiar to Ethel. A green net is recommended, as less likely to cause alarm than a white one

and it was suggested that mosquito netting dyed to the desired colour was the preferred material.

Each fly was collected individually from the net using a glass bottomed box and killed on returning home using a laurel bottle, first ensuring that the leaves were fresh and with a layer of white blotting paper placed over them. Flies were left in the bottle for about two days until relaxed and then set on narrow boards of the type used for micro-moths. Pin sizes were suggested – the finest silver obtainable for small flies, and curved forceps were recommended. Data labels were attached to the pin with the written-side down. Numbering of specimens to correspond with fuller details in a note book was also suggested. Keeping specimens in a standard size of store box e.g. 10 x 8 inches, was advised. The hazard of mites was mentioned and she recommended pinning some naphthalene, wrapped in a piece of net, in a corner within boxes.

Some notes were provided on field craft, with advice on the most productive habitats for flies. Calm and sunny mornings were the best time for collecting. It was noted that even good localities may sometimes be unproductive, "from causes we do not know, for flies seem very capricious in their habits." In 1921 this was rephrased: "For unknown reasons specimens not only inhabit certain districts, but as often desert them for even a term of years."

There was limited reference to other publications in the first volume but a list of works on Diptera was given in the preface to Series II and a more extensive bibliography was provided in Series III. These lists include the major books and papers available at the time and are also helpful in showing the wide range of literature with which Ethel was familiar.



Fig. 11. *Laphria flava* (Linnaeus) (Asilidae), male (*Typical Flies 1915*, Fig. 59).

Photography by Ethel Pearce

Ethel began her photography of Diptera about 1910, according to her letter to Miss Pilley cited above. Having been asked to explain her methods she gave an account (Pearce 1932a, repeated by Vincent 1985) of the technique by which she had made at least 700 negatives of Diptera, all of which she had developed herself. Her apparatus was home-made and no dark

room was available; all her photographic work was carried out in a bedroom and bathroom. A 1902 work, *First Lessons in Microphotography* by Duncan Martin was her initial guide but she added that experiment and experience were the best masters. She had also stressed (Pearce 1915) the importance of selecting specimens that were set flat enough to stay sharply in focus. Specimens that were to be photographed had the pin cut off as close as possible to the thorax and the cut end concealed by a touch of "matt black". Soft bodied flies that were likely to shrivel were photographed as soon as possible after setting.

In the preface to the third volume she added: "Only those who have handled these wonderful insects can understand the great difficulty of doing them full justice, and incidental blemishes will, it is hoped, be overlooked."

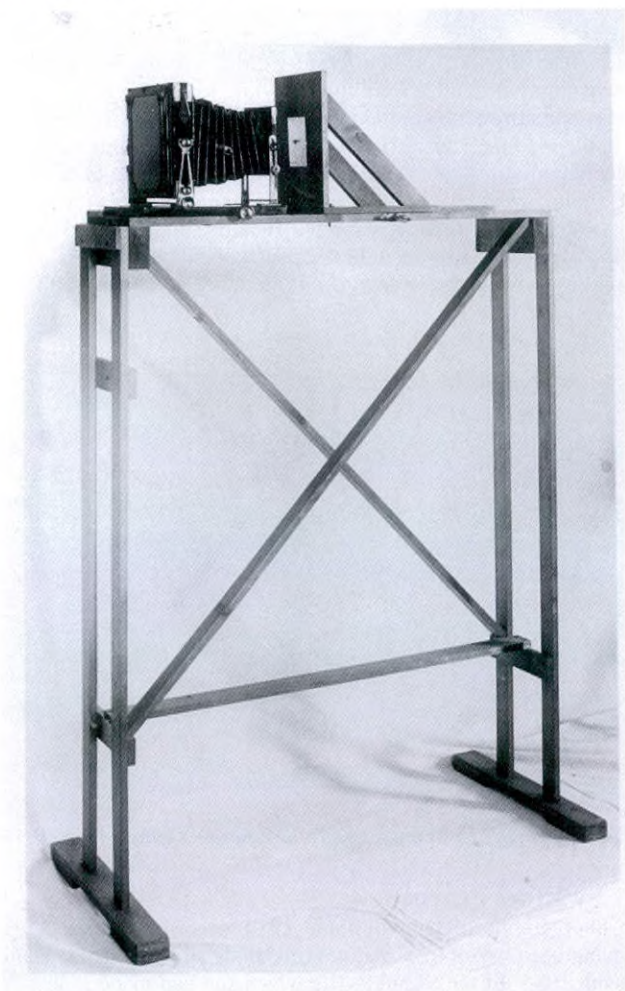


Fig. 12. Ethel Pearce's photographic apparatus.

Nigel provided a carpenter with measurements for construction of a bench with a wooden slide on which her camera could travel at eye level. A side view of this apparatus was included in her article; Vincent (1985) showed a diagonal view with the addition of supporting legs (Fig. 12), from a print he had found amongst her correspondence. It was topped by a horizontal board (3ft 4 ins long and 7.5 ins wide) with a central slot that supported the camera and along which it could be moved and fastened with a screw. This also carried an upright board, used to bear the insect; this was the same height as the camera, with two supporting struts and a 1.5 inch central hole. The stand comprised two parallel upright boards (4 ft 3 ins high), with two cross-pieces between them and lodged on a 3 ft board at the base, which had two removable legs attached.

She used a second hand plate camera, "Wellington Process" plates and two sorts of lenses: a Carl Zeiss Planar 1.45 F, 5cm and a Busch Detectiv Aplanat, No 1, focus 4 ins. The board bearing the insect had a plain visiting card pinned over the hole. A fine hole was made in the card with a needle and the pin of the insect to be photographed was inserted in this, ensuring that the insect did not touch the card and that the wings and legs were level with each other. She would then "stop down" to get the whole insect into focus. *Laphria flava* (Linnaeus) (Asilidae) (Fig. 11) was mentioned as an example where it was necessary to extend the camera 7.5 ins and from camera point to insect board 3.5 ins more. This was all done by daylight and the whole covered by a velvet cloth until ready to be photographed. Her photography appears to have been done at night, for which she prepared by placing a red candle lamp on the table and making ready the chemicals to be used for developing.



Fig. 13. *Blera fallax* (Linnaeus) (Syrphidae), male (*Typical Flies* 1928, Fig. 76).

When operating an ordinary candle was used to ignite the two slips of magnesium ribbon, which Nigel had suggested she use for illumination. With a card held in front of the candle flame, the shutter was raised and the lens uncovered. A lit ribbon was immediately waved up and down beside the insect board, ensuring that it did not flash on the lens and this was repeated with the second ribbon on the other side of the specimen. This evidently explains reflections on some flies with a shiny body (e.g. *Blera fallax* (Linnaeus) (Syrphidae),

Fig. 13, where white lines can be seen as an artefact on thorax and abdomen). Then the lens was covered, the candle extinguished, the shutter put down and the red light was then used to aid developing. The plate was placed in the developing dish and flooded with "Pyro-Developer". This was rocked gently for 2-3 minutes, washed in water, placed in "hypo" solution and watched carefully. After half a dozen washes, with an interval between each, the plate was dried in an upright position on a strip of blotting paper for about 12 hours.

A similar technique was used for microphotography, with the Planar lens replaced by a reversed microscope tube and the specimen was illuminated from behind through the hole in the upright board.

Vincent (1985) commented that she did not mention how prints were made from these plates, but thought that they were probably contact prints using "daylight paper".

Conclusions

What influences led Ethel and her brother Nigel towards the Diptera from their initial interest in natural history can only be guessed. Perhaps it was the presence near their home of the several species of attractive heathland flies discussed by Stubbs (*op. cit.*) that stimulated this interest. Haines (1940) commented that Ethel Pearce was an entomologist "who devoted her energy and enthusiasm almost entirely to Diptera" and added that "she had around her one of the finest entomological hunting grounds, even in a county as favoured as Dorset".



Fig. 14. Ethel Katharine Pearce, enlarged from part of Fig. 7 (from Vincent 1985).

It was through her photographic skills that Ethel made a significant contribution to the study of Diptera in Britain. It is not known when her interest in photography began but it may

have stemmed from her career as a journalist. It was evidently through the encouragement of her brother Nigel and his contacts at Cambridge that she realised that this skill could be put to such good use in the field of entomology. The involvement of Fred Theobald at an early stage apparently convinced her that a set of fly photographs could become a coherent publication if done in a systematic way. With his advice regarding content she then went about acquiring specimens, particularly through local contacts, and the process of putting the resulting photographs together for the first volume began. Her description of the technique involved in setting up a specimen in daylight for photography in the hours of darkness imply that only a single photograph could be produced in a day, emphasising what a long and elaborate process this was.

The second volume was apparently planned when the first appeared, in order to cover the full range of species suggested by Theobald; the success of these volumes led her to continue with her work, resulting in the third and largest volume, which she dedicated to the memory of her mother and father. At that time (1928) a second edition was published of the first volume. In a short preface to that edition Ethel hoped that the need for this was evidence of an increasing interest in Diptera, which in her 'early days was confined to a very small circle of specialists' and that her labour had not been in vain if it had encouraged the wider study of British flies.

Ethel was not the first woman to study Diptera in Britain, as Eleanor Ormerod (1828 – 1901) had made a considerable contribution to knowledge of species of agricultural importance in the second half of the 19th century, but she was possibly the first to take an intrinsic interest in flies for their own sake and to encourage that interest in others. Within the cover of one of her copies of *Typical Flies* she had pasted a newspaper cutting from 1932 which showed that she was interested in other women coming into this field. This related to an expedition in that year to collect Diptera in Poland and the former Czechoslovakia, by Daphne Aubertin and Ethelwynn Trewavas, who were shown looking at some of the 8,000 flies collected. Daphne Aubertin (later Dineley, 1902 – 1970) was on the staff of the Natural History Museum Diptera section from 1927 to 1935, while her colleague was a fish specialist and presumably took part as a collecting companion.

Vincent (1985) wrote his biographical account of Ethel Pearce to ensure that her contribution to entomology was not forgotten. Stubbs (2009) demonstrated the importance of her study of the heathland flies of Dorset before they suffered habitat loss from afforestation, and re-awakened interest in her as a dipterist. The present account has sought to provide a fuller assessment of her life and work, so that her place in the history of British dipterology is assured.

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details and permitting the use of photographs (Figs 9-10) held by the family; Julian Vincent for his recollections about his researches and for providing prints of the photographs included in his article; also to Julian Vincent, Adrian Pont and Julie Locke for useful comments on the manuscript.

References

- Haines, F.H. 1940. Obituaries: Miss E.K. Pearce. *Nature* **145**, 178-179.
- Kerr, B. 1972. The World of Thomas Pearce, Vicar of Morden 1853-1882. *Dorset Natural History & Archaeological Society* **94**, 70-74.
- Pearce, E.K. 1915. *Typical flies: a photographic atlas of Diptera including Aphaniptera*. xii + 47 pp. Cambridge University Press.
- Pearce, E.K. 1916. *Chrysops sepulchralis* F., and *Anthrax fenestratus* Fln., in Dorsetshire. *Entomologist's monthly Magazine* **54**, 208.
- Pearce, E.K. 1921. *Typical flies: a photographic atlas. Series II*. xiv + 38 pp. Cambridge University Press.
- Pearce, E.K. 1928. *Typical flies: a photographic atlas of Diptera. Series III*. xv + 64 pp. Cambridge University Press.
- Pearce, E.K. 1931a. The Story of Morden. pp 1-62.
- Pearce, E.K. 1931b. *Typical flies: a Photographic Atlas* (errata to Typical Flies). *Entomologist's monthly Magazine* **67**, 62.
- Pearce, E.K. 1932a. Insect Photography. *Entomologist's monthly Magazine* **68**, 28-31.
- Pearce, E.K. 1932b. *A Dipterous Oasis*. *Entomologist's monthly Magazine* **68**, 116-117.
- Pearce, N.D.F. 1906. On some Oribatidae from the Sikkim Himalaya. *Journal of the Royal Microscopical Society* **1906**, 264-273.
- Pearce, N.D.F. 1910. Acarina. *Fauna Hawaiensis* **3**, 702-704.
- Stubbs, A.E. 2009. Pearce's photographs in Typical Flies. *Dipterists Digest (Second Series)* **16**, 103-116.
- Theobald, F.V. 1892. *An account of British Flies (Diptera)*. Vol. I. 215 pp. London, Elliot Stock.
- Warburton, C. and Pearce, N.D.F. 1904. Exhibition of oribatid mites taken in the neighbourhood of Cambridge. *Proceedings of the Cambridge Philosophical Society* **12**, 427-429.
- Warburton, C. and Pearce, N.D.F. 1906. On new and rare British mites of the family Oribatidae. *Proceedings of the Zoological Society of London* **1905**(II), 654-659.
- Warburton, C. and Pearce, N.D.F. 1907. Note on a collection of Oribatidae from British Guiana. *Proceedings of the Cambridge Philosophical Society* **14**, 13-14.
- Vincent, J.F.V. 1985. Miss E.K. Pearce. *Antenna* **9**(3), 121-126.

APPENDIX

Diptera illustrated by Ethel K. Pearce (305 species)

As discussed above, Ethel Pearce set out to portray a range of flies that were typical examples of each of the families of Diptera and was advised regarding this coverage by Fred Theobald. Most of the then recognised families were included (55 of the 60 listed in Brauer's classification followed in these volumes). Of about 105 families presently accepted only 35, mostly containing few species or smaller flies, are unrepresented, the Hybotidae (then included within Empididae) and the Ceratopogonidae (then included in Chironomidae) being the largest missing families, the remainder only together amounting to less than 200 species.

Not surprisingly some other large families of small flies such as Cecidomyiidae, Agromyzidae and Ephydriidae had only single representatives.

There was an apparent bias towards families covered by Verrall's two volumes of *British Flies*, which accounted for more than a third of the species illustrated but these groups also contain many of the larger more conspicuous flies. There was also a strong representation of picture-winged flies, the study of which had not previously benefited from a key work in English other than Walker's *Insecta Britannica Diptera* and Wingate's *List of Durham Diptera*, which had few illustrations. Eight of our 20 species of Ulidiidae and about a third of the British Tephritidae were photographed.

In the list below all species illustrated in the three volumes are listed in modern systematic order. Nomenclature follows the current checklist; where the name used differs from current usage that is indicated without italics in square brackets. In each case the volume is cited as SERIES I, II or III with the relevant figure numbers. Of the species illustrated 216 are represented by specimens in the collection; the corresponding figures are marked * in the following list and any locality data associated is given in square brackets; where no details follow an * this indicates that the specimen has no data. It was not practicable to check the identity of all specimens but several errors were apparent and are corrected here; species affected by these revised determinations are marked †.

TIPULIDAE

Ctenophora ornata Meigen, 1818 SERIES II Figs 29-30

Dictenidia bimaculata Linnaeus, 1761 SERIES III Fig. 18

Tanyptera atrata (Linnaeus, 1758) [*Xiphura atrata* L.] SERIES III Fig. 149* [Ganarew]

Tanyptera nigricornis (Meigen, 1818) [*Xiphura nigricornis* Mg.] SERIES II Fig. 28* [Hut Wood 23.v.1908; in text as Hut Wood, New Forest]

Nephrotoma appendiculata (Pierre, 1919) [*Pachyrrhina maculosa* Meig.] SERIES I Fig. 22

Nephrotoma flavipalpis (Meigen, 1830) [*Pachyrrhina imperialis* Mg.] SERIES III Fig. 14* [Colchester 1910]

Nephrotoma guestfalica (Westhoff, 1879) [*Pachyrrhina guestfalica* Westh.] SERIES III Fig. 15* [Colchester]

Tipula (Acutipula) maxima Poda, 1761 [*Tipula gigantea* Schrank] SERIES I Fig. 24* [Colchester]

Tipula (Lumatipula) vernalis Meigen, 1804 SERIES I Fig. 23; SERIES III Fig. 17 (eggs)

Tipula (Savtshenkia) confusa van der Wulp, 1883 SERIES II Fig. 27 [*Tipula marmorata* Mg.]; SERIES III Fig. 16* [as *T. confusa*] [Colchester 1910]

Tipula (Tipula) oleracea Linnaeus, 1758 SERIES I Figs 25 and 26* [Colchester]

PEDICIIDAE

Pedicia rivosa Linnaeus, 1758 SERIES I Fig. 21* [New Forest 1911]

LIMONIIDAE

Euphyllidorea lineola Meigen [*Limnophila lineola* Mg.] SERIES III Fig. 12

Limnophila schranki Oosterbroek, 1992 [*Poecilostola punctata* Schrk.] SERIES III Fig. 11* [Colchester 1912]

Limonia maculipennis (Meigen, 1818) [*Limnobia analis* Meig.] SERIES I Fig. 20* [Colchester v.1912 Harwood]

Limonia nigropunctata (Schummel, 1829) [*Limnobia nigropunctata* Schum.] SERIES III Fig. 10* [Colchester 1912]

BIBIONIDAE

Bibio marci (Linnaeus, 1758) SERIES I Figs 8 and 9* [Colchester]

- Bibio hortulanus* (Linnaeus, 1758) SERIES I Fig. 10* [Colchester]
Dilophus febrilis (Linnaeus, 1758) SERIES I Fig. 7, SERIES II Fig. 3* [Clacton]
- KEROPLATIDAE**
Platyura marginata Meigen, 1804 SERIES II Fig. 1* [Colchester v.1913]
- MYCETOPHILIDAE**
Mycetophila fungorum (De Geer, 1776) SERIES III Figs 1-2
- SCIARIDAE**
Sciara hemerobioides (Scopoli, 1763) [Sciara thomae Linn.] SERIES I Fig. 6
- CECIDOMYIIDAE**
Mayetiola destructor Say, 1817 [Cecidomyia destructor Say] SERIES I Fig. 5
- PSYCHODIDAE**
Pericoma compta Eaton, 1893 SERIES II Fig. 8
Psychoda phalaenoides (Linnaeus, 1758) SERIES II Fig. 9
Tinearia alternata (Say, 1824) [Psychoda sexpunctata Curt.] SERIES II Fig. 10
- TRICHO CERIDAE**
Trichocera hiemalis (De Geer, 1776).SERIES III Fig. 13* [Horkesley 16.x.1912]
- ANISOPODIDAE**
Sylvicola fenestralis Scopoli, 1763 [Rhyphus fenestralis Scopoli] SERIES I Fig. 27*
 [Colchester]; SERIES III Fig. 19* [pupae]
- SCATOPSIDAE**
Scatopse notata (Linnaeus, 1758) SERIES II Fig. 2* [Grantchester June 1917]
- PTYCHOPTERIDAE**
Ptychoptera albimana (Fabricius, 1787) SERIES I Fig. 19* [Colchester]
Ptychoptera contaminata (Linnaeus, 1758) SERIES III Fig. 9* [Colchester viii.1912]
- DIXIDAE**
Dixa Mg. (species not named) SERIES II Fig. 26; SERIES III Fig. 8 (early stages)
- CHAOBORIDAE**
Chaoborus crystallinus (De Geer, 1776) [Corethra plumicornis F.] SERIES II Figs 11-17
 (including early stages); SERIES III Fig. 5 (eggs)
Mochlonyx velutinus (Ruthe, 1837) SERIES II Figs 18-20 (including early stages)
- CULICIDAE**
Anopheles atroparvus van Thiel, 1927/*messeae* Falleroni, 1926 agg. [A. maculipennis Meigen] SERIES I Fig. 15; (species not named) SERIES II Fig. 23 (early stages)
Anopheles claviger Meigen, 1804 [A. bifurcatus Linn.] SERIES I Fig. 14; SERIES III Fig. 7
 (early stages)
Aedes cinereus Meigen, 1818 SERIES II Figs 21-22; SERIES III Fig. 6 (early stages)
Aedes vexans (Meigen, 1830) [Culex vexans] SERIES II Figs 24-25 (early stages)
Ochlerotatus cantans (Meigen, 1818) [Aedes maculatus Mg., in text as A. annulipes Mg., formerly Culex cantans Meig., corrected in Errata] SERIES I Fig. 17* [Colchester]
Culex pipiens (Linnaeus, 1758) SERIES I Fig. 18* [Colchester vi.1913 Harwood]
Culiseta annulata (Schrank, 1776) [Theobaldia annulata Meig.] SERIES I Fig. 16
- SIMULIIDAE**
Simulium ? species [Simulium cinereum Macq.] SERIES I Fig. 11* [New Forest 1913],
 SERIES II Figs 4-7 (early stages and habitat; Bourn Brook, Grantchester)
- CHIRONOMIDAE**
Demeijerea rufipes (Linnaeus, 1761) [Chironomus rufipes Linn.] SERIES I Fig. 12* and 13*
 [Colchester 1912 Harwood]
Psectrotanypus varius (Fabricius, 1787) [Tanypus varius F.] SERIES III Fig. 4; [Tanypus Mg. (species not named)] SERIES III Fig. 3 (including early stages)

ATHERICIDAE

† *Atherix ibis* (Fabricius, 1798) SERIES III Fig. 42-43 (42 is of *Rhagio scolopaceus*; 43 is correctly a cluster of *A. ibis*)

Ibisia marginata (Fabricius, 1787) [*Atherix marginata* Fb.] SERIES I Fig. 52*

RHAGIONIDAE

Chrysopilus cristatus (Fabricius, 1795) SERIES III Fig. 41

† *Rhagio scolopaceus* (Linnaeus, 1758) [*Leptis scolopacea* Linn.] SERIES I Figs 49* [Colchester 1903 Harwood] and 50* [Colchester 1905 Harwood]; † SERIES III Fig. 42 (misidentified as *Atherix ibis*)

Rhagio tringarius (Linnaeus, 1758) [*Leptis tringaria* Linn.] SERIES I Fig. 51* [Colchester 1903 Harwood]; SERIES III Fig. 40* [♂ Gt Horkesley 1902 Harwood; ♀ New Forest 8.vi.1893 Adams]

TABANIDAE

Chrysops caecutiens Linnaeus, 1758 SERIES I Figs 43 and 44* [Dr Cassal's collection], 47; SERIES II Fig. 40*

Chrysops relictus Meigen, 1830 [*C. relictus* Meig.] SERIES I Figs 45* [Colchester 1901 Harwood] and 46* [Colchester 1908 Harwood], 47; SERIES III Fig. 39

Chrysops sepulchralis (Fabricius, 1794) SERIES I Fig. 48; SERIES II Figs 41-43; SERIES III Fig. 39b (map of finds at Bloxworth Heath), Fig. 48 (map of finds near Wareham), Fig. 50-51 Habitat (Wareham Heath)

Chrysops viduatus (Fabricius, 1794) [*C. quadrata* Meig.] SERIES I Fig. 47

Haematopota crassicornis Wahlberg, 1848 SERIES I Fig. 37*; SERIES III Fig. 26*

Haematopota grandis Meigen, 1830 [*H. italica* Meig.] SERIES I Fig. 38* [Alresford 1902 B.S. Harwood]

Haematopota pluvialis (Linnaeus, 1758) SERIES I Figs 34-36, Habitat (Wareham Heath) Fig. 36A

Atylotus fulvus (Meigen, 1804) [*Tabanus (Atylotus) fulvus* Meig.] SERIES I Fig. 41* [New Forest 8.vii.1904 H.W. Andrews]; (as *A. fulvus*) SERIES III Fig. 29*

Atylotus latistriatus Brauer in Brauer & Bergenstamm, 1880 [*Tabanus (Atylotus) latistriatus* Brau.] SERIES I Fig. 40* [N. Essex coast Harwood]; SERIES III Fig. 30* [Clacton ix.1912] (as *A. latistriatus*)

Hybomitra bimaculata (Macquart, 1826) [*Theriopectes tropicus* Mg.] SERIES III Fig. 27

Hybomitra distinguenda (Verrall, 1909) [*Tabanus solstitialis* Schin. form *distinguendus* Verrall] SERIES I Fig. 39; SERIES III Fig. 28*

Hybomitra micans (Meigen, 1804) [*Theriopectes micans* Mg.] SERIES II Fig. 35

Tabanus autumnalis Linnaeus, 1761 SERIES II Figs 36*, 37* and 38 (head); Fig. 39 (Habitat at Charborough Park, Dorset); SERIES III Figs 32* [adults] and 33* [pupa]

Tabanus bovinus Linnaeus, 1758 SERIES III Fig. 31* [Rhinefield 20.vii.1921 H.P. Jones]

Tabanus bromius Linnaeus, 1758 SERIES I Fig. 42; SERIES III Figs 34* and 35* [♀ Silchester vi.1905 P. Harwood; ♂ Rhinefield 8.vii.1921 H.P. Jones]

Tabanus maculicornis Zetterstedt, 1842 SERIES III Fig. 36, 37*, 38a* and 38b*

Tabanus sudeticus Zeller, 1842 SERIES III Fig. 162

STRATIOMYIDAE

Beris vallata (Forster, 1771) SERIES II Fig. 34* [Colchester 1900 Harwood]

Nemotelus notatus Zetterstedt, 1842 SERIES II Fig. 31* [Clacton vii.1913]

Oxycera rara (Scopoli, 1763) [*O. pulchella* Meig.] SERIES I Fig. 28*

Pachygaster atra (Panzer, 1798) SERIES III Fig. 20* [Sudbury]

Chloromyia formosa (Scopoli, 1763) SERIES I Fig. 33* [Colchester Harwood]

- Microchrysa polita* (Linnaeus, 1758) SERIES II Fig. 33* [Colchester 1911 Harwood]
Sargus bipunctatus (Scopoli, 1763) [*Chrysonotus bipunctatus* Scopoli] SERIES I Fig. 30*
 [New Forest]
Sargus cuprarius (Linnaeus, 1758) SERIES I Fig. 32* [Colchester 1898 Harwood]
Sargus flavipes Meigen, 1822 SERIES I Fig. 31* [Colchester 1907 Harwood]
Odontomyia argentata Fabricius, 1794 SERIES III Fig. 24* [Henny v.1921]
Odontomyia tigrina (Fabricius, 1775) SERIES II Fig. 32; SERIES III Fig. 25* [+ puparium]
Stratiomys longicornis (Scopoli, 1763) SERIES III Fig. 23* [St Osyth 1898 Harwood]
Stratiomys potamida Meigen, 1822 SERIES III Fig. 21*
Stratiomys singularior (Harris, 1776) [*S. furcata* Fabr.] SERIES I Fig. 29; SERIES III Fig. 22*

ACROCERIDAE

- Acrocera orbiculus* (Fabricius, 1787) [*A. globulus* Pz.] SERIES II Fig. 52* [Rushall Down Farm, Salisbury Plain, Wilts 3.viii.1909 E.E. Austen]; SERIES III Fig. 59* [Chichester]
Ogcodes gibbosus (Linnaeus, 1758) [*Oncodes gibbosus* L.] SERIES III Fig. 58* [New Forest 11.vii.1921 H.P. Jones]

BOMBYLIIDAE

- Bombylius canescens* Mikan, 1796 SERIES III Fig. 53
Bombylius discolor Mikan, 1796 SERIES I Fig. 74*
Bombylius major Linnaeus, 1758 SERIES I Figs 75* and 76; SERIES III Fig. 52* [pupa only, Sudbury 1921]
Bombylius minor Linnaeus, 1758 SERIES II Figs 49 and 50* [♀ Wareham Heath 9.vii.1918 N.D.F. Pearce]; SERIES III Fig. 48 (map of finds near Wareham)
Thyridanthrax fenestratus (Fallén, 1814) SERIES I Fig. 73; SERIES III Fig. 48 (map of finds near Wareham), Fig. 50 Habitat (Wareham Heath); SERIES III Fig. 153, Fig. 154 Habitat (Wareham Bog)
Villa modesta (Meigen, 1820) [V. (*Anthrax*) *paniscus* Rossi] SERIES III Fig. 47* [St Osyth 1901 Harwood]
Villa venusta (Meigen, 1820) [V. *circumdata* Mg. (as *Anthrax circumdatus* in text, corrected in Errata)] SERIES II Figs 46* (♀) and 47; Habitat Fig. 48 (Wareham Heath); SERIES III Fig. 39b (map of finds at Bloxworth Heath), Fig. 48 (map of finds near Wareham), Fig. 50 Habitat (Wareham Heath)

THEREVIDAE

- Acrosathe annulata* (Fabricius, 1805) [*Thereva annulata* F.] SERIES I Fig. 78; SERIES III Fig. 55* [Clacton vi.1912], Figs 56-57 Habitat (Sandbanks, Poole Haven)
Thereva nobilitata (Fabricius, 1795) SERIES I Fig. 77*; SERIES III Fig. 54

SCENOPINIDAE

- Scenopinus fenestralis* (Linnaeus, 1758) SERIES II Fig. 51

ASILIDAE

- Asilus crabroniformis* Linnaeus, 1758 SERIES I Figs 62* [Colchester Harwood], 63* and 64*; Figs 64A-B (Habitat: Wareham Road and near Wareham)
Dysmachus trigonus (Meigen, 1804) SERIES I Figs 71* and 72* [both N Essex coast; St Osyth, Clacton-on-Sea in text]
Machimus atricapillus (Fallén, 1814) SERIES I Figs 69* and 70* [Colchester 1910 Harwood]
Machimus cingulatus (Fabricius, 1781) [*Epitriptus cingulatus* F.] SERIES III Fig. 46* [Tuddenham viii.1916]
Neoitamus cyanurus (Loew, 1849) SERIES I Figs 67* and 68* [Colchester 1900 Harwood]

- Pamponerus germanicus* (Linnaeus, 1758) SERIES II Fig. 125*
- Philonicus albiceps* (Meigen, 1820) SERIES I Figs 65* [Gt Yarmouth 11.viii.1910 B.S. Harwood] and 66* [Yarmouth viii.1911 Harwood]; SERIES II Fig. 45* [Southbourne vii.1918]
- Rhadiurgus variabilis* (Zetterstedt, 1838) SERIES III Fig. 45* [Nethy Bridge vii 1913 P. Harwood]
- Leptarthrus brevirostris* (Meigen, 1804) [Isopogon brevirostris Meig.] SERIES I Figs 57* [Newbury 1908 P. Harwood] and 58*
- Choerades marginatus* (Linnaeus, 1758) [Laphria marginata Linn.] SERIES I Figs 60* and 61* [both Colchester Harwood]
- Laphria flava* (Linnaeus, 1761) SERIES I Fig. 59* [Aberdeenshire vii.1912 Harwood]; SERIES II Fig. 44* [Nethy Bridge 30.vi.1913]
- Leptogaster cylindrica* (De Geer, 1776) SERIES I Figs 53* [Colchester 1897 Harwood] and 54*
- Dioctria oelandica* (Linnaeus, 1758) SERIES I Figs 55* and 56*
- Lasiopogon cinctus* (Fabricius, 1781) SERIES III Fig. 44

EMPIDIDAE

- Empis pennipes* Linnaeus, 1758 SERIES III Fig. 61*
- Empis tessellata* Fabricius, 1794. SERIES I Figs 79* and 80* [Colchester 1906 Harwood; both of yellow-legged form]; SERIES II Fig. 53
- Hilara maura* (Fabricius, 1776) SERIES II Fig. 54* [Bourne Brook 23.v.1917 (♂) and v.1923 (♀) N.D.F. Pearce]
- Rhamphomyia sulcata* (Meigen, 1804) [R. sulcata Fln] SERIES III Fig. 60* [Colchester]
- Chelifera precatória* (Fallén, 1817) [Hemerodromia precatória Fln] SERIES III Fig. 62* [Sudbury]

DOLICHOPODIDAE

- Chrysotus neglectus* (Wiedemann, 1817) SERIES II Fig. 55* [Studland 17.vi.1907 J.W. Yerbury, NHM accession number]
- Dolichopus atratus* Meigen, 1804 SERIES I Fig. 81* [Aviemore 1909; in text stated in error to be from Newbury]
- † *Dolichopus ungulatus* (Linnaeus, 1758) SERIES III Fig. 64* [Colchester] [♂ misidentified as *Machaerium maritimae* Haliday, 1832]
- † *Poecilobothrus nobilitatus* (Linnaeus, 1767) SERIES I Fig. 82; SERIES III Fig. 63 (♂) and 64* [Colchester] [♀ misidentified as *Machaerium maritimae* Haliday, 1832]
- Scellus notatus* (Fabricius, 1781) SERIES I Fig. 83; SERIES III Fig. 65* [Clacton vii.1912]

PLATYPEZIDAE

- Lindneromyia dorsalis* (Meigen, 1804) [Platypeza dorsalis Mg.] SERIES III Fig. 66* (including puparium ex *Agaricus campestris*)
- Protoclythia modesta* (Zetterstedt, 1844) [Platypeza modesta Ztt.] SERIES I Fig. 84* [Farmingham 26.ix.1909, H.W. Andrews label] (family not stated and a comment about syrphids feeding on aphids erroneously attributed)

PHORIDAE

- Triphleba opaca* (Meigen, 1830) [Phora opaca Mg.] SERIES II Fig. 112

LONCHOPTERIDAE

- Lonchoptera lutea* Panzer, 1809 SERIES II Fig. 56

SYRPHIDAE

- Baccha elongata* (Fabricius, 1775) SERIES I Fig. 102* [St Osyth]
- Brachyopa bicolor* (Fallén, 1817) SERIES III Fig. 71

- Brachypalpoides lentus* (Meigen, 1822) [*Xylota lenta* Meig.] SERIES I Fig. 115
- Blera fallax* (Linnaeus, 1758) [*Cynorrhina fallax* L.] SERIES III Fig. 76* [Nethy Bridge vii.1913 P. Harwood]
- Callicera aurata* (Rossi, 1790) [*C. aenea* F.] SERIES II Fig. 66
- † *Cheilosia albitarsis* (Meigen, 1822) group female [*Chilosia sparsa* Loew, a synonym of *C. antiqua* (Meigen, 1822)] SERIES I Fig. 88* [Colchester Harwood]
- Cheilosia grossa* (Fallén, 1817) [*Chilosia grossa* Fln] SERIES III Fig. 68
- Cheilosia illustrata* (Harris, 1780) [*Chilosia illustrata* Harr.] SERIES III Fig. 67*
- Chrysotoxum cautum* (Harris, 1776) SERIES I Fig. 120* [Colchester Harwood]
- Criorhina berberina* (Fabricius, 1805) [*C. oxyacanthae* Meig.] SERIES I Fig. 114* [Newbury 1908 Harwood]
- Criorhina floccosa* (Meigen, 1822) SERIES II Figs 63* [adult bred v.1914 W.H. Harwood] and 64* [puparium]
- Criorhina ranunculi* (Panzer, 1804) SERIES I Fig. 113* [in text New Forest]
- Didea fasciata* Macquart, 1834 SERIES I Fig. 93* [N. Kent 1909 Harwood]
- Epistrophe eligans* (Harris, 1780) [*Syrphus bifasciatus* Fabr.] SERIES I Fig. 98* [Colchester 1895 Harwood]
- Epistrophe nitidicollis* (Meigen, 1822) [*Syrphus nitidicollis* Meig.] SERIES I Fig. 97* [Colchester Harwood]
- Episyrphus balteatus* (De Geer, 1776) [*Syrphus balteatus* De Geer] SERIES I Fig. 99* [Colchester 1906 Harwood]
- Eristalis arbustorum* (Linnaeus, 1758) SERIES I Fig. 109
- Eristalis tenax* (Linnaeus, 1758) SERIES I Fig. 108*; SERIES III Fig. 73 (larva) and 74* [adult and puparium]
- Eumerus strigatus* (Fallén, 1817) SERIES I Fig. 116* [Colchester 1899 Harwood]
- Ferdinandea cuprea* (Scopoli, 1763) [*Chrysochlamys cuprea* Scopoli] SERIES I Fig. 117*
- Helophilus pendulus* (Linnaeus, 1758) SERIES I Fig. 110* [Colchester 1902 Harwood]
- Lejogaster metallina* (Fabricius, 1781) [*Liogaster metallina* F.] SERIES II Fig. 58*
- Leucozona glauca* (Linnaeus, 1758) [*Ischyrosyrphus glaucius* Linn.] SERIES I Fig. 92*
- Leucozona lucorum* (Linnaeus, 1758) SERIES I Figs 90-91
- Mallota cimbiciformis* (Fallén, 1817) SERIES II Fig. 61* [New Forest]
- Melangyna quadrimaculata* (Verrall, 1873) SERIES II Fig. 59* [Painswick]
- Melanostoma mellinum* (Linnaeus, 1758) SERIES I Fig. 89* [Colchester Harwood]
- Merodon equestris* (Fabricius, 1794) SERIES I Fig. 111*; SERIES II Fig. 62* [puparium]
- ? *Microdon mutabilis* (Linnaeus, 1758) SERIES II Figs 123* (♂) and 124* (♀) [Grassington vi.1920 H.P. Jones; bred by Rosse, Butterfield, Yorkshire in text]; SERIES III Fig. 77* [only larva in collection; from nest of *Lasius fuliginosus* at Aldridge Hill enclosure]
- Myathropa florea* (Linnaeus, 1758) [*Myiatropa florea* L.] SERIES III Fig. 75* [adult and puparium]
- Neoascia podagrica* (Fabricius, 1775) [*Ascia podagrica* Fabr.] SERIES I Fig. 103
- Orthonevra nobilis* (Fallén, 1817) [*Orthoneura nobilis* Fln] SERIES I Fig. 86* [Colchester 1907 Harwood]
- Pipiza noctiluca* (Linnaeus, 1758) SERIES I Fig. 85* [Colchester 1905 Harwood]
- Rhingia campestris* Meigen, 1822 SERIES I Fig. 104* [Colchester 1905 Harwood]
- Riponnensia splendens* (Meigen, 1822) [*Chrysogaster splendens* Meig.] SERIES I Fig. 87* [Colchester Harwood]
- Scaeva pyrastris* (Linnaeus, 1758) [*Catabomba pyrastris* Linn.] SERIES I Figs 94 and 95* [Clacton-on-Sea ix.1911 Harwood]

- Sericomyia silentis* (Harris, 1776) [S. borealis Fln] SERIES I Figs 118* [Inverurie viii.1912] and 119* [Aberdeenshire Mearns]
- Syrphus ribesii* (Linnaeus, 1758) SERIES I Fig. 96* [Colchester Harwood]
- Sphaerophoria* species [S. menthastri L.] SERIES III Fig. 70 (including puparium)
- Sphaerophoria scripta* (Linnaeus, 1758) SERIES I Fig. 100; SERIES III Fig. 69*
- Syritta pipiens* (Linnaeus, 1758) SERIES II Fig. 65*
- Tropidia scita* (Harris, 1780) SERIES I Fig. 112* [Alresford 1906 B.S. Harwood]
- Volucella bombylans* (Linnaeus, 1758) SERIES I Fig. 105-106
- Volucella inanis* (Linnaeus, 1758) SERIES III Fig. 72*
- Volucella pellucens* (Linnaeus, 1758) SERIES I Fig. 107*; SERIES II Fig. 60*
- Xanthogramma pedissequum* (Harris, 1776) [X. ornatum Meig.] SERIES I Fig. 101* [Colchester]
- PIPUNCULIDAE**
- Cephalosphaera furcata* (Egger, 1860) [Pipunculus furcatus] SERIES II Fig. 57
- MICROPEZIDAE**
- Neria cibaria* (Linnaeus, 1761) [Calobata cothurnata Pz.] SERIES III Fig. 121* [Sudbury]
- MEGAMERINIDAE**
- Megamerina loxocerina* (Fallén, 1820) [Lissa loxocerina Fln] SERIES II Fig. 82* [New Forest 1908]
- PSILIDAE**
- Loxocera aristata* Panzer, 1801) SERIES II Fig. 81* [Colchester]
- Chamaepsila rosae* (Fabricius, 1794) [Psila rosae F.] SERIES III Fig. 120* [Sudbury 1911]
- Psila fimetaria* (Linnaeus, 1761) SERIES II Fig. 80* [Colchester 1908]
- CONOPIDAE**
- Conops ceriaeformis* Meigen, 1824) SERIES III Fig. 80
- Conops flavipes* Linnaeus, 1758) SERIES I Fig. 121; SERIES III Fig. 81 Habitat (Kempston Garden, Bournemouth)
- Conops quadrifasciata* De Geer, 1776) SERIES III Fig. 79* [Colchester 1893]
- Conops vesicularis* Linnaeus, 1761) SERIES III Fig. 78* [New Forest]
- Phyocephala rufipes* (Fabricius, 1781) SERIES I Fig. 122* [Colchester 1903]
- Myopa buccata* (Linnaeus, 1758) SERIES I Fig. 125
- Myopa polystigma* Rondani, 1857) SERIES III Fig. 82*
- Thecophora atra* (Fabricius, 1775) [Oncomyia atra F.] SERIES III Fig. 151
- Sicus ferrugineus* (Linnaeus, 1761) SERIES I Figs 123* [Colchester] and 124* [New Forest]; SERIES III Fig. 81 Habitat (Kempston Garden, Bournemouth)
- Zodion cinereum* (Fabricius, 1794) SERIES III Fig. 150
- LONCHAEIDAE**
- Lonchaea chorea* (Fabricius, 1781) [L. vaginalis Fln] SERIES III Fig. 141* [Colchester Harwood]
- PALLOPTERIDAE**
- Palloptera muliebris* (Harris, 1780) [Toxoneura muliebris Harr.] SERIES II Fig. 103*
- Palloptera quinque maculata* (Macquart, 1835) [P. arcuata Fln] SERIES III Fig. 142* [Colchester Harwood]
- Palloptera umbellatarum* (Fabricius, 1775) SERIES II Fig. 101* [New Forest 25.vi.1902]
- PIOPHILIDAE**
- Allopiophila vulgaris* (Fallén, 1820) [Piophila vulgaris] SERIES III Fig. 145* [adult and puparium, Clacton 17.iv.1911]
- Piophila casei* (Linnaeus, 1758) SERIES II Fig. 106* [London 25.vii.1896 F.C. Adams]
- NEOTTIOPHILIDAE**

Neottiophilum praeustum (Meigen, 1826) SERIES II Fig. 77* [New Forest]

ULIDIIDAE

Ceroxys urticae (Linnaeus, 1758) [Anacampta urticae L.] SERIES II Fig. 86

Dorycera graminum (Fabricius, 1794) SERIES III Fig. 122* [Colchester] (see cover illustration)

Herina lugubris (Meigen, 1820) [Pteropaectria afflicta Mg.] SERIES III Fig. 123

Herina frondescentiae (Linnaeus, 1758) [Pteropaectria frondescentiae L.] SERIES II Fig. 83* [Wicken x.1914]

Melieria crassipennis (Fabricius, 1794) [Ceroxys crassipennis F.] SERIES II Fig. 85*

Melieria picta (Meigen, 1826) [Ceroxys pictus Mg.] SERIES II Fig. 84* [Colchester 1912]

Seioptera vibrans (Linnaeus, 1758) [Seoptera vibrans L.] SERIES II Fig. 88* [Colchester l.ix.1905]

Ulidia erythrophthalma Meigen, 1826 SERIES III Fig. 124* [Cavenham 4.vii.1915]

PLATYSTOMATIDAE

Platystoma seminatidis (Fabricius, 1795) SERIES I Fig. 150*

Rivellia syngenesiae (Fabricius, 1781) SERIES II Fig. 87* [New Forest 27.vi.1906 F.C. Adams]

TEPHRITIDAE

Dithryca guttularis (Meigen, 1826) [Carpotricha guttularis Mg.] SERIES II Fig. 96* [the two specimens labelled Copford 1913 and Essex coast]

Urophora cardui (Linnaeus, 1758) SERIES III Figs 131 (adults not in collection), 132* [section of gall containing puparium] and 133 (entire gall)

† ? *Urophora cuspidata* (Meigen, 1826) [U. macrura Lw] SERIES III Fig. 129* [no data on specimen; in the text said to be on Onopordum illyricum??, Devil's Dyke, Swaffham] (U. macrura is a synonym of U. mauritanica, a Mediterranean species)

Urophora jaceana Hering, 1835 [U. solstitialis L.] SERIES II Fig. 93* [Colchester 1906 Harwood]

Urophora quadrifasciata (Meigen, 1826) SERIES III Fig. 130

Urophora stylata (Fabricius, 1775) SERIES II Fig. 94* [Colchester Harwood]

Ensina sonchi (Linnaeus, 1767) SERIES III Fig. 135* [New Forest]

Campiglossa absinthii (Fabricius, 1805) [Tephritis absinthii F.] SERIES III Fig. 137* [Essex coast 1908]

Campiglossa plantaginis Haliday, 1833 [Tephritis plantaginis Hal.] SERIES II Fig. 97

Merzomyia westermanni (Meigen, 1826) [Ictericica westermanni Mg.] SERIES III Fig. 134* [New Forest 1909]

Sphenella marginata (Fallén, 1814) SERIES II Fig. 95

Tephritis bardanae (Schrank, 1803) SERIES II Fig. 100* [Colchester 1912]

Tephritis hyoscyami (Linnaeus, 1758) SERIES II Fig. 98*

† *Tephritis neesii* (Meigen, 1830) [T. vespertina Lw] SERIES III Fig. 138

† ? *Tephritis ruralis* (Loew, 1844) [T. conjuncta Lw] SERIES III Fig. 160

† *Tephritis vespertina* (Loew, 1844) SERIES II Fig. 99* [New Forest] (correct, Fig. 138 in SERIES III is *T. neesii*); [Tephritis parvula Lw] SERIES III Fig. 139

Trupanea amoena (Frauenfeld, 1857) [Urellia amoena Frfld] SERIES III Fig. 140* [Clacton]

Xyphosia miliaria (Schrank, 1781) [Tephritis miliaria Schrk] SERIES III Fig. 136

Rhagoletis alternata (Fallén, 1824) [Spilographa alternata Fln] SERIES III Figs 127-128 (including puparia)

Acidia cognata (Wiedemann, 1817) SERIES II Fig. 90

Cryptaciura rotundiventris (Fallén, 1814) [Aciura rotundiventris Fln] SERIES II Fig. 89

- Euleia heraclei* (Linnaeus, 1758) [*Acidia heraclei* Linn.] SERIES I Fig. 151; SERIES III Figs 125* [adult and puparium, only latter in collection] and 126 (mine)
- Stemonocera cornuta* (Scopoli, 1772) [*Trypeta cornuta* F.] SERIES II Fig. 92* [West Suffolk]
- Trypeta zoe* Meigen, 1826 [*Spilographa zoe* (Fig. 72 as *Spilogaster* in text, corrected in Errata)] SERIES II Fig. 72* [Colchester 1902] male; Fig. 91 female (stated to be male, corrected in Errata)
- LAUXANIIDAE**
- Minettia longipennis* (Fabricius, 1794) [*Sapromyza longipennis* F.] SERIES III Fig. 152* [Assington]
- Minettia inusta* (Meigen, 1826) [*Sapromyza inusta* Mg.] SERIES III Fig. 143*
- Meiosimyza decempunctata* (Fallén, 1820) [Palloptera decempunctata] SERIES II Fig. 102* [New Forest 25.vii.1908]
- COELOPIDAE**
- Coelopa frigida* (Fabricius, 1805) [*Fucomyia frigida* Fln] SERIES III Fig. 111* [Millhook]
- DRYOMYZIDAE**
- Dryomyza flaveola* (Fabricius, 1794) SERIES III Fig. 116* [Colchester 1902]
- Neuroctena anilis* (Fallén, 1820) SERIES II Fig. 76* [New Forest 1902]
- HELCOMYZIDAE**
- Helcomyza ustulata* Curtis, 1825 [*Actora aestuum* Mg.] SERIES III Fig. 115* [Cromer 1920]
- SCIOMYZIDAE**
- Coremacera marginata* (Fabricius, 1775) [*Limnia marginata* F.] SERIES II Fig. 78* [two specimens, Colchester 1906 Harwood and St Osyth 1903]
- Ilione albisetata* (Scopoli, 1763) [*Elgiva albisetata* Scop.] SERIES II Fig. 79*
- Pherbina coryleti* (Scopoli, 1763) [*Tetanocera coryleti* Scop.] SERIES III Fig. 118* [Colchester 1913]
- Sepedon spehegea* (Fabricius, 1775) [*S. spehegeus* F.] SERIES III Fig. 119* [Colchester 1901]
- Tetanocera ferruginea* (Fallén, 1820) SERIES III Fig. 117* [Colchester]
- Trypetoptera punctulata* (Scopoli, 1763) [*Tetanocera punctulata* Scop.] SERIES I Figs 148* [Colchester 1906 Harwood] and 149 [Grantchester in text]
- SEPSIDAE**
- Nemopoda nitidula* (Fallén, 1820) [*N. cylindrica* F.] SERIES III Fig. 144*
- CLUSIIDAE**
- Clusiodes albimanus* (Meigen, 1830) [*Heteroneura albimana* Mg.] SERIES III Fig. 114
- AGROMYZIDAE**
- Phytomyza ilicis* Curtis, 1846 [*Chromatomyia ilicis* Curt.] SERIES II Fig. 109; SERIES III Fig. 147 (mine)
- OPOMYZIDAE**
- Geomyza tripunctata* (Fallén, 1823) [Balioptera tripunctata Fln] SERIES II Fig. 104* [New Forest 26.viii.1906 F.C. Adams]
- Opomyza florum* (Fabricius, 1794) SERIES II Fig. 105* [Bishop's Stortford]
- BRAULIDAE**
- Braula coeca* Nitzsch, 1818 SERIES II Fig. 118
- CHLOROPIDAE**
- Chlorops pumilionis* (Bjerkander, 1778) [*C. taeniopus* Meig.] SERIES I Fig. 152
- Lipara lucens* Meigen, 1830 SERIES III Figs 155* [adults; Chippenham bred vi.1927 B.S. Harwood], 156-157 (galled reed and section through it)
- Oscinella frit* (Linnaeus, 1758) SERIES III Fig. 146* [Colchester]
- HELEOMYZIDAE**

- † *Suillia imberbis* Czerny, 1924 [*Helomyza pallida* Fln] SERIES III Fig. 113* [Colchester 1916]
 † *Suillia variegata* (Loew, 1862) [*Helomyza rufa* Fln] SERIES III Fig. 112* [New Forest 1907]



Fig. 15. *Braula coeca* Nitzsch, found in July 1915, on a hive bee at Grantchester, Cambridgeshire, by Nigel Pearce (*Typical Flies* 1921, Fig. 118).

SPHAEROCERIDAE

- Copromyza equina* (Fallén, 1820) [*Borborus equinus* Fln] SERIES II Fig. 110
Pseudocollinella humida (Haliday, 1836) [*Limosina pumilio* Mg.] SERIES II Fig. 111*
 [Grantchester N.D.F. Pearce]

DROSOPHILIDAE

- Drosophila funebris* (Fabricius, 1787) SERIES II Fig. 108 (puparium)
Lordiphosa fenestrarum (Fallén, 1823) [*Drosophila fenestrarum* Fln] SERIES II Fig. 107

EPHYDRIDAE

- Ochthera mantis* (De Geer, 1776) SERIES III Fig. 161

HIPPOBOSCIDAE

- Hippobosca equina* (Linnaeus, 1758) SERIES I Fig. 153; SERIES II Figs 113* and 114*
Lipoptena cervi (Linnaeus, 1758) SERIES II Fig. 117
Stenopteryx hirundinis (Linnaeus, 1758) [*Stenopteryx hirundinis* L.] SERIES II Figs 115 and 116*; SERIES III Fig. 148* [puparia ex house martin nest, Hauxton ix.1916, reared v-vi.1917]
Ornithomyia avicularia (Linnaeus, 1758) SERIES I Fig. 154* [Newbury 1908 P. Harwood]
Melophagus ovinus (Linnaeus, 1758) SERIES I Fig. 155

NYCTERIBIIDAE

- Nycteribia kolenatii* Theodor & Moscona, 1954 [N. (Listropodia) pedicularia Latreille] SERIES II Figs 119-120 and [var. blasii Kolenati] Fig. 121
Phthiridium biarticulatum (von Hermann, 1804) [*Nycteribia* (Stylidia) biarticulata Hermann] SERIES II Fig. 122

SCATHOPHAGIDAE

- Cordilura ciliata* Meigen, 1826 [*Cordylura ciliata* Mg.] SERIES II Fig. 75* [Colchester]
Cordilura pubera (Linnaeus, 1758) [*Cordylura pubera* F.] SERIES III Fig. 109
Ceratinostoma ostiorum (Haliday in Curtis, 1832) [alternative name *Scatophaga oceana* also stated] SERIES III Fig. 110* [St Osyth coast]
Scatophaga stercoraria (Linnaeus, 1758) [*Scatophaga stercoraria* Linn.] SERIES I Fig. 147* [Colchester]

ANTHOMYIIDAE

- Botanophila gnava* (Meigen, 1826) [Phorbia lactucae Bouché] SERIES III Fig. 105* [adult] (photograph including puparium)
- Fucellia fucorum* (Fallén, 1819) SERIES II Fig. 74
- Delia antiqua* (Meigen, 1826) [Phorbia cepetorum Mead] SERIES I Fig. 144* [Colchester 1911]; SERIES II Fig. 73* [Colchester viii.1914]; SERIES III Fig. 106* [adult and puparium]
- Delia coarctata* (Fallén, 1825) [Hylemyia coarctata Fln] SERIES I Fig. 142* [Thames Marshes 30.vi.1906 H.W. Andrews]; SERIES III Fig. 104* [as Leptohylemyia] [Sudbury 1921]
- Delia radicum* (Linnaeus, 1758) [Anthomyia radicum Linn.] SERIES I Fig. 143 (a female but probably this as it is said to be destructive to roots including cabbages)
- ? *Pegomya betae* (Curtis, 1847) [Pegomyia betae Curtis] (4 species now recognised in this group) SERIES I Fig. 145; SERIES III Fig. 107* [2 males and puparium ex *Beta maritima*]
- Pegomya solennis* (Meigen, 1826) [Pegomyia nigritarsis Ztt] SERIES III Fig. 108
- FANNIIDAE**
- Fannia canicularis* (Linnaeus, 1761) [Homalomyia canicularis Linn.] SERIES I Fig. 146*
- MUSCIDAE**
- Drymeia hamata* (Fallén, 1823) [Drymia hamata Fln] SERIES III Fig. 103* [Stradbally]
- Potamia littoralis* (Robineau-Desvoidy, 1830) [Spilogaster platyptera Ztt, said to be new to Britain having been reared from a hornet's nest by Mr Harwood] SERIES I Fig. 141* [Colchester iv.1912, data as stated]
- Mesembrina meridiana* (Linnaeus, 1758) SERIES III Fig. 100
- Musca domestica* Linnaeus, 1758 SERIES I Fig. 137* and 138* [both Colchester 1911]
- Muscina stabulans* (Fallén, 1817) [Cyrtonera stabulans Fln] SERIES III Fig. 99* [Colchester 1911 Harwood]
- Haematobia irritans* (Linnaeus, 1758) SERIES I Fig. 136* [Milford Haven 1912]
- Stomoxys calcitrans* (Linnaeus, 1758) SERIES I Fig. 135; SERIES II Fig. 71
- Graphomyia maculata* (Scopoli, 1763) [Graphomyia maculata Scop.] SERIES III Fig. 98* [Colchester ix.1917]
- Phaonia rufiventris* (Scopoli, 1763) [Hyetodesia scutellaris Fln] SERIES III Fig. 102
- CALLIPHORIDAE**
- Calliphora vicina* Robineau-Desvoidy, 1830 [C. erythrocephala Mg.] SERIES III Fig. 101* [adult and puparium]
- Calliphora vomitoria* (Linnaeus, 1758) SERIES I Fig. 139* [Colchester 1910]
- Cynomyia mortuorum* (Linnaeus, 1761) [Cynomyia mortuorum L.] SERIES III Fig. 92* [Essex coast]
- Lucilia sericata* (Meigen, 1826) SERIES I Fig. 140* [Colchester]
- Pollenia rudis* (Fabricius, 1794) SERIES III Fig. 97* [Colchester]
- SARCOPHAGIDAE**
- Miltogramma punctata* (Meigen, 1824) [M. punctatum Mg.] SERIES III Fig. 93* [Westerham 1922 Harwood, adult and puparium], Fig. 94* [Westerham] (host *Colletes daviesana*)
- ? *Sarcophaga carnaria* (Linnaeus, 1758) (3 species now recognised in this group, *S. variegata* (Scopoli, 1763) being the *S. carnaria* of most authors) SERIES I Figs 133* [♂, Colchester 1908] and 134* [♀, Colchester 1912]
- TACHINIDAE**
- Dexia rustica* (Fabricius, 1775) SERIES III Fig. 95* [Royston viii.1916]

- Prosenia siberita* (Fabricius, 1775) [as *Dexia vacua* Fln, corrected in Errata] SERIES III Fig. 96* [Tuddenham]
- Trixa caerulea* Meigen, 1824 [T. alpina Mg.] SERIES III Fig. 90
- Trixa conspersa* (Harris, 1776) [T. oestroidea Dsv.] SERIES III Fig. 91* [♂ Wilts 1915 P. Harwood; ♀ Wantage 1907]
- Phryxe vulgaris* (Fallén, 1810) [*Blepharidea vulgaris* Fln] SERIES II Fig. 68* [Colchester]; SERIES III Fig. 83* [puparia ex *Aglais urticae*]
- Exorista larvarum* (Linnaeus, 1758) [*Tachina larvarum* L.] SERIES III Fig. 84 (including puparium)
- Gonia divisa* Meigen, 1826 SERIES III Fig. 86* [Colchester 7.v.1917]
- Gonia ornata* Meigen, 1826 SERIES III Fig. 87
- Gonia picea* (Robineau-Desvoidy, 1830) [G. fasciata Mg.] SERIES III Fig. 85*
- Phasia hemiptera* (Fabricius, 1794) [*Alophora hemiptera* Fabr.] SERIES I Figs 131* [New Forest] and 132*
- Linnaemya vulpina* (Fallén, 1810) [*Micropalpus vulpinus* Fln] SERIES III Fig. 88 and Fig. 89 Habitat (Woolbarrow, Dorset)
- Nowickia ferox* Panzer, 1809 [*Fabricia ferox* L.] SERIES II Fig. 70*
- Tachina grossa* (Linnaeus, 1758) [T. (*Echinomyia*) *grossa* L.] SERIES II Fig. 69* [Wareham Common E.K. Pearce; she had also collected this species at Wool, Dorset]
- Triarthria setipennis* (Fallén, 1810) [*Digonochaeta setipennis* Fln] SERIES III Figs 158-159 (including puparia)

OESTRIDAE

- Oestrus ovis* (Linnaeus, 1758) SERIES I Fig. 130
- Gasterophilus intestinalis* (De Geer, 1776) [*Gasterophilus equi* Fabr.] SERIES I Figs 126-127; SERIES II Fig. 67 (puparia)
- Hypoderma bovis* (Linnaeus, 1758) [*H. bovis* De Geer] SERIES I Fig. 129
- Hypoderma lineatum* (de Villers, 1789) SERIES I Fig. 128



Fig. 16. The Warble Flies (Oestridae) *Hypoderma lineatum* (de Villers) (left), male and *Hypoderma bovis* (Linnaeus) (right), female, both from the New Forest (Typical Flies 1915, Figs. 128 and 129).

Aedes (Aedes) geminus Peus (Diptera, Culicidae) – an addition to the British mosquito fauna

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Summary

The inclusion of *Aedes geminus* Peus, 1971 in the British mosquito list, following re-appraisal of museum specimens of *Aedes cinereus*, is discussed.

Introduction

Following the recent discovery of *Anopheles daciae* Linton, Nicolescu & Harbach, through DNA analysis of members of *Anopheles maculipennis* sensu lato (Linton *et al.* 2005), the number of mosquito species recorded in the British Isles was increased to 33, comprising six species of Anophelinae (genus *Anopheles*) and 27 species of Culicinae in six genera: *Aedes* (2), *Coquillettidia* (1), *Culex* (4), *Culiseta* (7), *Dahlia* (1), *Ochlerotatus* (11) and *Orthopodomyia* (1) (Medlock *et al.* 2005; Harbach and Howard 2007). This article is concerned with members of the genus *Aedes*.

The two previously recorded British representatives of the genus *Aedes* are *Aedes (Aedes) cinereus* Meigen, 1818 and *Aedes (Aedimorphus) vexans vexans* (Meigen, 1830). In continental Europe a further six species in this genus have been recorded, which include three members of the subgenus *Stegomyia* including *Aedes (Stegomyia) cretinus* Edwards, 1921 and the two invasive species *Aedes (Stegomyia) albopictus* (Skuse, 1894) and *Aedes (Stegomyia) aegypti* (Linnaeus, 1762); one member of the subgenus *Fredwardsius*, i.e. *Aedes (Fredwardsius) vittatus* (Bigot, 1861) and two further members of the subgenus *Aedes* including *Aedes (Aedes) esoensis rossicus* Dolbeskin, Gorickaja & Mitrofanova, 1930 and *Aedes (Aedes) geminus* Peus, 1970.

Separation of the species of subgenus *Aedes* sensu stricto

The three European members of the subgenus *Aedes* are morphologically similar, *A. cinereus* and *A. geminus* being twin species, with only appraisal of the genitalia of the male imago enabling an exact identification (Schaffner *et al.* 2001). This difference is most apparent in *A. esoensis rossicus* which, unlike the other two species has a gonostylus apex that is not bifurcated. The other two species differ in the relative size of the internal and external ramifications of the bifurcated apex of the gonostylus. For *A. cinereus* the internal ramification is larger than or equal to the external ramification, giving it a 'fish-tail' shape (Fig. 1). In contrast the external ramification is larger than the internal ramification in *A. geminus*, giving it a top-heavy upward-pointing appearance (Fig. 2).

Owing to the fact that *A. geminus* was only identified as a species in 1970, much later than *A. cinereus* (1818), many of the records of *A. geminus* are overlooked as *A. cinereus*. Given that both species have a European-wide distribution, it appeared likely that *A. geminus* might also occur in Britain. Furthermore, much of the fieldwork carried out in Britain on mosquitoes by W.D. Lang (1910s), J.F. Marshall and J. Staley on Hayling Island (1920s-1930s) and M.W. Service at Monks Wood and Poole Harbour (1960s) pre-date the

identification of this species. Thankfully a good number of museum specimens collected by Marshall and Staley are still in good condition and have been used extensively in the preparation of keys by Cranston *et al.* (1987) and Snow (1990), and continue to act as a resource to ongoing efforts by the authors to run the British mosquito recording scheme. These specimens include 20 prepared slides of the male genitalia of *A. cinereus* and these were appraised again to assess whether *A. geminus* might have been overlooked.

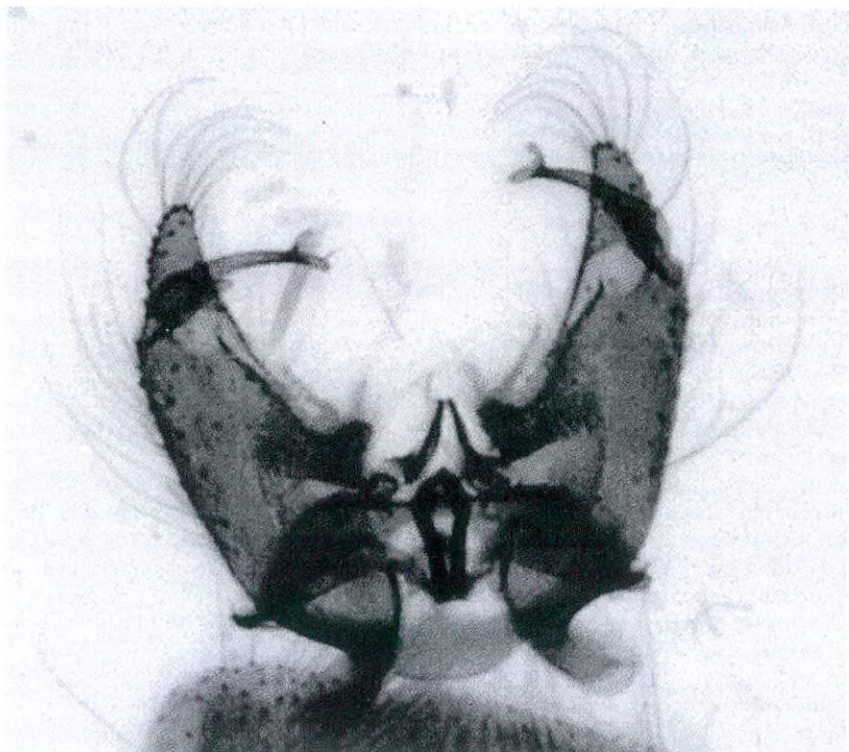


Fig. 1. *Aedes cinereus* Meigen, male genitalia.

From the twenty specimens, five matched the description of Peus (1970) and Schaffner *et al.* (2001) as male specimens of *A. geminus*. Unfortunately there is no information on where in Britain these specimens were collected, although it can be assumed that most of the specimens held by Marshall and Staley were collected around the Hayling Island area. However, it is curious that in *The British Mosquitoes*, Marshall (1938) made no mention of any variation in the shape of the gonostylus of *A. cinereus* that would have suggested that *A. geminus* was among the specimens he examined. It is possible that, following the death of Marshall and during the custodianship of his collection by entomologists at the London School of Hygiene and Tropical Medicine, additional British specimens of *A. cinereus* were added to the collection. Sadly we cannot reach resolution on the exact location in Britain of

this population of *A. geminus*, and therefore urge all dipterists interested in Culicidae to procure male specimens of *A. cinereus* to assess the distribution and range of *A. geminus*.



Fig. 2. *Aedes geminus* Peus, male genitalia. Note the relative size compared to *A. cinereus* of the ramifications on the bifurcated apex of the gonostylus.

Biology of *Aedes cinereus* and *A. geminus*

In continental Europe (as in Britain for *A. cinereus*) both are typically species of floodwater (specifically freshwater), with similar life-histories and behaviour. Marshall (1938) reported that on Hayling Island *A. cinereus* remains in the egg stage for six months of the year. Eggs were reported to have been laid in low-lying situations that habitually flood during rainy periods. Marshall reported that larvae appear in aquatic habitats between April and June, with eggs resisting hatching during bouts of submergence prior to April. This species is considered univoltine (Service 1968), with adults on the wing between June and September. Studies over three years by Service (1968) at Studland consistently reported adult activity commencing in

June, peaking in July and declining through to September. These studies provided some insight into the late hatching of eggs in April, as Service (1971) showed that the majority of eggs require 8-12 soakings before hatching.

Aquatic habitats for this species have been recorded as flooded meadows, ponds, ditches and marshes (Service 1968; Cranston *et al.* 1987; Snow 1990). In Epping Forest, larvae were found in the flooded margins of permanent ponds at three sites within the forest (Snow and Medlock 2008). In Woodwalton Fen adults were reported to be aggressive biters within the reed-bed (Medlock and Vaux 2009).

Male mosquitoes may be acquired through sweep netting vegetation or netting a swarm, if these can be located. Collection and rearing of larvae and pupae through to imagos should provide sufficient male specimens in good condition to confirm the species present. Given that they adopt similar life histories and behaviour, it is not inconceivable that both species could be found occurring together.

The authors would be grateful for any records of *A. geminus* and/or *A. cinereus*, and indeed any records of Culicidae which would supplement our efforts in re-establishing the mosquito recording scheme (www.britishmosquitoes.org.uk).

Acknowledgements

We are grateful to Francis Schaffner for alerting us to the possibility of *Aedes geminus* occurring in Britain, and for confirming the identification.

References

- Cranston, P.S., Ramsdale, C.D., Snow, K.R., and White, G.B. 1987. Adults, larvae and pupae of British mosquitoes (Culicidae). *Scientific Publication*, no 48, pp. 1-152. Freshwater Biological Association, Ambleside, Cumbria.
- Harbach, R.E. and Howard, T.M. 2007. Index of currently recognized mosquito species (Diptera: Culicidae). *European Mosquito Bulletin* 23, 1-66.
- Linton, Y.-M., Lee, A.S. and Curtis, C. 2005. Discovery of a third member of the *Maculipennis* group in SW England. *European Mosquito Bulletin* 19, 5-9.
- Marshall, J.F. 1938. *The British Mosquitoes*. British Museum (Natural History), London.
- Medlock, J.M., Snow, K.R. and Leach, S. 2005. Potential transmission of West Nile virus in the British Isles: an ecological review of candidate mosquito bridge vectors. *Medical & Veterinary Entomology* 19, 2-21.
- Medlock, J.M. and Vaux, A.G.C. 2009. Mosquitoes of the Great Fen. Unpublished report.
- Peus, F. 1970. Bemerkenswerte Mücken am Tegeler Fließ. *Berliner Naturschutzblätter, Special Number* (May), 18-26.
- Schaffner, F., Angel, G., Geoffroy, B., Rhaïem, A., Hervy, J.-P. and Brunhes, J. 2001. The Mosquitoes of Europe / Les moustiques d'Europe. Programme d'identification et d'enseignement, Montpellier, IRD Ed. & EID Méditerranée (CD-ROM).
- Service, M.W. 1968. Observations on feeding and oviposition in some British mosquitoes. *Entomologia Experimentalis et Applicata* 11, 286-290.
- Service, M.W. 1971. Feeding behaviour and host preferences of British mosquitoes. *Bulletin of Entomological Research* 60, 653-661.
- Snow, K.R. 1990. *Mosquitoes. Naturalists' Handbooks Series*. Richmond Publishers, London.
- Snow, K. and Medlock, J.M. 2008. The mosquitoes of Epping Forest, Essex, UK. *European Mosquito Bulletin* 26, 9-17.

The collection and diaries of Henry William Andrews

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Summary

An account is given of the collection and diaries of H.W. Andrews that are held by the British Entomological and Natural History Society. His annual summaries and other extracts from his diaries for the period 1899 to 1914 are reproduced verbatim. Localities in which he collected are listed, with details of their locations and the years in which they were visited, and they are plotted on maps. A bibliography of his publications is included.

Introduction

The principal Diptera collection held by the British Entomological and Natural History Society is that of Henry William Andrews (1876 - 1955). He was an active member of the Society in the time that it was known as the "South London"; he joined the Society in 1907, was its president in 1929, and became an honorary member in 1953. His involvement in other Societies, including the Royal Entomological Society and his service for almost 30 years as treasurer for the Entomologist's Record, were described in the obituary by Parmenter (1955).

His collection of about 14,000 specimens, together with his entomological diaries, came to the Society following his death and formed the basis for its Diptera collection. Andrews' collection was quite wide-ranging but formed entirely of Brachycera sensu lato as he generally avoided Nematocera apart from occasional notice of Bibionidae. The earlier diaries refer to captures of other Nematocera (tipulids, *Ptychoptera*, *Chironomus*, etc.) but these are not preserved in his collection. The orthorrhaphous Brachycera (including Dolichopodidae but empids to a lesser extent), Aschiza (except Phoridae), all groups of Calypterae and many families of acalypterates (agromyzids, ephydriids and sphaerocerids being notable exceptions) were well represented. Unfortunately some of his earlier specimens no longer exist but those that are preserved provide a valuable record.

Like most of his contemporaries among the dipterists of the first half of the twentieth century, Henry Andrews was an amateur collector with wide interests in the order. He consistently published short papers and notes throughout his life as a dipterist and a bibliography of his publications is included below. Most of these concerned distribution or biology. In some papers covering his captures in particular areas, e.g. West Kent (Andrews 1909a), Ireland (Andrews 1914) and Pembrokeshire (Andrews 1950), he emphasised that his priority had been obtaining material for his collection rather than compiling a complete faunal list. He did not write keys or attempt taxonomic work, but his specimens were always made available to specialists, among whom he regularly sought assistance to ensure the accuracy of his collection.

Although he could not be regarded as a specialist, especially during the period covered by the diary extracts published here, it is evident from his collection and from his later diaries that calypterates and Tephritidae became his favourite groups of flies. His interest in Tephritidae is also indicated by the several papers he wrote about their distribution, variation and biology. He was particularly interested in the variation of wing markings in this family (Andrews 1939a, 1941c, 1946b). In his collection there are long series of many species, which are arranged in sub-groups with labels noting any significant variation in their wing

markings. In the autumn he often made special excursions in search of platypezids, to which he was probably attracted because of their inclusion in Verrall's first volume of *British Flies*.

Biographical details and collecting activity

Henry William Andrews was born at Eltham, Kent on 9 November 1876. His father Henry Edward Andrews, a stockbroker, and his mother Alice Godwin Naylor, married at Kensington in 1873, the year in which Henry Edward had graduated from Oxford University. In 1881, when he was aged 4, the family was staying with his grandmother Harriet Andrews at Broadwater Down, Frant in Sussex. His grandfather Henry Wyche Andrews, also a member of the Stock Exchange, who played cricket for Kent and England, had died aged 44 in 1865. The family lived at 9 Victoria Road, Eltham until at least 1903 and then moved to nearby Welling, where he remained at his parents' address (Shirley, Welling) probably until the First World War. The employment he obtained from 1900 was as a clerk to a firm of stockbrokers, named in 1911 as Heseltine & Powell and, apart from war service, he continued in this employment until his retirement aged 69 in 1945. From the 1920s he returned to Eltham and his address was then Woodside, Victoria Road or Woodside, 6 Foot's Cray Road.

Henry evidently had an interest in Lepidoptera from an early age, but it was only when his interest turned to Diptera at the age of 22 that he began to keep diaries in which he recorded details of his captures. On 1 February 1899 he joined the Royal Entomological Society (then the Entomological Society of London) at the time that George Verrall was its president. He then began the study of Diptera (Andrews 1938c), possibly due to the influence of Verrall and his nephew J.E. Collin, who was elected to the Society at the following meeting, 15 February 1899, and was the same age as Andrews. From the start of his activities as a dipterist he was in contact with the leading dipterists of the day, and often took the opportunity to refer specimens to them for identification or confirmation.

He regularly attended the Verrall Supper, and a diary entry for 20 January 1904 refers to this: "Mr Verrall's Entomological Club Supper. Met a number of Dipterists & others including Mr W.G. Vice of Leicester, Mr Jenkinson of Cambridge, Collin, Wainwright, Adams, Yerbury, & a Mr Carter of Edinburgh. Sat next Collin, Jenkinson & Wainwright at dinner." This may not have been his first attendance as Parmenter (1955), who first met him at the 1935 Verrall Supper, stated that he had attended it for over 50 years.

An early contact was Frederick Charlstrom Adams (1836 - 1920), a London-based retired tea broker and "China merchant", who also had a cottage at Lyndhurst in the New Forest, where most of his collecting was done (Pont 1995). During trips to the New Forest, as related in Andrews' diaries, he visited Adams and frequently exchanged specimens with him. There is also frequent reference in his diaries (often as W.S.B) to another local entomologist, Wilfred Sherwood Brameld (1878 - 1956), who he knew at least from 1899. In 1904 and some subsequent years (until 1912), Andrews often stayed with the Brameld family during visits to the Forest. Wilfred Brameld was interested in Lepidoptera and had the unusual occupation of "entomologist and taxidermist on his own account at home" (1901 census). Brameld lived at Brockenhurst with his parents and sister Helen, who was later to become Andrews' wife; the family had moved there following his father Richard's retirement as a bank manager at East Retford, Nottinghamshire, where Wilfred and Helen were born.

Following the period covered in the diary entries appended here, Andrews was on military service in Egypt and Palestine and wrote articles about his experiences there (Andrews 1917, 1918, 1920). On 28 April 1919 he married Helen Margaret Brameld at East Wickham, Kent and their honeymoon was at St David's, Pembrokeshire to which, as

Parmenter (1955) mentioned, he returned 30 years later. Following the latter occasion he wrote an article about his finds in that district (Andrews 1950).



Fig. 1. Henry William Andrews (from Anon 1955).

Most of Andrews' collecting was in the south-east of England, particularly in Kent and Hampshire. He made early trips to Berkshire, Norfolk and Suffolk as well as visits to Ireland in three consecutive years from 1906 to 1908, and again in 1911, of which he published an account and species list (Andrews 1914). His Irish holidays were based at three locations, those in Cork and Kerry being in areas already worked for Diptera by Colonel John William Yerbury (Yerbury 1901). He was given permission by J.G. Beresford to collect on his land at Stradbally, Co. Waterford and made three visits to this previously unstudied area, comprising a wooded river valley reaching the coast at a sandy cove.

Apart from the visits to St David's he made several earlier visits to Pembrokeshire (in all years from 1909 to 1914), particularly to the area west of Milford Haven, around Bicton, Dale and Marloes. Immediately following the last two of these stays he also visited coastal sites in Glamorgan and went there again in 1929. He also had one trip to Wasdale in Cumbria lasting nearly three weeks in June/July 1946, when he added a range of upland species to his collection. Although he had contacts with Scottish dipterists, he never visited Scotland; Cockayne (1955) referred to Andrews' pleasure at being presented by him with specimens of the deer bot-fly *Cephenemyia auribarbis* (Meigen) (Oestridae) from the Scottish mountains.

Many of the sites he visited will have changed substantially since that time, particularly some parts of the Thames Marshes that he regularly visited. One of his favourite areas, referred to as Abbey Wood Marshes, corresponds to the area called Erith Marshes on most maps, but is now the Thamesmead housing estate.

His early fieldwork appears to have been largely solitary, with the possible exception of some excursions in the New Forest with his friend Wilfred Brameld and others (E.G. Cook and Watson). Although he was active in Societies he appears not to have attended many field meetings. Two field meetings of the Entomological Club (1931, 1932) and two in 1934 of the South London are mentioned in his diaries (see Locality list). Andrews (1932) referred to the 1931 meeting at Eastbourne and also to collecting with E. Rivenhall Goffe, including an excursion to Matley Bog in search of *Eristalis cryptarum* (Fabricius) (only one was seen) with Goffe, F.H. Haines and H. Audcent, remarking that it was "a rare sight of four dipterists collecting together". Blair (1935) quoted Andrews' report on the Eynsford field meeting: "Mr O'Farrell made a most interesting capture, viz: - *Tabanus glaucopsis*, Mg., new to Kent so far as I am aware [See 'Ent. Record' p 125 (1934)]". Following that meeting he made visits to Eynsford in several subsequent years.

Following his retirement in 1945 he moved from Kent and spent short periods at Bognor Regis (where he didn't collect), Salisbury and Fordingbridge. He finally settled at Spring Cottage, Highcliffe in the vicinity of the New Forest, and lived there from 23 August 1950 until his death on 9 April 1955. During these latter years, in his seventies, he added a good number of species to his collection, "Breamore" (from 1947 to 1953) and "Highcliffe" (1952 to 1954) frequently appearing on his data labels. At Breamore he found the second British specimen of *Myopa occulta* Wiedemann (Conopidae) ("chalk", 5 August 1948), which he first identified correctly and then queried as possibly *M. fasciata* Meigen; its identity has been confirmed by David Clements. Also found there were several scarce tachinids, among them the last recorded British specimens of *Germaria ruficeps* (Fallén) (28 June and 29 July 1950) and other notable finds were *Nemoraea pellucida* (Meigen) (26 and 29 July 1950) and *Frontina laeta* (Meigen) (1 August 1950 on *Pastinaca* flowers at Kiln Wood).

Anon (1955) stated that he had "expressed the wish that his collection should go to The South London", and that it was generously given to the Society by his widow.

Andrews always endeavoured to encourage others in the study of Diptera. In 1938 he provided a summary of the great progress in knowledge of this subject that had taken place since 1890 (Andrews 1938c). In this account he expressed regrets about the "virus of revised nomenclature" and suggested that there should be a "referendum of known students" before any proposed change came into effect. He also kept amateurs informed of new literature in English for the identification of Diptera by providing regular updates in supplements to the *Entomologist's Record* (Andrews 1931b, 1935b, 1943b and 1949c).

The Diaries

His diaries, which fortunately came to the BENHS with his collection, provide an almost continuous record from 6 May 1899 until 24 September 1954, the year before his death. The only significant break is the period when he was engaged in military service during the First World War. Following the entry on 25 July 1914 he noted: "1914-1919. The Great War. Joined up 5/8/14. Demob' 5/4/19. 1914 captures left & unidentified mostly spoilt."

He married three weeks after ending his war service and, apart from brief notes made on his honeymoon in Pembrokeshire, entries didn't resume until 2 April 1920. There are also no entries for 1951, following a capture of *Eurithia anthophila* (Robineau-Desvoidy)

(Tachinidae) on 24 September 1950, shortly after moving to Highcliffe. Full entries resumed from 23 May 1952.

The diaries comprise seven numbered volumes in hard covered ruled notebooks, of which the first four covered the period from 1899 to 1920, to which the detailed information reproduced in the Appendix relates. In addition to these there is a larger book ("Daily Record") with a page for each day of the year, on which species recorded on that date in different years were listed. This was planned as a cross reference to his main diaries. Annual summaries for 1899 to 1910 and for 1912 were included within this book.

For the most part the diary entries are concise and comprise a list of species collected on each date, but are useful in sometimes giving more details of precise localities visited than the brief data of locality name and date that appear on the labels of specimens. Often specimens were not identified as far as species in the Diaries but sometimes an identification has been added or corrected by him later. Individual specimens in his collection can be located in the Diaries because of the unique numbering system used, as described below. He also received named specimens from other dipterists, and the diaries include lists of such specimens given to him by F.C. Adams and C.J. Wainwright.

The diaries for the earlier years include marginal notes under the heading of General Remarks, some of which are duplicated in the annual summaries, but where they provide additional information of interest they are also included here under the relevant year. Some of the notes under this heading were written in shorthand, evidently including earlier drafts of some of the annual summaries, but these have not yet been deciphered.

The Preface to his "Daily Record" and the annual summaries for 1899 to 1910 and for 1912 are reproduced here almost verbatim as they demonstrate how his interest in Diptera developed as he gained experience. These are sometimes expanded by relevant additional details from the Diaries, as indicated. Also extracts are provided for the years 1911, 1913 and 1914 for which annual summaries were not compiled by Andrews, in order to give fuller coverage to the first phase of his activities and study of Diptera before the hiatus caused by his military service.

A great variety of information about his travels and collecting activities during this period is provided. There are frequent references to weather conditions and the seasonal effects on Diptera populations, which varied considerably from year to year. There are accounts of his successes and of rare species that he found, some of which are no longer present in the sites he visited.

There are interesting comments on such species as *Villa venusta* (Meigen) Bombyliidae, now considered extinct in Britain, *Eristalis cryptarum* (Fabricius) (Syrphidae) and *Atrichops crassipes* (Meigen) (Athericidae); he made several visits to the Sussex locality of the latter. There are no specimens of *Eristalis cryptarum* in his collection but there are some of *Villa venusta* (21.viii.1903 and 23.viii.1906, both from Matley Bog, but labelled only New Forest) and *Atrichops crassipes*, including one female of the original series taken at Ticehurst Road Station on 10.vii.1900, two females from the same place on 6.vii.1901 and two labelled New Forest 23.vii.1904, taken respectively at New Park and Queen's Bower.

There are also comments about species not appearing where and when they might be expected and of the failure to find species that he particularly sought. Collecting techniques are occasionally mentioned and it seems that he generally took specimens individually from the net using a pill box. During the early years he was gaining experience and greatly benefited from his contacts with other dipterists, to which there are frequent references. He also refers to the finds and experiences of others that he had heard, during the year, and sometimes mentions any works helpful for identification that had appeared.

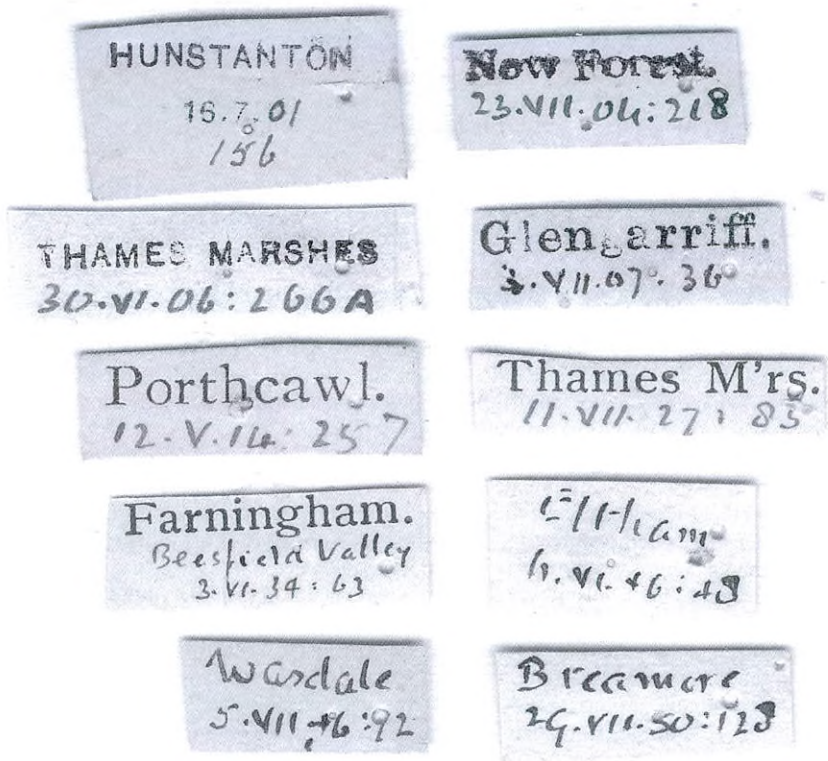


Fig. 2. Examples of data labels from the collection of H.W. Andrews, 3.5 x actual size. In chronological order these are labels of the following, with precise locality in diary stated where more detail is provided: (1) *Rhagio scolopaceus* (Linnaeus) (Rhagionidae), small form mentioned in diary; (2) *Ibisia marginata* (Fabricius) (Athericidae), Queen's Bower; (3) *Ceroxys urticae* (Linnaeus) (Ulidiidae), Dartford Marshes; (4) *Haematopota crassicornis* Wahlberg (Tabanidae); (5) *Gonia ornata* Meigen (Tachinidae), Kenfig Burrows; (6) *Melieria omissa* (Meigen) (Ulidiidae), Dartford Marshes; (7) *Platystoma seminationis* (Fabricius) (Platystomatidae); (8) *Dorycera graminum* (Fabricius) (Ulidiidae), Quay wall, 23 taken; (9) *Symphoromyia crassicornis* (Panzer) (Rhagionidae); (10) *Winthemia quadripustulata* (Fabricius) (Tachinidae), "border of woods".

His collection and labelling methods

Most of his specimens were pinned dorsally and often set in the fashion of micro-moths, while some were pinned laterally. Like most of his contemporaries, Andrews did not usually stage his specimens but placed the data label directly on the pin securing the insect. All specimens in his collection have been staged on polyporus strips by the author.

His specimens may be recognised by their characteristic labels, with printed or hand-written locality and hand-written date and specimen number, but not including his name (examples are shown in Fig. 2). The locality label is usually brief and the county was never

stated. Many locations are indicated on his labels by the nearest town or village, or the centre where he was staying at the time (e.g. Porthcawl, Fig. 2; Milford Haven, often abbreviated to H'v'n), but a precise locality may usually be determined from his diaries. Among localities commonly appearing on his labels, "Bexley" often refers to Joyden's Wood. Thames Marshes was later abbreviated to "Thames M'rs" as shown above, or New Forest to "N. Forest", and these included most sites listed under those headings in the locality list below. Occasionally more detail appears as on the Farningham label in Fig. 2. Each specimen collected within a catch (daily or longer periods if a locality was visited on successive days) was given a serial number in the diary and he also wrote this number on the data label (following the date, as shown in Fig. 2), which enables individual specimens to be located in the diaries.

Reared specimens were labelled differently as no serial number was provided. This applies to many of his Tephritidae. Here the entire label was usually hand-written, e.g. "Bred 26.vi-2.vii.38 / Hds of *C. nigra* / I. Wight Feb 38" (*Urophora jaceana* (Hering)), "Bred 15-20.ix.41 / I. *crithmoides* / Shalfleet I. Wight / viii.41" (*Myopites eximius* Ségué) and "Bred 26-31.v.40 / Stem of *Artemisia vulgaris* / Thames Marshes Stone / Dartford Octr 39" (*Oxyina parietina* (Linnaeus)). The abbreviated food plants are *Centaurea nigra* and *Inula crithmoides*. The examples of his hand-writing above should aid recognition of these. He received reared tephritids from many other collectors but their name is usually on the label.

Specimens collected by him are present in most of the major museum collections, where they usually came with the collections of those of his contemporaries with whom he had exchanged specimens; the labels illustrated here should assist in their recognition.

Localities visited by H.W. Andrews

There was a greater coverage of 10km squares in his sixteen years of collecting from 1899 to 1914 than in the 35 years from 1920 to 1954, as shown in the accompanying maps.

In the list below localities are arranged in alphabetical order by county and the years in which the locality was visited are given. Grid references were not recorded by Andrews but are suggested at least to the 10km square and to the 1km square where this is practicable. Localities are generally given as spelt by Andrews in his diaries with any additional part of the name not mentioned by him in brackets, e.g. (Great) Wishford and with the usual spelling if different in square brackets, e.g. [Hursthill Enclosure].

ENGLAND:

BERKSHIRE

Donnington, garden, water meadows opposite garden; water meadows at the Priory (SU4668) 1899

Hampstead, near Newbury, water meadows (SU5276) 1899

Snelsmore Heath, Newbury (SU4570/4670) 1899

BUCKINGHAMSHIRE:

Eton Wick (SU9578) 1950

CORNWALL:

Helford (SW72) 1928

CUMBERLAND:

Wasdale (NY10) 1946 (19.vi-8.vii)

DEVON:

Seaton (SY28) 1937

DORSET:

Christchurch, sandhills & heath (SZ29) 1926

Langton Matravers (SZ0078) 1948

Mudford (SZ1892) 1936, sandhills 1937, Haven 1952

Poole (SY99), sandhills 1926; garden 1927

Stanpit Marsh (SZ1691) 1936

Studland Heath & shore (SZ08) 1927, 1947, 1948

Studland, sandhills (SZ08) 1926

Swanage (SZ07) 1947, 1948

Swanage cliffs (SZ07) 1904

Swanage, Ballard Down (SZ0381) 1948

ESSEX:

Walton on the Naze (TM21) 1930

HAMPSHIRE:

Breamore ("Salisbury"), lanes, woods and chalk downs (SU11) 1947, 1948, 1949, 1950, 1952

Breamore, Kiln Wood (SU11) 1948, 1949, 1950, 1952, 1953

Breamore, water meadows (SU1617) 1949, 1950

Farley Down, near Winchester (SU3928) 1931, 1952

Godshill (SU1716) 1950

Goss Common (not located, probably near Highcliffe) 1953

Hale, garden (SU1918) 1931

Hengistbury Head (SZ1790) 1936

Highcliffe, garden and wood opposite cottage (SZ2093) 1950, [no collecting in 1951], 1952, 1953, 1954

Kingsclere, near Newbury (SU5258) 1899

New Forest:

Aldridge Hill (Enclosure) (SU2703) 1931

Balmer Lawn (SU3003) 1904

Beaulieu Road (SU3406) 1905

railway bank near Beaulieu Road Enclosure (SU30) 1899, 1902, 1906

Boldre to Lymington, roadside (SZ3197) 1903

Bratley Bog (SU2208) 1931

Brockenhurst (SU29/30) 1899 (Brameld's garden), 1900, 1902, 1903, 1904, 1905, 1906

brickfields near Brockenhurst (?SU20/30) 1936

Castle Hill (Bog) (SU1903) 1947, 1948, 1949

Denny Bog (SU3405) 1902 (rides near), 1952

Downton, waste ground near (SZ2693) 1903

near Fordingbridge, Sandy Balls Enclosure (SU1614) 1903

Gritnam (SU2806) 1926

Highland Water (SU2608) 1931

Holland's Wood (SU3004) 1902

Hurst Hill Wood [Hursthill Enclosure] (SU2805) 1905

Ladycross (SU3302) 1902

railway bank near Ladycross (?SU3303) 1906

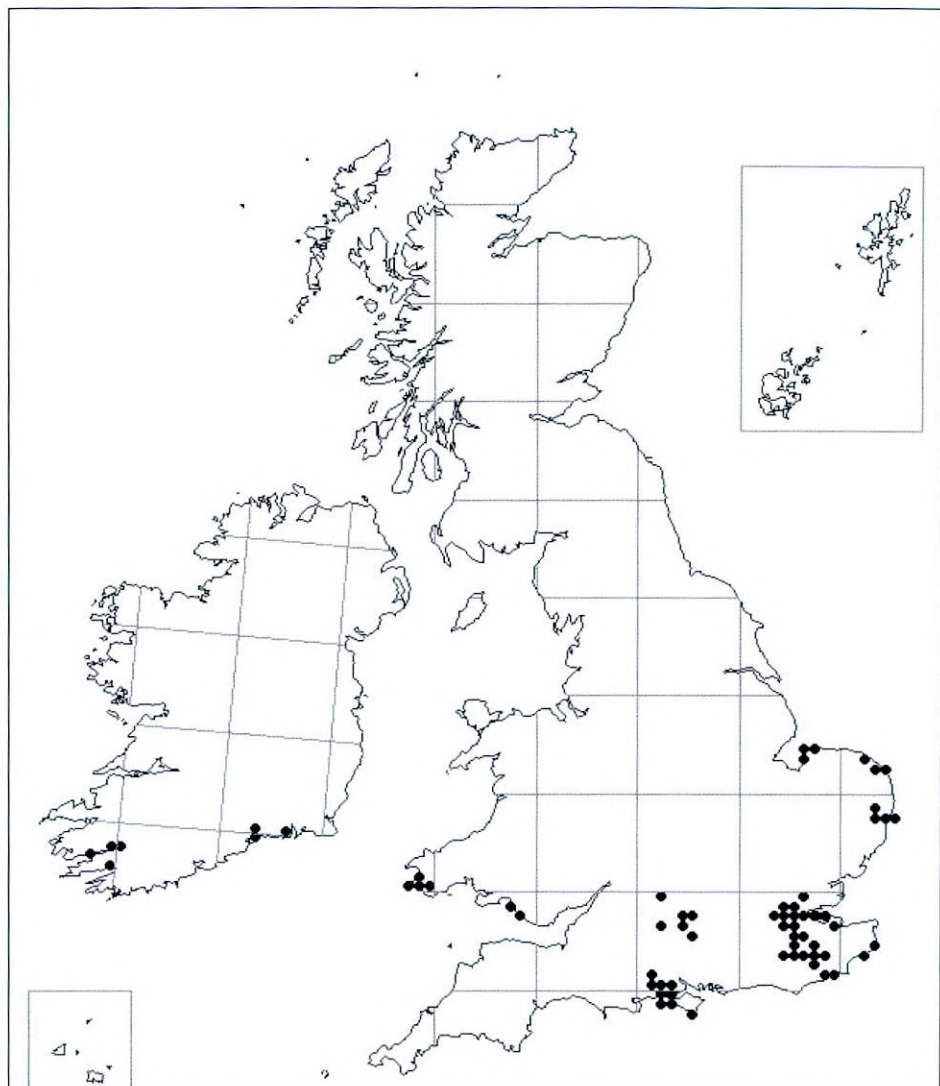
Linwood (SU1909) 1952
Lyndhurst (SU20/30) 1936, 1952, 1953
Matley Bog (SU3307) 1899, 1901, 1902, 1903, 1904, 1905, 1906, 1931, 1952
Matley sandpit (?SU3307) 1904
on way to Matley Bog (SU30) 1902
New Park (SU2904) 1902, 1904
Park Hill, broad ride near (SU3107) 1904
Pignal (Enclosure) (SU3103) 1904
Queen's Bower [Queen Bower] (SU2804) 1904
Rhamnor/Ramnor(e) [Ramnor Enclosure] (SU3104) 1899, 1901, 1904, 1912
Rhinefields (Drive) (SU2604) 1899, 1901, 1902, 1903, 1904, 1905, 1907, 1912, 1952
Rhinefields Road, near Bridge (SU2602/2702) 1904
Sowley Pond margin (SZ3796) 1903, 1904
Stubb's Copse [? = Stubb's Wood] (SU30) 1900, 1903
near Sway (SZ29) 1906
Wilverley (Woods) (SU2400) 1899, 1903, 1905
near Wood Fidley [Woodfidley] (SU3404) 1903
near Wotton [Wootton] & bridge on Wotton [Wootton] Road (SZ2499) 1904
Plaitford, woods (SU2719) 1947

ISLE OF WIGHT:

Bembridge (SZ6488) 1934, 1935
Bonchurch (SZ5777) 1933, 1935
Brook (SZ3883) 1903
Cranmore Heath (SZ3990) 1935
Freshwater (SZ3385/3386) 1903, 1937; cliffs & field near 1903
Merston [Merstone] Down (?SZ5085) 1935
Shalfleet, saltmarsh (SZ4190) 1935
The Wilderness (SZ4984) 1935
Totland Bay (SZ3186) 1903, 1904
Ventnor, undercliff (SZ5577) 1903
Yarmouth (SZ3589) 1937
Isle of Wight (no locality stated) 1945 (7-13.x)

KENT:

Abbey Wood, lanes near (TQ47) 1907, 1908
Allhallows on Sea (TQ8378) 1939
Barnhurst Quay (not located) 1943, 1944
Bedgebury Park Woods (TQ7234) 1900
Beesfield Valley, Farningham (TQ5365) 1902, 1910, 1928, 1934, 1935
Belvedere, south of Thames Marshes (TQ5079) 1943
Bexley (see Joyden's Wood)
Bexley, field near station (TQ4973) 1902
Bexley, Mr Vansittart's meadow by River Cray (TQ4973) 1902
Bexley, strip of wood on way to Dartford Heath (TQ57) 1943
Bexley to Bexleyheath, lanes (TQ47) 1904, 1907
Black Fen [Blackfen] (TQ4574) 1904
Bostall Woods (TQ4677) 1906, 1908
Burnt Oak Lane, field path (TQ4673) 1900

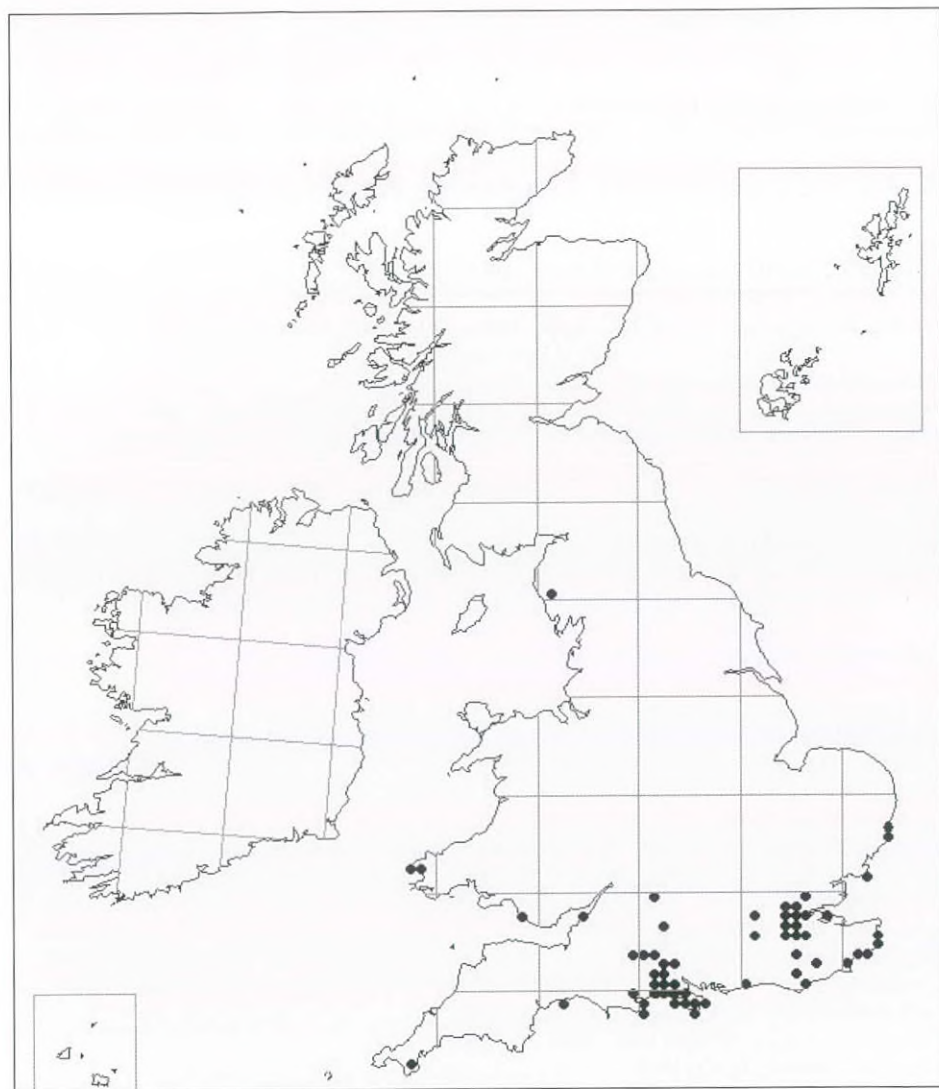


Map 1. The 64 10km grid squares in which Diptera were collected by H.W. Andrews in the period from 1899 to 1914.

Causton Woods (TQ8236) 1900

Chattenden Wood (TQ7473) 1901, 1902, 1903, 1904, 1905, 1906, 1908, 1910, 1911, 1912, 1913

Chelsfield (& hedgerows near) (TQ4764) 1902; hedgerows to Eynsford (TQ46) 1902



Map 2. The 58 10km grid squares in which Diptera were collected by H.W. Andrews in the period from 1919 to 1954.

Chelsfield, lane to St Mary Cray (TQ46) 1899

Chislehurst (TQ46) 1900, 1904 (road from Station), 1907, 1922 (walk by railway), 1926,
1928 (near railway bridges, near Bradbury), 1933, 1944, 1946

Crayford (TQ57) 1925 (waste land), 1928, 1936

Crockenhill (TQ5067) 1906
 Crown Woods Eltham (TQ4474) 1899, 1902, 1904, 1905, 1906, 1936, 1940, 1942, 1943, 1944, 1946
 Darenth, waste ground (TQ57) 1899
 Darenth Wood (TQ5772) 1906, 1907, 1908, 1909, 1910, 1912, 1913, 1920, 1921, 1922, 1927, 1934
 Dartford (TQ57) road near Darenth Wood 1914; lane leading to marshes 1931
 Dartford Heath (TQ57) 1901, sandpit 1932
 Deal (TR35) 1933
 Dover (TR34) 1902 (foot of cliff & shore), 1906
 Dymchurch (TR0929) 1946
 Eltham, house & gardens (TQ47) 1899, 1900, 1901, 1902, 1921, 1922, 1923, 1924, 1926, 1933, 1935, 1936, 1938, 1940, (allotments) 1942, 1944
 Eltham, Butterfly Lane (TQ4374) 1900
 Eltham, Conduit Swamp (TQ47) 1899, conduit meadows 1899, 1900, 1901, 1902, 1946
 Eltham, Golf Park (TQ4373) 1900
 Eltham, bed of Long Pond (TQ47) 1900
 Eynsford (TQ5464) 1934 (11.viii, S. London field meeting; Jacobs 1935), 1935, 1936, 1937, 1939, 1943, 1945
 near Farningham (TQ5467) 1901
 Farningham Wood (TQ5468) 1903, 1904, 1906, 1907, 1908, 1909, 1911, 1913, 1914, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1936, 1938, 1939, 1940, 1941, 1943, 1944, 1945
 Folkestone Warren (TR2437) 1906, 1922
 Frith Woods (not located, a site near Tonbridge) 1900
 Goddington Lane (between Orpington & Chelsfield) (TQ46) 1899
 Halstead (TQ4861) 1932, 1934
 Hextable (TQ5269/70) 1925, 1926, 1931, 1932, 1939
 Hythe (TR13) 1946
 Joyden's Wood, Bexley (TQ47/57) 1899, 1900, 1901, 1902, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946
 Kingsdown Valley (TQ5664) 1933
 Lamorbey Fields (TQ4673) 1901
 Limpsfield Chart, Westerham (TQ4352) 1934 (26.v, S. London field meeting; Blair 1935)
 Littlestone-on-Sea, New Romney (TR0824) 1946
 Lullingstone Park (TQ5264) 1902, 1924
 Mereworth Wood (TQ65) 1910
 Mottingham Lane (TQ4273) 1899
 New Eltham (TQ4372) Southwood Road 1899; Green Lane & Southwood Road 1900;
 New Eltham, Station (TQ4371) 1902
 Newington, near Hythe, woods (TR1737/8) 1946
 Paul's Cray (TQ4568/9) 1899, 1900, 1904, 1912, 1920, 1923, 1924, 1927, 1928, 1931, 1932, 1934, 1937, 1944, 1945
 Pembury High Woods (TQ6191) 1907, 1912, 1925, 1931
 Pett's Wood (TQ4567/8) 1899, 1904, 1906, 1927, 1928, 1936, 1937, 1938, 1939, 1940, 1942, 1943

Port Victoria (TQ8773) 1904
 Seal, near Sevenoaks (TQ5556) 1902
 Sevenoaks (TQ55) 1932 (Ent. Club. meeting)
 Sheerness (TQ96) 1902
 Shooter's Hill, hedgerow (TQ4376) 1900
 Shoreham (TQ5361) 1899, 1901, 1902, 1903, 1907, 1910, 1920, 1923, 1924, 1925, 1932,
 1934, 1938
 Shoreham to Farningham via Beesfield Valley (TQ55) 1910
 Sidcup, woods near (TQ74) 1902
 Swanley (TQ5068/9) 1925, 1926, 1933
 Swanley Junction to Hextable, lanes (TQ5169) 1925
 Thames Marshes 1925 (not localised)
 Abbey Wood (TQ4780) 1904, 1905, 1906, 1907, 1908, 1909, 1911, 1912, 1913, 1921,
 1927, 1930, 1931, 1932, 1933, 1934, 1936, 1937, 1938, 1939
 between Abbey Wood & Erith (TQ58) 1906, 1907
 Belvedere (TQ5080) 1910, 1933, 1935, 1941, 1942, 1943
 Dartford (TQ5477) 1906, 1913, 1914, 1921, 1922, 1923, 1927, 1932, 1934, 1936, 1937
 Gravesend (TQ6073) 1902, 1945
 Greenwich Marshes (?TQ3979) 1902
 Stone (TQ5675) 1935, 1936, 1937, 1938, 1939, 1940, 1943, 1945, 1946
 Tonbridge, wood near Leigh (TQ54) 1906
 Walmer, Kingsdown (TR3748) 1933
 Welling (TQ47) 1903, 1904, 1905, 1906, 1907, 1908, 1911, 1912 (garden, Hook Lane, Burnt
 Oak Lane)
 Westerham (TQ45) 1930
 Woolwich Fields (TQ47) 1899
 Wrotham (TQ6059) 1899 (near), 1935, 1936, 1938

 MIDDLESEX:
 Boston Manor (TQ1678) 1939

 NORFOLK:
 Brancaster Bay, sandhills (TF7644) 1901
 Gunton Park (TG23) 1905
 Hickling Broad (TG42) 1905
 Hunstanton Park (TF6941) 1901
 Lessingham (TG3927) 1905
 Old Hunstanton, sandhills, saltmarsh and swamp (TF6843/4) 1901
 Palling sandhills (TG4327/8) 1905
 Ringstead Downs (TF6939) 1901
 Stalham (TG32) 1905
 Sutton Broad (TG32) 1905
 Waxham (TG4426) 1905

 SOMERSET:
 Clevedon district (ST47) 1942, 1943

 SUFFOLK:
 Aldeburgh, water meadows (TM4556) 1938

near Bungay (TM3389) 1899
Dunwich, common near (TM4770) 1899
Halesworth, lane near (TM3873) 1899
River Alde bank (TM45) 1938
Sizewell Bay sandhills (TM46) 1938
Slaughden, saltmarsh (TM4655) 1938
Southwold (TM5075) 1899
Walberswick, common near (TM4875) 1899

SURREY:

Bookham Common (TQ1256) 1930, 1942

SUSSEX:

Ashdown Forest (TQ43) 1905
Broadwater Forest (TQ5537) 1907, 1937
Eridge Park (TQ5635) 1931
Eridge, The Warren (TQ55/5636) 1931
Hastings, road near (TQ81) 1900
Horam (TQ5717) 1945
Littlehampton (TQ00) 1924
The Crumbles, Eastbourne (TQ60) 1931 (Ent. Club. meeting), 1932, 1933
Ticehurst, Mr Mainwaring's Farm (TQ72) 1900
Ticehurst, Mr Wickham's fields (TQ72) 1901, 1902
Ticehurst, woods near (TQ72) 1900
Ticehurst Road Station, water mill/meadows (TQ7126) 1900, 1901, 1902, 1907, 1931
Wadhurst (TQ63) 1900, wood near station 1901
Winchelsea, road between and Rye (TQ91) 1900

WILTSHIRE:

Bishopsdown (SU1532) 1947
Old Sarum (SU1332) 1931, 1947
Pepperbox Hill (SU2125) 1947
Salisbury, Laverstock (SU1630) 1948
Salisbury, path to Old Sarum (SU1331) 1931
Salisbury, Whiteparish Hill (SU22) 1931
Salisbury, (Great) Wishford (SU03) 1947
Savernake Forest (SU26) 1899
Savernake to Hungerford road (SU26) 1899
Stockton Wood (ST9635) 1947
Whiteparish Woods (SU2522) 1947, 1948
Woodfalls (SU2820) 1947

WALES:

GLAMORGAN:

Kenfig Burrows (SS78) 1913, 1914
Merthyr Mawr Warren (SS87) 1913, 1914, 1929
Newton Burrows (SS8376) 1914
Ogmore (SS8675) 1929
Porthcawl (SS87) 1913

PEMBROKESHIRE:

- Bicton (SM8406/7), cliffs 1909, cliffs, lanes & garden 1910, cliffs & garden 1912
Bicton, Lindsay Cliffs/ Lindsay Point (SM8406) 1910, 1911, 1912, 1913, 1914
Caerfai [as Carfai, cliffs] (SM7524) 1949
Dale, marsh (?SM8107) 1909, 1911, 1912, 1914
Dale, cliffs (SM8106) 1913
between Dale and Marloes, cliffs (?SM7806) 1910, 1911
Great Hohen Farm, copse near 1913, 1914
Little Haven (SM8512) 1912
Marloes Sands, cliffs (SM7807) 1913
Milford Haven (SM90) 1911
Port Sale shore [= Porth Selau] (SM7226) 1949
St David's (SM7525) 1919
St David's, Whitesand Bay (SM7326) 1949
Sandy Haven (SM8507) 1913, 1914; swamp on way to 1914
Solva (SM8024) 1949
The Burrows (SM7326) 1949
West Dale, cliffs (SM7905) 1912

IRELAND:

CORK:

- Glengarriff (V95) 1908, 1911

KERRY:

- Blackwater Bridge (V76) 1908
Kenmare (V97) 1907, 1908
Kenmare River, north and south banks (V97) 1907
Loo Bridge, Kilgarvan (W07) 1907, 1908

WATERFORD:

- Bunmahon Road, Cove on (X39) 1907, 1908
Comeragh Mountains (S30) 1907
Counshinganna [= Coumshingaun] Lough (S30) 1907
Stradbally, lanes & grounds of Wood House (X39) 1906, 1907, 1908
Waterford (S60) 1907

Bibliography of H.W. Andrews

His many exhibits at ordinary meetings of Societies and at the Annual Exhibition of the South London Entomological and Natural History Society are not listed.

1901. *Atherix crassipes* Meig.: a new British Dipteron. *Entomologist's monthly Magazine* **37**, 10.
1902. Re-occurrence of *Atherix crassipes* Meig. *Entomologist's monthly Magazine* **38**, 7.
1903a. Syrphidae in North Kent. *Entomologist's monthly Magazine* **39**, 3-8.
1903b. Dark aberration of *Syrphus balteatus* Deg. *Entomologist's Record & Journal of Variation* **15**, 81-82.
1905a. Notes on some Diptera from the New Forest, 1904. *Entomologist's monthly Magazine* **41**, 71-72.

- 1905b. Rare Diptera in 1903. *Entomologist's monthly Magazine* **41**, 72.
- 1908a. *Pegomyia univittata* v. Ros. and *P. setaria* Mgn in North Kent. *Entomologist's monthly Magazine* **44**, 187.
- 1908b. *Pegomyia univittata* not in Ireland. *Entomologist's Record & Journal of Variation* **20**, 187.
- 1909a. (with S. Edwards) Diptera (Flies). pp 421-430. **In** Tutt, J.W. (Ed.) Zoology. Records for Woolwich and West Kent. pp. 231-440. **In** Grinling, C.H., Ingram, T.A. and Polkinghorne, B.C. (Eds) A survey and record of Woolwich and West Kent. 526 pp. Woolwich, Labour Representation Printing Co. Ltd.
- 1909b. Notes on the Diptera. *Proceedings of the South London Entomological and Natural History Society* **1909-10**, 34-40.
1913. Newspaper Entomology. *Entomologist's Record & Journal of Variation* **25**, 257-258 [a reference to craneflies being regarded as arachnids due to use of term daddy long-legs].
1914. Notes on some Diptera taken in the south of Ireland. *Irish Naturalist* **23**, 136-143.
1917. Some Entomological Notes from Egypt and Palestine. *Entomologist's Record & Journal of Variation* **29**, 221-226.
1918. Random notes on flies. *The Palestine News*, Thursday 18th July 1918 and (continued) Thursday 25th July 1918.
1920. Further notes from Palestine. *Entomologist's Record & Journal of Variation* **32**, 130-140.
- 1924a. *Agathomyia elegantula* Fall. and other Diptera from North Kent. *Entomologist's monthly Magazine* **60**, 65.
- 1924b. *Eutolmus rufibarbis* Mg. in North Kent. *Entomologist's monthly Magazine* **69**, 279.
- 1924c. Flies and Disease. Read November 13th 1924. *Proceedings of the South London Entomological and Natural History Society* **1924-25**, 45-62.
- 1925a. Early Spring Diptera. *Entomologist's Record & Journal of Variation* **37**, 58-59.
- 1925b. Collecting Diptera. *Entomologist's Record & Journal of Variation* **37**, 79.
- 1925c. Report of the Second Imperial Entomological Conference. *Entomologist's Record & Journal of Variation* **37**, 146-147.
- 1926a. Distribution of *Protocalliphora*. *Entomologist's monthly Magazine* **62**, 41-42.
- 1926b. Predaceous Diptera. *Entomologist's Record & Journal of Variation* **38**, 159.
1929. Annual Address – The Earlier Stages of Diptera. *Proceedings of the South London Entomological and Natural History Society* **1929-30**, 17-29.
- 1931a. *Didea alneti* Fln, and *Echinomyia ferox* Panz. in North Kent. *Entomologist's monthly Magazine* **67**, 252.
- 1931b. British Dipterological Literature. An annotated List of systematic monographs and books, published in English, dealing with British Diptera. *Entomologist's Record & Journal of Variation Supplement*, pp. 1-7.
1932. Diptera in 1931. *Entomologist's Record & Journal of Variation* **44**, 122-123
1934. Three Diptera Records. *Entomologist's Record & Journal of Variation* **46**, 125-126.
- 1935a. *Chortophila (Prosalpia) billbergii* Zett. and *Egeria anthracina* Czy. *Entomologist's Record & Journal of Variation* **47**, 51.
- 1935b. British Dipterological Literature (II). An annotated List of systematic monographs and books, published in English, dealing with British Diptera. *Entomologist's Record & Journal of Variation Supplement*, pp. 1-4.
1936. The life history of *Asilus crabroniformis*. *Entomologist's Record & Journal of Variation* **48**, 34.
- 1937a. The Asparagus fly (*Platyparea poeciloptera* Schr.) in England. *Entomologist's*

- Record & Journal of Variation* **49**, 34.
- 1937b. *Limnophora signata* Stein. *Entomologist's Record & Journal of Variation* **49**, 85.
- 1938a. Retarded emergence in Trypetidae. *Entomologist's Record & Journal of Variation* **50**, 26-27.
- 1938b. *Myopites blotii* Breb. and other Trypetids on the isle of Wight. *Entomologist's Record & Journal of Variation* **50**, 43.
- 1938c. Diptera. 1890-1938. An Amateur's Retrospect. *Entomologist's Record & Journal of Variation* **50**, 131-134.
- 1938d. *Volucella zonaria* Poda (Dipt., Syrphidae) a tantalising find. *Journal of the Society for British Entomology* **1**, 210-211.
- 1938e. The family Cyrtidae (Diptera). *Proceedings of the South London Entomological and Natural History Society* **1938-39**, 76-79, pls III & IV.
- 1939a. Variation in the in wing marking of the trypetid fly *Euribia (Urophora) stylata* F. *Entomologist's Record & Journal of Variation* **51**, 1-3, Plate 1.
- 1939b. *Catabomba pyrastris* L. var. *unicolor* Curt. in North Kent. *Entomologist's Record & Journal of Variation* **51**, 25.
- 1939c. Diptera from North Kent. *Entomologist's Record & Journal of Variation* **51**, 128-129.
- 1939d. List of Trypetidae (Diptera) taken in North Kent. *Entomologist's Record & Journal of Variation* **51**, 153-155.
- 1939e. Diptera bred from a wasp's nest. *Entomologist's Record & Journal of Variation* **51**, 172.
- 1940a. Spring Diptera. *Entomologist's Record & Journal of Variation* **52**, 81.
- 1940b. (Review) British Bloodsucking Flies. *Entomologist's Record & Journal of Variation* **52**, 84.
- 1940c. A collecting note on Diptera. *Entomologist's Record & Journal of Variation* **52**, 89-91.
- 1940d. *Oxya (Tephritis) parietina* L. in N. Kent. *Entomologist's Record & Journal of Variation* **52**, 91-97.
- 1940e. *Philophylla heraclei* L. (Diptera, Trypetidae) bred from *Smyrnium olusatrum* L. (Alexanders). *Entomologist's Record & Journal of Variation* **52**, 100-101.
- 1940f. A collecting note on Diptera. *Entomologist's Record & Journal of Variation* **52**, 106.
- 1940g. *Paroxyna misella* Lw. and *Oxya parietina* (L.) (Diptera, Trypetidae). A record of a failure and a success. *Proceedings of the South London Entomological and Natural History Society* **1940-41**, 36-38. pl. 1.
- 1941a. *Volucella inanis* L. at Bexley, Kent. *Entomologist's Record & Journal of Variation* **53**, 11.
- 1941b. Extract from a letter from A.H. Hamm. *Entomologist's Record & Journal of Variation* **53**, 44.
- 1941c. Wing markings in Diptera. *Proceedings of the South London Entomological and Natural History Society* **1941-42**, 62-68, pls X & XI.
- 1941d. *Paroxyna misella* Lw (Diptera: Trypetidae) a postscript. *Proceedings of the South London Entomological and Natural History Society* **1941-42**, 72, pl XII.
- 1942a. Some Trypetidae from the Stroud district of Gloucestershire. *Entomologist's Record & Journal of Variation* **54**, 76-77.
- 1942b. *Oxya parietina* L. and other Trypetids at Eltham (London, S.E. 9). *Entomologist's Record & Journal of Variation* **54**, 104.
- 1942c. *Rhingia rostrata* L. (Diptera) in N. Kent. *Entomologist's Record & Journal of Variation* **54**, 140.

- 1943a. *Volucella inanis* L. and *Rhingia rostrata* L. in N. Kent. *Entomologist's Record & Journal of Variation* **55**, 122.
- 1943b. British Dipterological Literature (III). *Entomologist's Record & Journal of Variation Supplement*, pp. 1-5.
- 1944a. *Symphoromyia immaculata* Fab. (Diptera – Leptidae) in N. Kent. *Entomologist's Record & Journal of Variation* **56**, 46-47.
- 1944b. *Cheilosia albipila* Mg. (Diptera, Syrphidae) bred. *Entomologist's Record & Journal of Variation* **56**, 71.
- 1945a. *Helomyza variegata* Lw (Diptera) breeding in roots of Sea Aster. *Entomologist's Record & Journal of Variation* **57**, 32-33.
- 1945b. *Volucella inanis* L. in the London district. *Entomologist's Record & Journal of Variation* **57**, 33.
- 1945c. N. Kent records of *Helomyza* Fln (sensu stricto). *Entomologist's Record & Journal of Variation* **57**, 33.
- 1945d. Diptera in November. *Entomologist's Record & Journal of Variation* **57**, 120.
- 1945e. Some external aspects of the bodies of Diptera. *Proceedings of the South London Entomological and Natural History Society* **1945-46**, 58-63.
- 1946a. Untitled addendum to Beirne, B.P. and Harris, J.P. Light trap captures in Ireland in 1945 (pp. 46-49). *Entomologist's Record & Journal of Variation* **58**, 49.
- 1946b. A suggested nomenclature for the wing-veins of certain Trypetidae (Diptera). *Entomologist's Record & Journal of Variation* **58**, 75-78.
- 1948a. *Rhingia campestris* and *Syrphus balteatus*, a note on relative abundance and scarcity in 1948. *Entomologist's Record & Journal of Variation* **60**, 107.
- 1948b. Discrepancy of sex in recorded captures of *Volucella zonaria* Poda. *Entomologist's Record & Journal of Variation* **60**, 116.
- 1949a. Spring Diptera. *Entomologist's Record & Journal of Variation* **61**, 57.
- 1949b. *Clytiomyia rotundiventris* Fall. (Diptera, Tachinidae) at Breamore. *Entomologist's Record & Journal of Variation* **61**, 118.
- 1949c. British Dipterological Literature. Supplement IV. *Entomologist's Record & Journal of Variation Supplement*, pp 1-4.
1950. Notes on some Diptera at St David's Pembrokeshire. 1949. Spring Diptera. *Entomologist's Record & Journal of Variation* **62**, 18-21.
1951. Obituary [of Henri Audcent]. *Entomologist's Record & Journal of Variation* **63**, 99-100.
1953. Flies at Parsley Blossom. *Entomologist's Record & Journal of Variation* **65**, 334-335.

Other References

- Anon. 1955. Henry William Andrews (1876-1955). *Proceedings of the South London entomological & natural history Society* 1955, xlii, portrait.
- Austen, E.E. 1920. [Obituary. F.C. Adams]. *Entomologist's monthly Magazine* **56**, 256.
- Blair, K.G. 1935. 11th August 1934. Field Meeting – Eynsford. *Proceedings of the South London Entomological and Natural History Society* **1934-35**, 33-34.
- Cockayne, E.A. 1955. Obituary. H.W. Andrews. *Entomologist* **88**, 166-167.
- Hall, W.J. 1956. *Proceedings of the Royal entomological Society of London (C)* **20**, 73.
- Jacobs, S.N.A. 1935. 26th May 1934. Field Meeting – Westerham. *Proceedings of the South London Entomological and Natural History Society* **1934-35**, 88.
- Parmenter, L. 1955. Obituary. Henry William Andrews. *Entomologist's Record & Journal of*

Variation 67, 213-216.

- Pont, A.C. 1995. Appendix B. Collectors who collaborated with Verrall and Collin. pp. 206-211. *The Type-Material of Diptera (Insecta) Described by G.H. Verrall and J.E. Collin*. 223 pp. Oxford Science Publications.
- Yerbury, J.W. 1901. A list of the Diptera met with in Cork and Kerry during the summer of 1901. *Irish Naturalist* 11, 74-93.

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APPENDIX

The annual summaries and other extracts from the Diaries of H.W. Andrews for his early years as a dipterist from 1899 to 1914

Additional passages that have been added from the Remarks in the Diaries are in square brackets and designated DY, with the date of the entry where appropriate. Nomenclature is as given by Andrews, with family names added in parentheses as appropriate. Where the current name differs this is indicated in footnotes and the family name is given there.

Preface (to Daily Record)

This book was not commenced till the spring of 1902, but dates from 1899 as that is the year in which I first began to collect Diptera & keep a regular Diary. The idea of the Daily Record is to have a series of dates for first & last appearances of various species noticed in any year & thus to get data for any one species without hunting through different diaries. The annual summaries & magazine notices need no explanation. It does not follow that every species recorded was actually caught.

1899

As this was my first year's work at this order and having no idea of the rarity or otherwise of my captures, I collected somewhat indiscriminately taking chiefly the larger & more conspicuous kinds. I happened to be out of regular employment & partly owing to that fact & partly to the fact that I had two illnesses & consequent convalescence in this year, I had considerably more time available for collecting than would otherwise have been the case. Thus from June 5th to 29th I stayed at Brockenhurst, from July 11th to 19th at Donnington nr Newbury Berks & from August 19th to September 10th at Southwold Suffolk. The weather was not cold up to the end of May but from the beginning of June right up to September it was very hot & dry. Mr F.C. Adams remarks on the dry hot season affecting the insects in the New Forest and remarks [E.M.M. Vol. X p. 14] "insects were again scarce"; Mr Bradley (id. p. 88) comments on the absence of Tabanidae "although the weather was so dry & hot". Most of my 'good' insects were taken in the rhododendron walk at Rhinefields either on the rhododendron blossom or the flowers of the Portugal laurel. At Donnington most of my collecting was in the flower garden & some water meadows. At Southwold there was a large patch (about an acre) of Sea Aster (*A[ster] tripolium*) which proved very attractive to insects generally & the Eristalidae especially. I also took numerous species in the marshes - mostly

dried up by the drought, along the coast. The collecting at Eltham was either in gardens or in the fields, lanes & woods of North Kent. Most of my captures were named for me by Messrs F.C. Adams & C.J. Wainwright.

Among this year's captures the following may be mentioned as "good": *Mallota cimbiciformis* (= *eristaloides*) (Syrphidae) ♂ New Forest June 28th, *Servillia lurida*¹ on 29th idem, ♂ *Syrphus grossulariae*² Savernake Forest 13th July, *Xylota abiens* (Syrphidae) & *Chaetolyga quadripustulata*³ on 12th July at Kingsclere nr Newbury [the last named was first entered as *Nemorea dispecta* of Verrall's list and changed to the above name following its examination by F.C. Adams when he visited him on 20 January 1900].

[DY: the first entry in his diary was of *Eristalis pertinax* (Scopoli) (Syrphidae) collected along hedgerows in Mottingham Lane, Kent on 6 May 1899].

[DY: 9 May 1899, in the garden. Curious fly, swollen white "underface", fenestrated wings, reddish abdomen & legs. Identified by Mr F.C. Adams as *Myopa* probably *buccata* but being a bad specimen badly set he was not certain as to the specific name (he had later written *Myopa buccata* (Linnaeus) (Conopidae) against this entry)].

1900

This year owing to my being again in regular employment I did not have so much time at my disposal for collecting. I gave up some of my leave to attend a Volunteer camp & had only 10 days regular holidays. At Easter I went to Cranbrook (Kent) to explore the large woods in that neighbourhood; the weather though fine was cold & I saw but few insects; I took however *Bombylius discolor* & *B. major* (Bombyliidae). Whitsuntide I spent in camp. In May & June I took a number of common species round about Eltham. From July 7th to 16th I was at Ticehurst (Sussex) whence I made several excursions to the Bedgbury Park Woods & other places in the neighbourhood, the weather was very hot and Diptera were scarce; I took a lot of species new to me however – I should probably have done better if I had been better acquainted with the locality & not been collecting at haphazard; it was during my stay here in some fields along the banks of the R. Rother at Witherington Mill near Ticehurst Rd Station that I took half a dozen specimens of *Atherix crassipes*⁴ (new to Britain & of which only two or three specimens were known on the Continent); I mistook it for *Leptis lineola*⁵ to which it has a superficial resemblance & did not know what it was that I had taken until [blank] when Mr Verrall identified it for me. In August & September which were hot & dry I did but little collecting.

I was much helped by Mr Adams this year as he gave me in January a large number of types [i.e. named specimens for reference; a list of these comprising 53 species of various families, all from the neighbourhood of Lyndhurst, is given in the diary, including *Pachyrhina crocata*⁶, *Myiolepta luteola*⁷ and *Volucella inflata* (Syrphidae)]. I also took to setting the insects on long pins in the continental fashion as I found them much easier to identify when "set" & also much nicer looking. Mr Adams [E.M.M. Vol. XII p. 74] remarks on the season as being "too cold in the early part of the year & too hot later on for good collecting".

Besides *A. crassipes* the only insects worth noticing were: - *X[anthogramma] citrofasciatum* (Syrphidae) 1♀ at Lamorbey 27th May; *C[riorhina] floccosa* (Syrphidae) 1♀ at Eltham 26th May, *L[oxocera] aristata* (Psilidae) Eltham 1st July.

1901

This year like 1900 began with a cold spring lasting well into June & then followed by a very hot summer & autumn. Except in my holidays I did not do much collecting. At Easter I was

engaged in C L B work, but I spent Whitsunside in the New Forest with Mr A.G. Cook & took a fair number of species although I only gave part of my time to the Diptera. Towards the end of June I went for the first time to the Chattenden Woods which appeared good but owing to the distance from town they are not very much good unless one can get the whole day off. I took my holidays from July 5th to 22nd going first down to Ticehurst after *Atherix crassipes*⁴ which I found not uncommonly in the same locality as before & on the 8th July going to Hunstanton in Norfolk on the Wash where I took a number of sandhill species along the coast & also several interesting things in a small freshwater swamp there, including a very small dark form of *Leptis scolopacea*⁸ which I thought at first was a new species.

The August bank holiday I spent at Chattenden where amongst other insects I took half a dozen *Volucella inanis* (Syrphidae). After this I did hardly any further collecting except on Sunday afternoons in gardens, etc. I noticed & took a specimen of *Anthrax paniscus*⁹ & also *Eristalis aeneus*¹⁰ – both coast species – on August 11th near Farningham in Kent on the chalk hills there & also took on the same day a very small specimen of *Criorhina oxycantha*¹¹. This season I again changed my method of setting having found that the long pins got in the way when examining specimens with a lens & took to setting them on white pins in the same way as Lepidoptera.

The following insects may be especially mentioned: *Atherix crassipes*⁴ Ticehurst 6.vii.01; *Caliprobola* (as *Calliprobolla*) *speciosa* (Syrphidae) Brockenhurst 25.v.01 (taken by Mr A.G. Cook); *Xylota lenta*¹² Chattenden 29.vi.01 & *Volucella inanis* on 3 & 5.viii.01; *Anthrax paniscus*⁹ & *Eristalis aeneus*¹⁰ at Farningham (Kt) on 11.viii.01; *Leptis scolopacea*⁸ (small dark form) at Old Hunstanton July 01.

I also submitted to Mr Verrall another *Leptis* that I thought might be *cingulata* & a *Thereva* but had not heard from him up to March '02 as to these. To Mr Wainwright I gave a number of Tachinidae but have not heard from him either.

The species of *Leptis* was mentioned by Mr Verrall in Nov^r 1903, he had examined it carefully & considered it only a small dark form of *scolopacea*⁸. He said he had made special mention of it in his book [this seems to have been omitted in the published version although a small dark form found by Dr J.H. Wood in Herefordshire is mentioned].

1902

The weather in 1902 was wet & cold up to about 21 May, then fine for about 10 days [DY: in the Standard of the 13th idem, it was stated that it was so far the coldest May for 60 years. The last 10 days were warmer], June also wet & cold up to the last week which was fine & hot, this weather lasted well on into July but the last week & August was wet & dull. September was fine & October dull again. "The special feature of the year was the cold & wet spring & the absence of anything approaching hot weather in the summer the amount of bright sunshine was generally deficient the mean temperature for the whole year was nowhere very different from the average" - Standard 1/1/03.

Owing to a change of work my holidays were somewhat broken. I spent June 11th to 17th at Brockenhurst, having only one morning fine [DY: The Forest was wetter than I had ever seen it & there was a flood on the Lymington River on the night of the 15th]; & Sept 27 to Oct 3rd at same place, having much better weather. I had several Saturday holidays during the summer & autumn. I worked the sawlows for the first time for Diptera but did not take anything special *S. barbifrons*¹³ [DY: woods near Sidcup on 19 April] being the best insect. A single specimen of *Platych[e]irus sticticus* (Syrphidae) was taken with other species of *Platychirus* on 27 April '02 [DY: in his garden at Eltham and was exhibited at the RES meeting on 3 December 1902]. On the 12th July I was surprised to see *Tabanus autumnalis* ♂

(Tabanidae) in abundance at Chattenden & took 18, also 1 *T. bromius* ♂ & 1 *Theriopectes luridus* ♂ [DY: identified by Mr Verrall as *T. tropicus* var. *bisignata*¹⁴] a 'record' (see magazine article p. 224). I also went once or twice to the Thames Marshes, Greenwich & Gravesend taking a number of the common marsh frequenting Diptera, the best insect being *Helophilus vittatus*¹⁵ on 12th July. Altogether I had no reason to complain on the results of the season, considering the bad weather & broken holidays.

[DY (visit to Farningham, Kent on 9 August 1902): The postponed coronation of King Edward VII took place today. I cycled to Farningham, left my machine at a pub and walked up the valley by way of Beesfield, at the head of the valley turned to the right & came out at the Portobello Inn, then down the main road to Farningham again.]

[DY (September visit to the New Forest): The 27 & 28 were very fine & warm days but the rest of the time it was colder, a very cold wind & more or less dull. The flo's of scabious in the clearings alongside the RY between Brockenhurst & Beaulieu Rd proved very attractive to Diptera & I took a few examples of *S. balteatus*¹⁶ which were the smallest & darkest I have seen. I might have taken more but did not notice that they were such a distinct form till I got home & compared them with my series. I also took *Didea intermedia* & *fasciata* (Syrphidae) in the proportion of 1 of the former to 7 of the latter species, thus bearing out Mr Adams against Verrall's remarks in his book. Of some 2 dozen *cinctellus*¹⁷ (which was common) all were ♀s & I saw no ♂s at all. I also took a fine specimen of *Asilus crabroniformis* (Asilidae) of which Brameld said he had seen several that season. I believe this is supposed to be scarce in the Forest.]

I sent notes to the E.M.M. on some Syrphidae in N. Kent (mentioning those species that are not mentioned in Verrall's book for that locality) & on the abundance of ♂ Tabanidae. And a note to the Record on an extremely dark form of *Syrphus bifasciatus*¹⁸ taken at Brockenhurst in Sept. I thought it was worth naming as a var., but Mr Verrall did not consider it anything out of the common & not worth mentioning – this after the article was set up (see pp 223 & 4).

Note. In 1903 I submitted some specimens to Mr Collin who wrote me on 9/2/04 as follows: "Your species of *Blepharoptera* are *B. inscripta*¹⁹ & *B. ruficeps*²⁰, the latter though not on the 'List' has been sent to me by Dr Wood from Herefordshire and is only waiting until I can deal with the genus before being introduced to our List." [DY: these were on a dead rabbit at Lullingstone Park on 25 October 1902; on same date he noted a "species of *Bibio* (*Bibionidae*) was swarming and hanging in clouds like gnats about the bracken"]

1903

The year 1903 was one of the wettest on record for most parts of the country, specially the S.E. districts. A cold wet spring followed by a wet summer & except for about a fortnight in September, a wet autumn & winter. The season seemed to have been bad for insects generally; Brameld for the Lepidoptera & Mr F.C. Adams, for the Diptera of the New Forest, reported a very bad season. Mr Weddell wrote from Scotland (in litt. 13.9.03) "unsuccessful season very cold wet and windy". Mr Jones (in litt. 23.8.03) "I am not surprised at the absence of Lepidoptera for that is the case all over Europe from what I hear – I can testify to the scarcity in Switzerland, Rowland Brown got next to nothing (in point of numbers) in Corsica & I hear that even in Spain Dr Chapman has done very poorly". Consequent I suppose to the constant supply of suitable breeding grounds, due to the weather gnats (mosquitoes) were very troublesome in many parts of the country. In September there was a great migration of *V. cardui* into England & Scotland & probably other insects as well; the butterflies were observed flying by night (E.M.M. Dec 03 p. 289). Notwithstanding the

unfavourable season 14 species of Diptera were added to the British list (J.E. Collin *Ent. Record* Vol. XVI p. 127) and a number of doubtful species confirmed; Col. Yerbury as usual did well & the Cambridge group of workers – Dr Sharp & Messrs Lamb & Jenkinson took a number of 'good' things. I personally did little collecting except in my holidays – 3 weeks from the 9th August, the first two being spent in the New Forest, the last in the Isle of Wight (Freshwater). As I had not been away in August before I took a number of insects new to my collection, the best being a pair of *Machimus rusticus* (Asilidae) taken "in cop." at a sheltered spot on the cliffs near Freshwater on August 13" [DY: very rare. Given to Mr Verrall]. *Didea alneti*, and *Anthrax circumdatus*²¹ (the Forest Anthrax) [DY: "Not on the List"; it was first entered as *A. paniscus*⁹, corrected after its identity had been "confirmed by Collin on 2/11/04"] single specimens of each taken the same afternoon (21.viii.03) at Matley Bog.

[DY: Sept 1. *Catabomba pyrastris*²² bred. Larva about ½ in long (when stretched out) pale green with pink dorsal stripe, found Aug 20 on a geranium plant in WSB (i.e. Brameld's) house, pupated about 23rd. small brown smooth pear shaped pupa attached to side of pill box. ...Larva fed on Aphides.]

1904

[DY: 19 Feby. Took 3 days holiday & went thro' the Diptera destroying a lot of old high-set duplicates etc.]

This year was not especially remarkable in the way of weather. The spring was, on the whole, wet & dull. There was a great abundance of blossom on the hawthorn & other flowering shrubs, which was probably due to the excessive rains of 1903. I had an extra holiday which I spent at home from April 19-30; the weather was dull & cold and I was not very successful entomologically. On June 18 I went to Port Victoria & took 3 *Stratiomys longicornis* (Stratiomyidae); I also noticed *Helophilus trivittatus* (Syrphidae) very commonly on the oxeye daisies. I came across 2 *C[riorhina] asilica* (Syrphidae) at Chislehurst! [DY: 28 May]. On Apl 19 [DY: Black Fen Lane] I took a single specimen of *Chrysochlamys cuprea*²³ which is a much earlier date than that given in Mr Verrall's book (this specimen and another taken at Bexley on 9.vi.02 are both much smaller than specimens from Chattenden & the New Forest). I had 3 weeks holiday in July (from the 2nd to the 23rd) & stayed with Brameld at Brockenhurst [DY: the lengthy remarks on this trip, which are evidently summarised below, are in shorthand but he evidently went on several excursions in company of W.S. Brameld and of Watson]. The weather for the most part was fine & hot. The first two or three days were disappointing as a number of usually common species were very scarce, this was specially noticeable among the Syrphidae with the exception of *Eristalis*. Tabanidae (sensu lato) were on the other hand not at all uncommon; I was very fortunate in this group, taking a number of species new to me including *Atylotus fulvus*, males of *T. bromius* & *maculicornis* & females of *T. cordiger* – the latter I did not find out until I was putting away my captures in the autumn. *Chrysops quadratus*²⁴ ♀ was another species I had not happened on before.

I saw Mr Adams once or twice & he told me of the capture of an *Atherix* which I followed up taking several more, Mr Adams then identified it as *A. marginata*⁵³ (Athericidae). I subsequently found it in great numbers on the leaves of alders & willows overhanging streams. While taking this species I also came across *A. crassipes*⁴ which I was very pleased to find, unfortunately this happened during the last few days of my visit so I could not take many. Dr Sharp took it, I believe, in fair numbers later. Mr Adams told me the locality of *Anthrax fenestrata*²⁵ & on the 15 July I went after it & took some. I also took *Eristalis cryptarum* (Syrphidae) on the yellow flowers of the *Potentilla*, these two species appeared very local. After my return home I had a good day's collecting in the Abbey Wood Marshes

taking *H. pluvialis* ♂, *Chrysops relictus* & *Oxycera trilineata* (3), *H. vittatus*¹⁵ (1); on going to the same locality two days later I found all the rushes cut down & I did little or no collecting in the autumn. After I had left the Forest Brameld took a series of *Ictericia westermanni*²⁶ one of the rarest of the Trypetidae.

There were many other good Diptera taken in 1904, Col. Yerbury having a most successful season in Scotland taking a *Callicera C. yerburyi*²⁷ new to science ! & also taking in some numbers *Laphria flava*, hitherto known from some ½ dozen specimens. In the E.M.M. for Dec '04 16 species new to Britain are mentioned while Mr Collin in his 'Retrospect of a Dipterist in 1904' (*Ent. Record* 1905 p. 55) mentions 4 others. Besides Col. Yerbury's *Callicera* the most interesting capture appears to have been made by Mr C.G. Lamb, *Ochthera mantispa* Lw.²⁸ a Mediterranean ephydrid taken near Padstow. With regard to general entomology lepidopterists seem to have had a bad year, no special immigration with the exception of *P. livornica* which was taken in several localities (*Ent. Record* 1904 p. 311).

1905

In the spring of 1905 the weather was unsatisfactory from a dipterist's point of view, there was plenty of sunshine but there was also a great prevalence of cold winds.

[DY: Mar 26. Visit to Farningham Woods & Joyden Woods....I also saw & missed *Criorhina ranunculi* (Syrphidae) the first time I have seen it in this district & *Cheilosia ?intonsa*²⁹ with a red hairy body, this I also missed.]

Easter (Apr 21-24) was dull & cold & I did but little good. In the middle of May I had a disappointing visit to Tun Wells [DY: went to Ashdown Forest but only took a few Tachinidae etc, on willow and alder leaves. The Forest was very dry & there were not even bees at the quantities of broom & gorse in full bloom].

[DY: May 27. Watched *S. bifasciatus*¹⁸ laying eggs on shoots of honeysuckle in garden which is much infested by *Aphis*, the eggs were laid singly both on leaves and unopened flowers, I took a couple ... the egg is about 1 mill long & cylindrical in shape, it is a dull white...].

In June the weather grew gradually better; I went down to Brockenhurst for Whitsun (June 9-12) & I was there again for the first part of my holidays from the 16-24 June. I was fortunate in the weather, which had now set in fine & warm, & took plenty of insects among others several species of Pipunculidae & Dolichopodidae (families hitherto unrepresented in my collection).

[DY: June 17. Rode over to Lyndhurst in the morning and it being W.S.B.'s birthday I got him a pipe, then on to Rhinefields where I went thro' the enclosure on the opposite side of the Rhinefields enclos. to where the *Vaccinium* grows in the hope of seeing *Eristalis cryptarum*. I saw none but took a couple of *Sericomyia lappona* (Syrphidae) new to me and 1 *Microdon latifrons*³⁰. I then went back to Rhinefields where I took a few insects off the rhododendrons which were in full bloom, the Portugal laurels were not out & I did not see *Callicera aenea*³¹ a specimen of which W.S.B. had taken in New Park. The only tabanids I got were 1 *maculicornis* and 1 *fulvus*. In the afternoon I went to the Beaulieu Road enclosure again but did not do much. Mr Brameld was much worse & they had to send for his relations, so I moved from W.S.B.'s to a Mrs Bounds 2 The Terrace].

[DY: June 18. Trinity Sunday. Fine on the whole but cloudy now & again. Went to Boldre Church in the morning. In the afternoon went over towards Mark Ash but only got 1 more *lappona* & no *Microdon*. Came back thro' Rhinefields & took [*Volucella*] *bombylans* var. with thorax & red tail slightly rubbed, also a *Xylota* (Syrphidae) I do not know].

[DY: June 20. Rode over to Wilverley in the morning which was dull & wet, took *D[ioctria] oelandica* & I think *baumhaueri* (Asilidae) on the bracken, also too some *rubricollis* for W.S.B. Set in the afternoon, went to tea with W.S.B. Looked along the lane in the evening but saw nothing].

[DY: June 21. Was not very well but went over to Wilverley again with W.S.B. & took much the same as last time (both *Dioctria* species mentioned before and *L. marginata*³² are listed)].

[DY: June 22. Had an attack of indigestion but went round New Park in the morning taking a few tabanids etc. Did not go out in the afternoon].

[DY: June 23. Indigestion still troublesome. Stayed in setting in the morning, in the afternoon went into New Park with W.S.B. but did not see many insects (*Atylotus fulvus* (Tabanidae) and *Laphria marginata*³² are listed)].

At the rhododendrons at Rhinefields I took *Microdon latifrons*³⁰ (1), *C. aenea*³¹ [DY: saw 2 & took 1], *Xylota abiens* (4) & a number of other Syrphidae [DY: 24 June. Went to Rhinefields where I had a very successful morning, the Portugal laurels were just coming out & most of the rhododendrons still in bloom]. I had not been in the Forest at this time of year since '99 & was able to fill up several series. Altho' this visit was successful entomologically I was unable to go out much with W.S.B. as his father was very ill & he had to give up such time to nursing him (Old Mr B died in the autumn).

I took the remainder of my holidays from July 3-15 & went to Palling on the Norfolk coast (I only had 3 weeks holiday this year with a monetary consideration in lieu of the 4th week). At Palling I had continuous fine weather & I took most of the sandhill species met with at Hunstanton in 1902 & several additions. I also took a fair number of species in hedgerows & wayside vegetation. [DY: July 9. Went to Waxham ch[urch] in the morning, in the afternoon went along the Lessingham Road taking several Diptera & back by the beach or rather sands. Set in the evening. At Waxham only about a dozen people in church].

Perhaps the most productive locality, however, was Sutton Broad about 5 miles inland; through the kindness of Mr Gurney I was enabled to collect on the broad which is more a marsh with broad waterways than a broad proper. Here I swept a number of interesting species, the best being *Odontomyia angulata* (Stratiomyidae) of which I took 3 worn specimens on the 14 July; this species was identified for me by Mr Verrall, it had not been recorded for a number of years and he had been doubtful about keeping it in the British list. I also got here 6 specimens of *Dolichopus longitarsis* (Dolichopodidae) only recorded by Verrall from 3 single specimens from Co Down, Herts and Hants respectively. I was rather surprised to meet with several flies in Sutton Broad which I was in the habit of considering as "Forest" species, e.g. *Atylotus fulvus*, *Theriopectes tropicus*³³ & *Chrysops quadrata*²⁴. I only had 5 days collecting here July 7-11 but the richness of the dipterous fauna is shown by the fact that out of some 14 species that I was enabled to add to Mr Bloomfield's MS list of Norfolk Diptera as a result of my two visits to that county in 1902 & 1905, 8 come from Sutton Broad.

[DY: July 7. Went to Sutton Broad & had a long morning's collecting, in the afternoon was turned off by a keeper so rowed up to Mr Gurney's laboratory & got his address, took some more asilids for W.S.B. in the evening.]

In the autumn I did little or no collecting.

1905 appeared to have been a good year for Diptera generally. Col. Yerbury did well in Scotland, adding *Hammerschmidia ferruginea* (Syrphidae) to the British list, Mr Carter also recorded many good captures from Aberfoyle, Mr Harwood *Pocota apiformis*³⁴ from Colchester. In the Forest neither *A[therix] marginata* nor *A. crassipes*³⁴ or *E[ristalis]*

cryptarum appears to have been in evidence this year. 26 additions to the British list are recorded in the index of the E.M.M. for this year, but the bulk of these additions are due to articles by Verrall (annotated list of British Dolichopodidae), Wainwright (notes on Tachinidae) & Grimshaw (The Genus *Hydrotaea*), beyond these articles no work on Brit. Diptera was issued during the year.

1906

The spring of 1906 was dry & sunny in March & April but during the greater part of these two months there were cold N.E. or E. winds. I went to the New Forest at Easter Apl with a view to taking *C[riorhina] ranunculi* but tho' the weather was very fine I had a most disappointing visit taking nothing but the two common Bombyli[i]dae [DY: *Bombylius major* & *discolor* at primroses]. Sunday excursions to Sidcup, Chislehurst, Farningham, Darenth etc. in May were also very disappointing & Whitsun at Dover June 2-4 was again a failure, the weather being dull & wet [DY: I went to Dover with Dorothy. Saty was cold & wet, Sunday was fine & I took a few Diptera on flower heads (? fennel), on Monday trained to Folkestone & back thro' the Warren but the weather was persistently dull so nothing much was taken]. [DY: Saty June 9th. I went to Chattenden & took a good number of insects but it was cool & the East wind made a cold cloudy mist rise about 5.0pm. I did not see many Syrphidae (except *S. bifasciatus*¹⁸) but I took a number of Tachinids & Anthomyiids one of the former I had not seen since 1902 & *Xylota lenta*¹² of which I had one ♂ from the same locality in 1901.]

After the middle of June the weather improved & we had a bright hot summer & autumn generally speaking tho' it was more cloudy in some parts than others. I had some very good days on the Thames Marshes, Abbey Wood & Darenth especially among the Dolichopodidae. [DY: On Saty 23rd I had a holiday & went to Tonbridge & along the Medway with the hope of taking *A[therix] ibis* (Athericidae) but I saw none & but few of any Diptera tho' the surroundings appeared good. The only common insect was *Empis tessellata* (Empididae) which swarmed, the alders had next to nothing on them].

I had my holidays from Aug 3-25 & spent the first part Aug 3-10 at Stradbally Co. Waterford (for a full record of Irish visits see separate note at end of book). I had a most enjoyable week here & took a number of Diptera, a good many more than I expected. [DY: Aug 3. Arrived in Ireland after a rough passage, saw a lunar rainbow. The country just round Stradbally is like a mixture of Tunbridge Wells & Salcombe. The cliffs here are slate & occasionally granitic rocks occur. All the fields have stone walls instead of hedges. There are a quantity of wild flowers, one or two of the cottages have fuchsia hedges. In the afternoon after a nap I walked partly by the cliffs & partly by the road to Bunmahon to send a wire home. I took a number of odd Diptera on the way, more than I expected as it was in the evening and there had been a succession of rain squalls. Aug. 4. Called on Mr Beresford & got his permission to go on his land after insects & accordingly walked along the borders of a wood, taking a number of species off bracken, bramble, umbelliferae etc..... There are a lot of likely looking localities in the various ravines where the numerous streams run down to the coast. Aug 5 (Sunday) Went for a walk thro' the back of Mr Beresford's grounds & along the Dungarvan road by Durrow Station, was not collecting regularly but took a number of odd species. Aug 6. Collected in the grounds of Wood House in the morning taking several fresh species, very hot, very pretty walk thro' woods with rocks one side of road, in the afternoon there was a sea fog. I walked to Bunmahon inland & came back ½ way along the cliffs which were the finest I have ever seen. Aug 7. Went along the roads towards Kilmacha & right up to the Comeragh Mts which proved to be a good deal further off than I expected. When I

reached them I found that instead of turf the side was nearly waist deep in bracken & gorse, very steep & with numerous boulders scattered about hidden by the ferns. I only got up a little way & then came back, did not reach Stradbally until nearly 4.0 pm. [Aug] 8 Collected in grounds of Wood House. [Aug] 9. Went along the roads towards Kilmeather the same way as on Tuesday, took several things, & sweeping was not much good in the afternoon, it rained & I stayed in & set. [Aug] 10. Collected in the grounds of Wood House & lanes ... [Aug] 11. Collected finally in Wood House gardens].

Aug 13-25 I was at Brockenhurst, the Forest was very dried up & tho' I took a good number of insects I did not come upon anything special, such as *A. marginata* in 1904. WSB took me to the spot where he got *Icterica westermanni*²⁶ last year [DY: at Sway] & I got a short series. [DY: I took 1 *Helophilus lunulatus*³⁵ near Wotton & 1 *Anthrax circumdatus*²¹ at Matley. I saw very few Tabanidae. One *Atherix marginata*⁵³, no *crassipes*⁴. I went out sailing several times in Brameld's boat. I took a number of insects to a fill up series, etc.]

In the autumn I made several excursions in the neighbourhood after Platypezidae & from Sept 22- Oct 20 met with 3 species, especially at Darenth where they occurred on hazel, oak & clematis leaves as well as on the Spanish chestnut [DY: excursions on Sept 8 and 9 to Pett's Wood and Joyden's Wood had been unsuccessful for platypezids. Sept 22. Farningham Woods....2 species of *Platypeza* (Platypezidae) on Spanish chestnut leaves. Sept 29....in Joyden's Wood after some time found a Spanish chestnut on which platypezids were fairly plentiful. The weather for the month has been very mild with a fair amount of rain].

October was exceptionally fine & mild this year. [DY: Oct 6. Had a Saty holiday & spent the morning (fine & warm) at Chattenden looking for Platypezidae with very little success 3 specimens in 3 hours. Then trained back to Greenhithe, had some lunch & at 2.45 got to the Darenth Woods where I discovered Platypezidae in abundance on various leaves, hazel, witch-hazel ?, oak, clematis etc. I took some 28 *P. rufa*³⁶ & a number of ♀ *P. modesta*³⁷ also 1 ♂ & 1 ♀ *P[latypeza] fasciata* but it soon grew dark & I only had an hour & a half left for collecting. On the 8th I sent some *P. rufa*³⁶ to Mr Adams, Mr Carter & WSB. Oct 11. Spent Sunday in Darenth Woods. The two previous evenings had been quite cold & there was a fairly strong N wind blowing but the main pathway was sheltered from the wind & exposed to the sun so that I took numerous Platypezidae & also *Chrysochlamys cuprea*²³. I saw two or three species of *Syrphus* basking in the sun. Had tea with Watson at Stone Castle & looked over his collection of Lepidoptera. Oct 20. Had another Saty holiday, but tho' it was very mild & bright I was unwell & could not get out to collect. Strolled round Bostall Woods in the afternoon & took 1 ♀ platypezid].

[DY: Nov 1. Went to Brit. Museum & identified several species, chiefly thro' aid of Col. Yerbury who was there. Nov 3. Sent a box of Tachinidae to Mr Wainwright].

I believe collectors did pretty well on the whole. Col. Yerbury told me that he, Mr Verrall & Mr Collin had some very successful collecting in Dorsetshire. 18 species new to the British list are recorded in the E.M.M. but 16 refer to a *Descriptive list of the Phoridae* by Dr Wood. Besides this paper Mr Grimshaw completed his paper on the Genus *Hydrot[alea]* & Mr Wingate published a most useful book with the misleading title of *List of Durham Diptera*; it consisted of Analytical Tables for almost all the British species of Diptera in English - compiled from various continental authors. In spite of some mistakes it proved of great use to such as myself who could not follow out German or other continental works. In the winter of 1906-7 I had some very satisfactory exchanges with Mr King of Glasgow who paid me a visit, Mr Carter of Musselburgh & Mr Malloch of Dumbarton.

1907 was not a favourable year on the whole but I managed to take a considerable number of specimens. The standard weather report (31.12.07) says "the cold & ungenial spring followed by a chilly & cheerless summer while the late autumn & early winter will be associated with the floods which occurred over a very large part of the country". A weekend in the NF May 4-5 after *C[riorhina] ranunculi* was fruitless. Whitsun May 18-20 was v. cold & dull with N.E. winds. I took a fair number of Anthomyidae, however, on it [i.e. Whitsun] in the N. Kent woods. I also did more collecting than previously in the Abbey Wood Marshes.

I had my holidays from June 22 to July 6th & went to Ireland again, stopping at Stradbally from 22 to July 1 & Kenmare the rest of the time. The weather was very broken & it rained some time or other about every day. [DY: June 28. Cycled in the morning to the Comeragh Mts & paid a visit to Coumshinganna Lake]. I managed to get a fair number of things, however, but nothing very special. Kenmare was more disappointing. I was there at the same time of year as Col. Yerbury in 1901 but saw hardly anything good. The Umbelliferae heads were often absolutely bare, not even *Empis tessellata* or *P[oliotes] lardaria*³⁸ on them. [DY: July 4. Trained to Loo Bridge, walked back to Kilgarvan. (July) 5. In the afternoon train to Killarney & cycled back by the P. of Wales route, lovely views quite equal to the guide book's description.] I did not see a single species of *Syrphus* the whole of my visit.

On the August bank holiday I went down to Ticehurst & took some ½ dozen *A. crassipes*⁴ & a number of Dolichopodidae. Later in the same month I took *Tephritis plantaginis*³⁹ commonly in the Thames Marshes. Platypezidae were conspicuous by their absence. I joined the S. London Ent. Soc. this year. There were only about ½ dozen records of new species of Diptera in the Magazines & general entomology was uneventful. Dr Wood continuing his articles in the E.M.M. on the British Phoridae. In the *Trans. Ent. Soc.* 1906 Pts III & IV (pub Jan'y 23rd 07) was a very interesting paper by Prof. Poulton on *Predaceous insects & their prey*. I subsequently sent him for the Oxford Museum several examples of predaceous Diptera & their victims that I had taken at odd times & got a warm letter of thanks together with a remark that they could be published in Pt II of his paper when it appears. I also sent some specimens to the Royal Scottish Museum. Another interesting article was that on the *Mating habits of Empididae* in the E.M.M. for Oct '07 by Mr Howlett. I was asked to make out a local list of Diptera for the Woolwich District in view of the coming meeting of the S. Eastern Union of Scientific Societies & promised to give a list of those I had sent with

1908

1908 was noted for the cold spring, Easter Monday Apl 20 being very snowy. May was finer & the summer & autumn had nothing especial in the way of abnormal weather. I took a lot of Diptera, especially Anthomyidae, but do not appear to have taken anything very good or rare. I got permission by paying 40/- a year to collect on Mr Showler's land in the Abbey Wood Marshes, a small part of which is very & has a plentiful crop of rushes & marsh plants etc & which proved fruitful in the insect way.

I spent my summer holidays of 3 weeks in Ireland July 19th to Aug 8th spending a week each at Stradbally, Kenmare & Glengarriff. Stradbally & Glengarriff were better than Kenmare. [DY: July 30. Walked over the Mts to the Glengarriff Rd in the afternoon but only took one or two *Limnophora* (Muscidae) Aug 1. Collected along the banks of the Kenmare R. in the morning & coached to Glengarriff in the afternoon..... Aug 4. Walked into Bawtry & back by steamer. Dull all day, did no collecting. ... Aug 7. Went out in a boat & took a number of flies in the flowery spot on the cliff shore & also some *A[phrosylus]*.

celtiber (Dolichopodidae) which I sent to Mr Adams. ...Aug 8. Came home by coach from Glengarriff to Macroom ... & then by train to Cork & Cork Rosslare Fishguard Paddington].

At Whitsun I got permission to collect at the rhododendrons in Joyden's Wood [DY: from Mr Holt] & took *Criorhina berberina* & *C. asilica* & *Didea fasciata* (Syrphidae) fairly commonly [DY: Saw what I believe was *Didea alneti* but I missed it.] [June 8. Whitmonday. Went to Chattenden & took a lot of things. Mostly Anthomyiids....Found the woods were now let to a Mr Cobb & left my card with the Keeper]. Platypezidae were again scarce in the autumn. I sent some more insects to the Royal Scottish Museum & to the Oxford Museum. Many additions to the British list abt 45 were recorded in the E.M.M. mostly Mycetophilidae, Phoridae & acalypterate Muscidae. Further articles on the *Mating habits of Empidae* appeared by Mr Hamm in the E.M.M. (Aug. 08).

1909

1909 was the worst year from a collecting point of view that I had for many years. The early spring was fine & hot but the rest of the year was very wet & cold, the autumn rainfall does not appear to have been in excess of the average but it was very continuous & there was little sun, most of the sunlight being concentrated in Apl & May. I took several insects I had not before met with in the N. Kent district, probably because I worked it rather more thoroughly since the tardy appearance of the Woolwich list. I spent a fortnight in S. Wales on the border of Milford Haven [DY: Summer holidays spent at Mr Thomas' farm at Bicton near Milford Haven (captures labelled Milford Haven)] but tho' I had a most enjoyable time personally [underlined] I did very poorly entomologically. The district was new to me but appeared rather over cultivated & over exposed & the weather during my stay was cold for June.

[DY: 18 Sept. Walked thro' Darenth Woods, lower part of Farningham Woods & Joyden's Wood but saw no Platypezidae.... 26 Sept. Went for a walk thro' Farningham Woods upper part & found 4 species of Platypezidae, dull on the whole.... 2 Oct. Darenth Woods. Went down from town & got to the woods about 2.50, saw a fair number of Platypezidae but they were not common anywhere (5 spp were collected). ... 9 Oct. Bexley Joyden's Wood did not get to the woods till 3.20 & did v little, all I took were at a fungus like a peeled banana⁴⁰, one of the *Alloeostylus*⁴¹ had the outer x vein abbreviated in each wing.]

1910

The weather in the spring of 1910 does not seem to have been very remarkable. I did not do very much early collecting & note on 14 May (Whit Sunday) "the first fine hot day for weeks". May 28 & June 4 at rhododendrons in Joyden's Woods both in poor weather, note on June 11th "1st fine Sat^y afternoon for 4 weeks" [DY: Went down to Belvedere & collected in the marshes, took a ♀ *S[tratiomys] furcata*⁴² which laid a lot of eggs, in the pill box, which I sent to Mr Main]. On 12th June I took *Pegomya setaria* (Anthomyiidae) at F[arning]ham & again on 18 June at Chattenden the same species occurred in some numbers; this species had been dropped by Mr Verrall in his *List of British Diptera*. I spent from 25 June to 9 July at Mr Thomas' on Milford Haven & towards the end of my stay took several species of Trypetidae new to me on rough ground at the end of Lindsway Point.

[DY: 30.vii.10. Shoreham Kt. Cycled to Swanley, trained to Kingsdown & walked back to F'ham via Kingsdown & Beesfield Valley, had a very good day taking numerous species new to me in N. Kent, e.g. *Isopogon brevisrostris*⁴³, *Acrocera globulus*⁴⁴, ... etc....& a lot of *Cheilosia* (Syrphidae) on Umbelliferae (these included *C. soror* and *C. barbata*), *C. illustrata* was common.]

I did some collecting in August in N. Kent localities but no autumn collecting. In December 1910 I got the 3rd part of Lundbeck's *Diptera Danica* dealing with the Empidae, a work that should be very useful as there is nothing in English on this family.

1911

[An annual summary was not written for this year, in which he visited some localities in Kent, made his last visit to Ireland from 19 to 26 May and had a holiday in Pembrokeshire from 18 to 28 July, but there were no comments on the latter trip and he made no further entries for 1911 in his diary after that date. Some diary extracts are included here.]

[DY: April 15. Easter Saturday. Cycled to F(arning)ham Woods, put up my machine at the Royal George....Had a good day's collecting, principally at the shallows by the little pond at the top of the wood, where I took *Cheilosia grossa* (1 only) & a nice series of *C. albipila*.]

[DY: May 19 (Friday): Went to Ireland for a week's holiday. Travelled by day, not a very pleasant journey, boat pitched a good deal, several people unwell. Got as far as Cork & stayed at Metropolitan Hotel. Fine. May 20. Went on from Cork to Bantry & by boat thence to Glengarriff arriving about 4.0pm. Went out after tea & took several Diptera. May 21. Fine but cool wind, collected in the morning taking *E[ristalis] cryptarum* among other things...saw but did not get *E. aeneus*¹⁰....May 22. Went up the Kenmare River & round a stony lane bordering the (Lady Bantry) Park, home thro' the Park. Took numerous Empids & *Rhaphium longicornis*⁴⁵ but not much else. In the afternoon went ... up the Sugar Loaf (1887 ft). Very tired. May 23-25. Wet all three days had indigestion & could do no collecting or setting. May 26. Dull in the morning, fine in afternoon. Much better, did some collecting, taking 2 more *E. cryptarum* ... The result of the Irish visit was disappointing (Footnote: On working out the captures it was not so bad after all considering I only got in 3 days collecting I took 8 species new to my collection besides 2 or 3 I had not taken in Ireland before). Owing to the regular tourist service not running I took longer to get to & from Glengarriff than in the usual course. The grazing cattle were a nuisance by reason of their eating away all flowers. I saw no syrphids to speak of and also very few tachinids. Gnats plentiful & also midges.]

[DY: June 3. Very fine, hot. Went to Joyden's Woods for the first time this year. The rhododendrons were fully out & getting over. Numerous Diptera *Criorhina berberina* v. abundant, also *C. oxycanthae*¹¹, *floccosa* & *C. asilica* but not quite so plentiful. Took *Cnemodon vitripennis*⁴⁶, *Xylota florum* & *Syrphus cinctus*⁴⁷ (Syrphidae) 3 additions to my N. Kent list.....].

1912

The spring season was early & mild on the whole. The willow at Chattenden was nearly over on March 16 [DY: Took numerous anthomyiids either hovering or on tree stems & a single male syrphid *S. arcticus*⁴⁸ new to me & to the N. Kent district.] & Easter Sat^y (6 Apl) was a lovely day [DY: Went to Joyden's Wood...found *S. torvus* not uncommonly in the small plantation of Scotch fir. The other Syrphidae taken were mostly near a small grove of cypress (*Melangyna quadrimaculata*, *Syrphus barbifrons*¹³ and *Platycheirus discimanus* were listed).

I did a fair amount of collecting in North Kent localities & spent Apl 20/22 [DY: Went down to New Forest for weekend at Bramelds while Cicely was staying there] & again May 25/7 (Whitsun) in the New Forest, taking a fair number of species. [DY: May 1st.went over to Paul's Cray to look for *Cheilosia maculata*⁴⁹. Found the wild garlic but there was not very much of it & the locality was rather trodden on].

About June the weather turned wet & remained persistently so throughout June, July, August & Sept^r; the month of August being the wettest. The cold wet summer was a great contrast to 1911. I spent 3 weeks (July 13 - Aug 4) at Bicton but did hardly as well as in previous years. I took, however, a good number of common species to renew series etc. I noted that all the Saturdays in Augt except 31st were wet. I did a certain amount of collecting in Sept^r in N. Kent mostly Anthomyiidae again, but nothing after the 31st.

In the early part of the year Mr Collin identified a *Limmophora* (Muscidae) that I had taken in Ireland in 1908 as *L. aestuum*⁵⁰ an addition to the Brit. list. I also found among some insects sent to me by Mr Harwood for identification a species I thought was a new *Phorbia* but which proved to be a *Pegomyia*, *P. nigrisquama* Stein (Anthomyiidae), also new to the British list. Prof. Stein confirmed both the above identifications. On putting away the season's captures I found a good many additions to my collection but nothing so far (Jan^y '13) very striking either in numbers or rarity. I am not aware of any books or papers specially bearing on British Diptera being published during the year except Mr Malloch's monograph on the Brit. species of the genus *Fannia* (Fanniidae) published in the *Scottish Naturalist* a reprint of which he was good enough to send me in Jan^y '13. The 2nd International Congress of Entomology was held at Oxford in August & despite the bad weather was a great success. While at Bicton *Tabanus autumnalis* (Tabanidae) occurred not uncommonly & the ♂s were almost as common as ♀s; they used to settle on the telegraph posts along the roads which were also a favourite roost of *Mesembrina meridiana*, *Stomoxys calcitrans* (Muscidae) & other anthomyids & muscids.

1913

[The annual summaries ceased with 1912. In 1913 he did quite a lot of collecting but entirely within Kent except for a trip to Pembrokeshire and Glamorgan from 14 June to 4 July. Some notes from his diaries are included here].

[DY: March 22. Farningham Wood...The two trypetids (*Tephritis vespertina*) were swept from heather as they evidently hibernate, this was quite a surprise to me. May 3. Darenth. Took a fair number of Diptera but was hampered by swarms of *Bibio* (Bibionidae) of 2 or 3 species. May 10. Darenth. ...the bibios were more of a nuisance than ever..].

[DY: June 14. Arrived Milford Haven. Down to Lindsay ... Took *Eumerus sabulonum* on the cliff. 15. Sunday, did no collecting. Started to go to church but Mr Jackett was taking service at Hasguard so went down to shore & bathed. In glorious weather went down to Lindsay Point and took a photo. After tea to ch(urch) at Herbrandston. Still fine & hot. 16. To Lindsay Point in morning collecting, no trypetids out yet, then bathed at Lindsay. In afternoon to Herbrandston to tea & tennis afterwards.... June 27. Left Bicton & went to Porthcawl...Gave a letter of introduction to Mr Rees who agreed to take me as a lodger for the 10 days.]

[DY: October 10. Darenth. I went thro' Darenth Woods & Lords Wood. Fine day ... Very few Platypezidae about (4 spp were, however, taken)].

1914

[Collecting in 1914 followed the same pattern as in the previous year, including only localities in Kent apart from a holiday in Pembrokeshire and Glamorgan from 2 to 16 May. Some of his diary notes are reproduced here].

[DY: Apl 13. Easter Monday. V. Fine. *S. torvus* abundant on the heather & among the pine trees in Joyden's Wood. *S[epedon] spinipes* (Sciomyzidae), an addition to the N. Kent list.]

[DY: May 2. Bicton. Collected in a sheltered piece of swampy wood on the way to Sandy Haven. Very cold E. wind & dull, a fair number of common flies in sheltered places. Umbelliferae not yet out and ash trees still bare. May 8. Cold NW winds & frequent rain showers in afternoon, collected along Sandy Haven woods in morning, went for a walk with Mr Jackett in afternoon but had to turn back for rain ... saw an adder. May 9. Cold northerly winds. Did not collect, drove into Haverfordwest, saw Leonard Hughes & spent afternoon with him May 11. Left Bicton in afternoon & arrived Porthcawl 9.26. (May 14 to 16 when he visited Merthyr Mawr and Newtown Burrows and took a good number of flies were the only good days of the trip and he travelled home via Cardiff on the evening of 16 May)].

[DY: June 13. Thames Marshes, Dartford. Very fine after 3 successive dull Satys. Strong wind, went down the Fever Hospital lane but the Umbelliferae were over and I took little or nothing there. *Ceroxys crassipennis*⁵¹ & *Anacampta urticae*⁵² v. common, also *Scellus notatus*].

Footnotes. Currently valid name where names used by Andrews have changed:

1, *Tachina lurida* (Fabricius) (Tachinidae); 2, *Epistrophe grossulariae* (Meigen) (Syrphidae); 3, *Winthemia quadripustulata* (Fabricius) (Tachinidae); 4, *Atrichops crassipes* (Meigen) (Athericidae); 5, *Rhagio lineola* Fabricius (Rhagionidae); 6, *Nephrotoma crocata* (Linnaeus) (Tipulidae); 7, *Myolepta dubia* (Fabricius) (Syrphidae); 8, *Rhagio scolopaceus* (Linnaeus) (Rhagionidae); 9, *Villa modesta* (Meigen) (Bombyliidae); 10, *Eristalinus aeneus* (Scopoli) (Syrphidae); 11, *Criorhina berberina* (Fabricius) (Syrphidae); 12, *Brachypalpoidea lentus* (Meigen) (Syrphidae); 13, *Melangyna barbifrons* (Fallén) (Syrphidae); 14, *Hybomitra bimaculata* (Macquart) (Tabanidae); 15, *Lejops vittatus* (Meigen) (Syrphidae); 16, *Episyrphus balteatus* (De Geer) (Syrphidae); 17, *Meliscaeva cinctella* (Zetterstedt) (Syrphidae); 18, *Epistrophe eligans* (Harris) (Syrphidae); 19, *Neoleria inscripta* (Meigen) and 20, *N. ruficeps* (Zetterstedt) (Heleomyzidae); 21, *Villa venusta* (Meigen) (Bombyliidae); 22, *Scaeva pyrastris* (Linnaeus) (Syrphidae); 23, *Ferdinandea cuprea* (Scopoli) (Syrphidae); 24, *Chrysops viduatus* (Fabricius) (Tabanidae); 25, *Thyridanthrax fenestratus* (Fallén) (Bombyliidae); 26, *Merzomyia westermanni* (Meigen) (Tephritidae); 27, *Callicera rufa* Schummel (Syrphidae); 28, *Ochthera schembrii* Rondani (Ephydriidae); 29, this probably referred to *C. grossa* (Fallén) or *C. albipila* Meigen, rather than *C. intonsa* (now *Cheilosia latifrons* (Zetterstedt)) (Syrphidae); 30, *Microdon analis* (Macquart) (Syrphidae); 31, *Callicera aurata* (Rossi) (Syrphidae); 32, *Choerades marginatus* (Linnaeus) (Asilidae); 33, *Hybomitra bimaculata* (Macquart) (Tabanidae); 34, *Pocota personata* (Harris) (Syrphidae); 35, *Anasimyia lunulata* (Meigen) (Syrphidae); 36, *Protoclythia rufa* (Meigen) (Platypezidae); 37, *Protoclythia modesta* (Zetterstedt) (Platypezidae); 38, *Polietes lardarius* (Fabricius) (Muscidae); 39, *Campiglossa plantaginis* (Haliday) (Tephritidae); 40, presumably a stinkhorn *Phallus impudicus*, the flies taken being Muscidae and Dryomyzidae: *Thricops diaphanus* (Wiedemann) (as *Alloeostylus flaveola*), *Phaonia subventa* (Harris) (as *Hyetodesia variegata*), *Neuroctena anilis* (Fallén) and *Dryomyza flaveola* (Fabricius); 41, *Thricops*; 42, *Stratiomys singularior* (Harris) (Stratiomyidae); 43, *Leptarthrus brevisrostris* (Meigen) (Asilidae); 44, *Acrocera orbiculus* (Fabricius) (Acroceridae); 45, *Heringia vitripennis* (Meigen) (Syrphidae); 47, *Melangyna cincta* (Fallén) (Syrphidae); 48, *Melangyna arctica* (Zetterstedt) (Syrphidae); 49, *Portevinia maculata* (Fallén) (Syrphidae); 50, *Villeneuveia aestuum* (Villeneuve) (Muscidae); 51, *Meliera crassipennis* (Fabricius) (Ulidiidae); 52, *Ceroxys urticae* (Linnaeus) (Ulidiidae); 53, *Ibisia marginata* (Fabricius) (Athericidae).

***Phytomyza astrantiae* (Hendel, 1924) (Diptera, Agromyzidae) new to Britain** —

Every summer since 2005 I have recorded leaf mines in *Astrantia major* in my Cheltenham, Gloucestershire, garden. The mines were tentatively identified as those of *Phytomyza astrantiae* (Hendel, 1924), fitting the descriptions published by M. Hering (1957. *Bestimmungstabellen der Blattminen von Europa: einschliesslich des Mittelmeerbeckens und der Kanarischen Inseln* 1, 144. Junk, 's Gravenhage) and illustrated by Willem Ellis (<http://www.bladmineerders.nl/minersf/dipteramin/phytomyza/astrantiae/astrantiae.htm>).

The mines varied in morphology, forming a gallery cum blotch, brown in colour with a pale yellow margin. The overall shape reflected the form of the leaves; thus, the first generation in May/June on lower wide leaves tended to be broad in extent, whereas the late generation in July/August on the narrow flowering stem leaves tended to be more gallery-like.

Attempts to rear adult flies and thus secure a conclusive identification were unsuccessful until this year. On 23 May 2009 I took a sample of three leaves and from these managed to obtain 6 puparia on 25 May. These in turn produced 5 adult flies that had emerged either by 13 June (4 flies) or on that day. Four of the adults were sent to David Gibbs, who confirmed their identity on the basis of dissecting the males. The aedeagus of *P. astrantiae* was figured by K.A. Spencer (1990. Host specialisation in the World Agromyzidae (Diptera). *Series Entomologica* 45, 444 pp. Kluwer Academic Publishers).

Since first noting the mines in 2005, I have also recorded similar structures on *Astrantia major* at Ambleside, Cumbria on 20 July 2006, and other records have been published (British Leafminers Newsletter. Issue 17. pp 1-2. May 2009. <http://www.leafmines.co.uk/pdfs/news18.pdf>). David Manning found mines in his garden at Sharnbrook, Bedfordshire (V.C. 30, SP9959); from larvae that pupated on 22 May 2009 he obtained 1 female which emerged on 10 June and a hymenopterous parasitoid. Following his request for members of a local group to look at plants in their gardens, further records were obtained from Willen, Buckinghamshire (V.C. 24, SP8741) and Sywell, Northamptonshire (V.C. 32, SP8166) but there was a negative response from John Showers, who lives at Rothwell, Northamptonshire and found no sign of mines on *Astrantia* plants in his garden.

Keith Palmer has reported further finds at Quarry Hill, Tonbridge (V.C. 16, West Kent: a few mines on a small patch of *Astrantia major* in a garden on 21 May 2009) and Linton Village Centre (V.C. 29, Cambridgeshire: a single mine on a small patch of *Astrantia major* in a garden on 13 June 2009). Also while he was at the BBC Gardeners World Live Exhibition on 10 June 2009, he found about 6 mines of this species on displayed plants of *Astrantia major* at four different stalls. The origin of most of these plants was not known but certainly one of those with a mine was raised at a nursery in the village of Freefolk, Whitchurch, North Hampshire (V.C. 12). A number of other *A. major* plants found by him during the summer of 2009 did not appear to support *P. astrantiae*.

The popularity of *Astrantia* as a herbaceous garden plant, reflected in a list of 59 suppliers in the RHS Plant Finder (<http://www.rhs.org.uk/rhsplantfinder/plantfinder.asp>) suggests one avenue for the spread of the insect, which may now be widely distributed in England.

The only agromyzid to have been previously recorded on *Astrantia* in Britain is *Phytomyza spondylii* Robineau-Desvoidy, 1851, of which the usual hosts are *Heracleum* and *Pastinaca*. This association was originally reported from Kew by Spencer and other records are all from botanic gardens (Brian Pitkin *pers. comm.*). Occurrence of *P. spondylii* on *Astrantia* may be an example of xenophagy and some of these more recent records may have related to *P. astrantiae*. Willem Ellis (*op. cit.*) has reported *P. astrantiae* to be well

established in the Netherlands and has also recorded a rearing there of the highly polyphagous species *Chromatomyia horticola* (Goureau, 1851) from *Astrantia*.

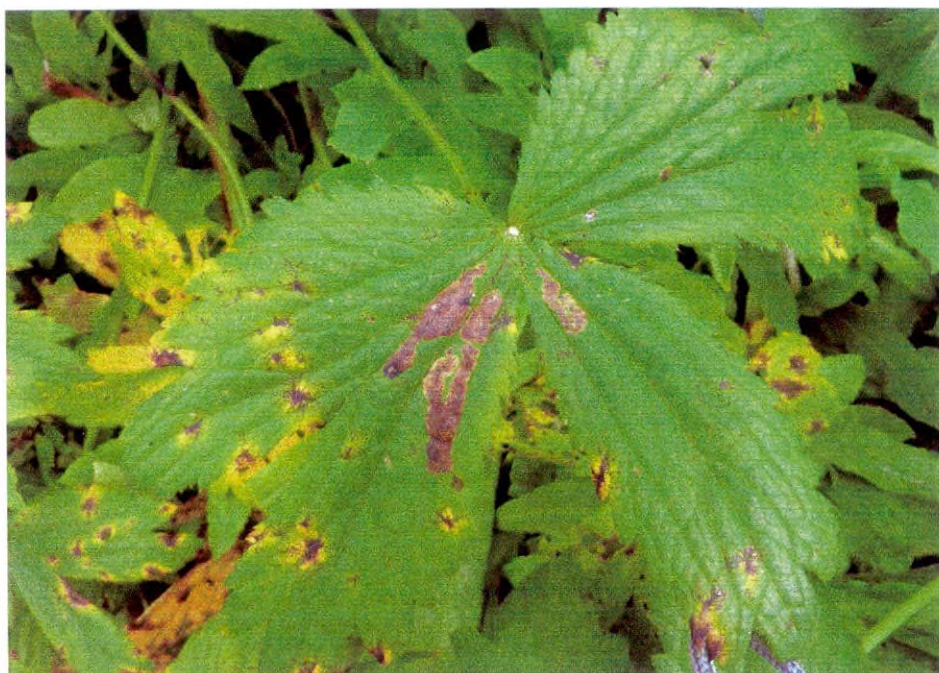


Fig. 1. Mine of *Phytomyza astrantiae* (Hendel) in *Astrantia* at Hidcote, Gloucestershire.

Spencer described the mine of *P. spondylii* as "linear, white" (K.A. Spencer, 1972. Diptera, Agromyzidae. *Handbooks for the Identification of British Insects* 10(5g), 1-136.) and these features are clearly shown in Rob Edmund's photograph of the long, whitish mines on *Heracleum sphondylium* (<http://www.leafmines.co.uk/html/Diptera/P.spondylii.htm>). This contrasts with the shorter length of the mines of *Phytomyza astrantiae* shown here in an *Astrantia* leaf, photographed in 16 August 2009 at Hidcote, Gloucestershire, a further site for the species. The most obvious difference, however, concerns the two-tone coloration of the *Astrantia* mine with its brown central portion and a narrow cream edge.

I am grateful to David Gibbs for determining the identity of my specimens, David Manning and Keith Palmer for the opportunity to include their records, and to Rob Edmunds and Brian Pitkin for useful comments – **ROBERT HOMAN**, The Apiary, Swindon lane, Cheltenham, Glos. GL50 4PD

A new species of *Renocera* (Diptera, Sciomyzidae) from Majorca

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Summary

Renocera lyami is described as new from S'Albufera, Majorca.

Introduction

The Sciomyzidae of Europe, including the Mediterranean islands, has been monographed by Vala (1989) and very few additions have been made since this publication. Diptera collected by Malaise trap in a reed bed in the S'Albufera Natural Park in Majorca contained a male of a new species of *Renocera*, which is described below.

S'Albufera is the largest wetland reserve in the Balearic Islands. It is composed of essentially saline marshes and dunes, with vegetation dominated by very large *Phragmites australis* reed. The area is subdivided by a number of canals and the Malaise trap was situated across the pathway of the Canal den Pujol.

Description

Renocera lyami sp. n.

Male. Head: 2 fronto-orbital bristles. Third antennal segment bicoloured, basally yellow and apically dark brown, contrasting with yellow first and second segments. Arista long plumose, longest plumes at least as long as third antennal segment is wide. Face white. Orbital area anteriorly and parafacial area silvery white. Palps pale, slightly dusky apically. Frons matt yellow, with frontal stripe partly shining, not extending to anterior border of frons.

Thorax: prosternum bare. 1-3 fine propleural hairs. Mesonotum with 2 median brown longitudinal stripes, inside the dorsocentral bristle row; two pairs of dorsocentral bristles; no distinct prescutellar acrostichal bristles. Scutellum with hairs over entire dorsal surface.

Wings: both cross veins heavily infuscated. Wing length 6mm.

Legs: hind femur with strong ventral bristling along entire length.

Abdomen: strong posterior marginal bristles on tergites. Sternite V with slight median invagination, with two lateral tufts of bristles, not on separate lobes. Gonostylus and genital complex as in Figs 1 and 2.

Female. unknown.

Etymology. The species is named for my grandson Lyam.

Holotype ♂, **Majorca, S'Albufera.** Malaise trap in reed bed, 24-25.v.2008. In collection of Natural History Museum, Geneva, Switzerland.

Discussion

The two pairs of fronto-orbital bristles and the bare prosternum will cause this species to run to *R. stroblii* Hendel in all Palaearctic keys to *Renocera* (Vala *op. cit.*; Rozkošný 1984, 1987). It is distinguished from *R. stroblii* by the absence of a darkened costal margin and subcostal cell, the bicoloured third antennal segment and details of the male terminalia.

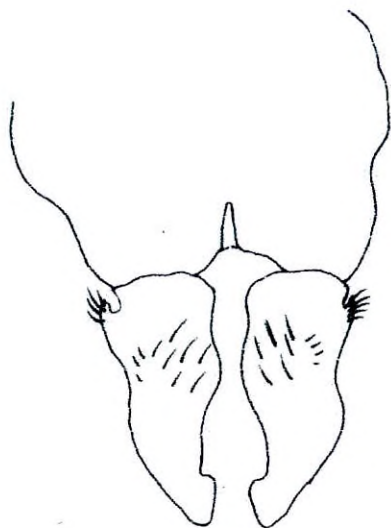


Fig. 1. *Renocera lyami* sp. n.: gonostyli (dorsal).



Fig. 2. *Renocera lyami* sp. n.: genital complex (lateral).

References

- Rozkošný, R. 1984. *The Sciomyzidae (Diptera) of Fennoscandia and Denmark*. Fauna Entomologica Scandinavica **14**, 224 pp. E.J. Brill, Leiden.
- Rozkošný, R. 1987. *A review of the Palearctic Sciomyzidae (Diptera)*. 97 pp. University J.E. Purkyně, Brno.
- Vala, J.C. 1989. *Diptères Sciomyzidae*. Faune de France **72**, 301 pp. Fédération Française des Sociétés des Sciences Naturelles, Paris.

Myolepta potens (Harris, 1780) (Diptera, Syrphidae) in

Gloucestershire — On 22.vi.2009 NJP caught a male specimen of this priority BAP hoverfly on bramble *Rubus fruticosus* at Welshbury Wood, West Gloucestershire (V.C. 34, SO6815). It was initially identified by him from the key by A.E. Stubbs and S.J. Falk (2002. *British Hoverflies*, second edition, BENHS). The identity was checked and confirmed by DAI and MGM using this key and that by M.P. van Veen (2004. *Hoverflies of Northwest Europe*, KNNV Publishing). In particular, they were able to compare directly with a male *M. dubia* (Fabricius, 1805) collected by DAI on 17.vi.2009 in the New Forest, Hampshire. The specimen had a broad black facial stripe, the orange areas on tergite 3 did not reach the hind margin of the tergite and the black median stripe on the same tergite was significantly broader than one third of the tergite's width (Fig. 1). There were no discernible shining areas at the sides of sternite 3. Both specimens are currently in MGM's collection.



Fig. 1. *Myolepta potens* (Harris), male from Welshbury Wood (left), *Myolepta dubia* (Fabricius), male from the New Forest (right) (Photo: Martin. G. Matthews).

This record follows two sightings of a *Myolepta* species by NJP in Blaisdon Wood, about 3km NE of Welshbury Wood, on 15.vi.2007 and 3.vi.2009. On both occasions only brief views were obtained and the species could not be determined. In addition, he obtained

rather better views of a second individual in Welshbury Wood on 22.vi.2009, some 200m from the capture location; this individual appeared to be a female.

Until recently *M. potens* was feared to be extinct in Britain with just a handful of records, from the Bristol area, between 1945 and 1961 (E.T. Levy and D.A. Levy 1998. *Somerset Hoverflies*. Somerset Wildlife Trust). However, in 2002 adults were reared and were caught in pan traps placed in rot-holes in several horse chestnuts *Aesculus hippocastanum* in Moccas Park, Herefordshire; larvae which were collected and preserved were also identified as *M. potens* by Graham Rotheray (Stubbs and Falk *op. cit.*; Godfrey, A. 2003. In *Dipterists Day Exhibits 2002. Dipterists Digest (Second Series)* **10**, 41-44; A. Godfrey *pers. comm.*).

It now seems clear that the Forest of Dean area also supports a population. There is certainly a considerable amount of apparently suitable habitat ("over-mature" trees with rot holes) in the Dean. Welshbury Wood is a formerly coniferised Forestry Commission woodland which is undergoing "broadleaf reversion" and where numbers of mature broad-leaved trees remain, notably beech *Fagus sylvatica* and small-leaved lime *Tilia cordata*. Blaisdon Wood is a privately-owned woodland, also formerly coniferised but currently being managed to promote broad-leaved species, with numerous old trees including beech and small-leaved lime. This wood has produced records of several sap-run, rot-hole and dead-wood hoverflies in recent years, including *Brachypalpoides lentus* (Meigen, 1822), *Callicera aurata* (Rossi, 1790), *Criorhina asilica* (Fallén, 1816) and *Volucella inflata* (Fabricius, 1794). Large areas of the Dean would seem to be equally suitable for *Myolepta* species.

The nearest *M. dubia* records mapped by S.G. Ball and R.K.A. Morris (2000. *Provisional Atlas of British Hoverflies (Diptera, Syrphidae)*. Biological Records Centre, Huntingdon) are some 80km from the Forest of Dean. It is perhaps not out of the question that this species could also occur here, alongside *M. potens* – **N. JOHN PHILLIPS**, Yorkleigh Cottage, Pope's Hill, Gloucestershire GL14 1LD, **DAVID A. ILIFF**, Green Willows, Station Road, Woodmancote, Gloucestershire GL52 9HN, and **MARTIN G. MATTHEWS**, 56 Stanford Road, Ashchurch, Tewkesbury, Gloucestershire, GL20 8QU

***Dolichopus excisus* Loew, 1859 (Diptera, Dolichopodidae) in East**

Kent – *Dolichopus excisus* (Loew) was added to the British list by David Gibbs on the basis of two males found at Shotover Moor, Poole Harbour, Dorset on 18 May and 9 August 2005 (Gibbs, D. 2006. *Dolichopus excisus* Loew, 1859 (Diptera, Dolichopodidae) new to Britain discovered in southern England. *Dipterists Digest (Second Series)* **13**, 5-10). During the afternoon of 25 May 2009 I spent half an hour recording insects at Oare Meadow, near Faversham (TR007627) and, among forty species of Diptera named, were three males of *Dolichopus excisus*.

Within the two hectare site, managed by the Kent Wildlife Trust, is an east-facing grazing meadow, a spring-fed freshwater marsh and a small area of *Phragmites australis* and *Bolboschoenus maritimus* where there is a saline influence from the nearby Oare Creek. Gibbs' specimens were taken on the upper saltmarsh where *Bolboschoenus* was dominant and it is possible that mine were also associated with the saline area. However, none was found at Oare Marshes, visited shortly after, nor at any of the nineteen areas of saltmarsh investigated along the north Kent coast during 2009 – **LAURENCE CLEMONS**, 14, St. John's Avenue, Sittingbourne, Kent ME10 4NE

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