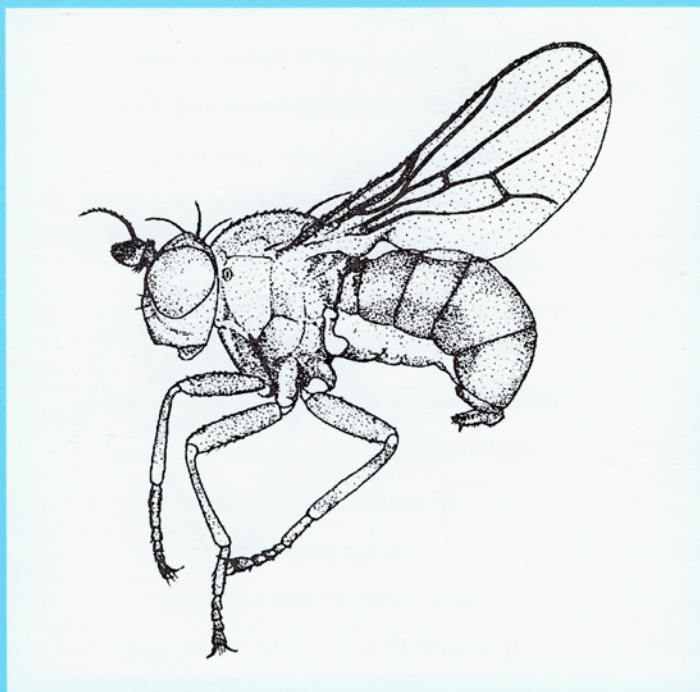


Dipterists Digest



2005 Vol. 12 No.2

WHAT'S IN A NAME? -

Some ruminations on laws of zoological nomenclature

What a shame!

There's a change of name! -

But only very strict laws are able

To make scientific names stable

And understood in Europe and Asia,

India, America and Australasia,

But there can be international wrangling

As taxonomists work on untangling

Which name has seniority

And therefore qualifies for priority.

Common names may differ in every country

And even vary from county to county

So please don't be cross

Over a name loss

After many a twist and bend

It should all come right in the end!

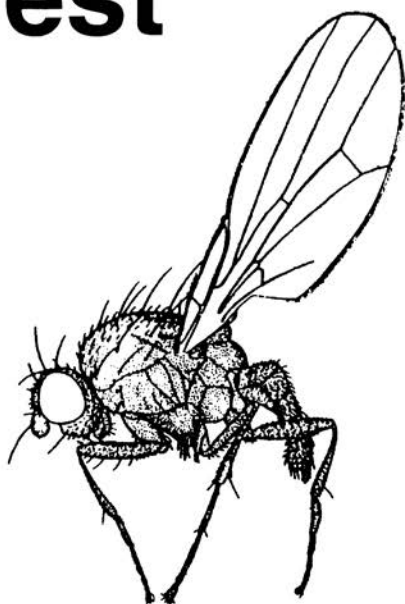
Stella M Turk

March 2005

(below is explanatory text for non taxonomists)

The law of priority states that the first name that accurately describes an animal must be used. A later name becomes a synonym. A species name consists of two words - a generic name or genus, followed by a specific name. This combination must be used only once in the Animal Kingdom, so any infringement must be 'sunk' as a homonym and a new name assigned.

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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 NW European flies. All notes and papers submitted to **Dipterists Digest** are refereed. The scope of **Dipterists Digest** is:

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

Articles may be of any length up to 3,000 words and must not have been accepted for publication elsewhere. Items exceeding this length may be serialised or printed in full, depending on competition for space. Articles should be written in clear and concise English and should preferably be typed double spaced on one side of A4 paper. **After acceptance all contributions should, wherever possible, also be supplied on 3.5" computer disc** in ASCII, Word or Word Perfect formats and accompanied by hard copy. (E-mail attachments are acceptable).

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 and should be supplied with the article. References to journals should give the title of the journal in full. Scientific names should be underlined or, preferably, italicised. **If an article is to be supplied on disc, scientific names should always be italicised.** Authors of scientific names should be given in full (with parentheses if applicable) and nomenclature should follow the most recent check list, unless reflecting subsequent changes. Tables should be on separate sheets. Figures should be drawn in clear black ink, about 1.5 times their printed size and lettered clearly. Descriptions of new species should include a statement of the museum or institution in which type material is being deposited.

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Aquatic Stratiomyidae (Diptera) on grazing marshes

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Summary

Larvae of several species of aquatic stratiomyids were recorded from many grazing marshes in England and Wales. The large species *Oplodontha viridula* (Fabricius), *Odontomyia ornata* (Meigen), *O. tigrina* (Fabricius) and *Stratiomys singularior* (Harris) are the most frequent species, and much more so than commoner species such as *Oxycera trilineata* (Linnaeus), *O. rara* (Scopoli) and *Nemotelus* species. The widespread occurrence of *O. ornata* in Norfolk marshes does not appear to have been noted before.

Introduction

Ditches on grazing marshes support some nationally scarce and rare aquatic stratiomyids (Drake 1988; Stubbs and Drake 2000). These marshes disproportionately favour some species compared with other still-water habitats, such as ponds and fenland pools, despite ditches being, in effect, just very long thin ponds. Their importance for a few large species is shown more clearly using records of larvae than those of adults, although part of the reason for fewer records of adults may merely reflect the relative inaccessibility of most marshes which are in private ownership or if managed by conservation organisations then usually closed to access in the bird breeding season.

The results for stratiomyids made during many surveys for aquatic invertebrates on marshes of predominantly high conservation value are brought together here. References to most earlier surveys were given by Drake (2004a) and later surveys by Drake (2004b-e, other references).

Sampling was undertaken using a standard FBA-style pond-net and the contents of net-hauls were searched on the bank for between 30 and 45 minutes, except for one survey of Norfolk marshes, in which the samples were preserved and sorted dead in the laboratory.

A total of 1442 ditches on many inland and coastal grazing marshes and washlands was surveyed between 1983 and 2004 in six counties (Table 1). Results for about another 100 ditches surveyed during small surveys in Kent, East Sussex, Hampshire and Cumbria were not included.

The timing of the surveys varied; those of the Essex and Suffolk coasts, some Cambridgeshire washlands, most Somerset Levels and Moors and Gwent Levels being undertaken in April to June (a few sites also in July), and all Norfolk marshes (Yare, Bure and parts of the Thurne and Ant valleys), some Cambridgeshire washlands and some Somerset Moors being undertaken in September and October. As a comparison with the records of larvae from these marshes, the number of all my records of adults of these species for all sites (not just marshes) is given.

	Cambridge-shire	Essex	Suffolk	Norfolk	Somerset	Monmouth-shire	total records	
							larvae	adults
<i>Nemotelus pantherinus</i>	0	0	0	0.8	0	0	5	22
<i>Odontomyia ornata</i>	0	2.2	2.6	9.2	13.9	35.1	199	1
<i>Odontomyia tigrina</i>	0	22.1	6.4	4.8	9.5	28.6	132	16
<i>Oploodontha viridula</i>	82.5	33.8	7.7	29.1	15.4	68.5	457	131
<i>Oxyccera rara</i>	0	0.7	3.8	3	0.7	1.2	43	12
<i>Oxyccera trilineata</i>	1.8	4.4	3.8	2	1.2	6.5	48	26
<i>Stratiomys singularior</i>	33.3	25	10.3	5.5	4.2	6.5	125	8
<i>Vanoyia tenuicornis</i>	0	0	0	0.5	0.5	0	8	17
total records							1017	
total samples	57	136	78	598	402	168	1439	

Table 1. Percentage occurrence of larval stratiomyids in each county's marshes, with the total number of records of larvae from marshes and adults from all sites (not just marshes).

Results and Discussion

Oploodontha viridula (Fabricius) is the commonest aquatic species on marshes in nearly all counties, although with geographical variation that cannot be explained by the date of surveys, brackishness or soil types (peat, alluvium or clay). It is also clearly a widespread species in the marshes of several counties, particularly the Gwent Levels of Monmouthshire and Ouse and Nene Washes of Cambridgeshire. Adult records from all sites, not just marshes, confirm its widespread occurrence.

It will be of some surprise that the species next most numerous in records is the rare (RDB2) *Odontomyia ornata* (Meigen). It is particularly frequent on the Gwent Levels and moderately frequent on both the Somerset Levels and Moors and Norfolk marshes. Its widespread occurrence in Norfolk appears to have been overlooked; no records were submitted to the recording scheme for inclusion in the provisional atlas (Drake 1991). The actual number of records in Norfolk is almost the same as found in the levels and moors of Somerset and Gwent: 55 occupied ditches in Norfolk (in 2001, 2002), and 56 and 59 in Somerset and Gwent. The species is present over much of the area surveyed in Norfolk, although apparently more frequent in the Yare valley. This is likely to be due to the different sampling method used in the Yare survey (samples were preserved in the field and sorted dead in the laboratory, instead of being bank-sorted). These records represent an extension of range and a large additional stronghold. The low numbers found in Essex and Suffolk marshes are thought to be a real reflection of the species' scarcity in these marshes, many of which are slightly brackish. All *O. ornata* here were found in completely freshwater ditches.

With but one adult record made by the author, the overwhelming number of records for larvae (199 altogether) suggests that *O. ornata* is far more easily recorded by pond-

netting than by direct observation or sweep-netting for adults. Clearly, part of the discrepancy is due to the timing of visits but enough time has been spent on grazing marshes to confirm that adults are relatively elusive.

Odontomyia tigrina (Fabricius) was less frequent than *O. ornata* except in the slightly brackish marshes of Essex and Suffolk.

The identification of *Stratiomys* larvae can be unreliable, although large specimens of the two commoner species, *S. potamida* Meigen and *S. singularior* (Harris), are separable using the characters given by Stubbs and Drake (2001). Several reared specimens from different marshes are *singularior*. All those found at similar sites are therefore presumed to be this species. *Stratiomys singularior* has a similar overall abundance to that of *O. tigrina* but is clearly more frequent in East Anglian marshes than in the west. It shows a particularly high occurrence in the muddy washlands of the Ouse and Nene and in the brackish marshes of Essex, where large numbers of larvae were sometimes seen in very shallow algae-dominated ditches.

In contrast to these large species, *Oxycera* and *Nemotelus* were infrequently found as larvae. The explanation for this difference is the preference of these species for the extreme margin of ditches and their amphibious habit, which leads to under-recording by pond-netting for aquatic invertebrates. For instance, *O. trilineata* (Linnaeus) and *O. rara* (Scopoli) can be found at many places by searching the bare mud of hoof-prints at ditch margins, and *O. rara* in depressions across damp fields, but such searches were not considered a good use of survey time, so were rarely carried out. The absence of *Oxycera morrisii* Curtis is noteworthy since its larvae have been found in places with similar microhabitats to those on grazing marshes.

Records of larvae of *Nemotelus* from freshwater marshes could refer to either of the freshwater species, *N. pantherinus* (Linnaeus) or *N. nigrinus* Fallén, since the larvae of the latter has not been described. They are included as *N. pantherinus* in the Table as that is the most likely species. The identity of *Vanoyia tenuicornis* (Macquart) larvae was established only in 1999 from rearing them to adults, so there are no records for earlier surveys. From the few larval records made since then, it appears to be an infrequent species, but perhaps for the same reason that *Oxycera* and *Nemotelus* are under-recorded. *Beris* larvae were present in 13 of the Yare valley ditches (5% of the total sampled), and this relatively high occurrence suggests that they are part of the ditch fauna, and had not accidentally fallen in. By comparison, only one *Pachygaster leachii* Stephens larva was found in these samples, and this is regarded as a genuinely terrestrial species. Keys to *Beris* larvae do not work well, so the species remains unknown.

A number of environmental variables were measured at each ditch (e.g. water depth, percentage cover of vegetation). For the Yare 2001 dataset, in which larvae were frequent, the median values of these variables in ditches with and without *O. ornata*, *O. tigrina* or *S. singularior* were compared using a Mann-Whitney test. The only significantly different values were slightly higher water levels in ditches with *S. singularior* compared with those where these larvae were absent, and this may reflect the fly's preference for shallow muddy margins. However, this effect is small and not supported by other variables that would be expected to be correlated with such margins, such as the amount of cattle trampling.

The estimated 'age' of ditches since they were last cleaned was not significantly different for the two *Odontomyia* species, with *O. ornata* in slightly younger ditches and *O. tigrina* in slightly older ditches ($P = 0.057$ and 0.078 , respectively). This agrees with the findings for the Gwent Levels in which *O. tigrina* occupied mainly smaller ditches at a later stage in the hydrosere succession, and *O. ornata* occurred mainly in those earlier in the succession (Drake 1988). A preference for 'young' ditches is probably one reason why *O. ornata* does so well on grazing marshes since ditch cleaning cycles on marshes of high quality tend towards frequent rather than neglect (usually 3-7 years) in order to benefit aquatic plants, and on poorer marshes arterial ditches are cleaned frequently in order to maintain adequate flow for drainage and irrigation.

Most larvae of *O. ornata* were large specimens, whether in spring or autumn surveys, and this suggests that they grow rapidly from eggs laid in May and June (the adult flight period). This contrasts with larvae of *Stratiomys singularior*, which can be of widely varying sizes at all times of year, suggesting a life cycle of at least two years. *Oplodontha* larvae are small to medium-sized in autumn, and large in spring, which suggests a one-year life cycle with moderate rates of growth all year. Insufficient notes were kept of the size of *O. tigrina* larvae to make deductions about its life cycle, but it is almost certain to be similar to that of *Oplodontha*.

Acknowledgements

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The Puparium of *Rainieria calceata* (Fallén) (Diptera, Micropezidae)

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Summary

The previously unknown puparium of *Rainieria calceata* (Fallén) (Diptera, Micropezidae) is described and the requirements of its larval habitat are described and discussed.

Introduction

On 13 June 2002 a group of felled beeches *Fagus sylvatica* close to the northern bank of Virginia Water were searched for saproxylic insects. Up to about noon the sky had been overcast and the temperature cool, with very little insect activity in evidence. But then the clouds quickly began to break, the sun came out, and large numbers of insects suddenly appeared. A single female of *Ctenophora pectinicornis* (Linnaeus) (Tipulidae) was observed on the exposed end of a rotten beech log and large numbers of *Chalcosyrphus nemorum* (Fabricius) and *Xylota segnis* (Linnaeus) (Syrphidae), together with several queens of *Vespa crabro* Linnaeus (Hymenoptera, Vespidae), were patrolling the bark. Then the first of many *Rainieria calceata* (Fallén) appeared, as if from nowhere, walking over and around a patch of *Coriulus*, which I was examining, on a beech log otherwise bereft of flies a moment before. Within half an hour I had counted about twenty on the same log and adjacent ones.

The presence of such a strong colony of *Rainieria* amongst a number of felled beech trunks exhibiting a wide range of microhabitats raised the possibility of locating their breeding quarters. Until the 1990s the only known locality in Britain for this fly was in Windsor Forest and Park, where it was first recorded by Donisthorpe (1930). Very few people appear to have seen it for the next 40 years, but in early June 1966 I was fortunate enough to see several on a fallen, decayed beech at High Standing Hill in Windsor Forest, a site which I visited on several occasions with my old friend the late Andrew Low of West Drayton. Subsequently several entomologists found the species widely in the Windsor Park area, sometimes in numbers (Chandler 1975).

The first known conspicuous expansion of the fly's range came when in July 1998 I found a specimen on the sunlit laboratory window at Juniper Hall Field Centre in Surrey (the specimen is now in the National Museum of Wales in Cardiff), and a day or two later I saw another flying around a dying beech on the plateau of nearby Box Hill. It has recently also occurred at West End Common, Esher, and at Hatchlands Park (Surrey) (Denton 2001, Denton and Baldock 2002) whilst Ismay (2001) took it at Burnham Beeches (Buckinghamshire). There can be little doubt that the hurricane which felled large numbers of old beeches and other trees across southern England in late 1987 proved a turning point in the fortunes of this magnificent insect in England, for, with an increase in suitable habitat it

evidently burst out of its former confines in Windsor Park to spread across the southern Home Counties.

The immature stages of *Rainieria calceata* were hitherto unknown but Sabrosky (1942) described and figured the puparium of the North American *Rainieria antennaepe*s Say (under the name *brunneipes* Cresson) from an old American White Elm *Ulmus americana*. He recorded that the puparia were against dead but firm wood adjacent to softer rotten wood possibly permeated by fungal mycelia. Clearly the habits of the two species are similar, for in this study large numbers of old, empty puparia of *R. calceata* were found in solidified black rot in a hollow beech trunk lying on the ground in Valley Gardens within an hour of seeing the first adult about noon on 13 June 2002. The hollow beech trunk in question exhibited a remarkable array of microhabitat conditions, reflecting different processes of fungus-induced decay. The precise location where the *Rainieria* larvae were found within the trunk, was a solidified black rot at the lower end of the trunk, but closely adjacent were masses of sodden pale wood-mould, whilst at the other end of the cavity, that is, the ceiling when the trunk was upright, was a mass of whitish wood of a gelatinous consistency. The substrate was dry and sandy and the trunk had been felled a foot or so above ground level so the *Rainieria* site would have been a wet rot-hole at the base of a very large cavity. On felling, the hydrology would have inevitably changed and the *Rainieria* presumably ceased to breed there.

Characters of Puparium

The likelihood of the puparium of *R. calceata* (Fig. 1a-d) being confused with any other British fly is very remote on account of the very remarkable posterior spiracles (Fig. 1d), in which regard it closely resembles that of the Nearctic *R. antennaepe*s as described by Sabrosky (*loc. cit.*). The usual three respiratory slits as seen in most cyclorrhaphous flies, are here replaced by a complex pattern of necklace-like lines of rounded pores. Similar forms are of very rare occurrence in acalyptrates but occur in some syrphids, tachinids and oestrids. In the Nearctic micropezid *Calobotina geometroides* (Cresson), which, like *Rainieria* develops in moist organic debris in hollow tree-trunks, the structure of the slits appears to have undergone a further progression from *Rainieria*, the tortuous slits of that genus being replaced by numerous tiny scattered pores totally lacking any alignment (Ferrar 1987).

The other British micropezids all possess the triple-slitted form (Brindle 1965, Mueller 1957, Ferrar *loc. cit.*), though the alignment is unusual. All known micropezids also have the laterodorsal tooth on the outer edge of the peritreme (Fig. 1d) and the very elongate, parallel-sided body form (Fig. 1a), features which, in combination, are not known in any other cyclorrhaphous puparia. The ventral ambulatory welts in *R. calceata* consist of a continuous transverse row of very large spicules along the crest, with three much finer rows of minute serrations in front and a similar one behind (Fig. 1c, showing welt on abdominal segment 4). No papilla could be discerned either in the anal region or around the perispiracular field, the rim of which forms a very strong, partly foliaceous flange (Fig. 1d). The prothoracic spiracular processes have at least 20 papilla, in two or three irregular rows (Fig. 1b). Unfortunately, all of the puparia had hatched and none of them had retained the larval cephalopharyngeal skeleton. Length of puparium 5.5- 10mm (n = 23).

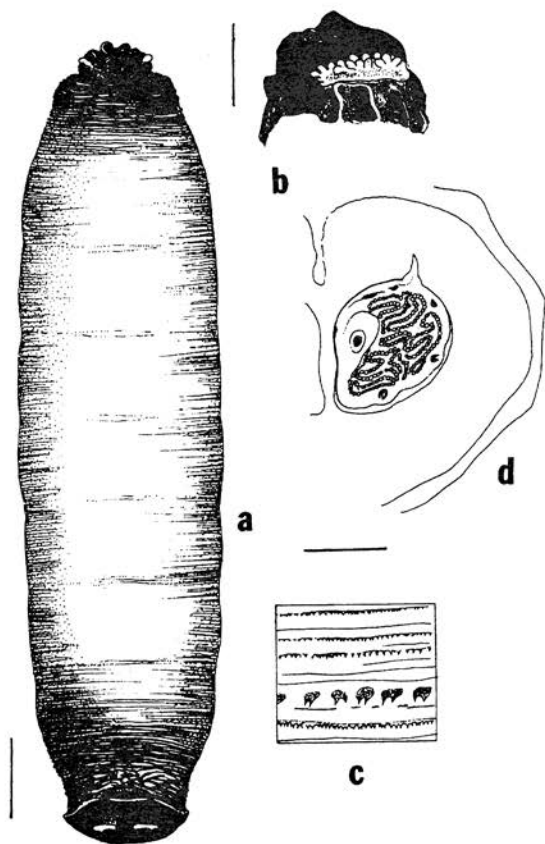


Fig. 1. Puparium of *Rainieria calceata* (Fallén): a, puparium (dorsal view); b, prothoracic spiracular process; c, detail of spiculation on ambulatory welt 4; d, posterior spiracle in posterior view, showing tortuous respiratory slits and dorsal tooth. Scales a 0.8mm; b, c, d 0.2mm.

The remarkable form of the respiratory slits in this species are probably an adaptation to life in an anaerobic environment, the extremely tortuous form of these slits greatly increasing the surface area for gaseous exchange.

Discussion

As stated above, the flies had ceased to utilise this location for development, but an analysis of the matrix offered some clues to their requirements. The matrix and wood-mould immediately adjacent to it contained live larvae of *Eupachygaster tarsalis* (Zetterstedt) (Stratiomyidae) and a large *Xylomya maculata* (Meigen) (Xylomyidae) larva, both of which will develop in the driest of tree-cavities. By flotation methods used by archaeologists (Buckland and Coope 1991), remains of the following insects were revealed in the matrix itself, viz. Coleoptera (*Notiophilus* species, *Abraeus globosus* (Hoffman) and *Paromalus flavicornis* (Herbst) (Carabidae), *Dorcus parallelipedus* (Linnaeus) (Lucanidae), *Ampedus rufipennis* (Stephens) and *Melanotus villosus* sensu lato (Elateridae), *Cylindronotus laevioctostriatus* (Goeze) (Tenebrionidae) and *Stictoleptura scutellata* (Fabricius) (Cerambycidae)), Diptera (*Ctenophora pectinicornis* (Tipulidae) and *Ornithomyia avicularia* (Linnaeus) (Hippoboscidae)), Hymenoptera (*Lasius brunneus* (Latreille) (Formicidae)). Also there were adults and puparia of *Phyllomyza* ? *longipalpis* (Schmitz) (Milichiidae).

It seems likely from the above that *Rainieria* requires rotting wood which has been worked by larvae of *Dorcus*, *Melanotus*, *Ampedus* and *Anoploclera scutellata* from the activities of which copious wood-mould is produced. The ant *Lasius brunneus* is common in such situations at Windsor and the milichiid fly of the genus *Phyllomyza* was probably occurring as an inquiline with the ants, an association with ants being quite common amongst milichiid flies (Ferrar 1987). Of these taxa, *Dorcus* and *Anoploclera* would be the earliest colonisers of the trunk, though *Dorcus* certainly remains until wood-mould predominates. *Solva maculata* and *Eupachygaster* would enter the scene at this later stage and probably persist for several generations. It is most likely that *Rainieria* colonises when the wood-mould is starting to accumulate, after the *Anoploclera* phase. It may be significant that several other beech trunks searched on the same occasion which apparently lacked *Anoploclera scutellata* and *Dorcus* also lacked *Rainieria*.

The presence of an empty puparium of *Ornithomyia* doubtless testified to the former presence of a bird's nest in the ceiling of the cavity.

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***Xylota segnis* (Linnaeus) (Diptera, Syrphidae): a regular flower**

visitor - Over the years, various observers have reported *Xylota segnis* (Linnaeus) as an occasional visitor at buttercups *Ranunculus* species (e.g. Iloff, D. 1999. *Xylota segnis* on buttercups: not so unusual at all (apparently) - *Hoverfly Newsletter* **28**, 9). Evidently woodland flower visiting where buttercups are not available is also not unusual. During a visit to southern Scotland on 6 and 7 August 2005, I noted *X. segnis* at a variety of flowers including wild angelica *Angelica sylvestris* (5 localities), ragwort *Senecio jacobaea* (1 locality) and meadowsweet *Filipendula ulmaria* (1 locality). On all occasions the site was an upland conifer plantation without any broadleaved fringe. In one conifer woodland that also included sycamore *Acer pseudoplatanus*, *X. segnis* was noted following its more usual browsing behaviour over sycamore leaves, and at one lower altitude roadside verge it was noted on herbaceous foliage.

These observations therefore suggest that flower visiting is a relatively normal component of feeding behaviour, but in deciduous woodlands the need for such visits is much lower because its favoured browsing behaviour can be followed (especially on the leaves of sycamore) - **ROGER K.A. MORRIS**, 7 Vine Street, Stamford, Lincolnshire PE9 1QE, roger.morris@dsl.pipex.com

***Medina separata* (Meigen) (Diptera, Tachinidae) reared from *Adalia decempunctata* (Linnaeus) (Coleoptera, Coccinellidae)** - The resumption of an invertebrate survey in Birmingham (Eastside) in April 2005 yielded an unexpected dividend when, during a preliminary visit on 20 April, to a traffic island site on a busy city centre ring road, a parasitised ten-spot ladybird *Adalia decempunctata* (Linnaeus) (identified using Majerus, M.E.N. and Kearns, P.W.E. 1989. Ladybirds. *Naturalist's Handbooks* 10. Slough: Richmond Publishing Co. Ltd) was taken.

A number had been collected for study of the well-known variations exhibited by the species, when the assistant involved pointed out that a larva had suddenly emerged from one of the captures. Larva and host were taken home and the introduction of a small piece of paper tissue into the glass holding tube instantly induced pupation. Following removal of the host, the tube was placed in my study for observation. The beetle involved was dead at the time of capture and distortions to a wing plus a large depression on the top of the abdomen beneath the elytra suggested that the mature parasitoid larva had taken up residence there. An irregular opening into the thoracic cavity indicated that there had been access into that area also. Judging from the larval size it seems improbable that more than one could successfully develop within the host beetle.

On 1 May a male tachinid emerged and following dissection and comparison with congeners in my collection, proved to be *Medina separata* (Meigen). According to R. Belshaw (1993. Tachinidae. *Handbooks for the Identification of British Insects*. 10(4). Royal Entomological Society of London) it has a history of parasitism on this ladybird species. Collection of ten-spot ladybirds may well afford opportunities to discover more about the life history of this fly. Several ladybirds including this one have established themselves on many wasteland and sub-industrial sites in the area and this observation suggests that specific parasitoids have accompanied them.

It is also possible that *M. separata* may be more common than is currently supposed as it has found its way into such places. Recent notes on the species in this journal by Jonty Denton (1998. Two uncommon Tachinidae (Diptera) from Greater London. *Dipterists Digest* (Second Series) 5, 94) and Roger Hawkins (1998. *Medina separata* (Meigen) (Diptera, Tachinidae) reared from *Calvia quattuordecimguttata* (Linnaeus) (Coleoptera, Coccinellidae). *Dipterists Digest* (Second Series) 5, 94.) shed more light on its life history and also lend some support to this view.

I am indebted to Rafael Munro (Pablo de Olavide University) for his powers of observation that enabled the addition of another item to our knowledge of Tachinidae - **MICHAEL BLOXHAM**, 1 St John's Close, Sandwell Valley, West Bromwich, B70 6TH

Population fluctuations in *Bibio clavipes* Meigen, 1818 (sensu stricto) (Diptera, Bibionidae) in South-Eastern Norway as indicated by light trap catches

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Summary

A total of 5958 specimens belonging to *Bibio clavipes* Meigen, 1818 (Diptera, Bibionidae) were identified from light trap catches during the years 1988 to 2004. The abundance varied between years from zero up to 3100 specimens.

Introduction

In 1984 a study was initiated to describe variations in abundance over a long period of time for common, phototactic Lepidoptera at a single locality (Kobro 1991). Several other insect groups were also recorded (Andersen *et al.* 1993, Greve and Kobro 1998, Greve and Kobro 2004). All specimens of the family Bibionidae (Diptera) collected during the years 1988 – 2004 were identified.

Material and methods

A light trap of a simple funnel type (Jalas-model) with a 160 W mixed spectrum light bulb (Osram HWL 160W/235v) was operated one metre above ground level each year from 1984. Precisely the same locality was used every year. A new bulb was installed at the start of each season. The trap was situated in an edge habitat between mature coniferous forest, temperate deciduous forest, open grassland and a garden at Fagerstrand, Nesodden, Akershus county (latitude 59° 45' N, longitude 10° 36' E, 70 metres above sea level. The site is a shaded area, only to a small extent exposed to direct moonlight.

The trap was usually operated the first three nights of every week from late June until late October (Kobro 1991), and the total catch for each year is given. All specimens were identified (see Fig. 1). The nomenclature follows Chandler (1998).

The material identified by us is kept in the collection of the Zoological Museum, University of Bergen, unless otherwise stated. It is an assumption in this work that phototacticism and activity responses for *Bibio clavipes* are constant from year to year, and that activity can be correlated to abundance.

Results

Four species of bibionids were caught during the 17 years of sampling, however > 99% of the material was *Bibio clavipes* (Table 1). The other three species were recorded only occasionally, *Bibio nigriventris* Haliday in 1990-92, *Bibio pomonae* (Fabricius) in 1988, 1995, 2001 and 2003 and *Dilophus febrilis* (Linnaeus) in 1990, 2001 and 2003.

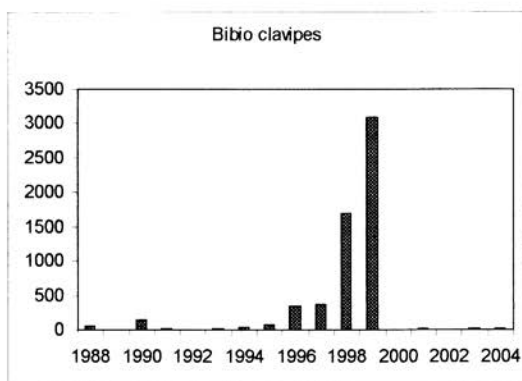


Fig. 1. Total light trap catch of *Bibio clavipes* Meigen annually from 1988 to 2004.

Species	Numbers caught 1988-2004	Extreme dates
<i>Bibio clavipes</i> Meigen, 1818	5958	12.VIII-2.X.
<i>Bibio nigriventris</i> Haliday, 1833	7	6.-29.VI.
<i>Bibio pomonae</i> (Fabricius, 1775)	5	11.VII- 28.VIII.
<i>Dilophus febrilis</i> (Linnaeus, 1758)	43	8.V- 21. VI, 9-16.IX.

Table 1. Summary of total catches

Discussion

The survey which gave the present dataset gives a rare opportunity to follow bibionid population fluctuations over a number of years, and the first solid documentation of heavy fluctuations in this family, though there is quite a bit of anecdotal evidence, particularly for the conspicuous species *Bibio pomonae* (e.g. Andersson 1944). Skartveit (1996b) found that populations of *Bibio johannis* (Linnaeus) and *Dilophus febrilis* fluctuated markedly in SW Norway. In this case the same yellow traps were operated through five years. Catches of *Bibio johannis* varied between 398 and 1756 per annum, and between 80 and 285 specimens per annum for *Dilophus febrilis*.

Light traps are not generally believed to be good for sampling bibionid flies, though some species are clearly active at light and phototactic. The present results demonstrate clearly that *B. clavipes* is phototactic and well sampled by light traps.

Bibio clavipes is a common and widespread species in most of Norway (Skartveit 1995), though in the western coastal districts it tends to be replaced by its close relative *Bibio longipes* Loew (treated as *B. lepidus* Loew by Skartveit 1995). It has been recorded north to Troms county and up to slightly above the timberline in the mountains (Skartveit 1995). It has a strictly autumnal flight period, which obviously facilitates its capture in light traps, since it will be flying at a time when nights are quite dark. Most of the other

Scandinavian bibionids fly in late spring or early summer when nights are quite light at high latitudes.

The total number of species of Bibionidae recorded from Norway is now 17, fourteen species in the genus *Bibio* and three species in the genus *Dilophus* (Skartveit 1995, 1996a). The distribution of *Bibio clavipes* in Norway was mapped by Skartveit (1995) together with distributional maps of the other *Bibio* species mentioned here.

Bibio clavipes is generally distributed and common over large parts of Norway north to Troms province. It has been recorded in the mountains up to 1200 metres as well as along the coast. *Bibio clavipes* is strictly autumnal in its flight period in Scandinavia. There are apparently no differences between the flight periods in different parts of the country. It has been frequently collected in light-traps (Skartveit 1995).

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NOTICE - The Diptera section at the Natural History Museum is open to visitors again

I am pleased to report that the Natural History Museum's Diptera collection is now accessible for study again after the completion of its move to new premises on the South Kensington site. As many Dipterists Forum members will know this move is part of the project to move out of the old Entomology Department, so that it can be demolished and a new building constructed on the same site. The new building (Darwin Centre 2) should be completed in 2008. Big thanks are due to everyone who helped with the move, especially Howard Mendel, Nigel Wyatt, Theresa Howard and Lisa Smith.

The main Diptera store including the British pinned collection is now in a former gallery with attractive 1880s terracotta decoration. The slides of Culicidae, Ceratopogonidae and Psychodidae - Phlebotominae as well as the Diptera reprints are housed in a nearby room. Both rooms together represent a significant increase in space over the previous storage area. The spirit collection was unaffected by the recent move and is still in the Darwin Centre 1 spirit store.

The opportunity has been taken to upgrade key areas of the collection during the move: some additional cabinets have been acquired for the British collection; space has been reallocated within the British collection to allow expansion of some overcrowded areas; all pinned material which was in wooden Hill cabinets has been transferred to new metal cabinets; additional space has been created to transfer the greater part of the unincorporated world Brachycera from open racks into metal cabinets; and the reprint collection has been reorganised. Future planned work to improve the care of the collection includes upgrading the British collection into new metal cabinets, replacing shallow drawers and upgrading from cork slats into Plastazote-based unit trays. The Entomology Department is also in the process of transferring to a new Windows KEMu database, this should be operational in about a year, with future development for public access over the web a possibility.

Members of Dipterists Forum and other subscribers to Dipterists Digest are very welcome to visit to study the collections. The number of desks in our visitor study area has been increased, but please let Nigel Wyatt (0207 942 5197 n.wyatt@nhm.ac.uk) or myself (0207 942 5974 d.notton@nhm.ac.uk) know in advance that you intend to visit so we can book a visitor study area for you. Although the Diptera section library has been moved, together with the rest of the Entomology Library, to the Museum's outstation at Wandsworth, library items can be delivered to our South Kensington site on request, several days notice is advisable to ensure items are delivered on time. For availability of items please see the Museum's library catalogue on the website. Items from the reprint collection will continue to be available at South Kensington.

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Flower visiting by the rare hoverfly *Eristalis cryptarum* (Fabricius, 1794) (Diptera, Syrphidae)

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Summary

Records of visits to flowers by *Eristalis cryptarum* (Fabricius) on seepage sites in Dartmoor, England, were made over three years, and those for other hoverflies visiting flowers were made from July to September in one year. *E. cryptarum* showed a clear preference for certain flowers and appeared through the year on flowers in the sequence *Caltha*, *Menyanthes*, *Anagallis tenella*, *Potentilla erecta*, *Succisa*. In contrast to several common cristalines, it appeared to avoid flowers of several otherwise popular plants such as *Cirsium palustre* and *Angelica sylvestris*.

Introduction

For six seasons, the Dartmoor National Park Authority and English Nature have funded work on the rare hoverfly *Eristalis cryptarum* (Fabricius), which is listed on the Biodiversity Action Plan (Ramel 1998; UK Biodiversity Group 1999; Perrett 2000; Drake and Baldock 2002, 2003, 2004). Owing to the elusive nature of this fly, much of the work involved simple surveillance at several sites in east Dartmoor where the only remaining colonies occur (Ball and Morris 2000, Stubbs and Falk 2002). During one summer, to enliven the mostly unproductive searches for *E. cryptarum*, a note was made of flowers visited by hoverflies on the mires where this rare fly lives. This incidental work resulted in an unexpected preference being shown by *E. cryptarum*.

Methods

Nine sites were visited between 10 July and 22 September 2002 as part of more extensive, all-summer surveillance of *E. cryptarum*. Usually 5-7 sites were visited on each of 12 occasions in this period. These included sites where *E. cryptarum* was known from previous work (Ramel 1998; Perrett 2000) and several others where conditions were similar to those at occupied sites. They were seepage-dominated areas in Rhos pasture in valley bottoms or moorland edge at 240-380m altitude, with diverse vegetation that was lightly to heavily grazed by cattle, ponies or sheep. Some sites had sheltered drier fringes with plants such as *Rubus* (bramble) and *Anthriscus sylvestris* (cow parsley) that are not typical of wet pasture or moorland, but most plants included in the study are typical of mires.

Eristalis cryptarum is easy to identify in the field and this allowed surveillance by walking slowly through the mire and stopping every few paces to search surrounding vegetation and flowers. During visits from 10 July to 22 September, other hoverflies were counted for the first 15-20 minutes of each visit, which continued for up to an hour in the search for *E. cryptarum*. Since *E. cryptarum* is particularly wary, the identity of other species was not confirmed by netting them since this would have caused undue disturbance. Close-focus binoculars (focusing to 1.2m) helped field identification. Species were lumped

into readily identifiable taxa; for example, yellow-marked *Platycheirus* included *Melanostoma*, and some species were likely to have been overlooked altogether. Even common *Eristalis* were sometimes difficult to place accurately, and *arbustorum* and *memorum* are amalgamated here.

Flower visits by *E. cryptarum* recorded during surveillance in 2003 and 2004 are also given here.

Results

Over 1200 observations were made of 28 hoverfly taxa visiting flowers of 23 plant taxa. The total numbers of fly taxa underestimates the numbers using these sites but, nevertheless, syrphids were poorly represented and most species were scarce. On some sites, especially in cloudy weather, none were seen. The results for the more frequent flies and flowers are summarised by ranking both groups in order of the numbers of records to emphasise the most visited plants, excluding infrequently visited flowers (Table 1). Results from all sites are combined.

During the mid to late summer period discussed here, by far the commonest species were *Eristalis arbustorum* (Linnaeus) / *E. nemorum* (Linnaeus), *E. pertinax* (Scopoli) and *E. tenax* (Linnaeus) and these hugely distort the results. Frequent species were *Episyrphus balteatus* (De Geer), *Helophilus pendulus* (Linnaeus), *Rhingia campestris* Meigen and species of *Platycheirus* / *Melanostoma*.

Most plants that were widespread on the seepages and found at most sites were visited by many species of hoverfly but some were noticeably less popular. *Succisa pratensis* (devil's-bit scabious) was an exceptionally popular flower, accounting for over half of the records, although most of these were of three common *Eristalis* species (*tenax*, *pertinax* and *arbustorum*). Even discounting these three species, *Succisa* remained the most frequented plant from midsummer onwards. Flowers with many visitors were *Mentha aquatica* (water mint), *Narthecium ossifragum* (bog asphodel), *Cirsium palustre* (marsh thistle) and *Potentilla erecta* (tormentil), which was peripheral to the seepages and therefore visits to it were under-recorded in this study. The results from July onwards do not reflect the popularity of *Menyanthes trifoliata* (bogbean), which apart from rogue flower spikes, has finished flowering by July.

Eristalines (*Eristalis*, *Eristalinus*, *Helophilus*, *Anasimyia*) made much use of tall or bushy plants such as *Angelica sylvestris* (wild angelica), *Cirsium palustre*, *Succisa pratensis* and *Mentha aquatica*. Low plants of the seepages, such as *Anagallis tenella* (bog pimpernel), *Narthecium ossifragum* and *Menyanthes trifoliata* were far less frequently used by most eristalines. These flies were scarce on *Potentilla erecta* (tormentil) and *Ranunculus flammula* (lesser spearwort), which were common in the mires and flowered for much of the summer. The apparently restricted diet of *E. tenax* is an artefact of timing of the counts, which coincided with its mass autumn emergence when *Succisa* and *Mentha* were abundant, although it may well have a more restricted diet than other common *Eristalis*. In strong contrast were *Melanogaster hirtella* (Loew) and *Platycheirus* / *Melanostoma*, which tended to avoid the plants favoured by eristalines and concentrated on *R. flammula* and *P. erecta*. *Syrphus* and *Rhingia campestris* appeared to be indiscriminate and fed on all these plants.

	<i>Succisa pratensis</i>	<i>Mentha aquatica</i>	<i>Angelica sylvestris</i>	<i>Valeriana dioica</i>	<i>Narthecium ossifragum</i>	<i>Cirsium palustre</i>	<i>Ranunculus flammula</i>	<i>Rubus</i> sp	<i>Potentilla erecta</i>	<i>Menyanthes trifoliata</i>	<i>Hypericum elodes</i>	<i>Ranunculus acris/repens</i>	<i>Pulicaria dysenterica</i>	<i>Calluna vulgaris</i>	<i>Filipendula ulmaria</i>	<i>Senecio aquaticus</i>	<i>Lychnis flos-cuculi</i>	<i>Anagallis tenella</i>	other flowers	total at flowers
<i>Eristalis tenax</i>	276	33	1			1					1					1				313
<i>Eristalis pertinax</i>	126	20	35	24		24	1	5							3				3	241
<i>Eristalis arbustorum</i> *	148	24	8	22	9	2	1	10	2	2	4		2		2	1			1	238
<i>Episyrphus balteatus</i>	44	3			8	4	1			2		1	1							64
<i>Rhingia campestris</i>	49	3			2	1	1		1		2			2			2		1	64
<i>Sericomyia silentis</i>	36	3		1	2	3			1				4	2						52
<i>Helophilus pendulus</i>	30	5			1	1	2		2	1		4					1			47
<i>Platycybeirus/Melanostoma</i>	9	1			3		14		5		1	1								34
<i>Eristalis horticola</i>	18	4	1	1	1			1							1				1	28
<i>Syrphus</i> species	9	1	3		6	3	1			1			2			1				27
<i>Eristalis cryptarum</i>	3				5				1	2				1				2		14
<i>Eristalis intricaria</i>	5		1		2	1		5												14
<i>Chrysogaster solstitialis</i>				12																12
<i>Melanogaster hirtella</i>			1				9		1			1								12
<i>Arctophila superbiens</i>	9																			9
<i>Neoscia</i> species							2		1	3										6
<i>Platycybeirus albanus</i>					1	1	2					1		1						6
<i>Platycybeirus granditarsus</i>							4		1											5
Other flies	10	6	7		3		2		2	1	3	2				1				37
Total records per flower	772	103	69	48	43	41	40	21	17	12	11	10	9	6	6	4	3	2	6	1223
Fly species per flower	17	15	12	4	14	10	13	4	11	7	7	7	4	4	3	4	2	1		

Table 1. Flower-visiting records for commoner hoverflies and flowers from July to September 2002. Data from all sites have been combined, and are ranked downwards by total records per fly and across by total records per flower. * Includes *Eristalis nemorum*.

Eristalis cryptarum was seen 33 times from 10 July 2002 onwards and 24 times before this date in the period when other flower-visiting hoverflies were not systematically recorded. In the earlier half of the year, 14 observations were made of *E. cryptarum* feeding at *Calluna* (58% of observations) and seven (29%) at *Menyanthes*; the behaviour during the remaining few observations was not noted. In the second half of the year, over half of the observations showed the fly engaged in non-feeding activities (e.g. sitting on vegetation, hovering) so there were rather few observations on feeding. The flies used a wider range of flowers than in the early summer. The most often used were *Narthecium* in midsummer and *Succisa* in late summer, and it is noteworthy that *E. cryptarum* also fed on *Potentilla erecta* and *Anagallis tenella*. It was never seen feeding on *Ranunculus flammula* and several times seen to actively avoid this flower (alight but immediately take off), and was also seen actively avoiding *Cardamine pratensis* although once was seen feeding on this flower when

its preferred flowers were scarce. *Eristalis cryptarum*'s preferences therefore differ markedly from those of the commoner *eristalines*.

During surveillance at several sites in 2003 and 2004, *E. cryptarum* was noted 75 times (other than during intensive mark-recapture exercises). Twenty-five of these records were of the fly feeding at *Caltha* and 13 at *Menyanthes* in spring, 19 at *Succisa* in late summer and one at each of *Cardamine pratensis*, *Narthecium* and *Potentilla erecta* in midsummer. In the mark-recapture exercises in May and early June, nearly all the 98 sightings in 2003 at Smoothmoor were at *Menyanthes* since this plant dominates the swamp at this site, and, of 165 sightings in 2004 at Challacombe Farm, 52 were at *Caltha* and 83 at *Menyanthes*, with apparently no other flowers being visited.

Discussion

Much of the data on flowers visited by the common hoverflies on the Dartmoor seepages is common knowledge among hoverfly enthusiasts. For instance, a recent summary of flowers visited by hoverflies in Suffolk lists no or few *eristalines* on *Ranunculus flammula* or *Cardamine pratensis*, but many on *Angelica sylvestris* and *Succisa pratensis* (Morris 1998). Preferences are also partly determined by tongue length and the food (nectar, pollen) that different mouth-parts are adapted to collect (Gilbert 1981).

The significance of the present results lies in the clear preference shown by *Eristalis cryptarum* for species rarely visited by common species of *Eristalis*, and their avoidance or scarcity on flowers preferred by common *Eristalis*. Other records of flower-visiting by *E. cryptarum* include several on *Cardamine* (Ramel 1998), *Anagallis*, *Hypericum elodes* and *Narthecium* (Perrett 2000), *Cirsium palustre* (Norman Baldock *pers. comm.*) and *Calluna* (John Walters *pers. comm.*), as well as on the 'popular' plants, noted by all these observers. Perrett recorded none on taller plants such as *Cirsium palustre* and umbellifers, thus agreeing with the results from 2002-2004.

Eristalis cryptarum therefore uses a rather small range of the available species, especially considering the prolific flowering of some plants during the peaks of the fly's flight period. There is no great difference in the behaviour of *E. cryptarum* and other *Eristalis* species that could account for a different type of food being required, for example more pollen than nectar, which forms the bulk of the diet of *E. tenax* and *E. arbustorum* (Gilbert 1981). *Eristalis cryptarum* is an active, fast-flying insect, with males that occasionally hover and hold small territories, and which can be active in cool weather – the lowest air temperature when *cryptarum* was active was 11°C although in sunny conditions (Drake and Baldock in press). This life-style, just as those of other *Eristalis*, requires a high-nectar diet.

Eristalis cryptarum's attraction to mire plants lends support to the fly's close association with this habitat. This may appear an obvious statement but neither the larval habitat nor oviposition site have been unambiguously determined. However, the flies track their preferred flower through the season in the sequence *Caltha*, *Menyanthes* (late April-early June), *Narthecium* / *Anagallis* (June-July), *Succisa* (August-September). This leads them to be found where the flowers grow, and it is possible that these patches of mire are not necessarily the larval site at all.

Acknowledgements

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A note on proanepisternal hairs in *Nyctia halterata* (Panzer) (Diptera, Sarcophagidae) -

One of the features used to distinguish families and subfamilies in the Oestroidea is the presence or absence of hairs on the proanepisternum. This structure is also referred to as the propleural depression (Emden, F.I. van 1954. Diptera Cyclorrhapha Calyptrata (I) Section (a) Tachinidae and Calliphoridae. *Handbooks for the identification of British Insects* 10(4a), 97), proepisternum (Belshaw, R. 1993. Tachinid flies. Diptera: Tachinidae. *Handbooks for the identification of British Insects*. 10(4a)(i), 14) and proepisternal depression (Rognes, K. 1991. Blowflies (Diptera: Calliphoridae) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica*, 24, 18).

Whether this area is bare or hairy (setulose) is used as a key feature to distinguish the families of Oestroidea, the proanepisternum being bare in all families except the Calliphoridae.

Nyctia is a Palaearctic genus that is placed in Sarcophagidae (subfamily Paramacronychiinae), though, unlike most Sarcophagidae, it has a slightly prominent, convex postscutellum. Emden (*op. cit.* 103) followed E. Séguy (1941 Études sur les mouches parasites. Tome II. Calliphorides. Calliphorines (suite), Sarcophagines et Rhinophorines de l'Europe occidentale et méridionale. Recherches sur la morphologie et la distribution géographique des Diptères à larves parasites. *Encyclopédie Entomologique* (A) 21, 360) in recording *Nyctia halterata* as a parasite of *Lixus* (Coleoptera, Curculionidae), while T. Pape (1987. The Sarcophagidae (Diptera) of Fennoscandia and Denmark. *Fauna Entomologica scandinavica* 19, 96) quoted Yu.G. Verves (1982. 64h. Sarcophagidae. In Lindner, E. (Ed.), *Die Fliegen der palaearktischen Region*. 11, 235-296) as noting that it has been reared from snails. Thomas Pape (1996. Catalogue of the Sarcophagidae of the world (Insecta: Diptera). *Memoirs of Entomology International* 8, 1-558) supported the latter and regarded the record from *Lixus* as a misidentification. Other species in the Paramacronychiinae are parasites or predators of insects (especially Lepidoptera pupae) or carrion feeders.

When examining three males of *Nyctia halterata* from Abbots Ripton, Cambridgeshire, Great Britain, I noticed that all of them had up to seven hairs on the proanepisternum. Prompted by this, I examined 33 specimens from the British series in the Natural History Museum, London and found that two of them (6%) had hairs on the proanepisternum.

I leave it to others to consider whether there are systematic implications in this observation, but having fruitlessly keyed out one of my males to *Morinia melanoptera* (Fallén) (Calliphoridae) before realising my error, I felt it would be useful to warn other dipterists about this pitfall of the existing family keys.

I thank Nigel Wyatt and David Notton (Natural History Museum, London) for providing access to collections in their care, and Peter Chandler for comments on an earlier draft of this note - **A.G. IRWIN**, Castle Museum, Norwich, Norfolk NR1 3JU

The Irish Anthomyiidae (Diptera)

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Summary

Irish material of Anthomyiidae has been revised and a list of 93 species confirmed to occur in Ireland is presented. Forty-eight species are added to the Irish list and one species recorded as Irish in error in the 1998 checklist is deleted. The composition of the Irish fauna is discussed; significant gaps in knowledge and the potential for future additions are highlighted.

Introduction

Knowledge of the Irish distribution of Anthomyiidae has lagged behind that of other calypterates, due to various factors such as insufficient collecting and the perceived difficulty of identification. The British Isles checklist (Chandler 1998) indicated that there were records from Ireland for only 44 species (given in error as 43 in the Introduction) out of a then British total of 237 species (now, with two recent additions, 239). It was known that Irish specimens of other species existed in collections but in the checklist Irish occurrence was rigorously restricted to previously published records. However, two species with published records (*Botanophila striolata* (Fallén) and *Emmesomyia grisea* (Robineau-Desvoidy)) were omitted as Irish in the checklist, the latter because the identity of the published records had yet to be clarified. Also *Pegomya solennis* (Meigen) was indicated as Irish but previously published records have not been traced. One species, *Eutrichota socculata* (Zetterstedt) appears to have been included in the checklist in error.

As part of the process of bringing the Irish list up to date in preparation for a projected checklist of Irish Diptera, all available Irish material of Anthomyiidae has been studied by PJC; all critical and some other material of many species has been examined by DMA. It has been possible to add 48 species to the Irish list, bringing the total now recorded to 93. This is still less than 40 per cent. of the British list while the average for the Irish fauna of Diptera as a whole is 45 per cent., with a much higher proportion in the case of families that have been well studied in Ireland, such as Syrphidae or Chironomidae. Among other calypterates the Muscidae, where the Irish fauna was dealt with by Nash and Chandler (1978), are much better known with 164 of the 281 British species confirmed to occur in Ireland.

Some genera of Anthomyiidae remain unrecorded from Ireland. Among these *Chiastochaeta* may be genuinely absent as all of its species are associated with *Trollius*, which is rare in Ireland and confined to a few sites in the north-west. *Alliopsis* is mainly northern in Britain but some species should be present in hilly areas in Ireland; the more

widespread woodland species *A. billbergi* (Zetterstedt) should also be present but may have been overlooked because of its early flight period. Of the other missing genera the two *Strobilomyia* species are associated with conifers but could be present in plantations in Ireland. The two British species of *Calythea* are local in woods in the south in Britain so may be absent from Ireland. Finally, the single species of *Subhylemyia* should be present in Ireland but may have been overlooked.

Several other genera are poorly represented in Ireland compared to Britain. It is likely that *Egle* and *Phorbia* have been under-recorded in Ireland because of their early flight period and more spring collecting should add further species in these genera. Two genera, including between them 12 British species, but each represented by only single species in Ireland, are cleptoparasites in nests of aculeate Hymenoptera. *Eustalomyia* species are confined to hosts nesting in dead trees and the adult flies bask on sunlit tree trunks. The four species are southern in Britain and are also limited by availability of nesting sites for their hosts. *Leucophora* species develop in the nests of ground nesting aculeate Hymenoptera and are particularly found in warm sandy sites that favour their hosts, so are also extremely localised by these requirements; however, four of the eight British species reach Scotland so more than the one recorded should be found in Ireland. The other poorly recorded genera are *Heterostylodes* and *Eutrichota*. *Heterostylodes* species develop in flower-heads of Asteraceae and have probably been overlooked. *Eutrichota* species are mainly northern and poorly known in Britain, so it is perhaps unlikely that further species will be found in Ireland.

Many anthomyiids develop in leaves, stems or flower-heads of higher plants and are often very specific in their biological requirements. This may limit the possibility of some species occurring but careful searching of host plants will undoubtedly add more species to the Irish list. The species developing in fungi, mostly in the genus *Pegomya*, have been fairly well recorded in Ireland. The more common and polyphagous fungus feeders have, as expected, been recorded but several of the more oligophagous species have also been confirmed to occur. There are fewer records of these more restricted species but some others should also be expected.

Material examined

The material is mainly deposited in the National Museum of Ireland, Dublin (NMD), in the Ulster Museum, Belfast (UMB), and in the private collection of the senior author (PJC). The NMD collection includes some of the specimens cited by earlier authors so it has been possible to evaluate the existing published records, but the bulk of the material there has been collected more recently by J.P. O'Connor (JPOC) or by J.P. and M.A. O'Connor together (JMOC); other collectors involved include J.N. Halbert (JNH) and P.H. Grimshaw (PHG). The UMB material has been accumulated since 1970, mainly by R. Nash (RN), M. Boston (MB), C. Reid (CR) and A.G. Irwin (AGI), with some more recent additions from M.C.D. Speight (MCDS), D.N. Dowling (DND) and M. de Courcy Williams (MdeCW). Smaller amounts of material in the H.W. Andrews collection (HWA, British Entomological & Natural History Society, Reading) and the National Museums of Scotland (NMS; mostly P.H. Grimshaw material from the Clare Island Survey) have been studied. Some records

from Monaghan were provided by J.H. Cole (JHC); these were based on specimens collected and determined by him.

Identification - draft keys and genitalia figures for the identification of British Anthomyiidae

For several years draft keys and other data have been available to the Anthomyiidae Study Group. The keys are provisional, and are updated or re-written from time to time. All the male genitalia and also many female ovipositors are figured in Adobe Acrobat format. In addition there are notes on terminology, a rough guide to distribution, notes on life histories, food plants etc. There is also a bibliography. The text files are in Word97 format.

The CD is obtainable from D.M Ackland, 24 The Moors, Kidlington, Oxon, OX5 2AJ, UK; email: mackland@btinternet.com (contact if further details are required). There is a small charge to cover postage, packing and materials; for postage within Great Britain and Northern Ireland 5 first class stamps should be sent while, for postage to the Republic of Ireland, a 5 euro note should be sent to the above address, in both cases enclosing the address and the CD will be despatched as soon as possible.

The Irish list of Anthomyiidae

In the comments on individual species, status on the Irish list is indicated. Where there are previously published Irish records, these are cited in chronological order and an indication given whether they have been confirmed to be correct. If there are specimens in the A.H. Haliday collection (NMD) details are given; these usually only bear an "Ireland" label, very few specimens having an indication of locality. The distribution in Britain is summarised for each species, together with information on the biology where this is known. For common species only counties in which the species has been found in Ireland are listed, in alphabetical order. For other species full data are given.

***Adia cinerella*. (Fallén, 1825)**

New to Ireland. A common coprophagous species in Britain. Three males in Haliday's collection are labelled "Ireland" and "*antiqua*".

DOWN: Dundrum (J4034), 9.vi.1973 1♀ (AGI, UMB); Copeland Island (J5983), 24.viii.1974 2♂ 3♀ (AGI, UMB); Copeland Island, Deer Bay (J5983), 24.viii.1974 2♂ (AGI, UMB). MAYO: Inishglora (F6131), 15.vii.1974 7♂ 10♀ (AGI, UMB and NMD).

***Anthomyia confusanea* Michelsen, 1985**

New to Ireland. Widespread in southern England but appears less common than *A. liturata*, from which it has only recently been distinguished.

DUBLIN: Lambay Island, x.1906 1♂ (JNH, NMD; det. "*Phorbia*?" by PHG).

***Anthomyia liturata* (Robineau-Desvoidy, 1830)**

(Grimshaw 1912 as *Hylemyia pullula* Zetterstedt, Blackith *et al.* 1991 as *Craspedochoeta pullula*)

Very common throughout Britain; develops in bird nests. It is also common in Ireland.

DOWN, DUBLIN, CLARE, LEITRIM, MAYO, WATERFORD, WEXFORD, WICKLOW

***Anthomyia pluvialis* (Linnaeus, 1758)**

(Walker 1853, Andrews 1914, Blackith *et al.* 1991)

Less common in Britain than *A. procellaris*, with records only from England; develops in bird nests. There are a male and female labelled "PtMk" (= DUBLIN: Portmarnock) in Haliday's collection (NMD). The record by Andrews (1914) related to *A. procellaris*.

DUBLIN: Portmarnock 1♂, 1♀ (A.H. Haliday, NMD). WICKLOW: Killougher Marsh (T3199), viii.1988 (Blackith *et al.* 1991)

***Anthomyia procellaris* Rondani, 1866**

New to Ireland, but formerly confused with *A. pluvialis* and recorded from Ireland by Andrews (1914) under that name. Common in England and Wales and probably also so in Ireland; develops in bird nests and found in a robin's nest at Bangor, Co. Down (3♀, CR, UMB).

DOWN, CLARE, KILDARE, WATERFORD, WESTMEATH, WEXFORD, WICKLOW.

***Anthomyia* species ?**

Two males from Northern Ireland have genital characters with differences from any of the known European species of this genus, but further material would be necessary to determine the status of this form. The scutal black lateral mark is similar to *A. imbrida* Rondani and there are also numerous anterodorsal setae on the hind tibia as in that species. However, the genitalia differ; the fifth sternite is similar to *imbrida*, although the setae on the inner margin of the process are multiserial (not uniserial as they are in *imbrida*) but the postgonite and pregonite are unlike those of *imbrida*.

DOWN: Copeland Island, 3.vi.1973 1♂ (CR, UMB); Copeland Island, Lighthouse Island (J5985), 13.viii.1974 1♂ (AGI, UMB);

***Botanophila brunneilinea* (Zetterstedt, 1845)**

(Grimshaw 1912 as *Hylemyia brunneilinea*, Andrews 1914 as *Hylemyia seticrura* Rondani, Smith 1952 as *Pegohylemyia brunneilinea*)

Locally common, throughout Britain and evidently frequent in Ireland. There is a male labelled "Ireland" in Haliday's collection (NMD).

ANTRIM, CLARE, DUBLIN, KERRY, LIMERICK, LOUTH, MAYO, WATERFORD, WICKLOW.

***Botanophila fugax* (Meigen, 1826)**

(Andrews 1914 as *Phorbia pudica* Rondani, Blackith *et al.* 1991 as *Pegohylemyia fugax*)

An abundant species throughout Britain and Ireland; probably saprophagous as a larva. There is a male labelled "Ireland" and "*fugax*" in Haliday's collection (NMD).

CORK, DOWN, DUBLIN, FERMANAGH, KERRY, KILDARE, LOUTH, ROSCOMMON, SLIGO, WATERFORD, WEXFORD, WICKLOW.

***Botanophila gnava* (Meigen, 1826)**

New to Ireland. Not commonly recorded in England, but may be mainly a garden species, which develops in flower-heads of lettuce (*Lactuca* species). According to the Northern

Ireland Department of Agriculture records from the 1950s, *B. gnava* was considered a minor pest damaging lettuce, but no details were given.

DUBLIN: Bull Island, 12.vii.1971, dune grassland 1♀ (PJC).

***Botanophila jacobaeae* (Hardy, 1872)**

New to Ireland. Locally common in Britain; develops in flower heads of *Senecio* species

DOWN: Dundrum, Murlough NR (J4034), 28.viii.1973 1♀; Copeland Island (J5985), 13.viii.1974 1♀ (AGI, UMB).

***Botanophila latifrons* (Zetterstedt, 1845)**

New to Ireland. Uncommon but widespread in Britain.

WICKLOW: Wicklow Gap, 23.vi.1975 1♂ (PJC).

***Botanophila lobata* (Collin, 1967)**

New to Ireland. Uncommon but widespread in Britain; develops in *Epichloe* fungus on grasses.

ANTRIM: Rea's Wood (J1485), 16-18.v.1985 1♂ (MB and RN, UMB). WEXFORD: Ballyteige (S9504), 26.x.1987 1m; Slieve Coiltia (S7221), 14.vi.1990 1♂ (JPOC, NMD).

***Botanophila phrenione* (Séguy, 1937)**

(Blackith and Blackith 1991, Blackith *et al.* 1991; both as *Pegohylemyia phrenione*)

Widespread in Britain, where it is the commonest species known to develop in *Epichloe* fungus on grasses. Irish specimens have not been examined.

WICKLOW: Killoughter (T3099), marshy field, v.1988; Murrough, Blackditch Wood (O3003), iv.1988 1♂, *Betula-Salix* woods on fen (Blackith and Blackith 1991)

***Botanophila sanctimarci* (Czerny, 1906)**

New to Ireland. In England this is a local species in the south, usually found in April on wild garlic *Allium ursinum*.

KERRY: Killarney, Ross Island, 7.v.1981, mixed woods 1♀ (PJC); SLIGO: Dooney Rock, 13.v.1970 3♀ (PJC);

***Botanophila seneciella* (Meade, 1892)**

New to Ireland. Locally common throughout Britain; develops in flower heads of *Senecio* species

CLARE: Lough Ree (M6010), 28.v.1975 4♂ (RN, UMB) DOWN: Strangford, Tollymore and Copeland Island 7♀ (UMB). MEATH: Mornington (O1575), 15.vi.1989 1♂ (JPOC, NMD); Kilmessan (N8858), 18.viii.1991 1♂ (JMOC, NMD).

***Botanophila striolata* (Fallén, 1824)**

(Yerbury 1902 as *Phorbia discreta* Meigen, Grimshaw 1912, Andrews 1914 as *P. discreta*, Blackith *et al.* 1991 as *Pegohylemyia striolata*; not indicated as Irish in error in Chandler 1998)

A very common species throughout Britain and Ireland.

ANTRIM, ARMAGH, CLARE, DOWN, DUBLIN, GALWAY, KERRY, KILDARE, MAYO, ROSCOMMON, WATERFORD, WEXFORD, WICKLOW.

***Chirosia betuleti* (Ringdahl, 1935)**

(O'Connor *et al.* 1995)

Uncommon but widespread in Britain; develops in ferns. O'Connor *et al.* (1995) recorded it from three localities in CAVAN and KERRY on the basis of galls on lady fern *Athyrium filix-femina*. No Irish specimens of this species have been examined.

***Chirosia cinerosa* (Zetterstedt, 1845)**

New to Ireland. Uncommon but widespread in Britain; develops in ferns.

WATERFORD: Portlaw (S4415), 16.vii.1987 1♀ (JMOC).

***Chirosia flavipennis* (Fallén, 1823)**

(Andrews 1914 as *Hylemyia flavipennis*)

A local species throughout Britain; develops in ferns. There are a male and female labelled "Ireland" in Haliday's collection (NMD).

ANTRIM: Belfast (J3169), 12.viii.1973 6♂ (RN, UMB). CORK: Glengarriff, 2-8.viii.1908 (HWA) (Andrews 1914). DUBLIN: Slade of Saggart (O0324), 7.viii.1981 2♂ 1♀ (JPOC, NMD). GALWAY: Clonbrock, 1895 (NMD). KERRY: Glencar, 1905 (NMD); Caherdean, 28.vi.1969 1♂ (PJC); Killarney, Ross Island, 30.vi.1969 1♂ (PJC). WATERFORD: Stradbally, 10.viii.1906 1♂, 20.vii.1908 ♂♀ (HWA) (Andrews 1914). WEXFORD: Great Saltee Island (X9596), 13.vii.1978 1♂ (MdeCW, UMB).

***Chirosia griseifrons* (Séguy, 1923)**

New to Ireland. Uncommon but widespread in Britain; develops in stems of the fern *Athyrium*.

ANTRIM: Shane's Castle (J0987), 4.vi.1973 1♂ (RN, UMB).

***Chirosia grossicauda* Strobl, 1899**

(Blackith *et al.* 1990 as *C. parvicornis*)

Common throughout Britain; develops in ferns. There are four unlabelled specimens in Haliday's collection (NMD).

KERRY: Lough Looscaumagh, 29.vi.1969 1♂ (PJC). SLIGO: Glen of Knocknarea, 13.v.1970 1♂ (PJC). WATERFORD: Nier Valley (S2417), 13.vii.1987 2♀ (JPOC, NMD). WESTMEATH: Lough Slevin, 16.vi.1985 1♂ (PJC). WICKLOW: Glendalough, 10.vi.1985 1♂ (PJC); Upper Lough Bray (O1216), 23.vi.1989, 1♂ (Blackith *et al.* 1990).

***Chirosia histricina* (Rondani, 1866)**

New to Ireland. Common throughout Britain; develops in ferns.

CARLOW: Altamont Gardens (S8665), 9.vi.1991 1♂ (JPOC, NMD). DONEGAL: Crolla (B8419), 29.v.1976 1♂ (RN, UMB). DOWN: Dundrum. Murlough NR (J4034), 9.vi.1973 1♂ (AGI, UMB); Crawfordsburn, 2.vii.1987 1♂ (PJC). GALWAY: Clarinbridge, 21.v.1970 1♂ (PJC). KERRY: Muckcross, Monk's Wood, 4.v.1981 1♂; Cloghreen Pool Wood,

8.v.1981 1♂ (PJC). MAYO: Glenamoy 29.v.1971 1♂ (MCDS). OFFALY: Charleville Wood, 27.v.1984 1♂ (PJC). WATERFORD: Mahon Falls (S3009), 3.vii.1988 1♀ (JPOC, NMD). WICKLOW: Glendalough, 10.vi.1985 1♂ (PJC); Powerscourt (O2012), 15.vi.1988 1♀ (JPOC, NMD).

***Delia albula* (Fallén, 1825)**

(Hogan and Haliday 1855 as *Anthomyia albula*, Yerbury 1902 as *Chortophila arenosa* Zetterstedt)

Locally common on sand dunes in England and Wales and probably also so in Ireland; a rearing record from the fungus *Psathyrella ammophila* (Buxton 1961). There are a male and female labelled "Ireland", the male also labelled "*albula*", in Haliday's collection (NMD).

DUBLIN: North Bull (O2337), 5.v.1991 1♂ (JMOC, NMD); Portmarnock, dunes, 17.vii.1971 1♀ (PJC). KERRY: Glenbeigh, 1901 1♀; Waterville, 26.vii.1901 1♀, 30.vii.1901 1♂ (JWY, NMD; Yerbury 1902).

***Delia antiqua* (Meigen, 1826)**

(Carpenter 1912 as *Hylemyia antiqua*)

The onion fly, a pest of cultivation. Carpenter (1912), who described and figured all stages of the fly, recorded it as damaging onions in the west of Ireland, ix-x.1911, without more precise details of location. No Irish specimens have been examined.

***Delia coarctata* (Fallén, 1825)**

(Carpenter 1903, Johnson 1921)

The wheat bulb fly. Common throughout Britain and probably also in Ireland. Carpenter (1903) recorded it damaging young wheat plants in Ireland. Johnson (1921) recorded it as the prey of the wasp *Oxybelus uniglumis*. There is a female labelled "*munda*" in Haliday's collection (NMD).

CLARE: Fanore (M1308), 1.vi.1984 1♂ (JMOC, NMD). DONEGAL: Portnoo, sandhills, 6.vii.1920 1♂ (W.F. Johnson, NMD; Johnson 1921). DOWN: Dundrum, Murlough NR (J4034), 17.vi.1973 1♀ (RN, UMB). DUBLIN: Loughlinstown, iv.1902 (Carpenter 1903); Malahide, 2.viii.1915 1♀ (JNH, NMD).

***Delia criniventris* (Zetterstedt, 1860)**

New to Ireland. Probably widespread in Britain; develops in flower heads of *Lychnis* species.

DOWN: Copeland Island, Light House Island, 17.viii.1974 10♂ 5♀ (AGI; UMB, NMD).

***Delia echinata* (Séguy, 1923)**

New to Ireland. It is locally common in Britain; a leaf-miner in Caryophyllaceae

DOWN: Mourne Mountains, Loughshannagh (J2926), 8.ix.1974 1♂ (AGI, UMB).

***Delia florilega* (Zetterstedt, 1845)**

(Yerbury 1902 as *Phorbia trichodactyla* Meigen, Grimshaw 1912 as *Chortophila trichodactyla*, Blackith *et al.* 1991)

Abundant everywhere in Britain and Ireland; larvae are possibly saprophagous. In NMD are two males from Clontarf, DUBLIN, which emerged 5-7.viii.1918 from roots of henbane *Hyoscyamus niger*.

ANTRIM, ARMAGH, CLARE, DOWN, DUBLIN, KERRY, LAOIS, MAYO, WATERFORD, WEXFORD, WICKLOW.

***Delia frontella* (Zetterstedt, 1838)**

New to Ireland. A frequent species in Britain; there is a rearing record from the fungus *Suillus bovinus* but in the absence of other records this is possibly not its regular mode of development.

DOWN: Dundrum, Murlough NR, 23.iv.1985 1♂ (MB and RN, UMB). LEITRIM: Lough Rinn, 10.v.1970 1♂ (PJC).

***Delia lamelliseta* (Stein, 1900)**

New to Ireland. Widespread and locally common in Britain.

ANTRIM: Rea's Wood (J1485), 22.v.1985 1♂ (MB and RN, UMB). CLARE: Dromore Forest (R3487), 5.vii.1978 1♂ (MdeCW, UMB).

***Delia nigrescens* (Rondani, 1877)**

New to Ireland. Widespread and locally common in Britain.

DUBLIN: Bull Island, dune grassland, 12.vii.1971 2♂; Portmarnock, dunes, 17.vii.1971 2♂ (PJC).

***Delia nuda* (Strobl, 1901)**

New to Ireland. Widespread in Britain but rarely recorded.

WICKLOW: Castleruddery Stone Circle, 11.vii.1969 1♂ (PJC).

***Delia penicillosa* Hennig, 1974**

New to Ireland. A coastal species, occurring locally on sand dunes in England and Wales. There is a British male in Haliday's collection (NMD).

DOWN: Dundrum, Murlough NR (J4074), 17.vi.1973 3♂ (AGI, UMB). LOUTH: Laytown 1♂ (A.H. Haliday, NMD). WEXFORD: Fethard (S7905), sand dunes, 16.vi.1990 1♀ (JPOC).

***Delia planipalpis* (Stein, 1898)**

(Grimshaw 1912 as *Hylemyia tristriata* Stein)

Uncommon in Britain, but regarded as a minor pest on roots of Brassicaceae.

MAYO: Brackloon Wood, 4.viii.1911 1♂ (PHG, NMD; Grimshaw 1912).

***Delia platura* (Meigen, 1826)**

(Carpenter 1902 as *Phorbia fusciceps* (Zetterstedt), Grimshaw 1912 as *Chortophila cilicrura* Rondani, Blackith *et al.* 1991)

The bean seed fly. Abundant everywhere in Britain and Ireland; larvae mainly saprophagous but also regarded as a pest of various crops. Carpenter (1902) recorded a rearing from turnips at Fassaroe, Bray, Wicklow together with *D. radicum*; 1♂, 3♀ and 2 puparia, 12.viii.1901, with this data are in NMD. It was also reared from henbane roots with *D. florilega*, 3♂ in NMD having the same data. Blackith *et al.* (1991) recorded it at flowers of *Smyrniolum olusatrum*.

CLARE, DOWN, DUBLIN, GALWAY, MAYO, MEATH, WEXFORD, WICKLOW.

***Delia radicum* (Linnaeus, 1758)**

(Yerbury 1902 as *Phorbia floccosa* Macquart; Carpenter 1902, 1905, 1908, 1909, 1910, 1911 and 1916 as *Phorbia brassicae* (Bouché); Andrews 1914 as *Phorbia floccosa*, Blackith *et al.* 1991 as *Delia brassicae*)

The cabbage root fly, abundant throughout Britain and Ireland. There is a male labelled "Ireland" and "*floralis*" in Haliday's collection (NMD). Carpenter (1902-1916) recorded many Irish records of larvae damaging cabbages, cauliflower, swedes, turnips and in one case radishes.

ANTRIM, ARMAGH, CARLOW, CLARE, CORK, DOWN, DUBLIN, GALWAY, KERRY, KILDARE, LOUTH, TYRONE, WATERFORD, WESTMEATH, WEXFORD, WICKLOW WEXFORD, WICKLOW.

***Delia setigera* (Stein, 1920)**

New to Ireland. A coastal species, locally common throughout Britain. There is a male labelled "Ireland" in Haliday's collection (NMD)

DUBLIN: Bull Island, 12.vii.1971, saltmarsh 1♀ (PJC).

***Egle ciliata* (Walker, 1849)**

New to Ireland. Abundant on willow *Salix* blossom in Britain.

ANTRIM: Massereene (J1485), 20.iii.1974 1♂ (AGI, UMB). DOWN: Dundrum, Murlough NR (J4034), 23.iii.1974 1♂ (AGI, UMB). GALWAY: (L8349), 26.iii.1975 1♂ (MCDS, UMB). WICKLOW: Knocksink Wood (O2117), 24.iii.1977 1♂ (MCDS, UMB).

***Egle parva* Robineau-Desvoidy, 1830**

New to Ireland. Common on willow *Salix* blossom in the south in Britain.

ANTRIM: Belfast, 5.iv.1972 1♂ (RN, UMB); Massereene (J1485), 20.iii.1974 4♂ (AGI, UMB). DOWN: Clondeboy, 5.v.1970 1♂ (PJC).

***Egle rhinotmeta* (Pandellé, 1900)**

New to Ireland. Common on willow *Salix* blossom throughout Britain.

WICKLOW: Knocksink Wood (O2117), 27.iii.1987 1♂ (JPOC, NMD).

***Emmesomyia grisea* (Robineau-Desvoidy, 1830).**

(Andrews 1914 as *Hydrophoria socia*)

A southern species in Britain, evidently widespread in Ireland; larvae are coprophagous.

CORK: Glengarriff, 5.viii.1908 1♀ (HWA). DOWN: Rostrevor (J1817), 31.v.1975 1♂ (RN, UMB). KERRY: Killarney, Muckross Abbey wood, 2.vii.1969 1♀; 7.v.1981 1♂; Killarney, Ross Bay, 30.vi.1969 1♀; Killarney, Castlerosse, 2.v.1981 1♂; Drominahassig waterfall woods, 15.x.1973 1♀ (PJC). OFFALY: Charleville Woods, 15.vi.1983 1♂, 26.vi.1987 3♂ (PJC). WICKLOW: Glendalough, 8-9.vii.1969 4♂; Glendalough State Forest, *Quercus* woods, 10.vii.1971 1♀ (PJC); Devil's Glen, 3.x.1980 1♀ (PJC).

***Emmesomyia socia* (Fallén, 1823)**

New to Ireland, but only old unlocalised specimens have been examined. Widespread in Britain; larvae are coprophagous.

There are in Haliday's collection 2♂ and 1♀ labelled Ireland, 1♂ unlabelled and 1♂ bearing a green "*fuscus*" label.

***Eustalomyia festiva* (Zetterstedt, 1845)**

(Blackith *et al.* 1990, Blackith *et al.* 1991)

Widespread in southern England; larvae are cleptoparasites in the burrows of sphecids wasps, the adults occurring on dead tree trunks where the wasps are nesting.

LAOIS: Annaghmore Lough, 28.vi.1987 1♀ (PJC, HM). WICKLOW: Blackditch Wood (O3103), 20.vi.1988, *Betula/Salix* woods on coastal fen (Blackith *et al.* 1990, 1991; NMD).

***Eutrichota praepotens* (Wiedemann, 1817)**

New to Ireland. A very local species in southern England. Two males labelled "Ireland", one of them also labelled "*praepotens*", and one British male are in Haliday's collection (NMD).

KILDARE: Ardscoil Mote, 23.vi.1975 1♂ (PJC).

***Fucellia fucorum* (Fallén, 1819)**

(Haliday 1839, Hogan and Haliday 1855 as *Halithea fucorum*, Carpenter 1908, Grimshaw 1912, Andrews 1914)

A mainly northern coastal species in Britain, found on seaweed. There is a male without data in Haliday's collection.

DOWN, DUBLIN, KERRY, MAYO, WATERFORD, WICKLOW.

***Fucellia maritima* (Haliday, 1838)**

(Haliday 1838, Haliday 1839, Hogan and Haliday 1855, Yerbury 1902, Grimshaw 1912, Andrews 1914, Blackith *et al.* 1991)

A common coastal species in Britain, found on seaweed, which is probably also common around the Irish coasts although some older records relate to *F. tergina*.

DERRY (UMB). DUBLIN: Dublin 1m; North Bull, 1♂ (no date or collector, NMD). KERRY: Waterville, 26.vii.1901 1♂ (JWY, NMD). WICKLOW: Five-Mile Point (O3102), iii.1990 at flowers of *Smyrniolum olusatrum* (Blackith *et al.* 1991); Kilcoole, beach, 18.ix.1968 1♂ 1♀ (PJC, HM).

***Fucellia tergina* (Zetterstedt, 1845)**

New to Ireland. A common coastal species in Britain and probably also common in Ireland, found on seaweed. There is one male labelled "Ireland" in Haliday's collection.

KERRY: Valentia, 10.viii.1901 1♂; Waterville, 26.vii.1901 1♂ 1♀ (JWY, NMD). MAYO: Clare Island, Easter 1810 1♀ (Praeger, NMD), vii.1910 2♂ 2♀ (NMD) (Grimshaw 1912 as *maritima*). WATERFORD: Dunmore East (S6800), seepage at kittiwake colony, 11.vi.1991 1♀ (JPOC, NMD). WEXFORD: Rosslare, 1925 1♀ (R.F. Scharff, NMD). WICKLOW: Kilcoole, beach, 18.ix.1968 4♂ (PJC, HM).

***Heterostylodes nominabilis* (Collin, 1947)**

New to Ireland. Locally common throughout Britain; develops in flower heads of Asteraceae.

CLARE: Lough Bunny (R3696), 28.v.1984 1♂ (JMOC, NMD).

***Hydrophoria lancifer* (Harris, 1780)**

(Walker 1853, Andrews 1914 as *H. conica*, Blackith *et al.* 1991 as *H. conica*)

Abundant and widespread throughout Britain and also common in Ireland. There is a female labelled "Ireland" in Haliday's collection (NMD).

ANTRIM, CARLOW, CLARE, CORK, DOWN GALWAY, KERRY, KILDARE, MONAGHAN, WATERFORD, WESTMEATH, WEXFORD, WICKLOW.

***Hydrophoria linogrisea* (Meigen, 1826)**

New to Ireland. A widespread species in Britain; larvae have been found under bark. The Mayo record was included in the Clare Island Survey (Grimshaw 1912) as *Hylemyia puella*; a female labelled *puella* from the same site was *Hylemyia vagans*.

DOWN: Ballysallagh (J4577), 4.v.1974 1♂ (AGI, UMB). KERRY: Killarney, Ross Island, 7.v.1989 3♂ 1♀ (PJC). MAYO: Brackloon Wood, 4.viii.1911 1♂ (PHG, NMD), 2♂ (PHG, NMS). WESTMEATH: Lough Ballynafid, 7.v.1988 1♂ (PJC, HM).

***Hydrophoria ruralis* (Meigen, 1826)**

(Grimshaw 1912 as *H. ruralis* (male) and *H. brunneifrons* Zetterstedt (female), Blackith *et al.* 1991)

A common woodland species in England and Wales, probably also common in Ireland.

ANTRIM, CLARE, DERRY, DOWN, FERMANAGH, KILDARE, KILKENNY, MAYO, OFFALY, TYRONE, WICKLOW.

***Hylemyia nigrimana* (Meigen, 1826)**

(Lansbury 1965, Blackith *et al.* 1991)

Common throughout Britain and also widespread in Ireland; larvae are coprophagous. There is one specimen labelled "Ireland" and "*nigrimana*" in Haliday's collection (NMD). The record from Clare by Lansbury (1965) was queried as this or *H. strigosa* (= *vagans*) by the author.

ANTRIM, CARLOW, CORK, DOWN, DUBLIN, KERRY, MAYO, SLIGO, WATERFORD, WICKLOW.

***Hylemya vagans* (Panzer, 1798)**

(Haliday 1833 as *Anthomyia strigosa*, Yerbury 1902 as *Hylemyia strigosa* Fabricius, Grimshaw 1912 as *H. strigosa*, Andrews 1914 as *H. strigosa*, Blackith and Blackith 1990 as *H. strenua*, Blackith *et al.* 1991 as *H. strenua*, Blackith and Blackith 1993 as *H. strenua*)

An abundant and ubiquitous species throughout Britain and Ireland; larvae are coprophagous. There are four specimens labelled "Ireland" in Haliday's collection, one of them also labelled "*strigosa*". One female from Brackloon Wood, MAYO, 4.viii.1911 (NMD) was labelled *Hylemyia puella* by P.H. Grimshaw.

ANTRIM, ARMAGH, CARLOW, CAVAN, CLARE, CORK, DOWN, DUBLIN, GALWAY, KERRY, KILDARE, LAOIS, MAYO, MEATH, WATERFORD, WEXFORD, WICKLOW.

***Hylemya variata* (Fallén, 1823)**

(Carpenter 1895, Grimshaw 1912, Andrews 1914, Lansbury 1965, Blackith *et al.* 1991)

Abundant throughout Britain and Ireland; larvae are coprophagous. There are a male and female labelled "Ireland", the male also labelled "*variata*" in Haliday's collection (NMD).

ANTRIM, ARMAGH, CLARE, DOWN, DUBLIN, GALWAY, KERRY, KILDARE, MAYO, ROSCOMMON, TIPPERARY, WATERFORD, WEXFORD, WICKLOW.

***Hylemya partita* (Meigen, 1826)**

(Halbert and Grimshaw 1907 as *Hylemyia ? lasciva* Zetterstedt)

Very common throughout Britain and probably also common in Ireland although few specimens have been examined; larvae are coprophagous.

DOWN (UMB). CORK: Glengarriff (V9057), 6.vii.1985 1♀ (JMOC, NMD). DUBLIN: Lambay Island, vi.1905 (JNH; Halbert and Grimshaw 1907).

***Lasiomma anthomyinum* (Rondani, 1866)**

(Blackith and Blackith 1991, Blackith *et al.* 1991)

A local southern species in Britain; develops in bird nests.

DERRY: Annagh (H9694), 17.ix.1972 1♀ (RN, UMB). WICKLOW: Murrough, Blackditch Wood (O3003), 20.v.1989, 1m, *Betula-Salix* woods on fen (Blackith and Blackith 1991)

***Lasiomma latipenne* (Zetterstedt, 1838)**

New to Ireland. Uncommon but widespread in Britain; now known not to develop in ferns and recently transferred here from *Chirosia*.

DUBLIN: Howth, woods. 27.vi.1975 1♂ (PJC). MAYO: Brackloon Wood, 4.viii.1911 1♂ (PHG, NMS).

***Lasiomma seminitidum* (Zetterstedt, 1845)**

(Blackith and Blackith 1991, Blackith *et al.* 1991; both as *L. meadei* (Kowarz))

A common species in England and Wales and probably also common in Ireland; develops in bird nests. Blackith and Blackith (1991) recorded it from a dead pigeon and a rotting *Betula* log. A female from Draperstown, Co. Derry (no date), was reared from a nest of chaffinch and *Bombus jonellus* (leg. Barnett, NMD).

ANTRIM, CLARE, DERRY, DOWN, DUBLIN, KERRY, WICKLOW.

***Lasiomma strigilatum* (Zetterstedt, 1838)**

New to Ireland. Common throughout Britain; develops in bird nests.

CLARE: near Moy House, Lahinch, 19.v.1970 ♂♀ *in copula* (PJC). DOWN: Ballysallagh (J4577), 4.v.1974 3♂ (AGI, UMB).

***Leucophora grisella* Hennig, 1967**

New to Ireland. Widespread in Britain; larvae are cleptoparasites in terrestrial nests of aculeate Hymenoptera. There are 2♀ labelled "Ireland", one of them also labelled "*grisea*", in Haliday's collection (NMD).

***Mycophaga testacea* (Gimmerthal, 1834)**

(Andrews 1914 as *Mycophaga fungorum* De Geer, Blackith *et al.* 1991)

Common throughout Britain and evidently widespread in Ireland; there are continental records of development in various fungi, all terrestrial agarics and boleti. In Haliday's collection (NMD) there are 3♂ labelled "Ireland" and 2♀ respectively labelled as British and "*fungorum*".

ANTRIM: Glenarm, 8.xii.1980 1♀ (PJC). DOWN: Stormont (J3974), garden, 29.viii.1973 1♂ (AGI, UM). KERRY: Killarney, Ross Island, 17.x.1973 1♀ (PJC). WATERFORD: Stradbally, 24.vi.1907 1♂ (HWA; Andrews 1914). WICKLOW: Blackditch Wood (O3103), vi-vii.1990 (Blackith *et al.* 1991); Glendalough, 16.ix.1968 1♀ (PJC); Avondale Forest Park, 4.x.1980 1♀ (PJC).

***Myopina myopina* (Fallén, 1824)**

(Irwin 1976).

An uncommon but widespread species in Britain, found near water.

ANTRIM: Lough Neagh, bay west of Ardmore Point (J0063), 5.ix.1974, 2♀ (AGI, UMB; Irwin 1976).

***Paradelia intersecta* (Meigen, 1826)**

(Andrews 1914 as *Phorbia neglecta* Meade; Blackith *et al.* 1991, Blackith and Blackith 1991, both as *Pseudomupedia intersecta*)

Very common throughout Britain and Ireland. Blackith *et al.* (1991) observed it swarming at the edge of a wood.

ANTRIM, CARLOW, CAVAN, CLARE, CORK, DERRY, DONEGAL, DOWN, DUBLIN, GALWAY, KERRY, KILDARE, KILKENNY, LAOIS, MEATH, MAYO, MONAGHAN, OFFALY, ROSCOMMON, SLIGO, TIPPERARY, TYRONE, WEXFORD, WICKLOW.

***Paregle audacula* (Harris, 1780)**

(Walker 1853 as *Anthomyia radicum* (Linnaeus), Grimshaw 1912 as *A. radicum*, Andrews 1914 as *A. radicum*, Blackith *et al.* 1991 as *Paregle radicum*, Blackith and Blackith 1993 as *P. radicum*)

Very common throughout Britain; possibly coprophagous.

ANTRIM, ARMAGH, CLARE, DOWN, DUBLIN, KERRY, KILDARE, MAYO, MONAGHAN, WATERFORD, WEXFORD LOUTH, WEXFORD, WICKLOW.

***Pegomya betae* (Curtis, 1847)**

(Fitch 1991; Carpenter 1902, 1903, 1905a, 1905b, 1910 and 1911)

The beet or mangold fly, a leaf-miner on *Beta* species. The records from many parts of Ireland published by Carpenter mainly related to larval infestations on cultivated *Beta*. As there are relatively few confirmed Irish specimens full details are given of these.

ANTRIM, ARMAGH, CARLOW, CORK, DERRY, KILDARE, LAOIS, LIMERICK, OFFALY, SLIGO, WEXFORD, WICKLOW (Carpenter 1902-1911). DOWN, KERRY, TIPPERARY (Fitch 1881). DOWN: Copeland Island, 13.viii.1974 1♂ 1♀ (AGI, UMB). MAYO: Inishglora (F6131), 15.vii.1974 2♂ (AGI, UMB). DERRY: Londonderry, vii.1904, 1♂ 1♀ (NMD).

***Pegomya bicolor* (Wiedemann, 1817)**

(Yerbury 1902, Grimshaw 1912, Andrews 1914; all as *Pegomyia*)

Common throughout Britain and probably also in Ireland; a leaf-miner on Polygonaceae. In Haliday's collection (NMD) are a specimen labelled "Ireland" and a second unlocalised specimen labelled "*mitis*".

ANTRIM, CLARE, CORK, DOWN, DUBLIN, GALWAY, KERRY, MAYO, WATERFORD, WEXFORD, WICKLOW.

***Pegomya caesia* Stein, 1906**

(Blackith *et al.* 1991)

The record by Blackith *et al.* (1991) may need confirmation. A widespread species in Britain; a rearing record from the terrestrial fungus *Agaricus arvensis*.

WEXFORD: Clonmines, 12.vii.1969 1♀ (PJC). WICKLOW: Blackditch Wood (O3103), vi-vii.1990, 1♀ (Blackith *et al.* 1991).

***Pegomya calyptrata* (Zetterstedt, 1846)**

New to Ireland. Local in England; develops in terrestrial fungi of the genus *Agaricus*.

A male labelled "Ireland" is in Haliday's collection (NMD).

***Pegomya conformis* (Fallén, 1825)**

New to Ireland. Local in England and Scotland; a leaf-miner on *Chenopodium*.

There is a male labelled "Ireland" in Haliday's collection (NMD).

***Pegomya cunicularia* (Rondani, 1866)**

New to Ireland. A widespread coastal species in Britain; a leaf-miner on *Beta* species.

There is a male labelled "Ireland" in Haliday's collection (NMD).

***Pegomya flavifrons* (Walker, 1849)**

New to Ireland. Fairly common throughout Britain; a leaf-miner on Caryophyllaceae. There is an unlabelled male and a female labelled "Ireland" and "*versicolor*" in Haliday's collection (NMD).

CLARE: Lisdoonvarna, 22.v.1970, 1♀ (PJC, HM). DOWN: Copeland Island, 13.viii.1974 2♂, 15.viii.1974 1♂ (AGI, UMB). KILDARE: Castletown (N9734), 8.viii.1982 1♀ (JMOC, NMD); Ardscoil Mote, 11.vii.1971 1♀ (PJC). SLIGO: Glen of Knocknarea, 13.v.1970 1♀ (PJC). WICKLOW: Glenmalur, wood near waterfall, 16.ix.1968 1♀ (PJC).

***Pegomya fulgens* (Meigen, 1826)**

New to Ireland. Widespread in Britain; develops in boleti of the genus *Leccinum*. A female in Haliday's collection is labelled "Ireland" and also bears a green label inscribed "Ara".

GALWAY: Derry-Clare Wood (L8349), old deciduous woods by lake, 26.vii.1918 1♀ (DND, UMB) KERRY: Drominahasig, waterfall, woods, 15.x.1973 1♀ (PJC). WICKLOW: Glendalough, Green Road, 20.ix.1968 1♀ (PJC).

***Pegomya geniculata* (Bouché, 1834)**

(Blackith and Blackith 1991, Blackith *et al.* 1991)

A common species throughout Britain and probably also common in Ireland; develops in a wide range of terrestrial and saproxylic fungi.

CORK: Glengarriff (V9057), 6.vii.1985 1♂ (JMOC, NMD). DOWN: Crawfordsburn Country Park, 3.vii.1987 4♂ 1♀ (PJC). OFFALY: Charleville Wood, 15.vi.1985 1♂ (PJC). WATERFORD: Passage East (S6811), 13.vii.1989 1♂ (JMOC, NMD). WICKLOW: Murrough, Blackditch Wood (O3003), 26.vi-11.vii.1990, 1♂, *Betula-Salix* woods on fen (Blackith and Blackith 1991); Glendalough, 8-9.vii.1969 7♂ 5♀ (PJC); Glendalough State Forest, 17.ix.1968 4♀ (PJC).

***Pegomya haemorrhoum* (Zetterstedt, 1838)**

New to Ireland. A widespread but local species in Britain; a leaf-miner on *Rumex* species. There are 3♂ in Haliday's collection (NMD), one of them with a green "Ireland" label.

ANTRIM: Belfast (J3067), 22.iv.1972 1♂; Hillsborough (J2458), 18.viii.1974 1♂; Massereene (J1485), 30.v.1973 1♂ (RN, UMB). CORK: Glengarriff, 5.viii.1908 1♀ (HWA). DOWN: Clandeboy, 5.v.1970 1♀ (PJC); Stormont (J3974), 18.v.1974 1♀ (AGI, UMB). ROSCOMMON: Lough Key Forest Park, 11.v.1970 1♂ (PJC). WICKLOW: Glendalough, 24.v.1970 2♂ (PJC).

***Pegomya notabilis* (Zetterstedt, 1846)**

(Grimshaw 1912 as *P. rufipes* Fallén, Blackith *et al.* 1991 as *P. zonata* (Zetterstedt))

Frequent in Scotland, a few records from England, evidently widespread in Ireland; develops in boleti of the genera *Boletus* and *Leccinum*. In Haliday's collection (NMD) are 2♂ labelled "Ireland" and respectively "*rufipes*" and "*esuriens*"; a third male has a green label inscribed "pax" and a fourth is unlabelled. The Co. Derry female has small cruciate interfrontal setulae, which is atypical for the species.

DERRY: Annagh, Lough Bee, 1.x.1972 1♂ (AGI, UMB). KERRY: woods above Lough Isknagahiny, 3.vii.1969 1♂ (PJC). MAYO: Brackloon Wood, Westport, 4.viii.1914 1♀

(PHG, Grimshaw 1912). WICKLOW: Blackditch Wood (O3103), vii.1989 (Blackith *et al.* 1991); Glendalough, below Poll an Easa, 8.vii.1969 1♀ (PJC)

***Pegomya pallidoscutellata* (Zetterstedt, 1852)**

New to Ireland. Uncommon but widespread in Britain; recorded as developing in boleti of the genus *Leccinum* and the terrestrial agaric *Leucopaxillus giganteus*.

DOWN: Dundrum (J4135), 20.viii.1972, heath 1♀ (AGI, UMB).

***Pegomya pulchripes* (Loew, 1857)**

(Carter 1908, Andrews 1908 as *P. flavipes*; Grimshaw 1912 as *P. flavipes* Fallén var. *diluta* Stein, Andrews 1914 as *P. flavipes*)

A widespread species in Britain; develops in terrestrial agarics and boleti. In Haliday's collection (NMD) are 1♂ and 2♀ labelled "Ireland", the male also labelled "*tabida*" and one of the females "*vittigera*". Carter (1908) compared *univittata* von Roser (= *P. geniculata*) with *flavipes* but implied that Andrews had collected the former in Ireland; Andrews (1908, 1914) corrected this.

CORK: Glengarriff, 5.viii.1908 1♂ (HWA, Andrews 1914). FERMANAGH: Lower Lough Erne, Creevinashaughey Island (H1660), 29.viii.1982 1♂ (UMB). KERRY: above Lough Isknagahiny, 3.vii.1969 1♂ (PJC). MAYO: Belclare, vii.1910 1♂ (JNH, NMD; Grimshaw 1912). WATERFORD: Stradbally, 8.viii.1906 1♂, 23.vii.1908 1♂ (HWA, Andrews 1914). WICKLOW: Glendalough, 20.ix.1968 1♂ (PJC).

***Pegomya rubivora* (Coquillett in Slingerland, 1897)**

(Chandler 1982, Blackith *et al.* 1991)

A local species in Britain, evidently widespread in Ireland; develops in stems of *Filipendula ulmaria* (from which it was reared in Ireland by Blackith *et al.* 1991) and *Rubus* species. According to the Northern Ireland Department of Agriculture records from the 1950s, *P. rubivora* was considered a minor pest damaging loganberry, but no details were given.

ANTRIM: Barnett's Park, Belfast (J3268), 2.v.1971 1♂, 20.iv.1973 ♂ (RN, UMB); Massereene (J1485), 19.v.1973 1♂ (AGI, UMB). DOWN: Giant's Ring, 20.iv.1973 1♂ (RN, UMB). KERRY: Killarney, wood by Muckross Abbey, 6-7.v.1981, 2♂ (PJC, Chandler 1982). KILDARE: Newbridge Fen, hedge at edge, 27.x.1984 1♂ (PJC). MONAGHAN: Lough Egish, 21.v.1976 (JHC). SLIGO: Ballysadare Bay, 17.v.1970 1♀ (PJC). WESTMEATH: Lough Slevin, 7.v.1985 1♂ (PJC, HM). WICKLOW: Blackditch Wood (O3103), iii-iv.1990, ex canes of *Filipendula ulmaria*, iii-iv.1990 and swept iii.1990 (Blackith *et al.* 1991).

***Pegomya rufina* (Fallén, 1825)**

New to Ireland. Frequent throughout Britain; develops in terrestrial agarics and boleti.

Four males in Haliday's collection are labelled "Ireland" (NMD).

CORK: Glengarriff, 6.viii.1908 (HWA). DOWN: Bangor (J48), 21.x.1972 1♀ (AGI, UMB); Crawfordsburn, Country Park, 2.vii.1967, beechwood 1♀ (PJC). KERRY: Muckross Abbey

woods, 16.x.1973 3♀ (PJC). MONAGHAN: Hotel Nuremore, 9.vi.1977 (JHC). ROSCOMMON: Castlereagh, deciduous woods, 28.ix.1977 1♀ (PJC).

***Pegomya seitenstettensis* (Strobl, 1880)**

New to Ireland. Uncommon in Scotland and England; a leaf-miner in *Oxalis* species. WICKLOW: Glendalough, south shore of upper lake, 10.vi.1985 1♀ (PJC).

***Pegomya solennis* (Meigen, 1826)**

Common throughout Britain; a leaf-miner on *Rumex* species. There is a male labelled "Ireland" in Haliday's collection (NMD).

ANTRIM: Barnett's Park, Belfast (J3268), 2.v.1971 1♂ (RN, UMB). DOWN: Murlough (J4034), 17.vi.1973 1♂; Belfast (J3067), 14.v.1972 1♀ (RN, UMB). DUBLIN: Dublin, Royal Canal, no date (NMD). KERRY: Killarney, Ross Castle (V9488), 16.ix.1981 1♂ (JPOC, NMD); Rossacroonah Wood, 29.vi.1969 1♀ (PJC); Muckross, Monk's Wood, 8.v.1981 1♀ (PJC). KILDARE: Rye Water (O0036), 9.viii.1981 1♀ (JMOC, NMD). LAOIS: Annaghmore Lough, 26.vi.1987 1♂ (PJC). LEITRIM: Dromahaire, 13.v.1970 1♀ (PJC). WESTMEATH: near Scragh, 28.vi.1987, *Heracleum* flowers 1♂; Glen Lough, 7.v.1988 1♀ (PJC). WICKLOW: Glendalough, 24.v.1970 1♀ (PJC); Powerscourt Deer Park, 22.vii.1940 (B.P. Beirne, HWA collection).

***Pegomya vittigera* (Zetterstedt, 1838)**

New to Ireland. In Britain it is local and mainly recorded from Scotland; develops in boleti of the genus *Leccinum*.

KERRY: Killarney, Ross Bay, 30.vi.1969 1♀ (PJC).

***Pegomya winthemi* (Meigen, 1826)**

New to Ireland. Widespread in Britain; develops in terrestrial agarics and boleti.

WICKLOW: Kilpedder (O2606), deciduous woodland, 23.vi.1978 1♂ (MdeCW, UMB)

***Pegomya zonata* (Zetterstedt, 1838)**

New to Ireland. In Britain there are relatively few records from Scotland but there has been confusion with *P. notabilis*; develops in a wide range of boleti as well as fungi of the family Russulaceae.

MAYO: Lough Conn woods, 13.vi.1985 1♂ (PJC).

***Pegoplata aestiva* (Meigen, 1826)**

(Grishaw 1912 as *Anthomyia aestiva*, Blackith *et al.* 1991 as *Nupedia aestiva*)

Abundant throughout Britain and Ireland; larvae coprophagous.

ANTRIM, CARLOW, CLARE, DERRY, DOWN, DUBLIN, FERMANAGH, GALWAY, KERRY, KILDARE, LAOIS, MAYO, SLIGO, TIPPERARY, TYRONE, WATERFORD, WESTMEATH, WEXFORD, WICKLOW.

***Pegoplata infirma* (Meigen, 1826)**

(Andrews 1914 as *Phorbia ignota* Rondani, Blackith *et al.* 1991 as *Nupedia infirma*)

Abundant throughout Britain and Ireland; larvae possibly coprophagous.

ANTRIM, CARLOW, CLARE, CORK, DONEGAL, DOWN, DUBLIN, KERRY, KILDARE, MAYO, SLIGO, TIPPERARY, WATERFORD, WEXFORD, WICKLOW TYRONE, WICKLOW.

***Pegoplata nigroscutellata* (Stein, 1920)**

New to Ireland. Uncommon but widespread in Britain.

ANTRIM: Portglenone (C9802), 24.v.1979 1♂ (RN, UMB). DOWN: Cultra (J8042), 7.vii.1985 1♂ (MB and RN, UMB).

***Phorbia bartaki* Ackland & Michelsen, 1987**

New to Ireland. Common throughout Britain; probably develops in grass stems.

TYRONE: Baronscourt, 9.v.1970 1♂ (PJC).

***Phorbia fumigata* (Meigen, 1826)**

(Blackith and Blackith 1991, Blackith *et al.* 1991; both as *P. securis* Tiensuu)

Common throughout Britain and probably so in Ireland; develops in grass stems.

ANTRIM: Garron Point (D2722), 24.v.1975 1♂ (RN, UMB). CLARE: Cooleabeg (M1602), damaged blanket bog on Burren, 22.v.1985 1♂ (JPOC, NMD). DOWN: Rostrevor (J1817), 14.vii.1975 2♂ (RN, UMB). LEITRIM: Lough Rinn shore, 10.v.1970 1♂ (PJC). ROSCOMMON: Lough Key, 11.v.1970 1♂ (PJC). WESTMEATH: Glen Lough, 7.v.1988 1♂ (PJC). WICKLOW: Clonmannon Wood (T3098), vi.1988; Murrough, Blackditch Wood (O3003), vi.1988, 1♂, *Betula-Salix* woods on fen (Blackith and Blackith 1991); marsh/carr below Great Sugar Loaf, 26.v.1984 1♂ (PJC).

***Zaphne ambigua* (Fallén, 1823)**

(Grimshaw 1912 as *Hydrophoria ambigua*, Blackith *et al.* 1991 as *H. ambigua*)

Local throughout Britain, in marshes. There is one male labelled "Ireland" in Haliday's collection (NMD).

ANTRIM: Massereene (J1485), 17.vi.1973 1♀ (AGI, UMB). DERRY: Lough Beg, Church Island (H9294), 21.vi.1973 3m; Toome (H9740), Lough Neagh shore, 16.vi.1973 1♂ 1♀ (AGI, UMB). DUBLIN: Dublin, 25.viii.1895 1♂ (NMD). KERRY: Killarney, Ross Island, 7.v.1981, mixed woods 1♀ (PJC). MAYO: Belclare, vii.1910 1♂ (JNH, NMD). WICKLOW: Blackditch Wood (O3103), vi.1988, vii.1989 (Blackith *et al.* 1991).

***Zaphne caudata* (Zetterstedt, 1855)**

(Blackith and Blackith 1991, Blackith *et al.* 1991; both as *Hydrophoria caudata*)

Local throughout Britain, in marshes.

ANTRIM: Lough Neagh, Bartin's Bay (J0765), 5.vii.1974 1♂ (AGI, UMB); Rathlin Island (D1549), 4.vii.1973 1♀ (RN, UMB). CLARE: Lough Bunney (R3696), 28.v.1984 1♀, 21.v.1985 1♂ (JMOC, NMD). DERRY: Lough Beg (H9794), 21.vi.1973 1♂ (AGI, UMB). DOWN: Mourmes, Spelga Dam (J2626), 16.vi.1973 1♂ 2♀ (AGI, UMB). DUBLIN: Donabate, x.1894 1♀ (JNH, NMD). FERMANAGH: Inishmalick, 27.viii.1972 1♀; Lough Navar (H0455), 10.vii.1973 1♀ (AGI, UMB). KERRY: Killarney, Upper Lake, 5.v.1987 1♂

(PJC, HM). WICKLOW: Murrough, Blackditch Wood (O3003), 6-19.v.1990, 1♂, *Betula-Salix* woods on fen (Blackith and Blackith 1991).

***Zaphne divisa* (Meigen, 1826)**

New to Ireland. Widespread but rarely recorded in Britain. One male labelled "Ireland" and "*nigrita*?" is in Haliday's collection (NMD).

***Zaphne inuncta* (Zetterstedt, 1838)**

New to Ireland. Uncommon but widespread in Britain.

MAYO: Castlebar Lough, 31.vii.1911 1♂ (PHG, NMD; Grimshaw 1912 as *ambigua*).
WICKLOW: near Carrigower, *Betula* scrub, 26.v.1984 1♂ (PJC).

***Zaphne wierzejskii* (Mik, 1867)**

New to Ireland. Local but widespread in Britain.

DUBLIN: Dublin, 25.viii.1895 1♀ (NMD)

Species requiring confirmation

***Pegomya exilis* (Meigen, 1826)**

A female is probably this, but the spinosity on sternite 7 is rather weak and males are needed for confirmation. This is a leaf-miner on *Beta* species.

DUBLIN: Dun Laoghaire, Forty Foot, 31.vii.1970 1♀ (C. E. Dye, PJC collection)

***Pegomya laticornis* (Fallén, 1825)**

A female corresponds to this in structural characters but is atypical in coloration and males are needed for confirmation. This species is locally common in England but is most often detected by the large blotch leaf-mines in *Arctium* species.

ANTRIM: Belfast (J31269), 12.viii.1973 1♀ (RN, UMB)

Acknowledgements

We thank the authorities of the museums in which material is housed for the opportunity to study their anthomyiid collections. We are also grateful to Jon Cole for enabling us to include his records.

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A Suffolk record for *Ochlerotatus caspius* (Pallas, 1771) (Diptera, Culicidae) - On 29 June 2005 during a visit to Lakenheath Fen, Suffolk (TL7186), females of the distinctive mosquito *Ochlerotatus caspius* (Pallas) were observed. Many were assembling at my car while I was putting on boots soon after arrival at the site and two were taken, enabling the identification to be confirmed. I only had a vial with me at the time and returned later with a pooter but no further individuals of *O. caspius* were found.

A distribution map of this species was provided by A.T. Rees and K.R. Snow (1996. The distribution of *Aedes*: subgenus *Ochlerotatus* in Britain. *Dipterists Digest* (Second Series) **3**, 5-23). This indicated that most recent records were from the Thames Estuary or the south coast with a few older records scattered elsewhere in southern England and Wales, including some from the Suffolk coast. Although most sites where it is now known to be well established are coastal, it was noted that there were also earlier records from inland non-saline waters. This appears to be the first inland record for East Anglia.

Rees and Snow (*op. cit.*) also showed few records for East Anglia of *Ochlerotatus punctor* (Kirby in Richardson, 1837); I collected two specimens of that species at the Suffolk Wildlife Trust Reserve of Redgrave and Lopham Fens (TM052801) on 25 July 2001.

Lakenheath Fen is a nature reserve administered by the Royal Society for the Protection of Birds - **JOHN LANE**, 23 Park Road, Halesworth, Suffolk IP19 8LA

***Platycheirus discimanus* Loew (Diptera, Syrphidae) in the East**

Midlands — *Platycheirus discimanus* Loew is a small dark hoverfly with a black face and grey patches on the tergites. It closely resembles *Platycheirus albimanus* (Fabricius) and is not dissimilar to *P. ambiguus* (Fallén), both of which occur at the same time of year. The male tarsi are distinctly different and the species is unlikely to be overlooked or mistaken upon careful examination of their structure. Females are separable on account of their black fore and mid-femora. In the field, a useful clue to having taken female *P. discimanus* is its somewhat dumpy appearance and its small size.

A.E. Stubbs and S.J. Falk (2002. *British Hoverflies: an illustrated identification guide*. 469 pp. British Entomological and Natural History Society) suggested that the scarcity of *P. discimanus* might only be apparent because it is overlooked amongst the commoner *P. albimanus*. The distribution map given by S.G. Ball and R.K.A. Morris (2000. *Provisional atlas of British hoverflies*. 167pp. Centre for Ecology and Hydrology, Abbots Ripton) indicated widespread occurrence, but comparatively few modern records (just twenty-eight 10km squares). Is this distribution genuine or an artefact of recording effort? Bearing in mind that *P. discimanus* behaves similarly to *P. ambiguus* in visiting spring flowers of willows *Salix* species and blackthorn *Prunus spinosa*, it seems unlikely that it is overlooked because recorders are clearly examining sufficient specimens to locate *P. ambiguus*. I have spent many hours staring at blackthorn flowers against a blue sky looking for *P. discimanus*, to no avail. However, *P. ambiguus* does turn up sporadically: males often hover close to blackthorn bushes at a height of two to three metres; females visit blackthorn, but can also be found flying amongst low vegetation.

In 2004 and 2005, whilst surveying various woodlands on the limestone around Stamford, I have encountered *P. discimanus* on three occasions. The first was at Wakerley Great Wood (SP9698) on 12 April 2004. On this occasion, I took a series of one male and five females at *Salix caprea* flowers. On this occasion, hoverflies were very abundant and I also took a dozen or so *Parasyrphus punctulatus* (Verrall). Four days later, I took a further female at *Salix* species flowers at Southey Wood (TF1003). This year (2005), I took a female on 10 April at Pickworth Great Wood (SK9815), again at *Salix* flowers. All three records appear to fall within a narrow timeframe, possibly indicating why *P. discimanus* is seemingly so scarce: this may be a species with very restricted emergence at a time of year when fieldwork can be difficult. Moreover, these limited data suggest that females are more frequently encountered than males. Looking at my records for *P. ambiguus* over the period 2003 to 2004, this too seems to be confined to a relatively narrow time frame (12 to 17 April in 2003 at 5 localities; 24 and 25 April 2004 at two localities). In 2005, the April timing seemed to be confirmed by two records on 23 April, but was confounded by a single female recorded on 11 May. The data for this species suggest, however, that males are more frequent than females (ten males against six females) — **ROGER K.A. MORRIS**, 7 Vine Street, Stamford, Lincs PE9 1QE

Corrections and changes to the Diptera Checklist (14) – 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.

In the notes below where names of genera and species are given as in the Checklist, authorship is not stated here, unless a change in taxonomic status is involved. Changes are listed under families; names new to the British Isles list are given in bold type. The notes below refer to 2 losses due to synonymy and addition of 22 species, resulting in a new total of 6830 species.

Changes

Limoniidae. The following species, previously known within the British Isles only from Ireland, is recorded as new to Britain in the present issue (change ++ to +):

Hoplalabis (Parilisia) yezoana (Alexander, 1924) +

The following species is added in the present issue:

Gnophomyia lugubris (Zetterstedt, 1838)

Sciaridae. The following additions and corrections result from F. MENZEL and K. HELLER (2005. Sechs neue Arten aus den Gattungen *Bradysia*, *Camptochaeta* und *Corynoptera* (Diptera: Sciaridae) nebst einigen Bemerkungen zur Nomenklatur europäischer Trauermücken. *Studia dipterologica* 11(2004), 335-357):

Bradysia smithae Menzel & Heller, 2005

Bradysia pallipes (Fabricius, 1787 - *Tipula*) = *B. brunnipes* Meigen, 1804, new synonymy

Bradysia tilicola (Loew, 1850 - *Sciara*) = *B. amoena* Winnertz, 1867, new synonymy

Cecidomyiidae. The following synonymy results from M. TOKUDA, K.M. HARRIS and J. YUKAWA (2005. Morphological features and molecular phylogeny of *Placochela* Rübsaamen (Diptera: Cecidomyiidae) with implications for taxonomy and host specificity. *Entomological Science* 8, 419-427):

Placochela nigripes (Löw, 1877) = *ligustri* (Rübsaamen, 1899), new synonymy

Culicidae. A third species of the malaria transmitting *Anopheles maculipennis* group has been reported from the Somerset Levels by Y.-M. LINTON, A.S. LEE and C. CURTIS (2005. Discovery of a third member of the *Maculipennis* Group in SW England. *European Mosquito Bulletin. Journal of the European Mosquito Control Association* No 14 (April 2005), 5-9) and it was suggested that it could be responsible for the cases of malaria transmission previously attributed to *A. messeae*:

Anopheles daciae Linton, Nicolescu & Harbach, 2004

Chironomidae. The following species, previously known within the British Isles only from Ireland, was recorded as new to Britain by A. BRENNAN, M.A. LEARNER, P.F. RANDERSON and R. TURK (2003. Chironomid (Diptera: Chironomidae) species assemblages and their ecology in the Wye river system. *Archiv für Hydrobiologie, Supplementband* 139/4, 513-561) (change ++ to +):

Rheotanytarsus nigricauda Fittkau, 1960 +

In the present issue data is given for 26 species that were added to the British list in the checklist and the following species are newly added to the British list:

Chironomus (s. str.) **crassimanus** Strenzke, 1959

Chironomus (s. str.) **entis** Schobanov, 1989

Chironomus (s. str.) **holomelas** Keyl, 1961

Chironomus (*Lobochironomus*) **carbonarius** Meigen, 1804

Cladopelma bicarinatum (Brundin 1947)

Glyptotendipes (s. str.) **salinus** Michailova, 1987

Parapsectra uliginosa Reiss 1969

Rheotanytarsus rioensis Langton & Armitage, 1995.

Tanytarsus anderseni Fittkau & Reiss, 1971.

Tanytarsus mancospinosus Ekrem & Reiss, 1999.

Limnophyes spinigus Sæther 1990

Also in the present issue *Sergentia longiventris* auctt., misident. is deleted and replaced by the following two species:

Sergentia baueri Wülker, Kiknadze, Kerkis & Nevers, 1999

Sergentia prima Proviz & Proviz, 1997

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

Microphor strobli Chvála, 1986

Dolichopodidae. A new genus, to which *Gymnopternus chalybeus* and two Nearctic species have been referred, was described by S.E. BROOKS and T.A. WHEELER (2005. *Ethiomyia*, a new genus of Holarctic Dolichopodinae (Diptera: Dolichopodidae). *Proceedings of the Entomological Society of Washington* 107, 489-500):

ETHIOMYIA Brooks, 2005

Ethiomyia chalybea (Wiedemann, 1817 - *Dolichopus*)

Pipunculidae. *Eudorylas ruralis* was referred to the genus *Clistoabdominalis* by M. KOZÁNEK and C. KEHLMAIER (2004. Pipunculidae of Slovakia: additions and corrections to faunal list, with a description of a new *Eudorylas* (Diptera). *Entomological Problems* 34, 21-26):

CLISTOABDOMINALIS Skevington, 2001

Clistoabdominalis ruralis (Meigen, 1824 - *Pipunculus*)

The following changes, including one loss due to synonymy and one addition, result from C. KEHLMAIER (2005. Taxonomic revision of European Eudorylini (Insecta: Diptera: Pipunculidae). *Verhandlungen des naturwissenschaftlichen Vereins in Hamburg (NF)* **41**, 45-353):

Eudorylas dissimilis Coe, 1966 = *E. kowarzi* (Becker, 1891), new synonymy, the latter having priority

Eudorylas coloratus (Becker, 1897) = *Eudorylas fascipes* (Zetterstedt, 1844) misident, not British

Eudorylas auctus Kehlmaier, 2005

The following change results from C. KEHLMAIER and M. DE MEYER (2005. On the identity of *Pipunculus straminipes* Becker, 1900 (Diptera: Pipunculidae). *Studia dipterologica* **11**(2004), 600-602):

Cephalops straminipes (Becker, 1900 - *Pipunculus*) = *Cephalops chlorionae* (Frey, 1945), new synonymy

Agromyzidae. The following species was added by D.W. COLLINS and M. LOLE. 2005. *Phytomyza gymnostoma* Loew (Diptera: Agromyzidae), a leaf-mining pest of leek and onion new to Britain. *Entomologist's monthly Magazine* **141**, 131-137):

Phytomyza gymnostoma Loew, 1858

The following species were added by D. GIBBS (2005. *Cerodontha rohdendorfi* Nowakowski and *Cerodontha staryi* (Stary) (Diptera: Agromyzidae). *British Journal of Entomology and Natural History* **18**, 101-103):

Cerodontha (*Butomomyza*) *rohdendorfi* Nowakowski, 1967

Cerodontha (*Butomomyza*) *staryi* (Stary, 1930 - *Dizygomyza*)

The following species is added in the present issue:

Phytoliriomyza bornholmensis Spencer, 1976

Chloropidae. The following synonymy is due to B. MERZ, J.W. ISMAY, B. SCHULTEN and A. DELY-DRASKOVITS (2005. Neue und selten gesammelte Chloropidae (Diptera) der Schweiz. *Mitteilungen der Entomologischen Gesellschaft Basel* **55**(3), 74-87) and is explained in a note in the present issue by two of the above authors:

Gaurax flavomaculatus (Duda, 1933) = *Gaurax britannicus* Deeming, 1980

Drosophilidae. The following changes accord with the monograph by G. BÄCHLI, C.R. VILELA, S.A. ESCHER and A. SAURA (2005. The Drosophilidae (Diptera) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* **39**, 1-362):

PHORTICA Schiner, 1862 is raised to generic rank

Phortica variegata (Fallén, 1823 - *Drosophila*)

Drosophila cameraria is transferred to HIRTODROSOPHILA, which otherwise includes only *H. confusa* in the British fauna:

Hirtodrosophila cameraria (Haliday, 1833 - *Drosophila*)

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

Hyadina pollinosa Oldenberg, 1923

Changes to the Irish Diptera List (4) – Editor

This section will appear as necessary to keep up to date the initial update of the Irish list in Vol. 10, 135-146. Species will be listed under families as in the overall checklist update, but with references listed separately. The additions reported here bring the confirmed Irish list to 3152 species.

Limoniidae

Erioptera (Erioptera) griseipennis Meigen, 1838 (Ashe and O'Connor 2005b)

Hoplolabis (Parilis) vicina (Tonnoir, 1920) (Ashe and O'Connor 2005b)

Cecidomyiidae

Arthrocnodax fraxinellus (Meade, 1888) (Ashe and O'Connor 2005a)

Dasineura aparines (Kieffer, 1889) (O'Connor 2005)

Chloropidae

Calamoncosis glyceriae Nartshuk, 1958 (O'Connor and Ismay 2005)

Anthomyiidae

In the present issue one species, *Eutrichota socculata* (Zetterstedt) is deleted and the following species are added (Chandler *et al.* 2005):

Adia cinerella. (Fallén, 1825)

Anthomyia confusanea Michelsen, 1985

Anthomyia procellaris Rondani, 1866

Botanophila gnava (Meigen, 1826)

Botanophila jacobaeae (Hardy, 1872)

Botanophila latifrons (Zetterstedt, 1845)

Botanophila lobata (Collin, 1967)

Botanophila sanctimarci (Czerny, 1906)

Botanophila seneciella (Meade, 1892)

Botanophila striolata (Fallén, 1824) (previously omitted in error)

Chirosia cinerosa (Zetterstedt, 1845)

Chirosia griseifrons (Séguy, 1923)

Chirosia histicina (Rondani, 1866)

Delia criniventris (Zetterstedt, 1860)

Delia echinata (Séguy, 1923)

Delia frontella (Zetterstedt, 1838)

Delia lamelliseta (Stein, 1900)

Delia nigrescens (Rondani, 1877)

Delia nuda (Strobl, 1901)

Delia penicillosa Hennig, 1974

Delia setigera (Stein, 1920)
Egle ciliata (Walker, 1849)
Egle parva Robineau-Desvoidy, 1830
Egle rhinotmeta (Pandellé, 1900)
Emmesomyia grisea (Robineau-Desvoidy, 1830) (previously omitted in error)
Emmesomyia socia (Fallén, 1823)
Eutrichota praepotens (Wiedemann, 1817)
Fucellia tergina (Zetterstedt, 1845)
Heterostylodes nominabilis (Collin, 1947)
Hydrophoria linogrisea (Meigen, 1826)
Lasiomma latipenne (Zetterstedt, 1838)
Lasiomma strigilatum (Zetterstedt, 1838)
Leucophora grisella Hennig, 1967
Pegomya calyptata (Zetterstedt, 1846)
Pegomya conformis (Fallén, 1825)
Pegomya cunicularia (Rondani, 1866)
Pegomya flavifrons (Walker, 1849)
Pegomya fulgens (Meigen, 1826)
Pegomya haemorrhoum (Zetterstedt, 1838)
Pegomya pallidoscuteolata (Zetterstedt, 1852)
Pegomya rufina (Fallén, 1825)
Pegomya seitenstettensis (Strobl, 1880)
Pegomya vittigera (Zetterstedt, 1838)
Pegomya winthemi (Meigen, 1826)
Pegomya zonata (Zetterstedt, 1838)
Pegoplata nigroscutellata (Stein, 1920)
Phorbia bartaki Ackland & Michelsen, 1987
Zaphne divisa (Meigen, 1826)
Zaphne inuncta (Zetterstedt, 1838)
Zaphne wierzejskii (Mik, 1867)

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- Ashe, P. and O'Connor, J.P. 2005b. *Erioptera* (Erioptera) *griseipennis* Meigen and *Hoplolabis* (Parilisia) *vicina* (Tonnoir) (Diptera: Limoniidae), two crane flies new to Ireland. *Entomologist's Gazette* **56**, 271-272.
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- O'Connor, J.P. and Ismay, J.W. 2005. *Calamoncosis glyceriae* Nartshuk (Dipt., Chloropidae) new to Ireland. *Entomologist's monthly Magazine* **141**, 138.

Observations of craneflies (Diptera, Cylindrotomidae and Limoniidae) feeding on leaf-surfaces

- On 21 May 1993 a visit was paid to Hoplands Wood, a Lincolnshire Wildlife Trust reserve. After heavy overnight rain, the day was very dull with developing wind. The vegetation was fairly dry but conditions were still very humid. Between 2.45 and 3.00 pm BST observations were made of cranefly behaviour on sycamore *Acer pseudoplatanus* leaves, in young coppice under ash *Fraxinus excelsior* canopy.

Many *Ormosia nodulosa* (Macquart) were walking over the upper surface of the leaves, occasionally also on the underside. Their front legs were held stretched out at 45 degrees, maintaining this angle while sweeping from side to side, rapidly drumming the tarsi on the leaf. At times the head was held down to the leaf surface as if feeding. Both sexes were doing this. Up to four were seen on a leaf together, ignoring each other but darting off if contact was made. On one occasion a male was persistent in trying to mate with a female that held its abdomen flat down as if to protect itself whilst carrying on feeding.

Other species of cranefly were also apparently feeding, without such an extravert display, but each having its own style. Several *Tasiocera murina* (Meigen) slowly walked around feeding with head down fairly continuously. A female *Austrolimnophila ochracea* (Meigen) walked around rapidly, at short intervals walking with its head down. A male *Limonia phragmitidis* (Schränk) walked about, with quick half-hearted dips to feed. On another set of sycamore leaves, a female *Cylindrotoma distinctissima* (Meigen) walked with its head down. In all cases the leaves with craneflies were overhung by sycamore leaves but the rain had washed-off any detectable stickiness from honeydew, though presumably the craneflies could detect residual sugars.

A further observation was made at Chambers Wood, a Forest Enterprise nature reserve in Lincolnshire. Light levels had fallen very low as rain began in early afternoon. A *Dicranomyia* of the *mitis* (Meigen) group (segregate corresponding to the preoccupied name *lutea* Lackschewitz) was seen on a maple *Acer campestre* leaf. It stood still and, flexing its long legs, bobbed its head over several square mm of leaf surface, which bore honeydew. Two *Myrmica ruginodis* Nylander ants were feeding on honeydew on the same leaf, while others attended an aphid colony on a maple shoot overhanging the leaf with the cranefly.

It is interesting that most of the major taxa of short-palped craneflies were represented, but not the long-palped ones (Tipulidae). The great mystery is the rarity of seeing craneflies feed, yet their mouth-parts are well developed for mopping-up. Sometimes long-palped craneflies are seen feeding at flowers, even in full mid-day sunshine. However, craneflies are generally most active in the evening as light levels drop and at night. It would seem that the very low day-time light levels and high humidity had enabled observation of feeding activity that would normally be crepuscular or nocturnal and hence unseen by man or predators. Even after I was alerted to this behaviour, and during a week with weather often wet, only a few similar observations could be made. Despite its abundance, only a few *Ormosia nodulosa* were observed feeding, and then only at the onset of rain under extremely dull conditions. If nothing else this proves that dipterists should never stop observing, even in the rain – on a lucky day its all happening out there - **ALAN E STUBBS**, 181 Broadway, Peterborough PE1 4DS

Further species of Chironomidae (Diptera) new to the British Isles and data for species newly recorded in the 1998 Checklist

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Summary

Eleven species of Chironomidae are added to the British list and one previously recorded taxon resolves as two species. Additional records are also provided for *Conchapelopia triannulata* (Goetghebuer), first recorded as British by Michiels and Spies (2002). Original data are given for 27 species recorded as 'New to List' in Chandler (1998). British records of one of these *Sergentia longiventris* auctt., misident. is now known to comprise two species, resulting in a further increase in the total list.

Introduction

Previous additions to the British Isles checklist of Chironomidae (Chandler 1998) have been made by Murray (2000), Michiels and Spies (2002), Langton (2002, 2003a, 2003b) and Gibbs (2005). Extensive collecting of chironomid pupal exuviae from British lakes since 1998 for CPET analysis (Ruse 2002) has added a further 11 species to the British Isles List and the data for these species are reported here. The pupal exuviae of these species may be identified using Langton and Visser (2003) and the adults in Langton and Pinder (in press). The pupal exuviae of another recently added species *Conchapelopia triannulata* (Goetghebuer) is very close to that of *C. pallidula* (Meigen) and a means for their separation is provided.

A number of species were first recorded from Britain in the Diptera Checklist (Chandler 1998) and stated to be 'New to List'; data upon which those records were based are appended. One of these, *Sergentia longiventris* auctt., misident., comprised two species, which have now been resolved, resulting in a further net addition due to the replacement of *longiventris* by these two newly recorded species.

Systematic account

Subfamily Chironominae

Tribe Chironomini

Chironomus (s. str.) *crassimanus* Strenzke, 1959

SCOTLAND: Galloway, Loch Grannoch, 6.viii.2001, 14.x.2004. ENGLAND: Shropshire, Betton Pool, 11.vi.2002.

Chironomus (s. str.) *entis* Schobanov, 1989

ENGLAND: Bedfordshire, Stewartby Lake, 18.vi.1998. SCOTLAND: Argyll and Bute, Islay, Loch Ballygrant 14.x.2004.

Chironomus (s. str.) *holomelas* Keyl, 1961

WALES: Powys, Tal-y-llyn, 4.viii.2003; Llyn Bochlwyd, 5.viii.2003; Llyn Cymffynnon, 5.viii.2003; Llyn Idwal, 5.viii.2003; Llyn Eiddwen, 6.ix.2003. ENGLAND: Cumbria, Crummock Water, 1.x.2003. SCOTLAND: Grampian, Loch Kinord, 25.vii.2003.

Chironomus (*Lobochironomus*) *carbonarius* Meigen, 1804

ENGLAND: Norfolk, Ranworth Broad, 17.vi.1998.

Cladopelma bicarinatum (Brundin 1947)

WALES: Cardiganshire, Llyn Eiddwen, 6.ix.2003.

Glyptotendipes (s. str.) *salinus* Michailova, 1987

ENGLAND: Norfolk, Hickling Broad, 27.viii.2003.

Tribe Tanytarsini

Parapsectra uliginosa Reiss 1969

SCOTLAND: Highland, Loch an Lagain, 13.v.2004.

Rheotanytarsus rioensis Langton & Armitage, 1995

WALES: Gwynedd, Llyn Padarn, 5.viii.2003. ENGLAND: Cumbria, Windermere north basin, 8.iv.2002.

Tanytarsus anderseni Reiss & Fittkau, 1971

ENGLAND: Cheshire, Rostherne Mere, 7.v.1998; North Yorkshire, Malham Tarn, 11.v.1998.

Tanytarsus mancospinosus Ekrem & Reiss, 1999

ENGLAND: Norfolk, Upton Broad, 14.v.2003; Norfolk, Wroxham Broad, 25.v.2004; Lancashire, Hawes Water, 16.vi.2003.

Subfamily Orthocladiinae

Limnophyes spinigus Sæther 1990

IRELAND: Co. Fermanagh, Lower Lough Erne, 27.iv.2002; SCOTLAND: Stirling, Loch an Lubnaig, 20.iv.2004; Highland, Loch na Beiste (Kinloss), 3.x.2004; WALES: Dyfed, Llyn Hir, 28.vii.2004; Lllynoedd Ieuan (west), 1.x.2005; Gwynedd, Llyn Glasfryn, 24.viii.2004.

Subfamily Tanypodinae

Conchapelopia triannulata (Goetghebuer, 1921)

The following two sites are recorded in Michiels and Spies (2002): ENGLAND: Kent, river Darent, Otford, 28.iii.1976 (leg. P.S. Cranston, BMNH); Staffordshire, river Churnett, Oakamoor, 26.v.1985 (PHL). Additional sites are: Cornwall, Portholland stream, 16.viii.1974; Lancashire, river Dunsop, 18.vii.1985. SCOTLAND: Highland, Loch an Ordain, 29.vii.1979.

The pupal exuviae of *C. triannulata* has the anterodorsal thoracic granulation of tubercles up to 4µm high, their apices irregular, often acute, whereas these tubercles of *pallidula* are up to 8µm high and rounded apically (Michiels and Spies 2002).

Original data for species recorded as 'New to List' in Chandler (1998)

Subfamily Chironominae, Tribe Chironomini

Chironomus bernensis Klötzli in Wülker & Klötzli, 1973

SCOTLAND: Jed Water, 14.viii.1983.

Chironomus lacunarius Wülker in Wülker & Klötzli, 1973

SCOTLAND: Moray, Loch of Blairs, 4.iv.1991.

Glyptotendipes (Heynotendipes) signatus (Kieffer, 1909)

ENGLAND: Norfolk, Wroxham Broad, 23.vii.1971 (leg. R.S. Wilson).

Parachironomus danicus Lehmann, 1970

ENGLAND: Cambridgeshire, Peterborough, Ferry Meadows boating pool, 6.v.1985.

Sergentia longiventris auctt., misident. now resolves as two species (Wülker *et al.* 1999) which are newly recorded as British here:

Sergentia baueri Wülker, Kiknadze, Kerkis & Nevers, 1999

SCOTLAND: Perth & Kinross, Loch Eigheach, 15.viii.1972.

Sergentia prima Proviz & Proviz, 1997

SCOTLAND: Perth & Kinross, Lochan na Lairige, 25.v.1981.

Sergentia *pel* sensu Langton & Visser, 2003 (*psiloptera* authors, misident. of Chandler 1998)

This record relates to exuviae belonging to *Sergentia* but not identifiable with any known species

SCOTLAND: Highland, Loch Assynt, 23.viii.1972.

Tribe Tanytarsini

Cladotanytarsus iucundus Hirvenoja, 1962

SCOTLAND: Highland, Loch a'Mhullaich, 26.vii.1979 (leg. S. Langton).

Cladotanytarsus molestus Hirvenoja, 1962

SCOTLAND: Highland, Loch na Bruthaich, 29.vii.1981.

Stempellina almi Brundin, 1947

ENGLAND: Oxfordshire, R. Thames at Newbridge 8.v.1992 (leg. L.P. Ruse).

Tanytarsus gibbosiceps Kieffer, 1922

ENGLAND: Somerset, Rickford Spring Pool, 4.viii.1974.

Subfamily Orthocladiinae

Acamptocladius reissi Cranston & Sæther, 1981

SCOTLAND: Highland, peat pool by Loch Staing, 30.vii.1979.

Bryophaeocladius dentatus (Karl, 1937)

SCOTLAND: Highland, Skye, pool near Dunans, 20.viii.1983.

Corynoneura arctica Kieffer, 1923

SCOTLAND: Highland, Loch Mullardoch, 24.viii.1972.

Cricotopus (C.) caducus Hirvenoja, 1973

SCOTLAND: Western Isles, S. Uist, Lochan, 31.vii.1984.

Cricotopus (C.) tibialis (Meigen, 1804)

SCOTLAND: Perth & Kinross, pool near Aberfeldy, 15.viii.1972.

Cricotopus (C.) vierriensis Goetghebuer, 1935

WALES: Powys, R. Ithon, 14.vii.1980 (leg. A. Brennan).

Cricotopus (I.) arcuatus Hirvenoja, 1973

SCOTLAND: Dumfries & Galloway, Lochrutton Loch, 20.viii.1985.

Eukiefferiella fitkaui Lehmann, 1972

SCOTLAND: Perth & Kinross, Kinnaird Burn, 22.viii.1980.

Euryhopsis ?fuscipropes Sæther & Wang, 1992

ENGLAND: Staffordshire, R. Churnet at Denstone, 26.v.1985.

Limnophyes brachytomus (Kieffer, 1922)

SCOTLAND: Perth & Kinross, Loch Rannoch, 21.vii.1975.

Limnophyes difficilis Brundin, 1947

ENGLAND: Cambridgeshire, March, Norwood Nature Reserve, 10.vi.1968.

Orthocladius (Eudactylocladius) olivaceus (Kieffer, 1911)

SCOTLAND: Highland, Loch Assynt, 21.vii.1979.

Parakiefferiella fennica Tuiskunen, 1986

SCOTLAND: Highland, Loch Loyal, 30.vii.1979.

Parakiefferiella smolandica (Brundin, 1947)

SCOTLAND: Argyll & Bute, Loch Tulla, 25.v.1981.

Paratrichocladius nigrinus (Goetghebuer, 1938)

SCOTLAND: Aberdeenshire, Cairngorms, Cook Bridge, 3.iv.1991.

Tokunagaia tonollii (Rossaro, 1983)

SCOTLAND: Aberdeenshire, Lochan on Ben Macdui, 14.vii.1992 (leg. J. Atkins).

Subfamily Tanypodinae

Conchapelopia aagardi Murray, 1987

SCOTLAND: Highland, Loch Loyal, 30.vii.1979.

Acknowledgements

We are grateful to Martin Spies (Zoologische Staatssammlung, Munich) for useful comments on an earlier draft of this paper.

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Wülker, W., Kiknadze, I. I., Kerkis, I.E. and Nevers, P. 1999. Chromosomes, morphology, ecology and distribution of *Sergentia haueri*, spec. nov., *S. prima* Proviz & Proviz 1997 and *S. coracina* Zett., 1824 (Insecta, Diptera, Chironomidae). *Spixiana* **22**, 69-81.

Exceptionally early emergence of *Cheilosia illustrata* (Harris) and *Phasia hemiptera* (Fabricius) (Diptera, Syrphidae and Tachinidae)

— Spring in Northamptonshire in 2005 does not appear to have been particularly advanced, and I was therefore amazed to take *Phasia hemiptera* (Fabricius) at blackthorn *Prunus spinosa* blossom on the edge of a sycamore *Acer pseudoplatanus* wood west of the village of Newton (SP870835) in warm sunshine on 24 April 2005. This date is seemingly notable as R. Belshaw (1993. Tachinid Flies. Diptera, Tachinidae. *Handbooks for the identification of British Insects* **10** (4a, 1), 1-169) quoted occurrence from early May to early August based on at least 50 records, and my own recording in Surrey includes just two records from May (near Clandon TQ045509, 1 May 1993; Mares Hill, Witley Common SU932399, 1 May 1994). Thus, this date appears to be around a week earlier than might be expected. My data also show that *P. hemiptera* occurs into early September (Stonepits Quarry, Northamptonshire, TL0598, 5 September 2004).

Some few minutes later, I was equally surprised by the appearance of a male *Cheilosia illustrata* (Harris) close by amongst low vegetation. Again, the published data indicate that this species occurs from early May to late September (Ball, S.G. and Morris, R.K.A. 2000. *Provisional atlas of British hoverflies*. 167pp. Centre for Ecology and Hydrology, Abbots Ripton.). My own data indicate that this date is nearly three weeks earlier than my earliest records (12 and 13 May 1988 from Surrey). Data for Northamptonshire in 2003 and 2004 suggest that the earliest date one might expect this species at this latitude lies in the latter half of May. In 2003 the first date was 18 May (Barnack Hills & Holes NNR, TF0704) and in 2004 the first record was from Southey Wood, TF1002, on 22 May.

Both of these records are noteworthy on the basis that they are markedly earlier than previous earliest records, but are also significant because those previous earliest dates were from Surrey, at least 100 miles further south. Since making these original observations, I have noted *C. illustrata* in Northamptonshire on four further occasions between 1 May and 15 May, all of which are earlier than the previous earliest dates for Northamptonshire. These records further reinforce the indications that emergence patterns in some flies are responding to climate change. — **ROGER K.A. MORRIS**, 7 Vine Street, Stamford, Lincs PE9 1QE.

***Microphor strobli* Chvála, 1986 (Diptera: Empidoidea: Microphoridae) new to Great Britain**

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Summary

Microphor strobli Chvála, 1986 (Diptera: Empidoidea: Microphoridae) is recorded as new to Great Britain from the Durham coastline. The description of antennal morphology is corrected and the species is compared with the closely related *M. holosericeus* (Meigen, 1804).

Results

During the Dipterists Forum annual field meeting in County Durham [V.C. 66] between 2 and 9 July 2005, more than 30 specimens of a small *Microphor* species were taken at Castle Eden Denemouth (NZ4540) and a short way inland at Castle Eden Dene (NZ4339). The hind tibiae and metatarsi were slender, not strongly dilated and recalled rather small examples of *M. holosericeus* (Meigen, 1804). Specimens keyed to *M. strobli* using the Palaearctic key of Chvála (1986) and the male genitalia agreed with illustrations of *M. strobli* in that work, in so far as can be seen from Figs 20 and 21 of the undissected hypopygium. However, the third antennal segment of the Durham specimens was very strongly and abruptly narrowed dorsally just beyond the base (Fig. 1B), quite unlike the more gradual tapering third segment of *M. strobli* illustrated by Fig. 3 in the Palaearctic revision.

Milan Chvála has very kindly re-examined the specimens in the Strobl collection in Admont and reports “I have checked all specimens (eight) of the *Microphor strobli*. Some are in bad condition but those which have antennae, these are always with a deep constriction near base, the 3rd segment is very narrowed on apical two thirds. My illustration (fig. 3) is somewhat misleading as the constriction is only indicated. Actually I was of the opinion that the antennae were quickly dried and curved.”

It is worth noting that the narrowing of the third antennal segment is rather variable in *M. holosericeus* and may cause confusion with *M. strobli*. However, *M. strobli* is smaller than *M. holosericeus* (1.2-1.5mm rather than 2.0-2.6mm) and the antennal style is always somewhat longer than the third antennal segment (Fig. 1B) whereas it is invariably shorter in *M. holosericeus* (Fig. 1A). The mesonotum is completely unstriped and the stigma is weak in *M. strobli* while both sexes of *M. holosericeus* have mesonotal stripes and the male has a distinct brown stigma. The terminal tubule of the aedeagus of *M. strobli* is long, thin and undulating, quite unlike the short, stout but also undulating aedeagus of *M. holosericeus*.

Microphor strobli is previously known only from central Europe with records from Austria and the former Czechoslovakia. At Castle Eden Dene they were seen running on *Phragmites* and swept from post-industrial flower-rich coastal grasslands, scrub and scrubby

woodland. The Microphoridae is a small family with only three species previously known from Britain. The addition of *M. strobli* to the British fauna is interesting but it is worth recording that a fifth (possibly undescribed) species allied to *M. anomalus* (Meigen, 1824) or *M. crassipes* Macquart, 1827 is known to us. We hope to provide a description of this species and a revised key to the British species of *Microphor* in a future paper.

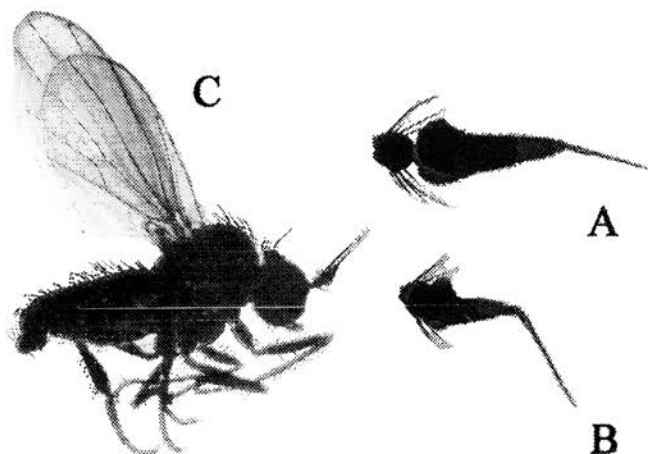


Fig. 1. Photographs of *Microphor* specimens preserved in aqueous 2-propanol (75% v/v), glycerol (5% v/v). A-B, antenna of male *Microphor* species: A, *M. holosericeus* (Meigen); B, *M. strobli* Chvála. C, habitus of male *M. strobli*.

Acknowledgements

We would like to thank Milan Chvála for examining the Strobl specimens and for his helpful comments.

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***Hyadina pollinosa* Oldenberg, 1923 (Diptera, Ephydriidae) new to Britain**

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Summary

The first British specimens of *Hyadina pollinosa* Oldenberg, 1923 are reported from Suffolk and Dorset. The male genitalia are illustrated for the first time.

Introduction

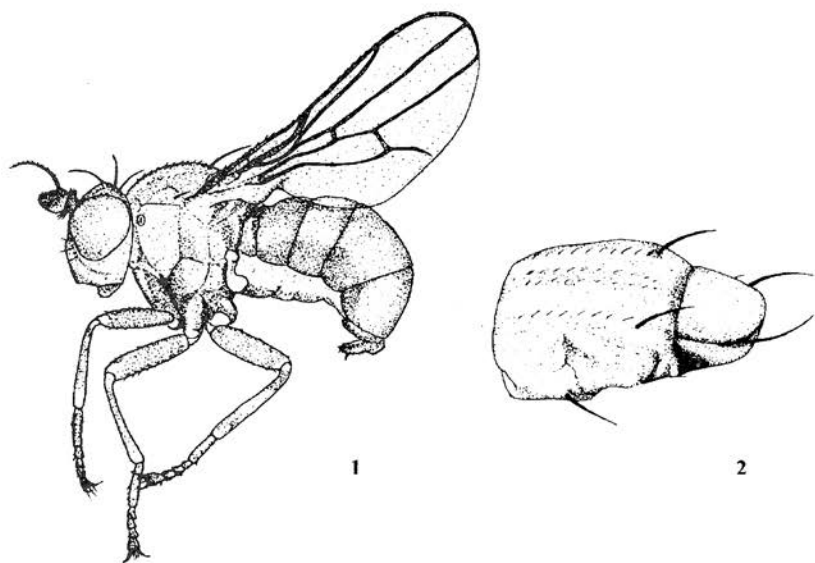
Between May and August 2004 I ran several water traps and pitfall traps at the Royal Society for the Protection of Birds Minsmere Reserve, Suffolk. As might be expected at such a brackish wetland site, Ephydriidae were a very important element of the fauna with 44 species identified, 30% of the current British list. One of the trapping points was at a small brackish pool between the sand dunes and the sea wall enclosing the scrape. From this pool the water trap produced a single male *Hyadina* which was clearly not one of the four known British species. In 2005 another specimen was found in Suffolk and five in Dorset.

Using the available test keys and the key in the Manual of Palaearctic Diptera (Mathis and Zatwarnicki 1998), the specimen readily ran to the genus *Hyadina*. Using Becker (1926) the specimen ran to *H. pollinosa* but then did not appear to fit the description. In Becker's generic diagnosis he stated "*Das Schildchen ist entweder ganz sammetschwarz oder es hat 2 schwarze Seitenflecken*" which I translate as "the scutellum either entirely velvety-black or with 2 black side patches". Then in the description of *H. pollinosa* "*Mesonotum und Schildchen matt braungrau bis gelbgrau mit etwas dunkleren braunen Langsstreifen und 2 sammetschwarzen Seitenflecken*" which I translate as "mesonotum and scutellum matt grey brown to yellow grey with slightly darker brownish longitudinal stripes and 2 velvet-black side patches". However, the Minsmere specimen entirely lacks the velvety side patches on the dorsum of the scutellum so characteristic of the other British *Hyadina*. I then sent photographs and a description to Tadeusz Zatwarnicki, who identified it as *H. pollinosa*.

Oldenberg's original description stated that the dorsum of the scutellum was "entirely yellowish grey" and the lateral part as "a little blackish" (T. Zatwarnicki *pers comm.*). It is possible that Becker did not see the holotype and misinterpreted Oldenberg's description. A female specimen of *H. pollinosa* from Mallorca (leg. Martin Ebejer) was carefully compared with the Minsmere male specimen. The Mallorca specimen has quite obvious blackish patches on the lateral base of the scutellum, which could be described as "velvet-black side patches" but these are quite unlike those seen on *H. guttata* (Fallén, 1813), being much smaller and not extending onto the dorsal surface of the scutellum. In the Minsmere specimen this blackish patch is even more restricted to the base of the scutellar side margins and does not have a velvety appearance. Otherwise the two specimens appeared identical.

Identification

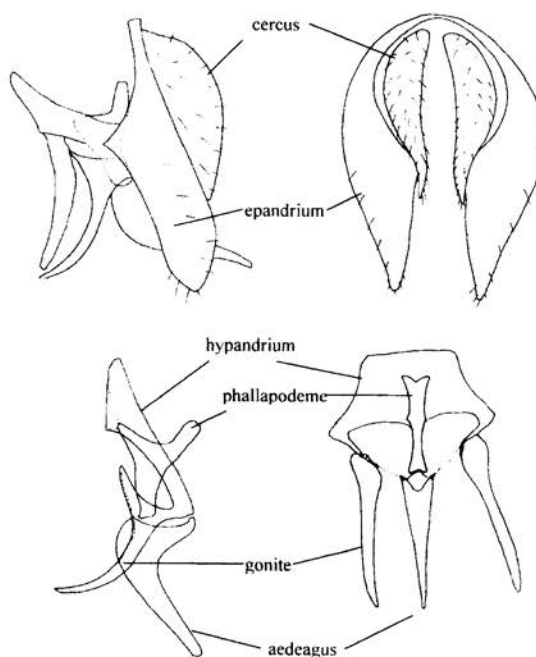
Hyadina pollinosa (Fig.1) is readily distinguished from all other British members of the genus by the uniformly grey-brown dusted dorsal surface of the scutellum. The scutellum in *H. pollinosa* is very flattened dorsally with a distinct angle at the transition to the lateral and posterior surfaces. In the other British species the scutellum is rounded with a smooth transition from the dorsal to lateral surfaces. It also differs in having the face and frons more or less equally dusted, whereas all other British species have the frons very thinly dusted, shining black ground colour visible, and face densely yellow or white dusted. Further important characters are the presence of two pairs of vertical bristles, biserial acrostichals, densely grey-brown dusted mesonotum, obscuring ground colour, and with paler greyish longitudinal stripes between the acrostichals and dorsocentrals, especially in front (Fig. 2) which seems to be more apparent in females, no velvet-black patch on anepisternum and no pale 'windows' on wing near cross vein dm-cu. Wings relatively short, ranging in British specimens seen from 1.4-1.7mm.



Figs 1-2. *Hyadina pollinosa* Oldenberg, male. 1, habitus; 2, left dorsolateral view of mesonotum and scutellum.

In Europe there is one previously known species that lacks velvet-black patches on the dorsum of the scutellum, *H. minima* (Papp, 1975). This is a much smaller species with a wing length 1.09mm (Papp 1975), the wings completely dark with some spots (short stripes) posterior to cross vein dm-cu (T. Zatwarnicki pers. comm.). In the Middle East (Israel)

another very similar species occurs, *H. freidbergi* Mathis & Zatwarnicki, 2004. This species differs from *H. pollinosa* only in the presence of two appendix veins on R_{4+5} , one of them sometimes connected with R_{2+3} (Mathis and Zatwarnicki 2004). The male genitalia of *H. pollinosa* (Figs 3-6) confirm the very close relationship to *H. freidbergi*. The Minsmere specimen differs from *H. freidbergi* only in the more evenly tapering cerci and subtle differences in the hypandrium, phallapodeme and aedeagus.



Figs 3-6. Male genitalia of *Hyadina pollinosa* Oldenberg. 3, left lateral view; 4, external view of epandrium; 5, left lateral view of internal structures; 6, dorsal view of internal structures. (Terminology follows Mathis and Zatwarnicki 2004).

Biology

The Minsmere specimen was taken in a water trap placed along the margin of a small pool at the rear of a narrow band of coastal dunes. The substrate is gravel and sand with a thin organic layer and with algal mats on some of the margins. The pool is fringed with sparse emergent reed *Phragmites* and rush *Juncus*. A further male from Dingle Marshes, Suffolk

was from a muddy saline pool on a gravel substrate behind a shingle beach. The female from Coombe Heath, Arne was swept from heavily deer-grazed upper saltmarsh dominated by *Juncus maritima* and *Salicornia*. The Brand's Bay specimen was swept from similar habitat but with much less grazing damage. The three Keyworth Marsh specimens came from a transition seepage of freshwater flowing slowly into the top of quiet saltmarsh where a large stand of tall *Phragmites* meets a stand of *Bolboschoenus maritimus*, with much bare saturated mud caused by deer trampling about 50m from the top of the marsh (M. Drake *pers. comm.*).

Distribution

Although it was originally described from Germany, most other specimens are from the Mediterranean basin. So far it is recorded from France, Spain (Mallorca), Italy, Israel and Slovakia (www.faunaeur.org). It seems to be a rather scarce and local species with nearly all records referring to single specimens (T. Zatwarnicki *pers. comm.*).

Material examined

BRITAIN: Suffolk, Minsmere (TM4766), 18 May-1 July 2004, water trap, 1♂; Dingle Marshes RSPB reserve (TM4872), 11-17 May 2005, water trap, 1♂; Dorset, Poole Harbour, Arne, Coombe Heath (SY9787), 9 August 2005, swept, 1♀; Brand's Bay (SZ0284), 9 August 2005, swept, 1♀ (all leg. D. Gibbs); Keyworth Marsh (SY9489), 21 June 2005, swept, 1♀; 20 June 2005, suction sample, 2♀ (leg. C.M. Drake).

Acknowledgements

I am particularly grateful to Tadeusz Zatwarnicki for identifying the Minsmere specimen and much further help. I would also like to thank Laszlo Papp for examining the specimen, Tony Irwin and Martin Drake for their invaluable assistance and Martin Ebejer for access to his material. I am also grateful to the Royal Society for the Protection of Birds and Mark Telfer for commissioning the work at Minsmere and Dingle Marsh, and to the Poole Harbour Study Group who commissioned the work in Poole Harbour. The Environment Agency funded the survey of Keyworth Marsh.

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Observations on the larval habitat of *Pocota personata* (Harris)

(Diptera, Syrphidae) – I was fortunate enough to have three encounters with this rare and elusive hoverfly during 2004 and in each case was able to record the type of wood decay with which it was associated.

A puparial case of a hoverfly was found amongst dry white-rotten heartwood of a live beech *Fagus* tree high above the village of Lamedo in the Liebana area of western Cantabria, N. Spain (4° 29' 20" W, 43° 06' 30" N), 20.iv.2004. The beech tree was of coppard form – managed by cutting somewhere between a coppice stool and a pollard – with a few main limbs recently sawn off to improve access along a track. One of the sawn limbs had been hollowed by a heartwood decay fungus and the cavity exposed by the cut was full of dry debris. Searching amongst the debris revealed the hoverfly puparium, some crane fly (Tipulidae) pupal cases, and a therevid larva. Although the accessible debris was dry it seems probable that moister conditions prevailed deeper into the hollow bough and that the fly larvae had perhaps moved into the drier material to be closer to the outside before pupating. The puparium was found at about 0.5m above ground level. The beech tree was in a trackside situation and open to sunshine, although the surrounding area was more or less closed canopy old beech coppice. A male *Pocota personata* emerged a few days later. This appears to be a significant record – quite apart from the ecological data that it revealed – as Speight (2004. Species Accounts of European Syrphidae (Diptera). *Syrph The Net: the Database of European Syrphidae (Diptera). Volume 44.*) gave its range as from southern Sweden south to the Pyrenees. Western Cantabria is therefore a slight expansion westwards of its known European range.

The second encounter was with an adult *Pocota* showing a lot of interest in the trunk of a collapsed but still living old horse chestnut *Aesculus* in Kedleston Park SSSI, Derbyshire (SK320413), 16.v.2004. The trunk had split and the tree fallen away, leaving a standing trunk base to about 2m height, and with the south side ripped open exposing the soft moist white-rotten interior. The hoverfly was inspecting this exposed white-rotten heartwood closely and was watched for a few minutes while it hovered about the exposed rot in a fairly systematic manner, mostly below 1m above the ground, but without alighting. It flew off after a failed attempt to retain it as a voucher and before its sex could be determined. The tree stands in an area with a high density of large open-grown trees but without much canopy closure. The exposed rot lay in full sunshine for much of the day – the outer rot dried out during the course of the summer but the rot beneath remained moist. The only bracket fungus fruiting on the tree was the widespread *Ganoderma adspersum* – a species which causes a white-rot in the dead heartwood of trees.

Remarkably another adult was encountered in Calke Park (SK367222) a few days later, 19.v.2004. It was showing similar interest in a cavity in a live old beech tree. The cavity was about 1m above the ground, caused long ago by a ripped out bough, and gave access to a large quantity of waterlogged black wood mould – the product of white-rot of the heartwood. An old bracket of the fungus *Inonotus cuticularis* was close by and is another species causing white-rotting of heartwood. The beech was part of a group of mature beech trees and the cavity lay in dappled shade. The specimen was netted as a voucher and found to be a male; it was inspected by many dipterists on the Dipterists Forum summer field

meeting later that year. The tree lies in old parkland outside of the current boundaries of the Calke Park SSSI.

These latter finds represent second and third county records for this rare hoverfly in Derbyshire, the first being from a site a few kilometres to the north of Chatsworth Park in a different hectad, SK27 where a female of *P. personata* was observed laying eggs on a rotten horse chestnut trunk on 24.v.1998 (D. Whiteley *pers. comm.*).

The three new records involve two host tree species – although actual development in the horse chestnut was not demonstrated in this case – and two different decay fungi, but both fungi which cause white-rot in the heartwood, as opposed to red-rot. In the first two cases the decayed wood was not obviously water-logged but the third was. G.E. Rotheray (1993. *Colour Guide to Hoverfly Larvae* (Diptera, Syrphidae). *Dipterists Digest* (First Series) 9, 1-156.) did not include any information on larval biology but elsewhere (1991. Larval stages of 17 rare and poorly known British hoverflies (Diptera: Syrphidae). *Journal of Natural History* 25, 945-969) mentioned two rearing records from beech rot-holes, one of which was about 1.75m up a live tree. A.E. Stubbs and S.J. Falk (2002. *British Hoverflies: an illustrated identification guide*. 469 pp. British Entomological and Natural History Society) state that it develops in rot-holes above ground level, especially liking beech, while S.G. Ball and R.K.A. Morris (2000. *Provisional atlas of British hoverflies* (Diptera, Syrphidae). Huntingdon: Biological Records Centre.) state that the rot-holes used are high up in various trees, but most frequently *Fagus* and *Populus*. M.C.D. Speight (2004. *op. cit.*) referred to records from a rot-hole in live *Fagus*, in a standing-water rot-hole in *Populus* and a rot-hole in *Populus tremula*. The Derbyshire records provide further evidence of a close association with beech but also for horse chestnut as an additional host tree. But, since the larvae develop in decayed heartwood, it seems likely that the decay fungi are more relevant than the tree species and this is the first time that the hoverfly has been associated with the white-rot causing fungi *Ganoderma adspersum* and *Inonotus cuticularis*.

The Calke specimen proved to be a male and it is therefore possible that the elusive Kedleston adult was also male. While breeding in the rotten wood was not demonstrated, males would be searching for recently emerged females as mates and it seems sensible to assume that they either target likely breeding habitat rather than search at random or else are responding to female pheromones. Whichever the case, their presence suggests habitat suitable for larval development and therefore demonstrates the height at which they seek mates.

The term “rot-hole” is used rather loosely amongst dipterists and needs more tightly defining. I would urge recorders to note what they actually find rather than use the unhelpful expression “rot-hole”. Two of my records are from decayed heartwood accessed through cavities caused through bough loss, the third from a ripped open trunk. The type of decay and the fungal host may be more important data than the tree species. The term rot-hole is also occasionally used by dipterists for decaying vegetable matter accumulated in tree forks but this is an entirely different situation ecologically and needs to be distinguished.

Many thanks to Dan Abrahams of English Nature’s Peak District & Derbyshire Team for commissioning the survey work in the Derbyshire parklands. Thanks also to Derek Whiteley for the details of his record – **KEITH N.A. ALEXANDER**, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ

***Hoplolabis (Parilisia) yezoana* (Alexander, 1924) (Diptera, Limoniidae) new to Great Britain**

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Summary

The limoniid crane fly *Hoplolabis (Parilisia) yezoana* (Alexander, 1924) is recorded as new to Great Britain, based on specimens collected on Cumbrian rivers in 2004.

On 17 July 2004 two male *Hoplolabis* were swept from shingle beside the Kingwater river at Walton (NY530646), two miles above its confluence with the River Irthing. Although apparently conspecific, when the genitalia were checked, one was *vicina*, the other had the outer style divided into four as *areolata* but the parameres were similar to *vicina*. On 25 July 2004, numerous specimens of *Hoplolabis* were swept by the River Irthing at Lanercost Holmehead (NY571637), some two miles above the confluence with the Kingwater, where a bar of fine sediment blocks the exit of a flood channel. Of 14 males retained, 10 were *H. vicina* (Tonnoir in Goetghebuer & Tonnoir, 1920) and 4 the unrecognised species. Later the same day, on the Irthing at Burtholme (NY537633), one mile above the confluence with the Kingwater, 7 males were taken from the downstream end of a shingle bank, 4 were *vicina* and 3 the unrecognised species. On 4 September 2004 another male of the unrecognised species was taken from shingle at Whitehill (NY538655), 3 miles up the Kingwater.

The specimens match the species illustrated by Czizek (1931) as *areolata*. This was recognized as different to *areolata* by Bangerter (1947) and described as *Ilisia czizeki*. Subsequently it was found to be a junior synonym of *Erioptera (Parilisia) yezoana*, described from Japan by Alexander in 1924.

Hoplolabis (Parilisia) yezoana appears to be widely distributed throughout the Palaearctic Region and is common in Central Europe, occurring especially along larger streams (J. Stary *pers. comm.*). It has been previously recognized as present in Ireland from a specimen in the Dublin Museum (Mendl 1987).

The Irthing and Kingwater are active, spate rivers flowing off, largely coniferised, peat blanketed uplands through carboniferous sandstone and limestone gorges and in places cutting through a considerable overburden of glacial drift. These two rivers are remarkable in Cumbria in their mix of riparian habitats, including landslips, wet woodland and sand and shingle banks.

Provisional key to *Hoplolabis* in Britain:

- 1 Postnotum with hairs. Male outer style divided into three (i.e. middle process simple) *vicina* (Tonnoir in Goetghebuer & Tonnoir, 1920)

Postnotum bare. Male outer style divided into four (i.e. middle process two-pronged)

2

- 2 Veins R_s and R_{4+5} nearly equal in length. Wing narrow and discal cell usually smaller. Male paramere with outer process long, narrow and with sharp bend at middle; inner process short, broad and truncate *areolata* (Siebke, 1872)

Vein R_s shorter than vein R_{4+5} in ratio 3:4. Wing broader and discal cell usually larger. Male parameres with both processes fairly straight, the inner process shorter and finer *yezoana* (Alexander, 1924)

Acknowledgements

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Craneflies of the genus *Lipsothrix* Loew (Diptera, Limoniidae) in Cumbria

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Summary

Three UK Biodiversity Action Plan species of the genus *Lipsothrix* are reported as new to Cumbria, including one new to England. Details of a survey including the sampling of larval substrate and rearing of adults are given. Resulting information on the habitat and distribution of *Lipsothrix* species in Cumbria is reported and discussed.

Introduction

Five species of the crane fly genus *Lipsothrix* occur in Britain. All are associated with the larval habitat of water-logged dead wood in streams and flushes. Adults, which are on the wing in spring and early summer, are distinctive in being yellow with varying amounts of black on the legs and body. One species, *Lipsothrix remota* (Walker), is widespread and common. The other four species are listed in the UK Biodiversity Action Plan as indicators of high quality wet woodland habitats where coarse woody debris lies in running water. A considerable amount of work has been done on *Lipsothrix* species on the English/Welsh border (Godfrey 2000, 2001a, 2001b and 2002) and on *L. ecucullata* Edwards in Scotland by the Malloch Society (Rotheray 2000, Hancock 2002). As a result of Godfrey's work, the suggested synonymy of the European *L. nobilis* Loew with *L. nigristigma* Edwards (Soós and Papp 1992) has been confirmed (Godfrey 2001a).

Prior to 2003, only *L. remota* had been recorded in Cumbria, with adults captured at one site in 1995 and larvae reared from beech sticks at another in 2002. Given the known distribution of *Lipsothrix* species it seemed likely that other species would occur in the county. Thus, in 2003 a pilot survey for *Lipsothrix* was conducted at several wet woodland sites across Cumbria. The results were promising, with both *L. errans* (Walker) and *L. nobilis* (*nigristigma*) being discovered in the county and greater survey efforts were made in 2004 with support from English Nature and the Environment Agency.

Methods

Sites with suitable wet dead wood habitat were sampled for larvae/pupae and/or adults between January and June 2003 and between February and June 2004. Sample sites were spread across the county (see Figs 1-4).

Larvae and pupae were collected with a small amount of substrate and placed in clear plastic containers measuring 70mm in diameter by 100mm deep, with perforated snap-on lids. The containers generally retained sufficient moisture to allow the larvae to complete their development without the need to add water. The containers were checked every day or two and emergent adults were removed together with their empty pupae which were obvious

as they protruded from the substrate. The adults were then identified and voucher material deposited in Tullie House Museum, Carlisle. Since the containers were kept indoors, larval development was accelerated and emergence dates are therefore unlikely to reflect natural conditions and are not considered.

Between one and ten samples were collected from each site covering a range of wet wood originating from different tree species and lying in a variety of situations - from log-jams in the main river channel to backwaters, small side streams and seepages in woodland. In addition, hatched pupal cases were collected from some sites and identified using the draft key provided by Godfrey (2001a) and by comparison with reared material. Adults were collected later in the season by sweep-netting around wood debris lying in running water.

Results

Fifty-three sites were visited in 27 different hectads in Cumbria during 2003 and 2004. Four species of *Lipsothrix* were recorded from 51 sites during the survey. The RDB1, UK BAP *L. nobilis* was discovered new to Cumbria from eight sites, the Nationally Scarce, UK BAP *L. errans* was discovered new to Cumbria from 12 different sites and the RDB3, UK BAP *L. ecucullata* was discovered new to England (and Cumbria) from two sites. Table 1 gives details of the sites and presents details of larval rearings of the UK BAP species. Figs 1-4 present the Cumbrian distributions of the four species encountered in the survey.

Lipsothrix remota (Walker) (Fig. 1)

Larvae, pupae and/or adults of this species were found at 47 (89%) of the sites visited in a broad range of wet woodland situations across the county. Immature stages were found in wet wood of various sizes from sticks of just 30mm to logs of over 300mm in diameter, lying in woodland seepages and streams up to 6m wide. Dead wood of *Alnus*, *Fraxinus*, *Betula*, *Quercus* and *Fagus* was utilised by the larvae of this species. Sites ranged in altitude from 10-350m above sea level, with a mean altitude of 133m.

Lipsothrix errans (Walker) (Fig. 2)

This species was found at 12 sites in upland areas of the county. Adults were reared from larvae collected from *Alnus* and *Fraxinus* wood.

Lipsothrix errans pupae and/or larvae were collected from wet wood lying in small streams and seepages at 10 woods in the Lake District National Park within the Cumbria Fells and Dales Natural Area. Most of these sites are flushed valley side woods, often with an open canopy and scattered trees generally of *Alnus* but also including *Fraxinus*, *Betula* and *Quercus*. Several are old park woodlands. At Glenamara Park, Patterdale adults were found in numbers in mid-June when several hatched pupae were found protruding from a wet alder log lying in the wet peaty bank of the beck. Two additional sites were found in the Border Fells Natural Area in rather different habitat. Here the larvae were in wet wood in streams and rivers flowing through closed canopy gorge woodland at Irthing Gorge SSSI and Lyne Woods SSSI.

Rather surprisingly, *L. errans* was not found in the North Pennines Natural Area despite the presence of apparently suitable habitat. Sites holding *L. errans* ranged in altitude from 80-350m. The mean altitude was 179m.

Lipsothrix nobilis Loew (= *nigristigma* Edwards) (Fig. 3)

Adults reared from larvae collected from a wet *Alnus* log lying in an overflow channel of the River Irthing at Kellwood on 19 March 2003 provided the first record of this species in Cumbria. The larvae were in seams of soft wet decay, beneath loose bark in some cases but not exclusively so. The log was c.200mm in diameter. It lay just above the surface of the water but was wet and clearly received frequent soaking by rising water levels. On 25 May 2003 the original log was found to have been washed away. However adult females were found ovipositing on another log in the vicinity and at another four small stick piles on the same 200m long overflow channel.

In 2004, teneral adults and hatched pupae were observed at Kellwood on 11 May. In addition, larvae were reared from *Alnus* sticks and logs at six other sites on the Irthing/Lyne catchment. They were generally found in larger pieces of wood, firmly lodged in backwaters or small side streams. All sites are in densely wooded river valleys except for Mollen Woods – a more open area of upland wet alder wood. Teneral adults were noted at Lyne Woods on 29 May and an ovipositing female was observed on the Carwinley Beck on the same day.

In Cumbria this species is essentially restricted to the boundary of the Border Uplands Natural Area (the Cheviot hills massif) with the Solway Basin Natural Area, in the northeast corner of the county. *L. nobilis* was found at seven sites on the rivers Irthing and Lyne and their tributaries and at one site on Carwinley Beck, a tributary of the River Esk during the survey. Sites ranged in altitude from 35-170m, with a mean of 88m above sea level.

Lipsothrix ecucullata Edwards (Fig. 4)

New to England and Cumbria from two sites in the northeast of the county, at altitudes of 60m and 115m respectively.

A male and female were reared from larvae found in an *Alnus* stick lying in a seepage in closed canopy alder woodland at Hell Beck on 11 April 2004. Another male was reared from a larva collected from a large fallen branch (probably of *Ulmus*) lying in a backwater channel of the River Irthing at Lanercost Holmehead the same day.

Discussion

The survey has revealed distinctive distribution patterns of different species of *Lipsothrix* in Cumbria. The precise causes of these distribution patterns are not clear but potential factors are discussed below. Further work is needed on the habitat preferences of each *Lipsothrix* species in the county; however, some differences do seem to be indicated. Godfrey (2003) referred to areas of England of particular interest for Coarse Woody Debris. On the evidence of our work in Cumbria, the catchment of the rivers Irthing and Lyne in the Cumbrian part of the Border Uplands Natural Area merits inclusion in that list.

Habitat preferences

No *Lipsothrix* larvae were found in log-jams in large river channels, possibly because the faster flow washes away the soft decay required by the larvae. Alternatively, it may be that *Lipsothrix* larvae were present further into the more sheltered, and inaccessible, centres of the stick-piles. Larvae of most species were found in wood debris from a variety of broad-

leaved tree species, with no obvious preferences indicated. Alder provided the most commonly identified larval substrate, probably because this is the most frequently occurring tree in wet and riparian woodland.

L. nobilis larvae were generally found in larger diameter dead wood (100-500mm) lying in backwater channels or small side streams in well-wooded, sheltered river valleys. The need for shelter may be reflected in the lower altitudinal range (35-170m) recorded for this species.

Most of the larval samples of *L. errans* came from wet, dead wood lying in seepages and runnels or stream banks in more or less open canopy valley-side woodland in the Lake District National Park. Sticks of c.50-100mm were frequently utilised. The two sites in the Border Uplands Natural Area were slightly anomalous in being closed-canopy woodland in steep-sided narrow river valleys.

L. ecucullata is said to be associated with seepages in wet woodlands. The Hell Beck site is in just such a situation and appears similar to several of the sites in which larvae of *L. errans* were collected during the survey, although perhaps more densely shaded. The second site, in a large log in a backwater channel of a river, is much more typical of *L. nobilis*, which was indeed found at the same site.

The common and widespread *Lipsothrix remota* is clearly utilising a broad range of habitats, watercourses and larval substrates across a broad altitudinal range.

Distribution patterns

Lipsothrix nobilis (*nigristigma*) has a very distinctive and restricted distribution in Cumbria, being restricted to the north-east of the county. Looking at this pattern of distribution it seems likely that this species will be found across the border in Scotland, where tributaries of the Esk would be obvious places to search. It may also occur in Northumberland, although *L. nobilis* has never been recorded in eastern Britain. The steep-sided, narrow, wooded valleys of the Irthing and Lyne catchment may have some similarity with other locations for the species in Shropshire and Lancashire. The absence of *L. nobilis* from the rest of Cumbria might be explained by climate, geology, topography or, perhaps more likely, habitat continuity both geographically and temporally. Lunn (2004) stated that some habitats survived in the Border Uplands in late Medieval times and beyond as a result of depopulation caused by centuries of cross-border raiding and it is tempting to speculate that continuity of *Lipsothrix* habitat may also have occurred as a result.

Lipsothrix errans is a Nationally Scarce species associated with northern and upland areas and is previously recorded from Scotland, Wales, Durham and Shropshire. The data from this survey, with an altitudinal range between 80-350m, support the accepted upland distribution of this species. The lack of any records of this species from North Pennine fellsides south of the River Irthing is surprising, as a number of sites appear suitable. However, these areas of wet woodland are isolated and, assuming that the species is genuinely absent from this area, it may be that there has been a break in habitat continuity in these woods, resulting in the local extinction of the species and that recolonisation has not been possible due to their isolated nature.

Lipsothrix ecucullata was discovered for the first time in England during the survey. This species has a northern distribution in Europe and work by the Malloch Society has

shown it to be reasonably widespread in the Scottish Highlands and as far south as Stirlingshire (Rotheray 2000, Hancock 2002).

Lipsothrix errans and *L. ecucullata* appear to have similar habitat preferences and it seems odd that *L. ecucullata* has not been found in the Lake District National Park, where *L. errans* is obviously widespread. *L. errans* is considered infrequent in Scotland (G. Hancock pers. comm.) and it may be that there is a difference in the climatic preferences of the two species.

Acknowledgements

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Table 1. Records of larval habitat of UK BAP *Lipsothrix* species.

Scientific name	Site name	Grid ref	Date	Stage	Habitat	Substrate species
<i>Lipsothrix eucullata</i>	Hell Beck Woods	NY538577	11 APR 2004	larva	Sticks lying in beck and seepage in wet alder wood	<i>Alnus glutinosa</i>
	Holme Head, Lanercost	NY572637	11 APR 2004	larva	Large tree limbs partially submerged in backwater of river in wet woodland	? <i>Ulmus</i> species
<i>Lipsothrix errans</i>	Barton Park	NY4622	21 MAR 2004	larva	Sticks and branches in small streams & seepages in wet valley-side park woodland	<i>Fraxinus excelsior</i>
	Dobbin Wood	NY41562098	2003	larva	Stick in seepage in open valley-side alder wood	<i>Alnus glutinosa</i>
	Gilsland Gorge	NY633678	11 APR 2004	larva	Stick piles in main river & side stream in wooded gorge	
	Glenamara Park, Grisedale	NY3815	06 JUN 2003	pupa	Branches in wet margin of beck in open woodland	<i>Alnus glutinosa</i>
	Grange-in-Borrowdale	NY2517	22 FEB 2004	larva	Stick in seepage on edge of willow carr	<i>Quercus</i> species
	Great Mell Fell	NY405255	18 APR 2004	larva	Sticks in seepage in open alder woodland	<i>Alnus glutinosa</i>
	Irtton Park	NY121011	01 APR 2004	larva	Sticks in seepages and beck in wet alder woodland	<i>Alnus glutinosa</i>
	Lyme Woods	NY494735	11 APR 2004	larva	Stick pile in side stream of wooded river gorge	<i>Alnus glutinosa</i>
	Old Close Wood	NY324007	01 APR 2004	larva	Sticks & branches in woodland stream & seepages	
	River Brathay	NY352033	01 APR 2004	larva	Sticks & branches in wet woodland stream	
	Rydal Park	NY367071	30 MAR 2003	larva	Sticks in stream in open woodland	
	Scalehow Wood	NY413193	07 MAR 2004	larva	Wood debris in wet woodland stream & seepages	
	Carwinley and Whisk Woods	NY407732	29 MAY 2004	ovipositing	Log lying in channel of wooded beck	
	Gilsland Gorge	NY632678	11 APR 2004	larva	Stick piles in main river and side stream in wooded gorge	
<i>Lipsothrix nobilis</i>	Holme Head, Lanercost	NY5763	11 APR 2004	larva	Large tree limbs partially submerged in backwater of river in wet woodland	
	Kellwood	NY5363	19 MAR 2003	larva	Stick piles in backwater channel in wet alder woodland	<i>Alnus glutinosa</i>
	Lyme Woods	NY494735	11 APR 2004	larva	Small stick pile in side stream of wooded river gorge	
	Mollen Woods, High Park	NY565713	11 APR 2004	larva	Small stick piles in beck in open wet alder woodland	<i>Alnus glutinosa</i>
	Whiteclose Wood	NY466712	11 APR 2004	larva	Fallen tree periodically submerged in beck in woodland	

Figure 1

Lipsothrix remota

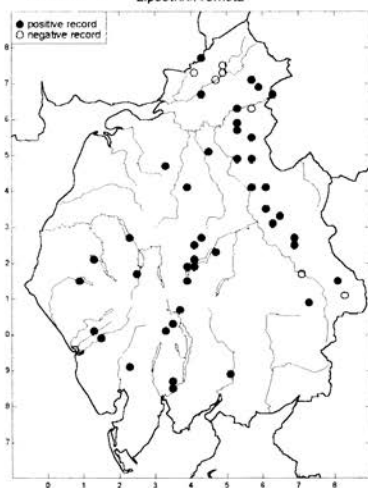


Figure 2

Lipsothrix errans

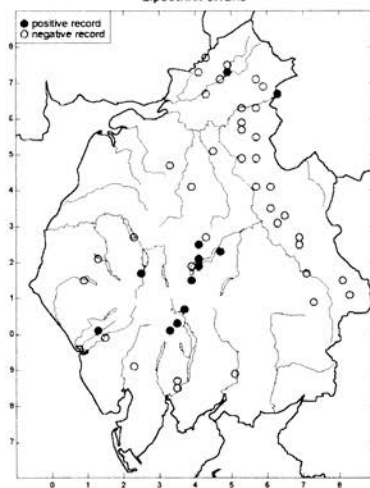


Figure 3

Lipsothrix nobilis

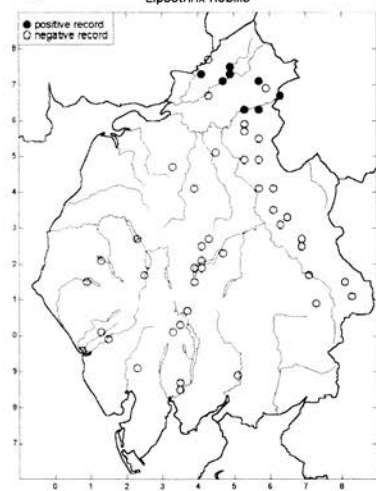
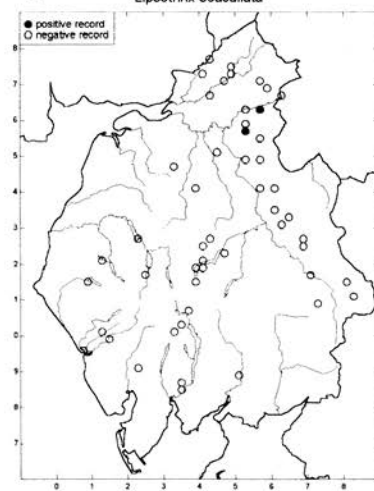


Figure 4

Lipsothrix eucullata



The crane fly *Gnophomyia lugubris* (Zetterstedt, 1838) (Diptera, Limoniidae) new to Britain

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Summary

Gnophomyia lugubris (Zetterstedt, 1838) (Diptera, Limoniidae) is added to the British list.

While attending the Dipterists Forum field meeting based at Durham, I joined a party led by Stuart Ball who took us to some of his favourite haunts. Thus on 4 July 2005 I found myself at the confluence of the Rivers South and North Tyne, close to the village of Acombe. Here, on the north bank, there were river margin sand bars, and landward a wooded flood-plain terrace with some moist back-channels. It was evident that when the rivers are in spate, water levels rise considerably to inundate the terrace with spreads of sand.

The crane fly fauna was an interesting one. Most unexpected was a female of the genus *Gnophomyia*, very conspicuous since it is among the few all black species of moderate size for a limoniid and the rather elongate wings have a long discal cell. It was further north than *G. viridipennis* (Gimmerthal, 1847) is known to occur. The latter species is locally frequent in the south at fallen trees and cut logs of hybrid black poplar *Populus nigra*, where larvae live in the rotting cambium layer under bark: only very rarely is it found at other trees. My thoughts pondered on the possibility that the Acombe specimen was *G. lugubris* (Zetterstedt, 1838), and indeed this has proven to be the case.

For many years the only *Gnophomyia* on the British list was placed under the name *lugubris* but the material proved to be *viridipennis*, the separation of the two species having been poorly understood. My test key to Chioneinae (Stubbs 2001) includes both these species and also *G. elsneri* Stary, 1983, which was first found in Britain at Windsor Forest, Berkshire in the mid 1970s. Fortunately Dr. Jaroslav Stary had given me two females of *lugubris* from the former Czechoslovakia, the basis for my key. Notably the flagellar segments are shorter in *lugubris* (segment 1 is about twice as long as wide) compared with *viridipennis* (segment 1 about 3 times as long as wide). Additionally, the thorax of *lugubris* is squatter in appearance, when viewed from the side, this difference being especially noticeable in the profile of the hind part of the thorax.

Having found the larvae of the other two species, it would have been nice to be able to report the larval niche of *lugubris*. Sweeping a single specimen in a site with a range of trees gives no real lead. Alders *Alnus glutinosa* and osier *Salix viminalis* were present by the river edge but the options on the terrace were more varied.

References

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New data for some species of the genus *Diaphorus* Meigen (Diptera, Dolichopodidae) in the fauna of Russia and Central Asia

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Summary

New data are provided for three species of *Diaphorus* Meigen (Diptera, Dolichopodidae)

Examination of the collections in the Zoological Institute of the Russian Academy of Sciences disclosed new data for three species of the genus *Diaphorus* Meigen, which are presented here.

Diaphorus dolichocercus Stackelberg, 1947

This species was described from Tadjikistan (Stackelberg 1947). It is here recorded for the first time from Kazakhstan, Turkmen and Uzbekistan

KAZAKHSTAN: 2♂, Akmolisk area, Amu-Darja, 6km from Petroaleksandrosk, vi.1875 (leg. Milberg); 1♂, Atbasar, bank of the River Dzhabaja, 18.vii.1936 (leg. Resvoj).

TURKMEN: 1♂, Khiva, 1-13.v.1875 (leg. Dorant).

UZBEKISTAN: 2♂, Khala-Nasar, 26.v.1934 (leg. Lupova); 1♂, Kerzhinka, on River Amu-Darja, 19.v.1934 (leg. Lupova); 1♂, Kerki, on River Amu-Darja, 17.v.1934 (leg. Lupova); 1♀, Kisil-dzhar, 18km from Kunrad, 17.v-14.vi.1938 (leg. Zimin); 1♀, Kerli, on River Amu-Darja, 17.v.1934 (leg. Bregetova).

Diaphorus exunguiculatus Parent, 1925

This species is known from Western Europe and in Russia from the Leningrad region (Negrobov 1991). It is here recorded for the first time from Siberia.

RUSSIA: 1♂, by River Tomj, 8km from Tomsk, 9.vi.1901 (leg. Shaphirj); 2♂, Boroditsino, Yaroslavl district, 30.vi.1907 (leg. Jakovlev).

Diaphorus vitripennis Loew, 1859

This species was described from Western Europe and in Russia was hitherto known from Northern Caucasus and the Orenburg area. It is here recorded from Uzbekistan and Kazakhstan for the first time.

KAZAKHSTAN: 1♂, Atbasar, by River Dzhabaja, 8.vii.1936 (leg. Resvoj).

UZBEKISTAN: 3♂, 1♀, Kymak, Samarkand, 19.v.1929 (leg. Zimin).

Acknowledgements

This work was carried out with the assistance of a grant from the Russian Federal Property Fund No 04-04-48802a.

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- Stackelberg, A.A. 1947. New species of Dolichopodidae (Diptera) from Tadzhikistan. *Entomologicheskoe obozreniye* 39(1-2), 94-102.

A recent record of *Piophilidae* (Linnaeus, 1758) (Diptera, Piophilidae) from Britain - A single specimen of *Piophilidae* (Linnaeus), the 'Cheese skipper', was recently submitted to the Natural History Museum and its identity confirmed by using the key provided by A.E. Stubbs and P.J. Chandler (2001. A provisional key to British Piophilidae (Diptera) and *Parapiophilidae* (Zetterstedt, 1847) new to Britain. *Dipterists Digest (Second Series)* 8, 71-78). The specimen data are as follows: London, Catford, TQ3973, 17.vii.2005, coll. M. Webb. It was found in a kitchen near a refrigerator containing a Stilton cheese, although there no infestation of the cheese was noted.

This record is significant as there have apparently been no British records for at least 50 years. Stubbs and Chandler (*op. cit.*) noted that it should probably be regarded as rare, concluding that this was due to the general improvements in hygiene and in particular the widespread use of domestic refrigerators. An examination of the collections of the Natural History Museum, London supported this view, as there were no specimens collected after 1952. Also, there are no British specimens in the collection of the National Museums and Galleries of Wales, at Cardiff (John Deeming *pers. comm.*). Although there is no quantitative data on abundance this decline must be genuine since *P. casei* is synanthropic, and if it had been present, would have been easy to detect.

The recent occurrence is also notable because of the potential of this species to cause intestinal myiasis if the larvae are ingested with cheese or other foodstuff on which they have been feeding - ingested larvae can survive in the human gut, causing serious scarification (Smith, K.G.V. (Ed) 1973. *Insects and other arthropods of medical importance*. British Museum (Natural History), London, pp. xiv + 561). The specimen is preserved in the collection of the Natural History Museum. Thanks are due to Mr Mick Webb who donated the specimen. - **DAVID G. NOTTON**, The Natural History Museum, Cromwell Road, London, SW7 5BD

Massed occurrence of *Syrphus* (Diptera, Syrphidae) in July and August 2004

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Summary

In late July and early August 2004 there were two separate peaks of *Syrphus* species in the east Midlands. A peak of *Syrphus ribesii* that occurred inland preceded a peak of *S. vitripennis* on the coast of South Lincolnshire that coincided with massed occurrence of hoverfly species normally considered to be migratory from continental Europe. Analysis of the data suggests that in 2004 the population of *S. vitripennis* was considerably boosted by an influx from Europe rather than from a local population explosion.

Data collection

I am in the habit of retaining a sample of *Syrphus* specimens to establish the occurrence of the various species at individual sites, and in particular to try to detect *Syrphus rectus* Osten Sacken. Whilst this is somewhat *ad hoc* sampling, it has previously proved useful in detecting differences in the frequency of the three principal species *S. ribesii* (Linnaeus), *S. torvus* Osten Sacken and *S. vitripennis* Meigen (Morris 1998).

The data presented in this account represents material collected from the area around Stamford (South Lincolnshire, Northamptonshire and Rutland) and from southern Lincolnshire around The Wash in 2004. Autumn data largely derive from site visits to north Norfolk and locally around Stamford. Thus, all data are from a roughly similar geographic zone. For the purposes of this account, males of the inseparable *S. rectus/vitripennis* are treated as *vitripennis* because this is most likely to be their real identity (I have just a single record from 2004 of a female that broadly conforms to the description of *S. rectus*).

The frequency of *Syrphus* species varies greatly from day to day but numbers taken reflect a snapshot of what is present (Fig. 1). Most specimens were taken from flowers as this gives a better representation of the species (*S. ribesii* males can often be taken in numbers hovering in dappled sunlight, whereas *S. vitripennis* and *S. torvus* are more likely to be encountered on leaves, flowers and foliage). Even using this approach it is evident from Fig. 2 that male *S. ribesii* figure highly in the samples, often outnumbering females by around 2:1.

During the last two weeks of July and the first two weeks of August 2004, *Syrphus* species were exceptionally abundant in south Lincolnshire and northern Northamptonshire. The population explosion was so noticeable that I took large numbers in an attempt to establish the proportions of each species.

Figure 1. Overall numbers of *Syrphus* recorded in 2004

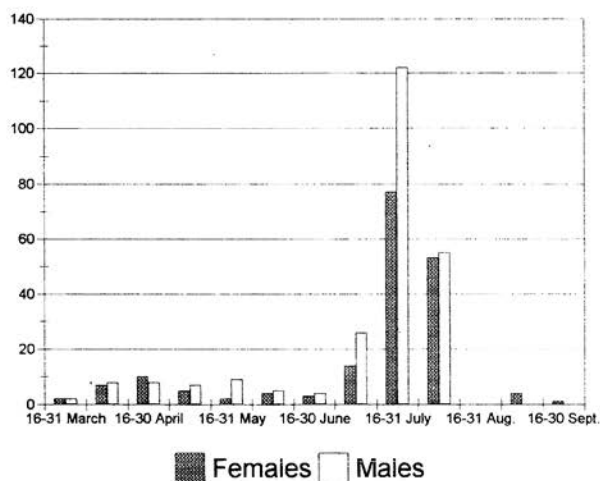


Figure 2. *Syrphus ribesii* April to September 2004

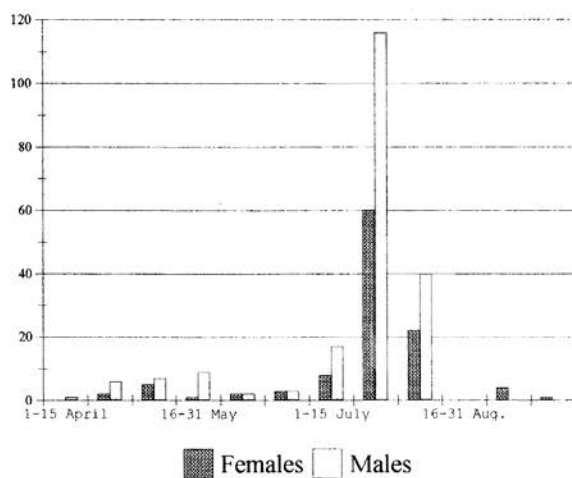


Figure 3. *Syrphus vitripennis* (+ males *vitripennis/rectus*) April to September 2004

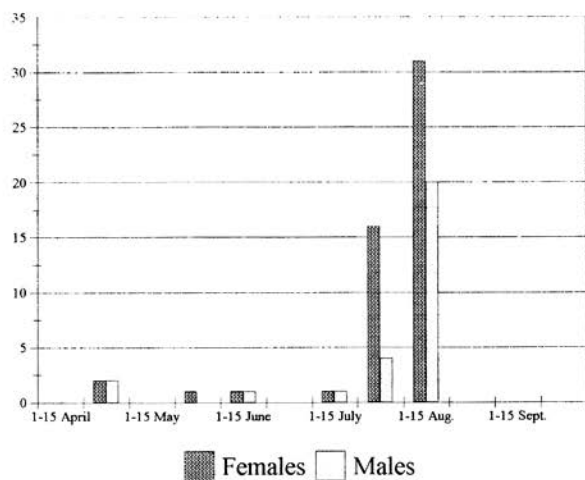
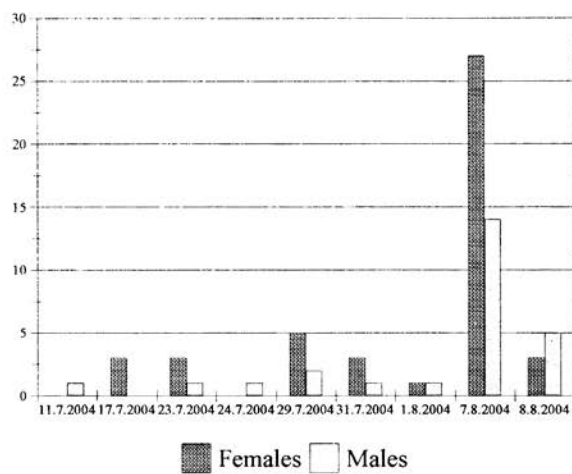


Figure 4. Numbers of *Syrphus vitripennis* recorded in July and August 2004



Interpretation

The majority of records of *Syrphus* in 2004 were of *Syrphus ribesii* and *S. vitripennis* (together with males that key out to *S. vitripennis rectus*). An initial peak in July was formed by *Syrphus ribesii* (Fig. 2), with some evidence of a gradual increase in numbers that commenced in the first half of July and reached its zenith in the second two weeks of July. My data suggest that the absolute peak occurred at or around 29-31 July and that males outnumbered females by around 2:1. This was before the first reports of a massed invasion or migration of hoverflies that commenced on or around 3 August, on the Essex coast. Thus, my immediate impression is that the *Syrphus ribesii* population explosion was likely to be of local provenance.

In early August 2004 the national media became very excited by the huge influx of hoverflies (e.g. M. Wainwright: "When is a wasp not a wasp? When it's a hoverfly" *The Guardian* Tuesday 3 August). Following up on this event I made an extensive tour of south Lincolnshire on 7 August, travelling as far as The Wash. This was a hot day that started cool with a heavy thick mist across the fens. From the outset, wherever I stopped it was apparent that there were huge numbers of hoverflies as a result of the influx. The most frequent were *Episyrphus balteatus* (De Geer), *Eupeodes corollae* (Fabricius), *Scaeva pyrastris* (Linnaeus), *Sphaerophoria scripta* (Linnaeus) and *Syrphus* species. Casual sampling indicated that *E. corollae* was dominant over *E. luniger* (Meigen) at a ratio of 4:1. There were also slight indications that *Platycheirus scutatus* (Meigen) was more numerous than normal.

On this one day, I collected a sample of 55 specimens of *Syrphus* from eleven localities. This sample yielded *S. ribesii* to *S. vitripennis* at a ratio of 1:3. It is also notable that female *S. vitripennis* outnumbered males by around 3:2: this is distinctly opposite the ratio between male and female *S. ribesii*. This single day accounts for the bulk of the records of *S. vitripennis* in 2004 as can be seen from Fig. 3, which also suggests that the massed growth in *Syrphus vitripennis* numbers actually started some days before 3 August. This is not supported by Fig. 4, however, which depicts all records for *S. vitripennis* for July and August (mostly recorded at weekends). From this illustration it would seem that there may have been a small-scale increase in numbers towards the end of July, but the peak was strongly confined to the first week of August.

These limited observations suggest that numbers of *Syrphus vitripennis* were considerably bolstered by the August influx, without which *S. vitripennis* would doubtless have been as scarce as in 2003 (Ball and Morris 2004). Given concentrations of hoverflies on or around the coast, the probability is that they were of continental origin rather than of local provenance.

References

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- Morris, R.K.A. 1998. *Hoverflies of Surrey*. Surrey Wildlife Trust, Pirbright.

Hoverflies (Diptera, Syrphidae) at Loamhole Dingle, Shropshire

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Summary

Fifty-seven species of Syrphidae are reported from Loamhole Dingle, Shropshire. This list arises from visits during a very narrow timeframe and as such suggests that the site has considerable further potential. The habitat is described and its importance for Syrphidae and other Diptera is discussed in relation to its conservation interest.

Loamhole Dingle (SJ6605) is a steep-sided valley woodland in Coalbrookdale, Shropshire. Much of the woodland comprises ash *Fraxinus excelsior* and wych elm *Ulmus glabra* but it includes an element of coniferous planting. The stream that runs along the valley floor is typical of such gorge woodlands. It includes numerous small log-jams so favoured by the crane-fly *Lipsothrix nobilis* Loew (Limoniidae) and for which the dingle woodlands of Shropshire are especially noteworthy. The steep banks on the western side of the wood are extensively covered with ramsons *Allium ursinum*. Towards the southern end, the valley floor broadens into a series of silted up ponds that would doubtless have powered the mills and foundries at Ironbridge before they silted up. Today, these pools are heavily vegetated with hemlock water-dropwort *Oenanthe crocata* and alder *Alnus glutinosa* carr, giving the site a distinct wetland 'feel'.

This woodland, which is a noted bryophyte and hepatic site, has been a regular venue for collecting as part of the hoverfly identification course that we have run for the Field Studies Council at Preston Montford. Our site visits have usually taken place between mid-May and early June (16 May to 6 June), accompanied by groups of six to eight novices. A list of 57 species has resulted from just four site visits on 16.v.1999, 19.v.2002, 1.vi.2003 and 6.vi.2004. Such a list is quite remarkable because the recording window is so narrow as to exclude a significant proportion of what might be expected to occur over a full recording season from March to August. Although the list doubtless benefits from the sheer numbers of nets on each visit, novices tend not to collect many specimens, making this list all the more impressive.

The emerging hoverfly assemblage is fairly typical of a well-illuminated damp woodland with sunny flowery glades. As might be expected the woodland assemblage is well-represented, including three species of *Sphegina* (*S. clunipes* Fallén, *S. elegans* Schummel and *S. verecunda* Collin), *Brachyopa scutellaris* Robineau-Desvoidy, *Criorhina berberina* Fabricius and *Xylota sylvarum* (Linnaeus). The wetland assemblage also shows promise, and includes *Lejogaster metallina* (Fabricius), *Parhelophilus frutetorum* (Fabricius) and *Riponnensia splendens* (Meigen). During our visits there have been no great surprises apart from the capture of *Epistrophe diaphana* in 2004, but *Chalcosyrphus eunotus* (Loew) is known to occur (Boardman, P. 2005 The Red data book invertebrates of Shropshire, a

compilation and review of data. Shropshire biodiversity Partnership. 30pp.). A non-hoverfly highlight was the occurrence of mines of the scathophagid *Parallelomma paridis* Hering in the leaves of herb paris *Paris quadrifolia*, which were found and photographed in 2004.

The upper part of the valley, upstream of the area we usually visit, is part of Lydebrook Dingle SSSI, but Loamhole Dingle itself receives no statutory protection. This is unfortunate as Loamhole Dingle is undoubtedly of interest for its Diptera fauna. As a result, there was clearly no consideration of the nature conservation interest when a stretch of the streambed was excavated to create a new silt trap in 2003/2004. This work, which included the construction of a sizeable haul road and a rock-armoured silt trap running along some 50 metres or more through the valley bottom, has caused significant damage to the wetland interest of the wood. Boardman (2005) argued that log jams in dingle woodland are worthy of their own biodiversity action plan within Shropshire, and bearing in mind damage to Loamhole Dingle, elevation of the habitat to a priority status is urgently needed.

The species recorded during our visits are listed below, the order of species following that used by Stubbs and Falk (2002).

Syrphidae recorded from Loamhole Dingle 1999-2004

Baccha elongata (Fabricius), *Melanostoma mellinum* (Linnaeus), *M. scalare* (Fabricius), *Platycheirus albinus* (Fabricius), *P. rosarum* (Fabricius), *P. scutatus* sensu lato, *P. tarsalis* (Schummel), *Dasysyrphus lunulatus* (Fallén), *D. venustus* (Meigen), *Epistrophe diaphana* (Zetterstedt), *E. elegans* (Harris), *E. grossulariae* (Meigen), *Episyrphus balteatus* (De Geer), *Leucozona laternaria* (Müller), *L. lucorum* (Linnaeus), *Meliscaeva auricollis* (Meigen), *Parasyrphus punctulatus* (Verrall), *Syrphus ribesii* (Linnaeus), *Xanthogramma pedissequum* (De Geer), *Cheilosia albipennis* (Meigen), *C. bergenstammi* Becker, *C. illustrata* (Harris), *C. lasiopa* Kowarz, *C. pagana* (Meigen), *C. proxima* (Zetterstedt), *C. variabilis* (Panzer), *Ferdinandea cuprea* (Scopoli), *Portevinia maculata* (Fallén), *Rhingia campestris* Meigen, *Brachyopa scutellaris* Robineau-Desvoidy, *Chrysogaster solstitialis* (Fallén), *Lejogaster metallina* (Fabricius), *Melanogaster hirtella* (Loew), *Neoascia meticulosa* (Scopoli), *N. podagrica* (Fabricius), *N. tenax* (Harris), *Riponnensia splendens* (Meigen), *Sphegina clunipes* (Fallén), *S. elegans* Schummel, *S. verecunda* Collin, *Eristalis arbustorum* (Linnaeus), *E. horticola* (De Geer), *E. nemorum* (Linnaeus), *E. pertinax* (Scopoli), *E. tenax* (Linnaeus), *Helophilus pendulus* (Linnaeus), *Parhelophilus frutetorum* (Fabricius), *Myathropa florea* (Linnaeus), *Merodon equestris* (Fabricius), *Pipiza austriaca* Meigen, *Pipizella viduata* (Linnaeus), *Volucella bombylans* (Linnaeus), *V. pellucens* (Linnaeus), *Criorhina berberina* (Fabricius), *Syritta pipiens* (Linnaeus), *Xylota segnis* (Linnaeus), *X. sylvarum* (Linnaeus)

Acknowledgements

We are grateful to all the participants in hoverfly identification courses who have contributed records for this site.

References

Stubbs, A.E. and Falk, S. 2002. *British hoverflies. An illustrated identification guide*. 469 pp. British Entomological and Natural History Society, Reading.

***Phytoliriomyza bornholmensis* Spencer, 1976 (Diptera, Agromyzidae) new to Britain** -

For many years specimens have been standing in our collections under the name *Phytoliriomyza dorsata* (Siebke, 1864), having been determined using the key by K.A. Spencer (1972. Diptera, Agromyzidae. *Handbooks for the Identification of British insects* 10(5g), 1-136. Royal Entomological Society of London.), where *P. dorsata* is included in *Lemurimyza* Spencer. Spencer (*op. cit.*) stated that the first flagellomere (third antennal segment) is black or brownish, while most of our specimens have this segment brownish yellow, sometimes more brownish apically.

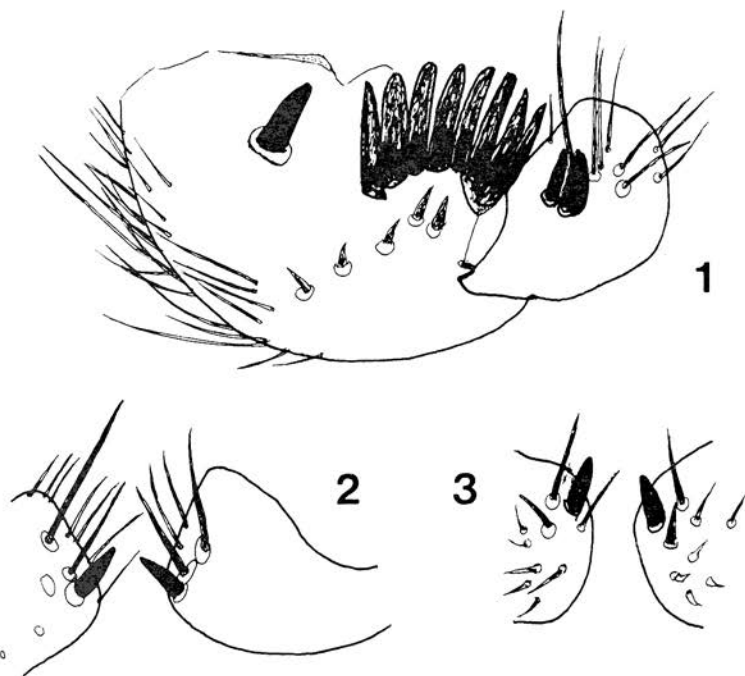
However, Spencer (1976. The Agromyzidae (Diptera) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* 5(1), 1-304), who then included *Lemurimyza* as a synonym of *Phytoliriomyza*, described an allied species *P. bornholmensis* from the Danish island of Bornholm, assumed to be endemic to that island. This was described as having a paler, brownish third antennal segment while all specimens of *dorsata* seen by him were said to have it consistently black.

These species are otherwise very similar externally, mainly yellow with a distinctive pattern of brown stripes on the mesonotum figured by Spencer (1972, 1976). Spencer (1972) recorded only two males of *dorsata* from Britain and did not figure the genitalia. However, Spencer (1976) figured the aedeagus of both species and the surstylus and epandrium of *P. dorsata*. Dissection of the five available British males showed that four of them agreed with the figure of *bornholmensis* in the aedeagal structure, with angular distal tubules and a longer sclerotised strip on the outer margin of the basal part of each tubule. One specimen (Ayrshire) has these strips appearing shorter, apparently due to contraction and it agrees in most other respects.

Phytoliriomyza bornholmensis also differs from *dorsata* according to Spencer (1976) in having a longer comb of spinose setae on the margin of the epandrium basal to the surstylus, of which only four such spines were shown in his figure of *dorsata*. In our specimens there are usually eight of these spines, but there is some variation, nine being present on one side in two specimens (left side of epandrium, Yorkshire specimen; right side, Durham specimen) and the isolated spine basal to this comb is also more developed than shown by Spencer for *dorsata*. Most specimens also differ from *dorsata* in having a single short spinose seta on the surstylus, with longer setae adjacent to it (Figs 2-3), although this character is apparently variable and two specimens (Ayrshire and Durham) have a second such spine on the left surstylus (Fig. 1), agreeing with *dorsata* in this respect.

Our specimens were compared with the single male under *dorsata* in the Natural History Museum, London (BMNH), which is that cited by Spencer (1973) from Madeley, Staffordshire and which was found to agree with his figures of *dorsata* in the genital structure. It also has the first flagellomere blackish as described for that species. A female with a dark first flagellomere, which may therefore be *dorsata*, was taken at Surrey, Cosford Mill (SU9138), near ponds, 28.vi.1970 (P.J. Chandler leg.).

The biology of both species is unknown. Spencer (1973) suggested that species he then placed in *Lemurimyza* might be internal feeders in stems or flower-heads. The range of habitats of the limited material examined suggests that the host or hosts must be widespread plants.



Figs 1-3. Male epandrium and surstyli of *Phytoliriomyza bornholmensis* Spencer. 1, left half of epandrium and left surstylus, Durham specimen. 2-3, partial posterior view of left and right surstyli: 2, Hampshire specimen; 3, Derbyshire specimen.

Material examined of *Phytoliriomyza bornholmensis*

ENGLAND: Durham, Castle Eden Dene (NZ4138), wooded limestone gorge, 14.viii.1990, 1♂ (J.H. Cole leg.); North Yorkshire, Bell Busk (SD904560), wet wooded riverbank, 12.vi.1999, 1♂ (J.H. Cole leg.); Derbyshire, near Bakewell (SK2168), hillside woodland, 31.vii.1973, 1♂, 4♀ (P.J. Chandler leg.); Hampshire, Leckford, by Parson's Brook (a backwater of the River Test) (SU3637), 26.vi.1977, 1♂ (P.J. Chandler leg.).
SCOTLAND: Failton, River Ayr Gorge (NS458258), 8.vii.1995, 1♂ (J.H. Cole leg.).

We are grateful to David Henshaw for useful discussion and for his comments when he compared specimens of the two species during a visit by one of us (PJC) to the Natural History Museum - **PETER J. CHANDLER**, 606B Berryfield Lane, Melksham, Wiltshire SN12 6EL and **JONATHAN H. COLE**, 2 Lenton Close, Brampton, Huntingdon, Cambridgeshire PE28 4TR

Curious emergence patterns in autumn craneflies (Diptera, Tipulidae) on the Isle of Wight - The 2006 Dipterists Forum autumn field meeting was held on the Isle of Wight in mid October. For the Cranefly Recording Scheme there was particular interest in the emergence periods on the south coast in relation to the much milder autumns of recent years.

Until the last decade or so, there was almost a golden rule that the flight period of *Tipula paludosa* Meigen was all but finished by the end of September, at best a solitary female perhaps being found as late as 3-5 October. The closely related *T. subcunctans* Alexander was unlikely to be found before the first frosts, and on a mid October field meeting it was often a case of going to high or other frost-prone locations to find the species: on low ground activity had not really started for this late October- early November species. Thus the emergence periods of these two species were well segregated.

In recent years the final adults of *T. paludosa* have been occurring much later, so that even in mid October males, as well as females, can often be found in small numbers. Frosts have been a less frequent feature of autumn field meetings and the opportunity to find *T. subcunctans* more elusive, even in ideal habitat.

Thus on the Isle of Wight, a visit to St. Helens Duver (SZ6389) on 15 October 2006 was intriguing. At the back of the dunes there are some slacks which are slightly brackish and would appear to be occasionally inundated when exceptionally high tides pervade the lagoonal saltmarsh behind the dune spit. Rushes *Juncus* predominate on ground varying from wet to dry. Here *Tipula subcunctans* was plentiful (wet ground rushes are typical habitat, but brackish conditions are unusual). Also, *T. paludosa* of both sexes were common, although this is a drier ground species which would find dry sand dunes on thin soils too demanding. I cannot recall a previous occasion when both these species had such coincident or strongly over-lapping flight periods. Moreover, the location is (in theory) virtually frost free, and a frost trigger for emergence of *T. subcunctans* would not have applied. If *T. paludosa* emergence is unduly late, one might have expected *T. subcunctans* to shift even later, such as well into November.

The scrubby patches on the dunes produced a single *Tipula confusa* van der Wulp, a species seen nowhere else during the field meeting. Over the years this species has become less frequent on our mid October meetings, presumably because the emergence period is finishing earlier in milder autumns (the reverse of *T. paludosa*) - **ALAN STUBBS**, 181 Broadway, Peterborough, PE1 4DS

***Campiglossa producta* (Loew, 1844) (Diptera, Tephritidae) on the Isle of Wight** - During the Dipterists Forum autumn field meeting on the Isle of Wight, a visit was made to St. Helens Duver (SZ6389) on 15 October 2005. The site includes a small sand dune, the only one on the island, with lagoonal saltmarsh behind. Whilst sweeping coarse grassland in a back dune hollow with common ragwort (*Senecio jacobaea*),

single specimens of two tephritids were obtained, *Sphenella marginata* (Fallén) and *Campiglossa producta* (Loew). The latter is a particularly small dark species, a rarity which I have not met with before. Its identity was confirmed by comparison with specimens in the collection of the Natural History Museum, London (BMNH).

Most records of this species are from coastal sites, with older records from Kent and Norfolk and it was recently recorded from Dorset during the Dipterists Forum summer field meeting in 1998 (Howe, M.A., Parker, M.J. and Howe, E.A. 2001. *Dipterists Digest (Second Series)* 8, 135-148). On the Isle of Wight it was found at Bembridge by H.W. Andrews on 31 August 1934, possibly close to the Duver site and Adam Wright recorded it at Haddons Pits (SZ585803) south of Shanklin on 8 August 2002 (Laurence Clemons *pers. comm.*). The genus is associated with flower-heads of Asteraceae but the host of *C. producta* requires confirmation, the existing continental records mostly being dubious and there are several potential candidates on the sites where it occurs

My thanks to David Notton for access to the BMNH material and to the National Trust for permission to record on the Duver - **ALAN STUBBS**, 181 Broadway, Peterborough, PE1 4DS

***Cornutrypeta spinifrons* (Schroeder, 1913) (Diptera, Tephritidae)**

discovered in Scotland - On a visit to Alva Glen (NN8898), Perthshire (V.C.87) on 8.ix.2004, I found a few very distinctive leaf mines in goldenrod *Solidago virgaurea*. The upper surface mines overlaid the midrib and had a series of lateral branches of varying lengths into the leaf lamina. There were similar mines nearby in marsh hawk's-beard *Crepis paludosa*. This form of mine in *Crepis* has, in the past, always yielded *Trypeta immaculata* (Macquart, 1835) and so I assumed the *Solidago* mines were a case of host-plant transfer. A few mines from each plant were collected but only a single fly was reared and that from the *Solidago* mines. A male of *Cornutrypeta spinifrons* (Schroeder, 1913) emerged on 25.iv.2005, and although its frontal spines were not quite as dramatic as illustrated by I.M. White (1988 Tephritid Flies (Diptera: Tephritidae). *Handbooks for the Identification of British Insects* Vol. 10, Part 5a, 134pp. Royal Entomological Society of London) they were unmistakable.

There are older records of *C. spinifrons* from Kent (Westerham, TQ45, date unknown but before 1946, M. Niblett leg.), Herefordshire (Haugh Wood, SO5837, 17.vii.1911, J.H. Wood leg.), Lancashire (Grange-over-Sands, SD47, 23-24.vii.1944, A.E. Wright leg.) and Gwynedd (Fairbourne, SH61, viii.1966, G.S. Kloet leg.). These are the basis for the records cited by White (*op. cit.*), S. Falk (1991. A Review of the Scarce and Threatened Flies of Great Britain. Part 1. *Research and Survey in Nature Conservation*, No.39. Nature Conservancy Council, Peterborough) and L. Clemons (1996. A Provisional Atlas of the Tephritidae (Diptera) of Britain and Ireland. *British Tephritidae Newsletter* No.6, Dipterists Forum). There is one more recent record from North Yorkshire (Hayburn Wyke, TA010971,

18.vii.1996, I. Perry leg.) (Laurence Clemons *pers. comm.*).

It is therefore widespread in England and Wales, although rarely recorded. The recent occurrence in Perthshire is somewhat surprising, providing a marked northward extension to its known distribution and possibly suggests that it is under-recorded. E.M. Hering (1957. *Bestimmungstabellen der Blattminen von Europa*, band II & III. Junk, 's-Gravenhage.) described the leaf mine of *C. spinifrons* and the species should be easy to record due to its unmistakeable mine pattern in *Solidago*.

Pegomya nigrisquama (Stein, 1888) and *P. depressiventris* (Zetterstedt, 1845), two anthomyiid flies which also mine *Solidago virgaurea* in Scotland, both make simple blotch mines by feeding from a central point that is situated away from the midrib. The mine may be somewhat stellate in the early stages, especially in *P. nigrisquama*, and the frass tends to be centrally placed - **K.P. BLAND**, National Museums of Scotland, The Granton Centre, 242 West Granton Road, Edinburgh EH5 1JA

A note on the synonymy of *Gaurax britannicus* Deeming, 1980 (Diptera, Chloropidae) -

In a recent paper (Merz, B., Ismay, J. W., Schulten, B. and Dely-Draskovits, A. 2005. Neue und selten gesammelte Chloropidae (Diptera) der Schweiz. *Mitteilungen der Entomologischen Gesellschaft Basel* 55(3), 74-87) *Gaurax britannicus* Deeming was found to be a junior synonym of *Gaurax flavomaculatus* (Duda, 1933), originally described in *Goniopsita* (now *Lasiambia*).

Recent checklists have retained *flavomaculatus* in *Lasiambia* (Wendt, W. 1999. Chloropidae, pp. 140-143. In Schumann, H., Bährmann, R. and Stark, A. (Eds). Checkliste der Dipteren Deutschlands. *Studia dipterologica – Supplement* 2, 1-354) or *Fiebrigella* (Nartshuk, E.P. 1984. Family Chloropidae, pp. 222-298. In Soos A. and Papp L. (Eds). *Catalogue of Palaearctic Diptera* 10, 1-402).

In *Lasiambia* the ocellar and postocellar setae are parallel or almost parallel, which was not mentioned by O. Duda (1932-1933. Familie 61. Chloropidae. In Lindner E. (Ed.). *Die Fliegen der palaearktischen Region* 6(1), 1-248) in his original description of *Goniopsita flavomaculata*. In *Gaurax* these setae are crossed.

Since there was no reason to doubt the placement of *flavomaculata* in *Lasiambia*, Dr John Deeming was justified in describing *G. britannicus* (Deeming, J. 1980. A new *Gaurax* (Dipt., Chloropidae) from England. *Entomologist's monthly Magazine* 116, 93-94). This note is to inform non-German speaking dipterists of the reasons for this synonymy as the above-mentioned paper (Merz *et al*, *op. cit.*) is in German.

The first author thanks the British Entomological and Natural History Society for a grant to examine type material in the Museum für Naturkunde der Humboldt-Universität zu Berlin - **J.W. ISMAY**, Hope Entomological Collections, Oxford University Museum of Natural History, Parks Road, Oxford, OX1 3PW and **B. SCHULTEN**, 67 Giffard Way, Long Crendon, Aylesbury, Buckinghamshire, HP18 9DN, schultmay@onetel.com

***Micropygus vagans* (Parent) (Diptera, Dolichopodidae) new to England**

- This rather small but distinctive introduction from New Zealand was first recorded from Ireland in 1975 and then found to be established in SW Scotland in 1995 (Chandler, P.J. 1999. *Micropygus vagans* (Parent) (Diptera: Dolichopodidae) a New Zealand fly in the British Isles. *British Journal of Entomology and Natural History* **12**, 215-220). It has since been found at several further localities in Ireland, where it is evidently now widespread and has arrived in the southern part of the Scottish Highlands, with a record in recent years from Craigmores Woods near Aberfoyle, Perthshire (NN5101). Three males were found there by PC on 20 June 2003 while it had not been found on earlier visits, including several in 1999.

This species favours damp woodland as well as more formal wooded parkland sites, where it was presumably first introduced with plant material. Although little is known of its biology it is now clearly a well-established member of our fauna and it was anticipated that it would spread southwards into England. In 2005 it was found at two English sites, both not too far from the Scottish border although it is possible that it has already spread further south and has as yet been unnoticed.

On 2 July, while travelling from Edinburgh to join the Dipterists Forum summer field meeting based at Durham, PC made a stop at Dipton Mill (NY9261) south of Hexham, Northumberland, following the course of West Dipton Burn through woodland to the west of the road. A male of *M. vagans* was later found among the catch from mixed broad-leaved woodland along the stream. Its absence from apparently suitable sites during the following week of the Durham meeting suggested either that it had not yet reached that area or that the drier climate near the east coast was less suitable.

Then on 8 August JS was collecting sciarids with Dr Frank Menzel (Müncheberg, Germany) at Yanwath Wood, Cumbria (NY5226), by the River Lowther south of Penrith and retained various other small fry that were incidentally netted. On subsequent examination by PC a female of *M. vagans* was found in this sample. This site is mixed woodland including beech *Fagus sylvatica*, spruce *Picea abies* and sycamore *Acer pseudoplatanus*. So it has already got further south on the wetter west side of the country and may also be in the Lake District.

It may be possible to monitor the southward spread of this species if the possibility of its presence elsewhere in the north of England is borne in mind by recorders, given that its small size precludes easy recognition in the field unless it is present in numbers or already known to be present at a site - **PETER J. CHANDLER**, 606B Berryfield Lane, Melksham, Wiltshire SN12 6EL and **JANE E. SMITH**, Warwick HRI, Wellesbourne, Warwick CV35 9EF

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